History of Trains

History of the modern trains spans the range of last two hundred years of modern human civilization, who in that time used this incredible discovery to drastically change industry, human expansion, and the way we travel on daily basis. From the first time steam train rolled over the railways of industrial England in early 1800s to the modern times when bullet trains carry thousands of passengers with incredible speeds and freight train carry substantial amount of worlds goods, trains enabled us to develop our civilization with unexpected consequences that nobody expected. Distant lands become almost instantly reachable (3000 miles journey from New York to California was cut down from one or two months to few days!), industrial manufacture could be powered with infinite amount of raw materials and outgoing transport of finished goods, and sudden fast travel (far before first airplanes were discovered) caused the need of implementing standardized time zones across entire world.

Today, trains are used in variety of ways – from small city trams, subway electric trains, distance trains (equipped with dining cars and sleeping quarters for longer journeys), freight trains, to high-speed bullet trains that can reach speeds of 300-500 kilometers per hour. However, their history started with much simpler and slower designs. Even before steam engines arrived, ancient civilizations of Greece and Egypt and industrial Europe (1600s -1800s) used horses as primary sources of driving simple train cars. With purposefully built train tracks that enabled journey in only two directions, horses or bulls needed to waste minimal amount of force while pulling coal, iron and other goods. Arrival of first non-condensing pressurized steam engines in first few years of 19th century enabled engineers to build new kind of railway system and train cars – trains that were built to carry much more materials than ever before.

(more)

Train History Facts

- First train appeared in the year 1804. It managed to pull 25 tonnes of iron material and 70 people over the distance of 10 miles.
- Over the course of history trains were powered by steam, electricity and diesel fuel (although one of the earliest trains in USA was powered by horses that walked on treadmills).
- Currently trains transport around 40% of world's cargo.
- Trains are very eco-friendly, but are expensive to produce and maintain.
- First commercial steam train (Stephenson's "The Rocket") managed to reach speed of 96 km/h. Today's trains can go above 200 km/h, and specialized bullet trains to over 500.
- Two most famous railway lines are 9,297 kilometers long Trans-Siberian Express which connects Moscow and Vladivostok, and off course first American railway line which connected their East and West Coast in 1866 (Union Pacific and Central Pacific Railroads).

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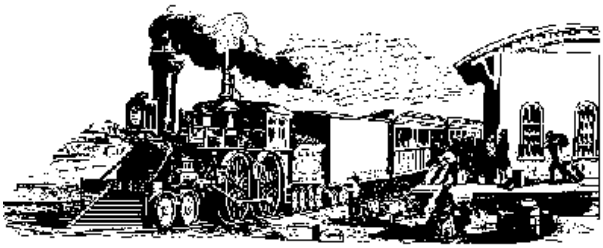
- 

- **Outline of Railroad History**
- **By Mary Bellis**
- Roads of rails called Wagonways were being used in Germany as early as 1550. These primitive railed roads consisted of wooden rails over which horse-drawn wagons or carts moved with greater ease than over dirt roads. Wagonways were the beginnings of modern railroads.
- By 1776, iron had replaced the wood in the rails and wheels on the carts. Wagonways evolved into Tramways and spread though out Europe. Horses still provided all the pulling power. In 1789, Englishman, William Jessup designed the first wagons with flanged wheels. The flange was a groove that allowed the wheels to better grip the rail, this was an important design that carried over to later locomotives.
- The invention of the steam engine was critical to the invention of the modern railroad and trains. In 1803, a man named Samuel Homfray decided to fund the development of a steam-powered vehicle to replace the horse-drawn carts on the tramways. Richard Trevithick (1771-1833) built that vehicle, the first steam engine tramway locomotive. On February 22, 1804, the locomotive hauled a load of 10 tons of iron, 70 men and five extra wagons the 9 miles between the ironworks at Pen-y-Darron in the town of Merthyr Tydfil, Wales to the bottom of the valley called Abercynnon. It took about two hours.

- In 1821, Englishman, Julius Griffiths was the first person to patent a passenger road locomotive.
- In September, 1825, the Stockton & Darlington Railroad Company began as the first railroad to carry both goods and passengers on regular schedules using locomotives designed by English inventor, George Stephenson. Stephenson's locomotive pulled six loaded coal cars and 21 passenger cars with 450 passengers over 9 miles in about one hour.
- George Stephenson is considered to be the inventor of the first steam locomotive engine for railways. Richard Trevithick's invention is considered the first tramway locomotive, however, it was a road locomotive, designed for a road and not for a railroad. Stephenson was extremely poor growing up and received little formal education. He worked in local collieries and was self-taught in reading and writing. In 1812, he became a colliery engine builder, and in 1814 he built his first locomotive

for the Stockton and Darlington Railway Line. Stephenson was hired as the company engineer and soon convinced the owners to use steam motive power and built the line's first locomotive, the Locomotion. In 1825, Stephenson moved to the Liverpool and Manchester Railway, where together with his son Robert built (1826-29) the Rocket.

- Colonel John Stevens is considered to be the father of American railroads. In 1826 Stevens demonstrated the feasibility of steam locomotion on a circular experimental track constructed on his estate in Hoboken, New Jersey, three years before George Stephenson perfected a practical steam locomotive in England. The first railroad charter in North America was granted to John Stevens in 1815. Grants to others followed, and work soon began on the first operational railroads.
- Designed and built by Peter Cooper in 1830, the Tom Thumb was the first American-built steam locomotive to be operated on a common-carrier railroad.
- The Pullman Sleeping Car was invented by George Pullman in 1857. Pullman's railroad coach or sleeper was designed for overnight passenger travel. Sleeping cars were being used on American railroads since the 1830s, however, early sleepers were not that comfortable and the Pullman Sleeper was very comfortable.
- **Advanced Train Systems**
  In the 1960s and early 1970s, considerable interest developed in the possibility of building tracked passenger vehicles that could travel much faster than conventional trains. From the 1970s, interest in an alternative high-speed technology centered on magnetic levitation, or maglev. This vehicle rides on an air cushion created by electromagnetic reaction between an on-board device and another embedded in its guideway.