



## Transportation in Ohio

Learn how Ohio's landscape, economy and demographic patterns changed due to the evolution of transportation.

### Roads

Travel via footpaths and small roads was the earliest mode transportation in the area that is now Ohio. During the Adena Period (1000 B.C-600 A.D.), the Portage Path allowed American Indians to travel between the Cuyahoga and Tuscarawas rivers. After the Northwest Ordinance of 1787 opened the Ohio Territory for settlement, road building increased. One of the earliest roads was Zane's Trace (1797), which ran from Wheeling, (West) Virginia to Chillicothe and south to Maysville, Kentucky. The route was shorter for settlers in Conestoga wagons and mail carriers than the Ohio River and could be used during the winter months when the river froze over, making travel by boat impossible. It also facilitated settlement of the area.

A provision in the 1802 Enabling Act, which preceded Ohio's entry into the Union as the 17<sup>th</sup> state, designated 5% of the money from federal land sales for road construction. The National Road, the nation's first federally-funded highway, stretched beyond the Ohio River in 1824, to Zanesville in 1830, and to Indianapolis in 1834. Although the federal government paid for construction of the road, maintenance costs were raised by collecting tolls at tollbooths stationed every ten miles along the road.

Taverns and inns were a necessity, especially in the spring when muddy roads could slow the pace of travel to a mile or two a day. By the 1850s, many Ohio roads were made of plank logs to allow easier passage through the mud. Almost every year new planks had to be laid, as the old planks sank into the mud. Road building in the Black Swamp area of Northwestern Ohio presented special problems in terms of drainage. Large ditches were often dug on both sides of the road, but flooding remained a problem.

The introduction of the affordable and reliable Ford Model T in 1908 increased the popularity of automobile travel, which in turn created a need for better roads. Ohio was one of the first states to create a highway department, in 1904. Around 1912, concrete began to surpass brick and dirt as preferred road surface material. The federal government started providing financial assistance to the state to support road building. In the 1950s, the interstate highway system was launched. Ohio also built a 241-mile-long turnpike that connected with several national routes. Interstates 70, 71, 74, 75, 76, 77, 80 and 90 cross Ohio. In addition, I-270 (Columbus), I-271 (Cleveland), I-275 (Cincinnati), I-475 (Toledo), I-480 (Cleveland), I-670 (Columbus) and I-675 (Dayton) serve as bypass routes for major cities. New highway systems made transportation between cities and rural areas easier and led to the growth of suburbs and urban sprawl.

### Lakes and Rivers

The Ohio River, stretching one thousand miles from Pittsburgh, Pennsylvania, to Cairo, Illinois, was the primary transportation route for American Indians, explorers and early



settlers. Canoes were commonly used by American Indians, explorers, and trappers, but settlers traveled the river on flatboats, large raft-like structures that could carry entire families with their possessions and farm animals. In 1811, the *New Orleans* became the first steamboat to travel from Pittsburgh to New Orleans. Within five years, the river was crowded with steamboats hauling passengers and freight. Shipbuilding provided jobs for thousands of settlers. More than six thousand steamboats were built along the Ohio River between 1811 and 1880 in ports such as Cincinnati, Marietta and Portsmouth. Hundreds of communities in Ohio were founded along smaller streams and tributaries that provided access to the Ohio River or Lake Erie.

Schooners and other wind-powered ships were the first vessels to explore Lake Erie and were in common use until the 1890s. *Walk-in-the-Water* became the first steamboat on Lake Erie in 1818, and like along the Ohio River, shipbuilding ports of Toledo, Sandusky and Cleveland flourished. The 1880s saw a new kind of ship on the lake. The *Onoko* was the first of the massive iron-hulled bulk freighters that were used to transport grain and iron ore. By the 20<sup>th</sup> century, steel-hulled freighters with carrying capacities four times greater than the iron-hulled ships were common.

### **Canals**

The idea of a canal system linking Lake Erie and the Ohio River had been around since before the Northwest Ordinance was signed in 1787, but it was not until 1822 that Governor Ethan Allen Brown succeeded in convincing the Ohio General Assembly to form a canal commission. Work began on two canals in 1825: the Ohio and Erie, from Cleveland to Portsmouth; and the Miami and Erie, connecting Cincinnati and Toledo. Nine more canals were built before 1848, opening the interior of the state for trade and settlement. Settlers flocked to Ohio to farm the area along the canal, and also to work digging and maintaining the waterways. Canals were built four feet deep, 26 feet wide at the bottom, and 40 feet wide at the top, based on the specifications of the Erie Canal. The work was backbreaking, and the mortality rate for canal workers was estimated at one death for every mile dug. Although the significance of the canals in opening Ohio for trade and settlement cannot be underestimated, railroads overtook canal traffic by the 1860s. Many of the canals survived until 1913, when a devastating flood destroyed the remaining system.

### **Railroads**

Traveling at an average of 25 miles per hour, trains could deliver freight and passengers almost five times faster than canal boats. In addition, railroads required less maintenance than canals and could operate year-round. As early as the 1830s, enterprising men such as Eleutheros Cooke of Sandusky began considering railroads as a way to link Ohio's canals. In 1832, the state legislature issued a charter for the Mad River and Lake Erie Railroad, one of the earliest successful ventures in the state. The Ohio Constitution of 1851 abolished the system of legislative-granted charters, and permission to build a railroad became routine. By 1860, Ohio had more miles of rails than any other state. Not until the end of the 19<sup>th</sup> century, however, did the majority of railroads to adopt a standard-gauge track (4 feet, 8 1/2 inches wide), finally making all lines compatible. Like canals in the earlier part of the century, railroads brought mobility and economic opportunity to communities.



A new form of passenger transportation, the electric interurban, became popular at the turn of the twentieth century. Interurbans would stop anywhere with the wave of a passenger's hand and did not produce the cinders, smoke, and dirt of the railroad. Nearly seventy interurban lines operated in 1900, connecting small towns and larger cities around the state. Ridership declined in the late twentieth century as more Ohioans chose to travel by automobile, bus, or airplane.

For travel within cities and towns, trolleys and electric streetcars predominated in the early twentieth century until buses gained favor in the 1930s. Buses did not require rails or overhead electric lines, which gave them an advantage. In the 1970s, gas shortages inspired renewed interest in electric railways. Cleveland, for example, created a light rail system in 1981.

### **Air Travel**

Ohio takes credit for being "the birthplace of aviation" thanks to the efforts of Daytonians Orville and Wilbur Wright. The Wright brothers built and flew the first airplane at Kitty Hawk, North Carolina, on December 17, 1903. They subsequently established an airplane manufacturing business and worked to refine their original design.

In Sandusky, Roberts Motor Company attracted many aviation pioneers, including Tom Benoist, Weldon B. Cooke, Antony Jannus and Harry Atwood. Benoist was well known for building and selling original aircraft designs in the days of early flight. By 1912, Roberts Motor Company had successfully flown three of the largest biplanes built in the United States. The company's waterfront location helped make it an ideal testing place for planes and other aircraft. Roberts Motors could not keep up as the aviation market became more competitive, and stopped manufacturing airplane motors in 1918.

After World War I, zeppelins, or large balloons, gained popularity in the United States. Akron, Ohio, began construction on two of the world's largest airships, the *Akron* and the *Macon*. Constructing these airships required the Goodyear Zeppelin Company to create an extraordinarily large air dock of over eight acres (almost the size of ten football fields). When finished, it was the world's largest structure without internal supports. The *Shenandoah* was the first gas-filled rigid airship to be built in America, and the first airship inflated with helium, an inert gas, instead of hydrogen, which is potentially explosive. On the morning of September 3, 1925, the *Shenandoah* was caught in a storm over Ava, Ohio. It broke apart and crashed, killing 14 crew members, including its captain, Lieutenant Commander Zachary Lansdowne (1888–1925), a native of Greenville, Ohio.

Early airplanes were not large enough to carry passengers and cargo, so commercial air travel did not become feasible until the 1930s. For the early airlines, Ohio was a convenient stop-over for flights between the East and West coasts, which took as long as 64 hours. Akron established a municipal airport in 1924. Columbus and Cleveland followed suit in 1925 and 1929. The Cleveland airport is now known as Cleveland Hopkins International Airport, honoring William R. Hopkins, the city manager who convinced city council to build the facility, which boasted the world's first airport control tower. Governor James Rhodes made improving the state's small airports a priority during his administration.



On December 8<sup>th</sup>, 1941 (the day after Pearl Harbor was attacked), the United States Army announced that a \$7.5 million air base would be built just east of Lockbourne, Ohio. After World War II, the base was used as a development and testing facility for all-weather military aircraft and was a second home to the African American Tuskegee Airmen. From 1946 until the Armed Forces were integrated in 1949, it was the only air base in the country operated by African Americans. The base was reactivated for military use in 1951 due to the outbreak of the Korean War, and in 1971, the Lockbourne Air Base was renamed Rickenbacker Air Force Base. The base was closed by in 1980, but re-opened under the direction of Rickenbacker Port Authority as one of the largest public, all-cargo airports in the world.

In 1964, Geraldine "Jerri" Mock of Bexley, Ohio, laid claim to another aviation first. She earned the distinction of being the first woman to fly solo around the world. Her trip took 29 days in a single-engine Cessna airplane named *The Spirit of Columbus*.

### **Space Exploration**

Cleveland Hopkins International Airport was used during World War II for military aircraft and in 1940 was chosen by the National Committee for Aeronautics (which later became the National Aeronautics and Space Administration, or NASA) as location of an aircraft testing facility. Cleveland Hopkins played a major role in the development of jet and rocket engines for the *Mercury* and *Apollo* space programs. Ohioans who contributed to the advancement of space travel include:

**John Glenn** (b. 1921): Born in Cambridge, Ohio, Glenn attended Muskingum College. He served as a fighter pilot in World War II and the Korean War before becoming an astronaut. On February 20, 1962, Glenn was launched into space in the *Mercury-Atlas 6 Friendship Seven* spacecraft and orbited the earth three times. After a lengthy career in politics, Glenn became the oldest man in space in 1998, when the shuttle *Discovery* launched into space with him on board.

**Neil Armstrong** (1930-2012): Born in Wapakoneta, Ohio, Armstrong worked as a test pilot in his early career and later as a backup pilot for NASA missions. As commander of *Apollo 11* in 1969, Armstrong became the first human to walk on the moon. Armstrong served as a professor of aerospace engineering at the University of Cincinnati from 1971 to 1979.

**James Lovell** (b. 1928): Born in Cleveland, Ohio, Lovell first flew in space in 1965 on the *Gemini 7* mission, which included the first rendezvous of two manned maneuverable spacecraft. In 1970, Lovell served as commander of the *Apollo 13*, his fourth mission, and successfully guided the vehicle back to Earth despite a major systems failure.

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