

The Rambler's Quote File

Series: FHWA Highway History Website Articles

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The Rambler's Quote File

Editor's Note: The Highway History cite has been trying to entice the Rambler back to work, but with so many television shows to keep up with ("Arrow," "Daredevil," "DC's Legends of Tomorrow," "The Defenders," "The Flash," "Gotham," "Iron Fist," "Jessica Jones," "Luke Cage," "Marvel's Agents of S.H.I.E.L.D.," and his two favorites: "Supergirl" and "Scorpion"), he resisted our entreaties. Finally, he decided to get us off his back as easily as possible by digging out his index card file of quotes and copying some of them into this article during the commercial breaks on his third and fourth viewing of the week's "Scorpion" episode.

Over the years, the Rambler has come across quotes that he wanted to save for a future book series on the history of highways after he retired. Because of other very important activities in his life, he never got around to writing the books. But recently, while retrieving his DVD set of the ten seasons of "Smallville," the Rambler came across the index card boxes that contain his quote files.

On the theory that the quotes are interesting or, if not, at least they are short, the Rambler now presents, for the first time, The Rambler's Quote File, this one focused on pre-20th century roads. (Warning: This may be part 1.)

(Note to young readers: an "index card" is a rectangular piece of strengthened paper, 3 by 5 inches, with lines on them. A researcher can write quotations or notes, with a pen, on the paper, usually in cursive - as well as the subject above the top line so the cards can be organized alphabetically for future reference when writing a paper or thesis. If you aren't clear on the meaning of "alphabetically," "cursive," "future reference," "paper," "pen," "researcher," or "thesis," please go back to your tablet.)

Adam Smith on Transportation - 1776

Good roads, canals, and navigable rivers, by diminishing the expence of carriage, put the remote parts of the country more nearly upon a level with those in the neighbourhood of the town. They are upon that account the greatest of all improvements. They encourage the cultivation of the remote, which must always be the most extensive circle of the country. They are advantageous to the town, by breaking down the monopoly of the country in its neighbourhood.

Smith, Adam, *An Inquiry Into The Nature and Causes of the Wealth of Nations*, 1776 - Bullock, Charles J., editor, Cosimo Classics, 2007, page 157.

Ancient Roadbuilding - Greece

Do you see those switchbacks climbing out of the plain [of Thessaly]? The Greeks used to survey a road by putting a hundred kilos on the back of a burro and sending him uphill. They followed the burro with a road.

Geologist Eldridge Moores quoted by John McPhee in "Annals of the Former World: Assembling California," part II, *The New Yorker*, September 14, 1992, page 72

Ancient road - Warning

In about 700 BC, the Assyrian king Sennacherib forbade illegal parking on the Royal Road in Nineveh. Rows of poles carried the instruction "Royal Road Let no man lessen it." The offence might now seem minor, but the penalty was death by impalement on a stake.

Lay, Max G., *Ways of the World: A History of the World's Roads and of the Vehicles That Used Them*, Rutgers University Press, 1992, pages 183-184.

Ancient Road Rules

One road rule of some general interest concerns traveling on one side of the road or the other. The first such regulation was introduced by the Chinese bureaucracy of the Western Zhou dynasty, whose 1100 B.C. *Book of Rites* (Zhou Li) stated: "The right side of the road is for men, the left side for women and the center for carriages." The rule applied to the wide official roads and, because of the low travel speeds, was more concerned with protocol than with head-on collisions.

Lay, Max G., *Ways of the World: A History of the World's Roads and of the Vehicles That Used Them*, Rutgers University Press, 1992, page 197.

Ancient Roads Detected from Outer Space

Researchers found the city [Ubar, 5,000 year old center of frankincense trade in modern Oman] by tracing ancient desert roads detected in pictures taken from several spacecraft, including radar and optical cameras carried by Challenger in October 1984. . . . [The] city may have been inhabited from 2800 B.C. until about A.D. 100 based on pottery found there . . . [and] may have been the earliest known shipping center for frankincense - fragrant gum resin harvested farther south-and possibly was the source of frankincense offered to Jesus by one of the wise men

Lee Siegel, "The Oasis in Southern Oman is No Mirage," Associated Press, *The Washington Post*, February 10, 1992.

Assyrian Empire - From 10th Century B.C. Onwards

We have . . . information about the great successor civilization of the Assyrians and perhaps the earliest recorded road engineers are the '*ummanî*' or pioneer corps of the army of Tiglath Pileser I (c. 1100 B.C.) whose scribes have left a vivid description of their work in making a road through the mountain ranges to the north of Mesopotamia as the king pursued his enemies. Under one of Tiglath Pileser's successors, Sargon II (c. 750 B.C.), we hear of watch houses built along a route at a distance of two hours' travel, written itineraries for the use of travelers, and the building of a paved road of polygonal limestone slabs from the royal palace near Nineveh to the banks of the Tigris.

Especially interesting are the ceremonial ways recorded in the Assyrian empire from the tenth century B.C. onwards. During this period too the paving of city streets, either with stone or gravel, became more frequent. The most remarkable example of city road-building, however, is probably the road of the kings at Nineveh, built in the reign of Sanherib (c. 700 B.C.). This impressive processional way was about ninety feet wide, well paved and lined down its entire length by lofty pillars designed to mark its boundaries to all men. To make doubly sure that his splendid highway lost none of its grandeur by the encroachments of private development, Sanherib invoked the kind of sanction that many a local planning authority today must often dream of. Anyone building a balcony overhanging the royal highway was liable to suffer the extreme penalty by impalement on the finials of his own roof.

Hindley, Geoffrey, A History of Roads, The Citadel Press, 1972, pages 19-20. Italics in original.

Babylonia

While we do not possess a great number of maps covering very large regions, we know through many sources that the Babylonians were well acquainted with the people surrounding them and had not only a good knowledge of, but a great interest in, the highways connecting their land with adjacent countries. Their traveling salesmen went everywhere, and we find Babylonian kings protesting to Egyptian pharaohs that the highways through Syria and Palestine are unsafe and that their commercial employees are being robbed by the natives. The Babylonians had also traveled extensively through the north and must have reached the Black and Caspian Seas.

Edward Chiera (Cameron, George G., editor), *They Wrote on Clay: The Babylonian Tablets Speak Today*, The University of Chicago Press, 1966, pages 161-162.

Bad Roads - New Jersey - 1793

The inhabitants, O State, are respectable-the senators are wise-the militia is formidable-and thy daughters are fair; but some of the ways are bad. Whoever travels the road from Stony Brook steep, to Rocky Hill, in a wheel carriage does it at the hazard of his life. As to thy private paths, whether they are perfect or not, thou must judge, but thy public ways call loudly for amendment. If the surgeons of Princeton object to having the roads mended for fear travelers will have no bones broken, they ought to get their bones broken.

"A Traveller" addressed the State of New Jersey in the *New Jersey Journal*, October 2, 1793. Cited by Lane, Wheaton J., *From Indian Trail to Iron Horse: Travel and Transportation in New Jersey, 1620-1860*, page 122 (note 23).

Bad Roads - New Jersey & Pennsylvania - 1810

Mansfield-N J-Sat-morn October 27 -

We yesterday travell'd the worst road you can imagine- over mountains & thro' vallies- We have not I believe, had 20 rods of level ground the whole day- and the road some part of it so intolerably bad on every account, so rocky & so gullied, as to be almost impassable- 15 miles this side Morristown, we cross'd a mountain call'd Schyler or something like it- We walk'd up it, & Mrs W told us it was a little like some of the mountains only not half so bad- indeed every difficulty we meet with is compar'd to something worse that we have yet to expect-

Sunday eve- Sundown- Oct 28

After we left Mansfield, we crossed the longest hills, and the worst road, I ever saw- two or three times after riding a little distance on turnpike, we found it fenced across & were oblig'd to turn into a wood where it was almost impossible to proceed- large trees were across, not the road for there was none, but the only place we could possibly ride- It appear'd to me, we had come to an end of the habitable part of the globe- but all these difficulties were at last surmounted, & we reach'd the Delaware-

Dwight, Margaret Van Horn, *A Journey to Ohio in 1810*, Yale Historical Manuscripts, Yale University Press, 1913, pages 13, 16.

Baltimore Streets - 1797

From a message by Mayor James Calhoun:

The Regulations for the Riding and Driving of Carriages & Horses through the City, have in a considerable degree tended to the security of foot passengers and children, but this is one of the Ordinances found most difficult to carry into complete execution, and gives most offence, as the practice of cantering or going in a slow gallop has been so prevalent, and deemed by many so safe, that it has given considerable offence when they are fined; however, I am persuaded that it will be impossible to execute any Law on the subject unless similar to the present one, that is to prevent galloping of every kind, for it is difficult if not impossible to draw the line of distinction betwixt the moderate and immoderate degree, in the gait of a Horse, and we must therefore either inforce the Law as it is, or repeal it altogether.

Lefurgy, William G., "Prudent Laws and Wise Regulations: Three Early Baltimore Mayor's Messages, 1797-1799, *Maryland Historical Magazine*, Winter 1983, page 279.

The Bicycle Craze - 19th Century

The distinguished historian Eric Hobsbawm [born 1917] believed that the bicycle was one of the greatest inventions ever. It gave people true mobility in a way that was beneficial to all classes, not just the rich. He also thought it was one of the rare inventions that had no bad side effects and could not have any malicious use The impact the bicycle had on society was remarkable. In rural communities, it dramatically increased the distances people could travel and the places they could visit. It also increased the numbers of other people one could meet, including potential marriage partners. Steve Jones, a respected biologist [born 1944], argued that the bicycle played an important role in combating genetic disorders, because people from different towns were marrying, which led to a greater and healthier genetic mix However, perhaps the most notable social change brought about by the bicycle was in the lives of women. Many people initially found the idea of a female sitting astride a machine "unbecoming," but that did not stop young women from taking to the road by the thousands.

Smithsonian Journey: An Illustrated History of Travel, DK Penguin Random House, 2017, pages 262-263.

Bicycling - Washington, D.C. - 1899

The Chief of Police of Washington, D.C., attests to the pushful propensity of the bicycle and its riders in his request to the district commissioners to frame a regulation to prevent cyclists from resting their wheels within one "square" of a fire. The chief claims that wheelmen seriously obstruct the work of the fire-department, because they seem to feel it a matter of duty to respond to every alarm of fire, and reach the scene of the fire before the department. It is claimed that an average of about 100 wheelmen respond to every alarm, and many times the number reaches over 400. Most of these riders, so the chief claims, in their desire to reach the fire ahead of all others, engage in "scorching" [speeding], thereby hindering the

movements of the department vehicles and endangering the lives of pedestrians. On many occasions, says the chief, wheelmen seem to have the idea that it is incumbent upon them to lead the way and set the pace for the drivers of the department.

Untitled, *L. A. Bulletin and Good Roads*, March 31, 1899, page 436.

Bicycling - Washington, D.C. - 1900

It would seem as though the great majority of the government employes [sic] in the many different departments, and they are numbered by the thousands, are cyclists, for when the departments close at 4 p.m., all sections of Washington are simply swarmed with them. At every department and place of public attraction, facilities are provided for leaving wheels while the owners are sightseeing.

Chas. A. Jackson, "Wheeling About the Capital," *The L.A.W. Magazine*, July 1900, page 12.

Bridges - China

Foreign admirers of Chinese bridge could be adduced from nearly century of the empire. Between 838 and 847 [A.D.] Ennin never found a bridge out of commission, and marveled at the effective crossing of one of the branches of the Yellow River by a floating bridge 330 yards long, followed by a bridge of many arches, when on his way from Shantung to Chhang-an. In the last decades of the 13th century Marco Polo reacted in a similar way, and speaks at length of the bridge sin China, though he never mentions one in any other part of the world.

Needham, Joseph, *Science and Civilization in China*, Volume 4, Part III, Cambridge University Press, 1971, page 148.

Bridges - Rural Areas of China - 16th Century A.D.

It is interesting that one of the things which the early Portuguese visitors to China in the 16th century found most extraordinary about the bridges was the fact that they existed along the roads often far from any human habitations. What is to be wondered at in China, wrote Gaspar da Cruz, the Dominican who was there in 1556, "is that there are many bridges in uninhabited places throughout the country, and these are not less well built not less costly than those which are nigh the cities, but rather they are all costly and very well wrought." In such wise did the works of an all-pervading imperial bureaucracy impress the visitors from an essentially city-state civilization.

Needham, Joseph, *Science and Civilization in China*, Volume 4, Part III, Cambridge University Press, 1971, page 149.

Charles Dickens

"How old are you?"

"35," said the mender of roads who looked 60.

Charles Dickens, *A Tale of Two Cities*, James Nisbet & Company, Limited, 1902, page 205.

China Compared with Rome - Decline of Roads

There is a curious parallel between the Roman and the Chinese systems in that both, after the 3rd century [A.D.] fell into a long period of decay, but while Europe became parceled out into feudal kingdoms and domains with poor communications except by sea, the role of the Chinese highways passed over to an immense system of navigable rivers and artificial canals, leaving only the mountain roads to continue their age-old function.

Needham, Joseph, *Science and Civilization in China*, Volume 4, Part III, Cambridge University Press, 1971, page 3.

Christianity - the Spread of

It was no coincidence that Christianity spread mainly to the north and west from Palestine. The network of roads built and protected by the Roman armies provided relatively easy access from Jerusalem to the cities of Asia Minor, Macedonia, Achaëa and on to Rome. Paul alone is estimated to have traveled nearly 10,000 miles by land and sea during four missionary journeys through the Mediterranean region.

Jeffrey L. Sheler, "The First Christians," *U.S. News & World Report*, April 20, 1992.

Cities - Location (1)

That the first growth of cities should have taken place in river valleys is no accident; and the rise of the city is contemporaneous with improvements in navigation, from the floating bundles of rushes or logs to the boat powered by oars and sails. After this, the ass, the horse, the camel, the wheeled vehicle, and finally the paved road widened the province of transportation, and gave the city command over men and resources in distant areas.

Munford, Lewis, *The City in History, Its Origins, Its Transformations, and Its Prospects*, A Harvest Book, Harcourt, Inc., 1968, page 71.

Cities - Location (2)

The New World cities arose, not in the great river valleys of the Amazon, the Plata, or the Mississippi, but in relatively unfavorable spots, poor in natural means of communication and transport, and they required a maximum human effort, in jungle clearing or in soil building, to provide their own food-in contrast to the relatively easy life of the grain growers and the palm cultivators in the Old World. The great roads between the Mayan and Peruvian cities could not exist until a central authority had established the collective organization capable of building them.

Munford, Lewis, *The City in History, Its Origins, Its Transformations, and Its Prospects*, A Harvest Book, Harcourt, Inc., 1968, page 92

Civil War - Ulysses S. Grant on How Roads Affected It

I was naturally very impatient for the time to come when I could commence the spring campaign, which I thoroughly believe would close the war. There were two considerations I had to observe, however, and which detained me. One was the fact that the winter had been one of heavy rains and the roads were impassable for artillery and teams. It was necessary to wait until they had dried sufficiently to enable us to move the wagon trains and artillery necessary to the efficiency of an army operating in the enemy's territory.

The second consideration was to wait until General [Philip] Sheridan arrived from the Shenandoah Valley.

Grant, Ulysses S., *The Civil War Memoirs of Ulysses S. Grant*, Thomsen, Brian M., editor, A Force Book, A Tom Doherty Associates Book, 2002, page 441.

Congestion - Ancient Roman

As soon as the increase of population created a demand for wheeled traffic in Rome, the congestion became intolerable. One of Julius Caesar's first acts on seizing power was to ban wheeled traffic from the center of Rome during the day. The effect of this, of course, was to create such a noise at night, with wood or iron-shod cartwheels rumbling over the stone paving blocks, that the racket tormented sleep: at a much later date, it drove the poet Juvenal into insomnia Claudius extended Caesar's prohibition to the municipalities of Italy; and Marcus Aurelius, still later, applied it without regard to their municipal status to every town in the Empire; while, to complete the picture, Hadrian (A.D. 117-138) limited the number of the teams and loads of carts permitted to enter the city-cutting down even the night-time traffic at source. In a century and a half, traffic congestion had gone from bad to worse.

Munford, Lewis, *The City in History, Its Origins, Its Transformations, and Its Prospects*, A Harvest Book, Harcourt, Inc., 1968, pages 218-219.

Control of Access - Ottoman Empire

[Sultan Murad IV, 1632-1640] executed the Grand Mufti because he was dissatisfied with the state of the roads 'When he rode forth any unfortunate wretch who displeased him by crossing or impeding the road was instantly put to death and frequently fell pierced by an arrow from the gloomy despot's own bow.'

Barber, Noel, *Lords of the Golden Horn: The Sultans, Their Harems and The Fall of The Ottoman Empire*, Arrow Books, Limited, 1988, pages 87-88.

Elizabethan England - 1558-1603

The use of the word "road" as a noun is an Elizabethan invention, occasionally to be heard from the 1560s onward. The terms "highway," "path," "lane," "street," and "way" are more normally used. Nevertheless, whatever you call them, roads themselves are among the oldest parts of the manmade landscape

Some modern historians claim that nothing is done to improve the state of communications in Elizabeth's reign. But that is not true. Several Acts of Parliament to remedy the poor state of the roads are passed, the most important of which just predates Elizabeth's accession. The Act of 1555 establishes the process whereby the churchwardens in every parish appoint two surveyors of the highways at Easter. These surveyors announce four days in the year on which all parishioners will repair the roads. Every farmer must send a cart with two of his men and every cottager has to give his own labor, or else be fined heavily. This legislation is greatly extended in scope by a second act in 1563, which purposefully envisages a reform of communications in England

If you travel in the summer you can see the law being obeyed-at least in part. In 1581 in Great Easton, Essex, two dozen farmers and cottagers send their carts or offer their labor to help with highway maintenance; twenty-seven others pay fines of 10 shillings for not providing a cart or 12 pence a day for not working, and these fines are spent on further work on the highways

The fundamental problem with the whole approach is that the people who are expected to do all the work do not significantly benefit from it. Most of them travel on foot or horseback; they have little need or inclination to rebuild the roads for the benefit of wealthy coach passengers-rich women and "effeminate" men-or royal messengers.

Mortimer, Ian, *The Time Traveler's Guide to Elizabethan England*, Viking, Penguin Group, 2013, pages 166 and 169.

Empires - and Communications

[Genghis Khan] and his descendants created a vast free-trade zone across Eurasia and greatly enhanced the linkage between the civilizations of the East and West-a medieval GATT [General Agreement on Trade and Services]. "He had certainly created a potential free trade area of unlimited extent. To the diplomat, the mercenary, and the merchant, here was a virgin field," writes Ronald Latham in his introduction to "The Travels of Marco Polo."

"It was so great an empire," writes Roberts, "communications were the key to power. A network of post-houses along the main roads looked after rapidly moving messengers and agents."

The Mongols, in other words, pioneered global communications seven centuries before the invention of the Internet.

From an article on the Man of the Millennium, Genghis Khan, by Joel Achenbach, *The Washington Post*, December 31, 1995.

Establishing Post Roads - The Constitution

The original "post roads" were the highways over which journeys were made of such length as to necessitate accommodations for the changing of horses and the over-night lodging of travelers. To provide those accommodations post houses or inns were established at convenient intervals and the roads took their name from these posts. There is not the least doubt that this was the conception of a post road that was in the minds of the framers of the Constitution when they empowered Congress to establish post roads. By reason of the fact that the carriage of parcels and packets necessarily took place over the post roads, the public agency which performed that service became the postal service, and the stations already established for other purposes naturally became the post offices.

So when we undertake to determine the meaning of the constitutional authority of the Federal Government with respect to road establishment we must bear in mind that the post roads referred to in Article I did not derive their designation from their connection with mail carriage, but, on the contrary, our postal service is so called because it originally operated over the post roads.

MacDonald, Thomas H, and Fairbank, Herbert S., "Federal Aid As a Road Building Policy: Is It Aid or Cooperation," Section II, U.S. Bureau of Public Roads, April 1928, pages 7-8.

Establishing Post Roads - The Federal Papers

The power of establishing post roads must, in every view, be a harmless power and may, perhaps, by judicious management become productive of great public convenency. Nothing which tends to facilitate the intercourse between the States can be deemed unworthy of the public care.

Madison, James (writing as Publius), Paper #42, "The Powers Conferred by the Constitution Further Considered," Rossiter, Clinton, editor, *The Federalist Papers*, Signet Classics, 2003, page 267.

Inca Roads in Chile - Roads in the Absence of Beasts of Burden

The engineering talents of this ancient people, so astonishingly revealed in their vast and unmortared masonry, were fully exploited in the surveying and construction of their roads. The steep ascents and descents, unavoidable in this, one of the most mountainous countries in the world, were negotiated by long stairways which reach up sometimes for hundreds of feet. Clinging to the precipitous sides of deep gorges, springing across rocky and raging torrents hundreds of feet below, or stretching for mile upon mile across high arid plateau often more than 15,000 feet above sea level, these roads provided speedy passage for the mighty armies and fleet-footed royal messengers for which they had been built . . .

It has been shown, for example, that through the whole of its 2,500 miles the coast road maintained a basic width of twenty-four feet, departing from it only under the most difficult conditions. Causeways were built and cliffs cut away to keep to this standard gauge, while, as on the great royal highway, retaining walls skirted either side, both to define the road and to hold back drifting sand and occasional flood-waters. For the Inca engineers, like all serious road-builders, fully appreciated the need for effective drainage. As far as possible they carried their highway along contours well above watercourses and rivers, but where passage of low-lying or marshy terrain was unavoidable either drains and culverts were provided or the road itself was raised on a causeway-one of these works extending for no less than eight miles.

Hindley, Geoffrey, A History of Roads, The Citadel Press, 1972, page 23.

Incentive for Quality Bridge Construction - 62 B.C.

[Regarding the Pons Fabricius, the oldest bridge in Rome, built by Lucius Fabricius] To make certain that the bridge was solidly built, the Senate withheld payment for forty years, a rather over-cautious attitude seeing that the bridge is still in use some 2,000 years later.

Van Hagen, Victor W., *The Roads That Led to Rome*, The World Publishing Company, 1967, page 46.

India's Mauryan Empire - Between 322 and 187 B.C.

Greek writers testify to the high level achieved and there are some interesting references to the roads built and used in the north and north-west of India during this period . . . It is apparent, for example, that the Mauryan empire understood as fully as the Romans the need for efficient communication. There was actually an officer of state charged with the oversight of the highways. His job was to keep them free of obstructions, to maintain bridges in good repair and to see to the upkeep of those rare stretches of road that were paved; another vital function was the erection of mile posts marking the distances along the road and indicating the destinations of the various side roads. In addition to these there were official registers of the stages of the main arterial route. This was the royal road running from west to east through the imperial capital of Pataliputra (modern Patna), from which 'itineraries' or route guide-books were drawn up for important travelers . . . In total this represented a length of about 2,600 miles, and throughout the whole distance the road seems to have been well equipped with staging posts and guard-houses so that the post of the great Indian rulers of the period must have been capable of an average speed of something like 100 miles a day.

Hindley, Geoffrey, A History of Roads, The Citadel Press, 1972, page 18.

Jefferson - the Road from Monticello to Washington Following his first Inauguration

He did not remain long in Washington after the inauguration [on March 4] . . . On April 1 he set out for Monticello. It was only a four-day trip now but he had eight rivers to cross, without bridges or ferries, and the roads were so punishing he preferred the saddle or a one-horse chair to the gig or carriage.

Merrill D. Peterson, *Thomas Jefferson and the New Nation*, Oxford University Press, 1970, page 660.

Jefferson - Roads vs. War

Writing to James Ross, Jefferson said:

I experience great satisfaction at seeing my country proceed to facilitate intercommunications of several part by opening rivers, canals, and roads. How much more rational is this disposition of public money than that of waging war.

In a letter to explorer Alexander von *Humboldt*:

It is more remunerative, splendid, and noble for people to spend money in canals and roads that will build and promote social intercourse and commercial facilities than to expend it in armies and navies.

Miles, General Nelson A., "Good Roads and Civilization," *Proceedings of the National Good Roads Convention Held at St. Louis, Mo.*, April 27 to 29, 1903, U.S. Office of Public Roads Inquiries, Department of Agriculture, Bulletin No. 26, page 30.

Jefferson - Roads and Union

Their patriotism would certainly prefer its continuance and application to the great purposes of the public education, roads, rivers, canals, and such other objects of public improvement as it may be thought proper to add to the constitutional enumeration of Federal powers. By these operations new channels of communications will be opened between the States, the lines of separation will disappear, their interests will be identified, and their union cemented by new and indissoluble ties.

President Thomas Jefferson, Sixth Annual Message, December 2, 1806.

Journey - Comments on Walking by William Hazlitt, English critic and essayist (1778-1830)

1. One of the pleasantest things in the world is going a journey; but I like to go by myself.
2. When I am in the country I wish to vegetate like the country.
3. The soul of a journey is liberty, perfect liberty, to think, feel, do just as one pleases.
4. Give me a clear blue sky over my head, and the green turf beneath my feet, a winding road before me, and a three hours' march to dinner-and then to thinking! It is hard if I cannot start some game on these lone heaths.

Kaplan, Justin, editor, *Bartlett's Familiar Quotations*, 16th Edition, Little, Brown and Company, 1992, page 390.

Lincoln - Road Location

. . . in the case of country roads, bridges, and the like . . . [o]ne man is offended because a road passes over his land, and another is offended because it does not pass over his; one is dissatisfied because the bridge for which he is taxed crosses the river on a different road from that which leads from his house to town; another cannot bear that the county should be got into debt for these same roads and bridges; while not a few struggle hard to have roads located over their lands, and then stoutly refuse to let them be opened until they are first paid the damages. Even between the different wards and streets of towns and cities we find this same wrangling and difficulty.

U.S. Representative Abraham Lincoln, on the House Floor, June 20, 1848.

Maintenance - Meritorious Before God

When Henry VIII gave the lands of the dissolved monastery of Christ Church to Canterbury Cathedral, he declared that he made this donation "in order the charity to the poor, the reparation of roads and bridges, and pious offices of all kinds should multiply and spread afar. The keeping of these roads in repair . . . was not considered as worldly, but rather as pious and meritorious work before God, of the same sort as visiting the sick or caring for the poor; men saw in them a true charity for certain unfortunate people, namely, travelers.

Jusserand, J. J. (Smith, Lucy Toulmin, translator), *English Wayfaring Life in the Middle Ages*, T Fisher Unwin, 1891, pages 37-38.

Mark Twain - Contracting for Xerxes, King of Persia - 482 B.C.

Within the Hellespont we saw where the original first shoddy contract mentioned in history was carried out, and the "parties of the second part" gently rebuked by Xerxes. I speak of the famous bridge of boats which Xerxes ordered to be built over the narrowest part of the Hellespont (where it is only two or three miles wide). A moderate gale destroyed the flimsy structure, and the King, thinking that to publicly rebuke the contractors might have a good effect on the next set, called them out before the army and had them beheaded. In the next ten minutes he let a new contract for the bridge. It has been observed by ancient writers that the second bridge was a very good bridge. Xerxes crossed his host of five millions of men on it, and if it had not been purposely destroyed, it would probably have been there yet. If our government would rebuke some of our shoddy contractors occasionally, it might work much good.

Medieval England

The highway structure of the kingdom-that is to say the network of roads connecting the towns-is based on the network of Roman roads reaching westward to Exeter and northward to the border of Scotland. This amounts to about ten thousand miles of roads. The Gough Map shows about three thousand miles of main roads in use in 1360; close examination reveals that about 40 percent of these are of Roman origin. These were almost all constructed before the end of the second century, and so it is not surprising to know that their condition varies. In some places the stones are still in place, deeply rutted where cartwheels have worn away the surface. In other places the stones have been taken away to build something else. Sometimes you find interruptions in the road due to subsidence or a large fallen tree

On the whole, the main highways are kept in good repair. They have to be, for the king regularly travels along them. True, he does not travel around the whole kingdom; no fourteenth-century reigning king visits Cornwall or Devon, for example. But on the whole any roads found blocked or in a bad state of repair result in a speedy royal writ being dispatched to the manorial lord in charge of their maintenance

Other roads, however, are not so well maintained. Constantly you will hear in manorial courts how so-and-so had let the road outside his house become impassable, blocking it with timber, broken carts, and rubbish. Sometimes too you will find that the offending blockage is the overflow of a latrine pit after heavy rain, which had left feces, sticks, and farmyard debris all over the road.

Mortimer, Ian, *The Time Traveler's Guide to Medieval England: A Handbook for Visitors to the Fourteenth Century*, A Touchstone Book, Simon and Schuster, 2011, pages 126-127.

Mongols - The Yuan Dynasty - 1260-1368 A.D.

In 1227 the Mongols recognized the need of pacifying their conquered territory and of making it pay the costs both of government and military campaigns Of great importance was a system of imperial highways that connected China, Persia, and Russia. The first one, running to western Asia, was built in 1219 by Jenghis [Genghis Khan]; his successors continued and expanded his work and established military and post stations, with the necessary grain stores and pasture lands, at frequent intervals along the roads. The roads were thronged, as probably never before or since, with couriers, caravans, and envoys, many of them en route to or from the great camp at Karakorum. Thither went booty from every land, princes from Russia, skilled craftsmen from Paris, Damascus, and Peking, and ambassadors and ecclesiastical dignitaries from Lhasa, Rome, and Little Armenia The Mongol regime was one from which China gained in some respects. Both road and water communications were reorganized and improved, and post stations with relays of 200,000 fast horses were established for official needs.

Goodrich, L. Carrington, *A Short History of the Chinese People*, Harper Torchbooks, Harper & Row, Publishers, 1963, pages 173-175.

Motoring

Motoring enthusiast [painter] Henri Matisse, when asked at the turn of the century what he would do if he encountered a car coming in the opposite direction, replied, "Should the inconceivable happen, I should of course halt my motoring car, descend from it, and take shelter in a nearby field until the other had gone by."

Lay, Max G., *Ways of the World: A History of the World's Roads and of the Vehicles That Used Them*, Rutgers University Press, 1992, page 186.

Nations Made Strong

There be three things that make a nation great and strong: a fertile soil, busy workshops, and the easy conveyance of men and goods from place to place.

Lord Chancellor Francis Bacon, England, died 1626.

New York City

By 1860, Manhattan's fourteen-horse railway companies carried more than 38 million riders annually, while its twenty-nine omnibus lines operated 671 vehicles, each of which made an average of ten trips uptown and ten trips downtown every business day. An important result of this new prominence was that popular disenchantment with transit escalated. There were essentially two sources of complaint: vehicular congestion on the streets and overcrowding in the cars.

For the first time in New York, traffic emerged as a major problem. At peak periods the streets were a solid mass of braying, animal-powered vehicles. Walt Whitman compared this chaos to that of military battles, where regiments and platoons clashed in violent disarray. Wagons, lorries, carriages, and omnibuses moved at different speeds, maneuvered in and out of traffic, and dodged from one side of the street to another. The twentieth century pattern of separate streams of vehicles flowing smoothly in opposite directions was largely unknown.

Hood, Clifton, *722 Miles: The Building of the Subways and How They Transformed New York*, The Johns Hopkins University Press, 1995, pages 40-41.

Parkway

The term *parkway* was coined by Calvert Vaux, collaborator of Frederick Law Olmsted, in the creation of Central, Prospect, and other Parks, in an 1868 proposal that led to the creation of Ocean and Eastern Parkways in Brooklyn, the first parkways in the world.

Patton, Phil, *Open Roads: A Celebration of the American Highway*, Simon & Schuster, 1986, page 67.

Pavements - 1414

In 1414, the schismatic Pope John XXIII became inextricably bogged on his ill-fated way to the Council of Constance. He suspected darker forces than a saturated pavement and cried out in despair that his predicament was the devil's work.

Lay, Max G., *Ways of the World: A History of the World's Roads and of the Vehicles That Used Them*, Rutgers University Press, 1992, pages 65-66.

Pavements - 16th/17th Century

The increased travel demand coupled with decreased maintenance plunged the roads into a sorry state. There are many reports of people drowning in potholes and roadside drains and of horses sinking to their bellies in mud. The hooves of animal herds and, in particular, the various activities of pigs caused major pavement damage.

Lay, Max G., *Ways of the World: A History of the World's Roads and of the Vehicles That Used Them*, Rutgers University Press, 1992, page 66.

Pennsylvania Road - 1818

To judge of the inland commerce carrier on betwixt Philadelphia and Pittsburg [sic], a stranger has but to view the road at the present season. All day I have been brushing past waggons [sic] heavily loaded with merchandize, each drawn by five and six horses; the whole road in fact appears like the cavalcade of a continued fair.

Thomas Nuttall, Bedford, Pa., October 1818. Quoted in Fordham, Elias Pym, *Fordham's Personal Narrative 1817-1818*, Ogg, Frederic Austin, editor, A Heritage Classic, The Arthur H. Clark Company, 1906 (Facsimile Reprint, Heritage Books, Inc., 1989, footnote page 60.

Pennsylvania Road - 1832

"My journey from Philadelphia to Pittsburg [sic] is one of the most arduous that I have taken," [Gustave de] Beaumont [companion to Alexis de Tocqueville] wrote his sister a week later: "the roads are detestable, the carriages even worse. We traveled night and day during three times twenty four hours. At 30 leagues from Philadelphia we encountered the Allegheny Mountains, where we were pounced on by a horrible cold During almost all the remainder of the journey we proceeded in the midst of a perpetual tornado of snow such as had not been seen for a long time, especially at this season of the year."

Pierson, George Wilson, *Tocqueville In America*, The Johns Hopkins University Press, 1996, page 543.

Persian Achaemenid Empire - The Royal Road - 6th Century B.C.

The Achaemenid Empire, founded in 550 BCE by Cyrus the Great, was the greatest empire the world had ever seen up to that time. At its height under Darius I (r. 522-486 BCE), its population of around 50 million people included at least 44 percent of the entire population of the world To speed up royal communications, Darius I built a series of roads on which mounted couriers could travel, of which the Royal Road is the most famous. That road began on the Aegean coast and headed east to the royal city of Susa. One branch extended northeast from Babylon into central Persia and on to the Silk Road, the ancient trading route between China and the West. Another branch continued southeast to the royal capital of

Persepolis . . . Darius I built a series of royal caravanserais, or roadside inns, along the roads, where [merchants and traders] could stay at night and refresh themselves and their pack animals . . . The Royal Road and its offshoots were the lifeline of the Achaemenid Empire.

Smithsonian Journey: An Illustrated History of Travel, DK Penguin Random House, 2017, pages 28-29.

Persian Achaemenid Couriers - 6th Century B.C.

Cyrus made sure that official messages and instructions from the king could be transmitted quickly to officials in the distant provinces, and their reports received back again, by establishing an imperial postal service. This service employed mounted couriers known as the Angarium. These couriers were well trained and were paid handsomely for their efforts on behalf of the king. Each day, the couriers and their fresh horses waited in one of 111 stations placed at intervals a day's ride apart from each other along the Royal Road. Each courier rode with the message for one day and then handed it over to a waiting courier who did the same the following day. In this way, the relay of couriers could carry a message along the entire road in a week, a journey that would have taken 90 days on foot. Herodotus, the Greek historian, noted of the Angarium that, "There is nothing in the world that travels faster than these Persian couriers." Further words of praise from Herodotus . . . are still read today as they are inscribed on the main post office in New York and are sometimes thought of as the creed of the United States Postal Service: "Neither snow nor rain nor heat nor gloom of night stays these couriers from the swift completion of their appointed rounds" - Herodotus, *Histories*, c 440 BCE.

Smithsonian Journey: An Illustrated History of Travel, DK Penguin Random House, 2017, pages 28-29.

Ralph Waldo Emerson - on Road Builders

At least we know with Emerson that "he who builds a great road earns a place in history."

Victor W. von Hagen, *Highway of the Sun*, Duell, Sloan and Pearce/Little Brown and Company, 1955, page 296.

Roads - The Federalist Papers

Let it be remarked . . . that the intercourse throughout the union will be daily facilitated by new improvements. Roads will everywhere be shortened, and kept in better order; accommodations for travellers will be multiplied and meliorated; an interior navigation on our eastern side, will be opened throughout, or nearly throughout, the whole extent of the thirteen States. The communication between the Western and Atlantic districts, and between different parts of each, will be rendered more and more easy, by those numerous canals with which the beneficence of nature has intersected our country, and which art finds it so little difficult to connect and complete.

Madison, James (writing as Publius), Paper #14, "An Objection Drawn From the Extent of the Country, Answered" *The Federalist Papers*, Rossiter, Clinton, editor, Signet Classics, 2003, pages 97-98.

Roads - 1820

Public roads in this country, instead of a convenience, have in fact become nuisances. In their present improved state a traveler every few miles is liable to be lost, by some fork in a road without sign boards, or by a neighborhood track, often larger and better improved than the main road, a wagon cannot go to market with a load of pork or corn, or a family wagon pass Franklin until they unload in getting up or down the bank of some little creek.

Missouri Intelligencer, January 7, 1820. Quoted in *Missouri Historical Review*, July 1952, page 398.

Roads and Civilization

The Road moves and controls all history. The material rise and decline of a state are better measured by the condition of its roads than by any other criterion.

British author Hillaire Belloc, *The Highway and Its Vehicles*, 1926, quoted in Borth, Christy, *Mankind on the Move*, page 10.

Road Value

Of all inventions, the alphabet and the printing-press alone excepted, those inventions which abridge distance have done most for the civilization of our species.

Macaulay, Thomas, *State of England in 1685*. Quoted in *L.A.W. Bulletin and Good Roads*, November 19, 1897, page 600.

Roman Roads - A Mobile Civilization

Rome became a mobile civilization and the mistress of the world because of her systematic control of world-space through her roads These 53,000 miles of communications were taut strings of civilization, great life-lines that went off to the edge of every horizon.

The Roads The Led to Rome, page 8.

Roman Roads - 800 Years of Roadbuilding

This road building went on for eight hundred years until the end, as it must for all empires, finally came. By that time Rome had paved the world.

The Roads The Led to Rome, page 279.

Roman Roads - In 1763

I had heard much of these antient [sic] pavements, and was greatly disappointed when I saw them. The Via Cassia or Cymina is paved with broad, solid, flint-stones, which must have greatly incommoded the feet of horses that travelled upon it as well as endangered the lives of the riders from the slipperiness of the pavement: besides, it is so narrow that two modern carriages could not pass one another upon it, without the most imminent hazard of being overturned. I am still of opinion that we excel the ancient Romans in understanding the conveniences of life.

Smollett, Tobias, *Travels Through France and Italy*, Oxford University Press, 1981 (originally published in 1766), page 235.

Silk Road

The Silk Road wasn't a road in the conventional sense (though it is sometimes described as the world's earliest highway); rather, it was a vast network of routes stretching all the way from China through central Asia to Europe, with links to routes leading north and south. It developed over many centuries and was traversed-in all directions-by hardy representatives from an array of disparate cultures. It was used to ferry a wide variety of goods, artifacts, innovations, and beliefs over the most challenging landscape in the world The Silk Road's evocative name isn't nearly as old as the thing itself; it wasn't coined until 1877 by a German explorer and geographer named Baron Ferdinand von Richthofen (1833-1905), who first referred to it as the *Seidenstrasse*.

Norell, Mark; Leidy, Denise Patry; and the American Museum of Natural History, with Ross, Laura, *Traveling the Silk Road: Ancient Pathway to the Modern World*, Sterling Signature, 2011, pages 16, 22.

Silk Road - Commodities Traded

The commodity that gives the Silk Road its name was certainly the thing that seemed most exotic and wonderful to those in the West. The Romans likely encountered silk as early as the first century BCE, via Parthians they took as prisoners. Correctly supposing that the relatively unsophisticated Parthians could not have created such an alluring thing, they learned that it came from a culture farther to the east, whom they came to refer to as Seres, the "Silk People" But of course silk was by no means the only significant item traded along the route, which was very much a two-way street. Caravans traveled eastward to China carrying gold, ivory, gems, and glass; westward missions ferried furs, ceramics, jade, bronze, and lacquer. Since there is no evidence that Romans ever showed up in Zi'an [called Chang'an at the time, the capital during the unifying Qin dynasty (221-206 BCE), conventionally considered the start of the road] or that Chinese merchants arrived in Rome, it is certain that many canny intermediaries profited handsomely from Silk Road commerce.

Norell, Mark; Leidy, Denise Patry; and the American Museum of Natural History, with Ross, Laura, *Traveling the Silk Road: Ancient Pathway to the Modern World*, Sterling Signature, 2011, page 27.

Stagecoaches - 16th and 17th Century A.D.

Early travelers over land had no choice but to ride on horseback or to walk. Carriages or coaches were served for royalty, and generally female royalty at that. Such people had the resources to send servants out beforehand to scout the most passable routes, and, where necessary, to clear and repair the rutted cross-country tracks that passed for roads By the mid-17th century, horse-drawn stagecoaches had begun to travel between many European cities. It is around this time these vehicles became known as stagecoaches-a reference to the fact that they traveled in stages of 10-15 miles (16-24 km). This was one of the reasons that journeys on the road were painfully slow. In England, in 1657, the 182 miles (292 km) from London to

Chester took six days. It was also uncomfortable. Carriages lacked suspension, up to eight people might be crammed inside, second-class travelers sat in a large open basket attached to the rear of the coach, and third-class passengers risked being bounced off perches on the roof.

Smithsonian Journey: An Illustrated History of Travel, DK Penguin Random House, 2017, page 165.

Stagecoaches - 18th Century A.D.

Then in the 18th century, turnpike trusts were established to provide better roads, charging a toll for usage, and a network of coaching inns emerged to provide travelers with overnight lodgings. These developments were spurred on by the innovation of carrying the mail by coach, so roads were now used not only by stagecoaches, but also by mail coaches. Stagecoaches themselves became more comfortable. A German design, known as the Berlin, featured curved-metal spring suspension and a coach body for four with a door on each side In the US, the Concord coach had leather straps for suspension, prompting Mark Twain to describe it as "a cradle on wheels."

Smithsonian Journey: An Illustrated History of Travel, DK Penguin Random House, 2017, page 165.

Stagecoaches - Their Importance

It is doubtful if any description written to-day could adequately portray the importance-in its relation to the affairs of the peopleâ€”which stage-coach traffic assumed during the period between 1800 and 1840. During the years in question it was the only means by which a large part of the population could accomplish overland journeys, and even in those instances wherein rivers and canals were available for some portions of the expeditions to be undertaken, travelers often had to resort to the stage-coach for considerable parts of the distances traversed. There was no general thought of the future possibility of more comfortable and rapid means of overland conveyance, and all those circumstances of progress by stage which now seem to us to be so archaic and remote were then esteemed as the height of travel luxury. It was seldom that complaints were made by the public about the uncomfortable and wearying conditions that inevitably attended stage-coach travel in those times. Whatever happened on a journey was accepted as a matter of course and endured with complaisance The speeds attained by the stage-coaches in those days were esteemed as little short of marvelous.

Seymour Dunbar, *A History of Travel in America*, Tudor Publishing Company, 1937, pages 741-742.

Tocqueville - 1832 - Roads in the Midst of Forests

. . . they are founding in the valleys of the Mississippi [sic] a new society which has no analogy with the past . . . cutting out its institutions, like its roads, in the midst of the forests which it has come to inhabit and where it is sure to encounter neither limits nor obstacles.

Pierson, George Wilson, *Tocqueville in America*, The Johns Hopkins University Press, Reprint Edition, 1996, pages 568-569.

Tocqueville - 1832 - Municipal Roads

I know of no other people who have founded so many schools or such efficient ones, or churches more in touch with the religious needs of the inhabitants, or municipal roads better maintained.

Tocqueville, Alexis de (Lawrence, George, translator) *Democracy in America*, HarperPerennial, 1988, page 92.

Tocqueville - Means of Communication - 1832

The populations of America are not sedentary, even among the old nations. They are almost entirely made up of entrepreneurs, who feel the need of means of communication with a vivacity, and employ them with an ardour, that one could not expect of the routing and lazy minds of our peasants [in France]. The effect of a road or a canal is therefore more felt, and above all more immediate, in America than it would be in France.

Thus we would have to carry on among ourselves as the Americans do for the new districts of the West; open the road before the travelers, assured that the latter will present themselves sooner or later to use them.

Short essay by Tocqueville, cited in Pierson, George Wilson, *Tocqueville in America*, The Johns Hopkins University Press, Reprint Edition, 1996, pages 590-591.

Tocqueville - Roads in America - 1832

I know but one single means of increasing the prosperity of a people that is infallible in practice and that I believe one can count on in all countries as in all spots. This means is naught else but to increase the ease of communication between men. On this point the spectacle presented by America is as curious as it is informing. The roads, the canals and mails play a prodigious part in the prosperity of the Union

To come back to the roads and all the other means of carrying rapidly from place to place the produce of industry and of thought, I do not pretend to have made the discovery that they served the prosperity of a people. That's a truth universally felt and recognized. I say only that America makes you put your finger on this truth, that it throws the fact more in relief than any other country in the world, and that it is impossible to travel through the union without becoming convinced, not through argument but by the witness of all the senses, that the most powerful, infallible way of increasing the prosperity of a country is to favour by all possible means a free intercourse among its inhabitants.

Pierson, pages 589 and 592.

Tolls

Toll are first noted in Kautilya's Indian Arthasastra of about 320 B.C.

Lay, Max G., *Ways of the World: A History of the World's Roads and of the Vehicles That Used Them*, Rutgers University Press, 1992, page 104.

User Taxes Reserved for Road Building

Students of Blackstone will find that there is an old statute from the time of King Charles II, (Statute 13 and 14, Car II, 3-2) bearing on this point. In 1661 there were 400 hacking coaches licensed for operation in London and Westminster and six miles thereabouts. The tax collected from these licenses was used to pave the streets.

Phil Townsend Hanna, *Western Highways Builder* October 1925, page 17.

Wheel

The first potter turned a wheel on its side as an aid to transport around 3,200 BCE, when the ancient Mesopotamians began to make horse-drawn chariots. It was another 1,600 years before spoked wheels, as strong as a solid wheel but much lighter, appeared on Egyptian chariots Wheels work best on a smooth surface, and rudimentary roads appeared soon after chariots. Improvements in wheels and roads went hand in hand. Around the same time that spokes were invented, iron bands were first used to reinforce the wheel rims on wagons-these were the earliest tires.

Smithsonian Journey: An Illustrated History of Travel, DK Penguin Random House, 2017, page 90.

Width of Roads - Late 15th Century

Meanwhile, one measure of how wide a road had to be was the length of a knight's lance if he rode with it sideways across his saddle.

Foote, Timothy, "Where Columbus Was Coming From," *Smithsonian*, December 1991, page 31.

Women - First Road Engineer

Quite a number of names of the engineers who were responsible for the surveying and making of these ways have come down to us One of the most remarkable was a woman Taoist, known to us only as Chia Ku Shan Shou (the Valley-Loving Mountain Immortal), who directed the building of a mountain road in Fukien in 1315 [A.D.].

Needham, Joseph, *Science and Civilization in China*, Volume 4, Part III, Cambridge University Press, 1971, page 32.

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