UNIT 3

Energy & the history of the region

Appendix

Instructions

Use the interactive map tool built by enrolled Shinnecock Nation member and artist Jeremy Dennis to explore Native American group distributions and sites of historical significance on Long Island. Then, read the excerpt from the article by John A. Strong entitled, "The Thirteen Tribes of Long Island: The History of a Myth."

Why was there disagreement about the social structure of Native American life on Long Island before the arrival of European colonists?

Why is it important to attempt to reconstruct this history, more than 300 years later?

What methods might historians use to reconstruct this history?

Sources

Jeremy Dennis, *On This Site* | **jeremynative.com/onthissite/**

From "The Thirteen Tribes of Long Island: The History of a Myth," John A. Strong, *The Hudson Valley Regional Review*, Vol. 9 (1992)

If you ask most any Long Islander about the native peoples of the area you will likely hear that there were thirteen tribes joined in a loose confederacy led by Wyandanch, a Montauk chief who befriended Lion Gardiner, the first English settler on eastern Long Island. [...] Your informant might also add, with a note of pathos, that all of these tribes became extinct, leaving behind only a few "remnants" who have lost their "Indianness" through miscegenation with African-Americans.

Yet any contemporary scholar will point out that there were probably no native peoples living in tribal systems on Long Island until after the Europeans arrived (Smith, 1950:103; Salwin, 1978:168; Brasser, 1978:85; Hawk, 1984:12-16). The three tribal systems that developed later did so in response to the pressures from the expanding European communities. The "myth of extinction," another misconception, reflects an archaic set of racial concepts that have also been discredited by contemporary social scientists (Hawk, 1984:6-7, 186-93; Strong, 1983:7-8; Snipp, 1991:28-40). Where, then, did the popular notion of the thirteen tribes and their extinction come from?

[...]

Professional anthropologists themselves are divided on the usefulness of the label ["tribe"]. Human social systems have been classified by anthropologists into categories based on levels of social complexity. The simplest group, called "bands," are nomadic, egalitarian, hunting and gathering societies. Leadership is based on personal influence rather than inheritance and is generally shared by several adults. The "tribe" is a more complex, sedentary, social system, generally based on some rudimentary horticulture, and is governed by a hereditary leader, who has very limited power. [...] The next level of complexity is the "chiefdom," a much more populous society with an economic system that produces a significant surplus of goods. The highest level of complexity is the "state," with a market economy and a hierarchy of specific social roles.

The problem here is that human societies seldom fit nearly into these classifications, nor do they progress through evolution from the simplest to the most complex. Although there are some scholars who feel that these ideal types are so imprecise that they hesitate to use them at all, others find them useful as general reference points.

[...]

Those scholars who include "tribe" in their analytical models are very cautious and define the category very broadly. Aceves and King (1979:301-3) define a tribe as ". . . not much more than an extension of a band" and Michael Howard (1989:315) describes a tribe as a "loose alliance" of small, "stateless societies" that occasionally join together. Morton Fried (1975) has argued persuasively that in many cases bands came together to resist conquest by Europeans or were coerced into an administrative structure to facilitate colonial control over them. Tribal systems emerged within Native American societies, concludes Fried, as a response to pressures from expanding European settlements.

[...]

The firsthand accounts by the seventeenth-century Dutch and English observers and the small number of archaeological excavations suggest that the indigenous groups [on Long Island] were organized into village systems with varying levels of social complexity. They lived in small communities that were connected in an intricate web of kinship relations (Salwin, 1978; Brasser, 1971 , 1978). The communities appear to have been divided into two general culture areas that overlapped in the area known today as the Hempstead plains (Map 2). The western groups spoke the Delaware-Munsee dialect of Algonquian and shared cultural characteristics such as the longhouse system of social organization with their brethren in what is now New Jersey and Delaware (Kraft, 1986; Grumet, 1989).

The linguistic affiliation of the eastern groups is less well understood. Ives Goddard, who has studied this problem, concluded that the languages here are related to the southern New England Algonquian dialects, but he could only speculate on the nature of these relationships (Goddard, 1978:72). Working with a few brief vocabulary lists of Montauk and Unquachog, he suggested that the Montauk might be related to Mohegan-Pequot and the Unquachog might possibly be grouped with the Quiripi of western Connecticut. The information on the Shinnecock was too sparse for any determination.

No permanent social structure existed beyond these linguistic and kinship systems. On occasion several villages might form temporary alliances to accomplish a limited goal, such as a military alliance against a common enemy or a large hunting expedition, but once the goal was reached, or hopelessly frustrated, the alliance quickly dissolved. Fears of "Indian conspiracies" frequently resulted in widespread hysteria during the latter half of the seventeenth century, but few of these military alliances ever posed a threat to the colonists. Shared religious ceremonies, which drew groups from some distance to a host village, were often viewed with great fear by some whites who suspected that a "confederacy" was being formed. The most common pattern of indigenous life on Long Island prior to the intervention of the whites was the autonomous village linked by kinship to its neighbors.

The Montauk, under the leadership of Wyandanch in the mid-seventeenth century, and the Matinnecock, under the sachems Suscaneman and Tackapousha, do appear to have developed rather tenuous coalitions as a result of their contact with the English settlers. Lion Gardiner promoted Wyandanch,

enabling him to assert control over his people and influence Native American affairs in other parts of the island. [...] The other indigenous communities on Long Island, however, were dispersed by the pressures of European settlements and never adopted more complex political structures. Many of the remnants who had lived in the villages of Rockaway, Canarsie, Keschaechquereren, Techkonis, Nayack, Marechkawieck, Maspeth, Seacarogue, Merrick, Wichquawanck, and Nissequogue moved east to join the Poosepatuck or settled quietly in nearby English settlements.

Where, then, did the list of thirteen "tribes" come from? How did the prevailing "conventional wisdom" about the "thirteen tribes" of Long Island become entrenched in the historical literature? Most of the "tribal" names with which we are now familiar do not appear to have been recognized by either the first European observers or by the original inhabitants until the process of land purchases began after the first settlements were established. We simply do not know what these people called themselves, but all the ethnographic data on North American Indian cultures suggest that they identified themselves in terms of lineage and clan membership. These village communities did not have clearly defined, hierarchical political structures with rulers who could command absolute obedience from their followers. The borders of their hunting territories were very loosely drawn and must have overlapped those of their neighbors on all sides. The English and Dutch were frustrated by this lack of structure because it made land purchase so difficult. Deeds, according to the European concept of property, had to be signed by identifiable owners with authority to sell and have specific boundaries on a map.

The relatively amorphous leadership structure of the Long Island communities, the imprecise delineation of hunting ground boundaries, and their view of the land as a living entity to be used rather than owned made conventional European real estate deals nearly impossible to negotiate. The surviving primary records suggest that the Dutch and English remedied this situation by pressing cooperative local sachems to establish a more structured political base in their communities and to define their communities as "tribes" with specific boundaries. An early example of this intervention into Native American political institutions is a 1664 agreement wherein the East Hampron and Southampton officials appointed a sunk squaw named Quashawam to govern both the Shinnecock and the Montauk (SHTR, 11:36-37; Karabag and Strong, 1991:189-204). In Algonquian communities it was not uncommon to find females in positions of authority. Often they were widows or daughters of sachems who had no male heirs. Although Quashawam was indeed the daughter of the deceased sachem Wyandanch, her power rested on English support. Quashawam's young son, Awansamawge, was sent to live with the Shinnecock where he would assume the duties of sachem when he came of age. The document spelled out very specific terms of appointment and even listed a line of succession following the death of Quashawam. The system apparently did not work out because Awansamawge is not mentioned again and Quashawam herself disappears from the records after 1669.

By 1670 intervention had become routine.

[...]

The myth of the thirteen tribes actually incorporates two related myths: the tribal myth and the myth of extinction. The first reduces Native American culture and history to a shallow cardboard backdrop for the drama of European "discovery," "settlement," and "progress," and the second conveniently discredits the identity of the Native American descendants and assuages any feelings of guilt or remorse. These myths continue to be perpetuated in the popular media and in the classrooms, often by people who are genuinely sympathetic to the contemporary Native American peoples on Long Island.

A large part of the problem is the understandable tendency to rely on secondary sources for information about the Native American experience on Long Island. The primary documents make it quite clear that there were no tribal systems on Long Island prior to the sporadic series of raids known as Governor Kieft's War (1640-45), which resulted in the deaths of more than one thousand Native Americans and a few dozen whites. After 1650, tribal systems emerged among the Montauk and the Shinnecock, and perhaps among the Matinnecock. In 1700 the Poosepatuck reservation was established and a tribal system soon developed, as many remnant groups from the western Long Island villages moved there. These social adaptations, imposed to manipulate and control, were later turned into mechanisms for group survival by the Native Americans themselves.

The four communities did not die out, as alleged in the white folk traditions. There was considerable miscegenation with Caucasoids and African-Americans, but there is no relationship berween genetic phenorypes and cultural attitudes. The basic sense of belonging to a distinct Native American communiry remains strong, particularly among the Shinnecock and Poosepatuck, where a land base has been preserved. The Matinnecock and the Montauk have had a much more difficult time of preserving their identiry. Their struggle has been burdened by the need to defend themselves against the continual reinforcement of the myths about their past and their premature obituaries in the media.

Document analysis

How do these two texts justify Europeans' colonization of North America?

How does Denton describe the flora, fauna, terrain, and peoples of New-York? What does he focus on, and how does he characterize things as good or bad?

How would Denton's value judgments serve the interests of colonizers? What effect would they have on the Native peoples?

Sources

From John Locke, *Second Treatise of Government*, "Chapter V. Of Property" (1689)

God, when he gave the world in common to all mankind, commanded man also to labour, and the penury of his condition required it of him. God and his reason commanded him to subdue the earth, i.e. improve it for the benefit of life, and therein lay out something upon it that was his own, his labour. He that in obedience to this command of God, subdued, tilled and sowed any part of it, thereby annexed to it something that was his property, which another had no title to, nor could without injury take from him.

[…]

God gave the world to men in common; but since he gave it them for their benefit, and the greatest conveniencies of life they were capable to draw from it, it cannot be supposed he meant it should always remain common and uncultivated. He gave it to the use of the industrious and rational, (and labour was to be his title to it;) not to the fancy or covetousness of the quarrelsome and contentious…

[…]

There cannot be a clearer demonstration of any thing, than several nations of the Americans are of this, who are rich in land, and poor in all the comforts of life; whom nature having furnished as liberally as any other people, with the materials of plenty, i.e. a fruitful soil, apt to produce in abundance, what might serve for food, raiment, and delight; yet for want of improving it by labour, have not one hundredth part of the conveniencies we enjoy: and a king of a large and fruitful territory there, feeds, lodges, and is clad worse than a day-labourer in England.

[…]

An acre of land, that bears here twenty bushels of wheat, and another in America, which, with the same husbandry, would do the like, are, without doubt, of the same natural intrinsic value: but yet the benefit mankind receives from the one in a year, is worth 5l. and from the other possibly not worth a penny, if all the profit an Indian received from it were to be valued, and sold here; at least, I may truly say, not one thousandth. It is labour then which puts the greatest part of value upon land, without which it would scarcely be worth any thing…

From Daniel Denton, "A Brief Description of New-York, with the Places Thereunto Adjoining, Formerly Called the New Netherlands, &c." (1670)

Long-Island, the West-end of which lies Southward of New-York, runs Eastward above one hundred miles, and is in some places eight, in some twelve, in some fourteen miles broad ; it is inhabited from one end to the other. On the West end is four or five Dutch Towns, the rest being all English to the number of twelve, besides Villages and Farm houses. The Island is most of it of a very good soyle, and very natural for all sorts of English Grain ; which they sowe and have very good increase of, besides all other Fruits and Herbs common in England, as also Tobacco, Hemp, Flax, Pumpkies, Melons, &c.

The Fruits natural to the Island, are Mulberries, Posimons, Grapes great and small, Huckelberries, Cramberries, Plums of several sorts, Rasberries and Strawberries, of which last is such abundance in June, that the Fields and Woods are died red : Which the Countreypeople perceiving, instantly arm themselves with bottles of Wine, Cream, and Sugar, and instead of a Coat of Male, every one takes a Female upon his Horse behind him, and so rushing violently into the fields, never leave till they have disrob'd them of their red colours, and turned them into the old habit.

The greatest part of the Island is very full of Timber, as Oaks white and red, Walnut-trees, Chesnut-trees, which yield store of Mast for Swine, and are often therewith sufficiently fatted with Oat-Corn : as also Maples, Cedars, Saxifrage, Beach, Birch, Holly, Hazel, with many sorts more.

The Herbs which the Countrey naturally afford, are Purslain, white Orage, Egrimony, Violets, Penniroyal, Alicampane, besides Saxaparilla very common, with many more. Yea, in May you shall see the Woods and Fields so curiously bedecke with Roses, and an innumerable multitude of delightful Flowers, not only pleasing the eye, but smell, that you may behold Nature contending with Art, and striving to equal, if not excel many Gardens in England : nay, did we know the vertue of all those Plants and Herbs growing there (which time may more discover) many are of opinion, and the Natives do affirm, that there is no disease common to the Countrey, but may be cured without Materials from other Nations.

There is several Navigable Rivers and Bays, which puts into the North-side of Long-Island, but upon the South-side which joyns to the Sea, it is so fortified with bars of sands and sholes, that it is a sufficient defence against any enemy, yet the South-side is not without Brooks and Riverets, which empty themselves into the Sea ; yea, you shall scarce travel a mile, but you shall meet with one of them whose Christal streams run so swift, that they purge themselves of such stinking mud and filth, which the standing or low-paced streams of most brooks and rivers westward of this Colony leave lying, and are by the Suns exhalation dissipated, the Air corrupted, and many Fevers and other distempers occasioned, not incident to this Colony : Neither do the Brooks and Riverets premised, give way to the Frost in Winter, or draught in Summer, but keep their course throughout the year.

These Rivers are very well furnished with Fish, as Bosse, Sheepsheads, Place, Pearch, Trouts, Eels, Turtles, and divers others.

The Island is plentifully stored with all sorts of English Cattel, Horses, Hogs, Sheep, Goats, &c. no place in the North of America better, which they can both raise and maintain, by reason of the large and spacious Medows or Marches wherewith it is furnished, the Island likewise producing excellent English grass, the seed of which was brought out of England, which they sometime mow twice a year.

For wilde Beasts there is Deer, Bear, Wolves, Foxes, Racoons, Otters, Musquashes and Skunks. Wild Fowl there is great store of, as Turkies, Heath-Hens, Quailes, Partridges, Pidgeons, Cranes, Geese of several sorts, Brants, Ducks, Widgeon, Teal, and divers others : There is also the red Bird, with divers sorts of singing birds, whose chirping notes salute the ears of Travellers with an harmonious discord, and in every pond and brook green silken Frogs, who warbling forth their untun'd tunes strive to bear a part in this musick.For wilde Beasts there is Deer, Bear, Wolves, Foxes, Racoons, Otters, Musquashes and Skunks. Wild Fowl there is great store of, as Turkies, Heath-Hens, Quailes, Partridges, Pidgeons, Cranes, Geese of several sorts, Brants, Ducks, Widgeon, Teal, and divers others : There is also the red Bird, with divers sorts of singing birds, whose chirping notes salute the ears of Travellers with an harmonious discord, and in every pond and brook green silken Frogs, who warbling forth their untun'd tunes strive to bear a part in this musick.

Towards the middle of Long-Island lyeth a plain sixteen miles long and four broad, upon which plain grows very fine grass, that makes exceeding good Hay, and is very good pasture for sheep or other Cattel ; where you shall find neither stick nor stone to hinder the Horse heels, or endanger them in their Races, and once a year the best Horses in the Island are brought hither to try their swiftness, and the swiftest rewarded with a silver Cup, two being Annually procured for that purpose. There are two or three other small plains of about a mile square, which are no small benefit to those Towns which enjoy them.

Upon the South-side of Long-Island in the Winter, lie store of Whales and Crampasses, which the inhabitants begin with small boats to make a trade Catching to their no small benefit. Also an innumerable multitude of Seals, which make an excellent oyle ; they lie all the Winter upon some broken Marshes and Beaches, or bars of sand before-mentioned, and might be easily got were there some skilful men would undertake it.

To say something of the Indians, there is now but few upon the Island, and those few no ways hurtful but rather serviceable to the English, and it is to be admired, how strangely they have decreast by the Hand of God, since the English first setling of those parts ; for since my time, where there were six towns, they are reduced to two small Villages, and it hath been generally observed, that where the English come to settle, a Divine Hand makes way for them, by removing or cutting off the Indians, either by Wars one with the other, or by some raging mortal Disease.

[...]

Thus have I briefly given you a Relation of New-York, with the places thereunto adjoyning ; In which, if I have err'd, it is principally in not giving it its due commendation ; for besides those earthly blessings where it is stor'd, Heaven hath not been wanting to open his Treasure, in sending down seasonable showres upon the Earth, blessing it with a sweet and pleasant Air, and a Continuation of such Influences as tend to the Health both of Man and Beast : and the Climate hath such an affinity with that of England, that it breeds ordinarily no alteration to those which remove thither ; that the name of seasoning, which is common to some other Countreys hath never there been known ; That I may say, and say truly, that if there be any terrestrial happiness to be had by people of all ranks, especially of an inferior rank, it must certainly be here : here any one may furnish himself with land, and live rent-free, yea, with such a quantity of land, that he may weary himself with walking over his fields of Corn, and all sorts of Grain

: and let his stock of Cattel amount to some hundreds, he needs not fear their want of pasture in the Summer, or Fodder in the Winter, the Woods affording sufficient supply. For the Summer-season, where you have grass as high as a mans knees, nay, as high as his waste, interlaced with Peasvines and other weeds that Cattel much delight in, as much as a man can press thorough ; and these woods also every mile or half-mile are furnished with fresh ponds, brooks, or rivers, where all sorts of Cattel, during the heat of the day, do quench their thirst and cool themselves ; these brooks and rivers being invironed of each side with several sorts of trees and Grape-vines, the Vines, Arbor-like, interchanging places and crossing these rivers, does shade and shelter them from the scorching beams of Sols fiery influence: Here those which Fortune hath frown'd upon in England, to deny them an inheritance amongst their Brethren, or such as by their utmost labors can scarcely procure a living, I say such may procure here inheritances of land, and possessions, stock themselves with all sorts of Cattel, enjoy the benefit of them whilst they live, and leave them to the benefit of their children when they die : Here you need not trouble the Shambles for meat, nor Bakers and Brewers for Beer and Bread, nor run to a Linnen-Draper for a supply, every one making their own Linnen, and a great part of their wollen-cloth for their ordinary wearing : And how prodigal, if I may so say, hath Nature been to furnish the Countrey with all sorts of wilde Beasts and Fowle, which every one hath an interest in, and may hunt at his pleasure; where besides the pleasure in hunting, he may furnish his house with excellent fat Venison, Turkies, Geese, Heath-Hens, Cranes, Swans, Ducks, Pidgeons, and the like : and wearied with that, he may go a Fishing, where the Rivers are so furnished, that he may supply himself with Fish before he can leave off the Recreation : Where you may travel by Land upon the same Continent hundreds of miles, and passe thorough Towns and Villages, and never hear the least complaint for want, nor hear any ask you for a farthing : there you may lodge in the fields and woods, travel from one end of the Countrey to another, with as much security as if you were lockt within your own Chamber ; And if you chance to meet with an Indian-Town, they shall give you the best entertainment they have, and upon your desire, direa you on your way : But that which adds happiness to all the rest, is the Healthfulness of the place, where many people in twenty years time never know what sickness is : where they look upon it as a great mortality if two or three die out of a town in a years time ; where besides the sweetness of the Air, the Countrey it self sends forth such a fragrant smell, that it may be perceived at Sea before they can make the Land : where no evil fog or vapour doth no sooner appear, but a North-west or Westerly winde doth immediately dissolve it, and drive it away : What shall I say more ? you shall scarce see a house, but the South-side is begirt with Hives of Bees, which increase after an incredible manner : That I must needs say, that if there be any terrestrial Canaan, 'tis surely here, where the Land floweth with milk and honey. The inhabitants are blest with Peace and plenty, blessed in their Countrey, blessed in their Fields, blessed in the Fruit of their bodies, in the fruit of their grounds, in the increase of their Cattel, Horses and Sheep, blessed in their Basket, and in their Store ; In a word, blessed in whatsoever they take in hand, or go about, the Earth yielding plentiful increase to all their painful labours.

Were it not to avoid prolixity I could say a great deal more, and yet say too little, how free are those parts of the world from that pride and oppression, with their miserable effeas, which many, nay almost all parts of the world are troubled, with being ignorant of that pomp and bravery which aspiring Humours are servants to, and striving after almost everywhere : where a Waggon or Cart gives as good content as a Coach ; and a piece of their home-made Cloth, better then the finest Lawns or richest Silks : and though their low-roofed houses may seem to shut their doors against pride and luxury, yet how do they stand wide open to let charity in and out, either to assist each other, or relieve a stranger, and the distance of place from other Nations, doth secure them from the envious frowns of ill-affeaed Neighbours, and the troubles which usually arise thence.

Document analysis

What do these documents show, and what do they omit?

Who do they affect? What ethical problems do they pose?

Why would this land have been attractive to European settlers?

Sources

Indian Deed for Land on Long Island, 1636 | From *Documents Relating to the Colonial History of the State of New York, Vol. III* (1883)

We, Director and Council of New Netherland etc etc., herewith testify and declare, that to-day, date underwritten before us personally appeared Tenkirau, Ketamau, Akarikan, Awachkouw, Warinckeyinck, Wappittawackenis, Ehetyl as owners Pemawys, Kakaspetteno being present as chiefs of the district and declared, that voluntarily and advisedly, by special order of the rulers and with consent of the community, for certain merchandise, which they acknowledge to have received into their hands and power to their full satisfaction and contentment before the passing hereof, they have transferred, ceded, surrendered and conveyed as lawful, true and free possession, as they herewith transfer, cede, surrender and convey to and for the behoof of Andries Hudde and Wolphert Gerritsen the westernmost of the flats called Casteteuw belonging to them on the Island called Sewanhacky between the bay of the North river and the East river of New Netherland, stretching in length from a certain kil coming from the sea almost north into the woods and in width from a certain valley, included, almost west also into the woods, with all action, rights and privileges etc etc.

Done on the Island Manahatas this 16th of June 1636. W. V. Twiller

Jacobus van Coelaek, Jacus Bentyl, Claes van Elslant.

Confirmation by the Indians of the Sale of Hempstead, 1643. | From *Documents Relating to the Colonial History of the State of New York, Vol. III* (1883)

July the 4th, 1657, Stilo Novo.

Know all men by these Presents that Wee the Indians of Marsapege, Mericock and Roakaway whose Names be Underwritten for our Selves and all the rest of the Indians that doe Claime any Right or Interest in the Purchase that hempsteed bought in the year 1643 And within the bounds and limits of the Whole tract of Land Concluded upon with the Governor of Manhatans as it is in this Paper Specified, Doe by these presents Ratifie and Confirme to them and their heires for ever freely, firmly, quiettly and Peaceably for them and their heires and Successors for Ever to enjoye without any molestaçon or trouble from us or any that shall pretend Any Clayme or title unto itt.

The Montoahe Sachem being preesent at this Confirmaçon.

In Wittnesse whereof wee whose names bee here under written have hereunto subscribed in the presence of us

Richard. Gildersleeve.

John Seaman,

John Hicks,

The marke of Takaposha, the Sachem of Mersapeage.

The marke of Wantagh, the Montake Sachem.

The marke of Chegonoe, The marke of Romege, The marke of Waugwany, The marke of Rumasackromen, The marke of [ ], The marke of Woroumcacking.

Vera Copia Concordans Cum Originalis Scripsit pr me.

John James, Cler.

Wee the Indians Above Written doe hereby Acknowledge to have received of the Magistrates and Inhabitants of Hempstead all our pay in full Sattisffacçon for the tract of land Sould unto them according to the Above and Within written Agreement And according to pattent and purchase. The Generall Bounds is as followeth—beginning att a place called Mattagaretts Bay And so running upon a direct line North and South and from North to South and from Sea to Sea the bounds running from Hempsteed harbour due East to a Pointe of Trees adjoyning to the lands of Robt. Williams where wee left marked trees the same Line running from Sea to Sea the other line beginning att a marked tree Standing att the East end of the greate plaine, and from that tree running a due South line, and att a South Sea by a marked tree made in a neck called Maskutchoung, And from thence upon the same line to the South Sea, And wee whose names are hereunto Subscribed doe further Ingage our Selves and our Successors to uphold and maintain this our present Act and all our former Agreement to be just and lawfull that the aforesaid Inhabitants of Hempsteed Shall Enjoye the said Lands According to the Equity marked bounds with all priviledges there unto Any way belonging or Appertaining for them their heires and Successors for ever. And wee Doe bind our Selves to save and defend them harrmlesse from any manner of Claime or pretence that Shall bee made to disturb them in their right or any parte thereof hereby binding us and our Successors to cause them to enjoye the Same Peacebly without Any Molestaçon or Interrupçon for them their heires and successors for ever.

Whereunto wee have Subscribed this Eleventh Day of May AD 1658, Stilo Novo.

Witnesse

Waautauch, *Tackapausha*

Che know, *Martom.*

Sayasstock. *Peese Kpmach.*

A true Coppy Compared with the Originall and both of them being written by me,

John James.

Order regarding the granting of Patents, 1638 | From *Documents Relating to the Colonial History of the State of New York, Vol. III* (1883)

Divers freemen request, by petition to the Council, conveyance of the lands which they are cultivating at present. The request of the Petitioners is granted on condition that they shall, after the expiration of ten years from the commencement of their plantation, annually pay to the Company the Tenth of all the produce which God shall bestow on the land. Also, in future, for a house and garden a couple of capons* yearly.

* Neutered rooster

Map analysis

What does this map show?

Why are farms, mills, and forts located where they are?

What names are recognizable? How do you think this early European settlement influenced the present geography of New York and Long Island?

Source

"Manatus Gelegen op de Noot Riuier" ("Manhattan lying on the North River," also known as the Manatus Map), creator unknown, 1639

Translation of map legend

1: The company's great bouwery [farm])

2: Barent Dircksen's Farm

3: Bylevelt's farm

...

7: Plantation of Tomas Sanders [actually Tymen Jansen]

8: Plantation of Old Jan [Jan Celes, Seles, Seals or Seales]

9: Plantation of Jan Pietersen van Housem

10: Plantation of Wouter van Twiller

11: Plantation of Baker; owned by Barent Dircksen van Norden

12: Plantation of Francis Lesley

13: Plantation of Tomas Betts

14: Plantation of Jan van Rotterdam

15: Plantation of Hendrick Pietersen

16: Farm of Barent Dircksen van Norden

17: Plantation of Jacob van Curler

18: Farm of Jean de la Montagne

19: Farm of Cornelis van Tienhoven

20: Farm of Twiller in't Hellegat

21: Farm of Domine Everardus Bogardus

22: Farm of Antony the Turk

23: Farm of Jan Claesen

24: Plantation of David de Provoost

25: Plantation of Hendrick Jansen

26: Plantation of Tymen Jansen [actually Thomas Sandersen]

27: Farm of van Vorst

28: Farm of Heyndrick va. Vorst

29: Farm of Jan Everts

30: Plantation of Jan de Latershoeck

31: Plantation of pouels Hoeck

32: Plantation of Maerynes

33: Plantation of Dauidt pieters

34: Governors Island

...

A: Fort Amsterdam

B: Corn or grist windmill

C: Saw windmill

D: Saw windmill

E: Varckens Island (later renamed Blackwell Island, later Roosevelt Island

F: Quarters of the black company slaves


MANATVS
Gelegen op de Noot
Riuier
Staten Eylant.
Noort Riuier
MANATVS

Whales, especially at the eastern end of Long Island, are another example of an energy resource that challenged the private property framework in early Colonial America. Whale blubber was a valuable food source. Baleen, used in clothing, and whale oil, derived from blubber and used for heat and lighting, fetched high prices in local and international markets. But whaling was a big enough job to require cooperation. How would colonists reconcile the need to work together with their desire to profit from the whales?

Whales were first hunted in Europe by the Basque, off the coast of the Iberian Peninsula in the 11th century. The English began whaling off the coast of Norway in the 16th century, establishing the methods with which settlers in colonial New England were likely most familiar. Some of the earliest "organized" whale fishery in North America took place on Long Island. Jones Beach itself was the site of a whaling station owned by Major Thomas Jones, an English settler who owned 6,000 acres near present-day Massapequa. Jones built the first brick house on Long Island and in 1700 established a whaling station off the barrier island where the State Park is now located.

Settlers on Long Island came up with systems for dealing with "drift whales," which were typically pilot whales that became stranded on the beaches along the southern coast of Long Island. A system for distributing the whales, called the "whaling designe" was worked out between the young settlements over the course of years, and the rules gradually enshrined in the early colonial archive. At sea, North Atlantic Right Whales could be hunted by groups of two boats, each carrying six men, who would secure the whales with ropes attached to harpoons and gradually tire them out until they could be killed with spears. Over time, whaling came to be more regimented and professionalized, involving more complex machinery and able to be conducted over greater distances. Eventually, Right Whales were hunted almost to the point of extinction, but in recent years their population has rebounded.

Whaling, both in its more ad hoc and industrialized forms, heavily depended on the expertise of Native Americans, who were recognized as skilled hunters. Native Americans employed in whaling had special privileges and protections in recognition of their important contributions to the industry.

Instructions

Read the longer selection from John Locke and discuss the following questions.

What is property, according to Locke?

What makes something an individual's property?

How does Locke conceptualize waste?

What is the role of money in Locke's moral system?

Then, assign each group member responsibility for a single primary document in Set A. For each primary document, assess:

What purpose does the document serve?

Who is writing (or speaking) in it? Whose voice is not heard?

Who does it affect? Who is included or excluded?

What does it show? What does it hide or fail to explain?

Have each group member summarize their document to their group-mates. Then, together, discuss the following question:

How does the early colonial whaling practice fit into, or not, the moral system outlined by Locke?

During the discussion, it may be helpful to consider:

Who owned the whales? How was ownership negotiated or established?

Who did the work of processing the whales, and how do they do it? Did the people who did the work reap the benefits?

How was productivity measured? Was it to do with usefulness, or something else?

Then, examine the documents in Set B together. Analyze the documents:

In what way is whaling more "industrialized" by the 18th century? How does the process of whaling in this era differ from the earlier "whaling designe"?

Who is involved? What kind of work do they do? How are they compensated? What risks do they take?

Who owns the products of whaling? How is ownership established?

John Locke, *Second Treatise of Government*, pub. 1689. Excerpts from "Chapter V. Of Property"

God, who hath given the world to men in common, hath also given them reason to make use of it to the best advantage of life, and convenience. The earth, and all that is therein, is given to men for the support and comfort of their being. And tho' all the fruits it naturally produces, and beasts it feeds, belong to mankind in common, as they are produced by the spontaneous hand of nature; and no body has originally a private dominion, exclusive of the rest of mankind, in any of them, as they are thus in their natural state: yet being given for the use of men, there must of necessity be a means to appropriate them some way or other, before they can be of any use, or at all beneficial to any particular man.

[…]

The labour of his body, and the work of his hands, we may say, are properly his. Whatsoever then he removes out of the state that nature hath provided, and left it in, he hath mixed his labour with, and joined to it something that is his own, and thereby makes it his property.

[…]

We see in commons, which remain so by compact, that it is the taking any part of what is common, and removing it out of the state nature leaves it in, which begins the property; without which the common is of no use. And the taking of this or that part, does not depend on the express consent of all the commoners. Thus the grass my horse has bit; the turfs my servant has cut; and the ore I have digged in any place, where I have a right to them in common with others, become my property, without the assignation or consent of any body. The labour that was mine, removing them out of that common state they were in, hath fixed my property in them.

[…]

God, when he gave the world in common to all mankind, commanded man also to labour, and the penury of his condition required it of him. God and his reason commanded him to subdue the earth, i.e. improve it for the benefit of life, and therein lay out something upon it that was his own, his labour. He that in obedience to this command of God, subdued, tilled and sowed any part of it, thereby annexed to it something that was his property, which another had no title to, nor could without injury take from him.

[…]

God gave the world to men in common; but since he gave it them for their benefit, and the greatest conveniencies of life they were capable to draw from it, it cannot be supposed he meant it should always remain common and uncultivated. He gave it to the use of the industrious and rational, (and labour was to be his title to it;) not to the fancy or covetousness of the quarrelsome and contentious…

[…]

There cannot be a clearer demonstration of any thing, than several nations of the Americans are of this, who are rich in land, and poor in all the comforts of life; whom nature having furnished as liberally as any other people, with the materials of plenty, i.e. a fruitful soil, apt to produce in abundance, what might

serve for food, raiment, and delight; yet for want of improving it by labour, have not one hundredth part of the conveniencies we enjoy: and a king of a large and fruitful territory there, feeds, lodges, and is clad worse than a day-labourer in England.

[…]

An acre of land, that bears here twenty bushels of wheat, and another in America, which, with the same husbandry, would do the like, are, without doubt, of the same natural intrinsic value: but yet the benefit mankind receives from the one in a year, is worth 5l. and from the other possibly not worth a penny, if all the profit an Indian received from it were to be valued, and sold here; at least, I may truly say, not one thousandth. It is labour then which puts the greatest part of value upon land, without which it would scarcely be worth any thing.

[…]

The greatest part of things really useful to the life of man, and such as the necessity of subsisting made the first commoners of the world look after, as it doth the Americans now, are generally things of short duration; such as, if they are not consumed by use, will decay and perish of themselves … If [a man who gathered more than he could use] gave away a part to any body else, so that it perished not uselessly in his possession, these he also made use of. And if he also bartered away plums, that would have rotted in a week, for nuts that would last good for his eating a whole year, he did no injury; he wasted not the common stock; destroyed no part of the portion of goods that belonged to others, so long as nothing perished uselessly in his hands. Again, if he would give his nuts for a piece of metal, pleased with its colour; or exchange his sheep for shells, or wool for a sparkling pebble or a diamond, and keep those by him all his life he invaded not the right of others, he might heap up as much of these durable things as he pleased; the exceeding of the bounds of his just property not lying in the largeness of his possession, but the perishing of any thing uselessly in it.

Set A

Declarations, 1644-1645 | Quoted in *The Early History of Southhampton, LI, New York* by George Rogers Howell (1866)

March 7, 1644. Yt is ordered by thiis present Court that yff by the providence of God there shall bee hencefoorth within the bounds of this plantacon any whale or whales cast up for the prevention of Disorder yt is consented unto that there shall be foure Wards in this Towne eleaven persons in each ward. And by lott two of each ward (when any such whale shall be cast up] shall be employd for the Cutting out of the sayd whale who for their paynes shall haue a Double share, And every Inhabitant with his child or servant that is above sixteen years of age shall have in the Division of the other part an equall proportion provided that such person when yt falls into his ward a sufficient man to be imployed aboute yt.

And yt is further agreed upon that there shall be in each ward eleven persons.

FFOR YE FIRST WARD

William Barnes, Geo. Wood, Thomas Cooper,

Richard Stratton, Job Sayre, Thomas Burrnett, John White, William Mulford, Thomas Halsey, Junr., Thomas Talmage, Senr. &; Mr. Johnes.

FFOR YE SECOND WARD

Richard Jacques, Thomas Talmage, Junr., Mr. Peirson, Robert Rose, Mr. Gosmer, Thomas Halsye-deur, Mr. Stanborough, Richard Barrett, Richard Post, Thomas Tomson & Robart Talmage.

FFOR YE THIRD WARD

Richard Gosmer, Arthur Bostock, Henry Peirson, John Hande, Thomas Hildreth, John Mulford, John Moore, Ellis Cooke, Robert Boncle, ffulk Davis & Mr. Howe.

FFOR YE FOURTH WARD

John Cooper, Senr., Wm. Hedges, John Cooper, Junr., John Cory, Mr. Howell, Mr. Oclell, John Howell, Richard Smith, & Thomas Sayre.

Feb. 9th, 1645. Yt is ordered by the General Court that yf by the providence of God, there shall bee henceforth cast up within the limits of this towne of Southampton any whale or whales, or any part or piece of a whale, that noe man shall presume to take or carry any part thereof, upon the forfeiture of twentie shillings and to stand to the further censure of the Cort, without order from the Magistrate or Magistrates, And whosoever shall finde or espie eyther whale or whales or any part or peece of a whale, cast up, upon notice given unto the Magistrate or Magistrates, shall have for his paynes allowed unto him five shillings, but yf yt shall be by the Magistrate or whom he shall appoint, adjudged not to be worth five shillings, then the sayd parties which shall give information, shall have yt for his paynes. And that from yeare to yeare the Marshall give notice after any form or according to his discretion, unto two persons in whose ward by turne yt shall belong or appertaine. And yt is further ordered that yf any shall finde a whale or any peece thereof upon the Lord's day then the aforesaid shillings shall not be due or pay able.

Set A

Wyandanch–Lion Gardiner deed, 1659 (East Hampton, New York) | *Quoted in Living With Whales by Nancy Shoemaker (2014)*

July 28, 1659. Be it known unto all men by this present writing that I Wiandance Sachem of Pawmanack or Long Island, and with my sone Weeayacomboun, have sold unto Lyon Gardiner, his heyres executors, or assigns, I say I have sold all the bodys and bones of all the whales that shall come upon the land, or come ashore, from the place called Kitchaminfchoke, unto the place called Enoughquamuck, only the fins and tayles, of all wee reserve for ourselves and Indians. I say I have sold with the consent of Wannuggeashcum and Tawbaughauz Sachems of the places aforesaid, I have sold all the whales that shall come up within the bounds aforesaid for the space of 21 yeares ensueing the date hereof. But if any whales shall bee cast up they shall bee judged by ye English and Indians whether it bee a whole whale or half or otherwise but for every whole whale that shall be cast up the aforesaid Lyon Gardiner or his assigns shall pay or cause to bee paid unto mee Wyandance my heyres executers and assignes the sum of 5 pounds. But if it bee not a whole whale then they shall pay according to proportions and this pay shall bee paid within two years after they have cut out and carried home the whale to their houses. But in case there shall not fowre or five whales come up within the terme above said then shall the affore said Lyon Gardiner or his Assigns have the next 5 whales that shall come up after the tearme. And for the true performance of the premises wee have hereunto set our hands and seales.

The Sachems mark,

WEEAYACAMBOUNES mark

BENJAMIN PRICE

Signed sealed & delivered in presence of us Jeremy Concolin David Gardiner

Whatsoever Wiandanch hath done or his successors may doe with and besides this act of selling whales wee own is and was his to make sayle of, and his heyres, and not ower nor our heyres.

TOWBACKCOWZ his mark

WENKCEASKAUM his mark.

Witness

Richard Howell

John Smith.

This subscription of the two Sachems under the seales was their own act voluntary without any compulsion

Witness

Zerobabel Phillips

Joseph Raynor

Thomas Halsey

This writeing with all the rite that is within the houle peaper

Set A

Declaration, 1672 | Quoted in *The Early History of Southhampton, LI, New York* by George Rogers Howell (1866)

Whereas it was represented unto his Honor ye Governor that a certaine difference had arisen between John ffinch of Huntington & severall persons of Oyster-Bay concerned in the Whale- ffishing Design, touching three Drift Whales cast upon the Beach & cutt up and tryed by those of Oyster Bay, wherein his Royall Highness was concerned as to his particular Dues out of the Oyle of the said Whales ; All which was referred by ye Governor to Thomas Delavall Esq. one of ye Councell to Examine & Endeavour a faire composure between ye Partyes, securing the Dukes Interest ; Hee having an Order in the meane time to receive the Oyle, & bee accountable for ye same when the controversy should bee decided, to whom of Right it did belong ; and the said Thomas Delavall having Declared that to prevent further contest, hee had made a faire agreement between them or most of them concerned ; That is to say. That John ffinch should have for his Share or Proporçon fifteen Barrels of Oyle upon Account of his Interest in ye Beach where the Whales were cast up, out of which hee is to pay his Royall Highness his Dues, & two Barrells more to beare the Necessary charges had hereupon ; And that ye Remainder should be unto them of Oyster Bay that cutt up & tryed the Oyle of the said whales for their charge and paines therein, together with ye cost of the Barrells, & Transportation ; Upon consideragon had hereof, the Governor & Councell have thought fitt to allow, & doe very well approve of what ye said Thomas Delavall hath done herein, And doe order that the agreement aforenamed doe stand good & bee observed accordingly.

An Order About Whales, 1672 | Quoted in *The Early History of Southhampton, LI, New York* by George Rogers Howell (1866)

Whereas I am given to understand, That there hath been great Abuse by ye neglect of ye Officers of severall Townes upon Long-Island in not makeing Enquiry into or securing his Royal Highness his part of Drift Whales or Great ffish cast upon ye Beach or Shoare according to ye Directions in ye Law, the which other persons presume to Engross without rendering any account ; ffor ye prevention thereof for the future, and better securing ye Dukes Interest therein, I have thought fitt to constitute and appoint, & by these Presents have hereby Constituted and appointed Mr. Wm. Osborne, & Mr. Jno. Smyth of Hempstead to make strict Enquiry either by Indyans or others, of all such Drift Whales or great ffish as shall bee cast up on the Beach or shore between ye Bounds of ye Towne of Seatalcott Eastward, & ye utmost part of the Lymitts of Gravesend or Coney-Island Westward ; and if any such Whale or Great ffish shall bee at any time found that they give an account of and secure his Royal Highness his Interest and part of them as in ye Law is sett forth ; And ye said Wm. Osborne & John Smyth shall bee solely employed herein for and dureing ye space & terme of [ ] yeares : They behaveing themselves therein according to ye trust reposed in them, and for what they shall lawfully Act or Doe in the Premisses, This shall bee to them a sufficient Warrant.

Given under my Hand Forte James in New Yorke this 2nd day of May in ye 24th yeare of his Majesty's Reigne, Annoque Dm 1672.

Set A

Declaration, 1672 | Quoted in *The History of the American Whale Fishery* by Alexander Starbuckl (1878)

Whereas there was an ordinance made at a Towne-Meeting in South Hampton upon the Second Day of May last relating to the Regulation of the Whale ffishing and Employment of the Indyans therein, wherein particularly it is mentioned That whosoever shall Hire an Indyan to go a-Whaling, shall not give him for his Hire above one Trucking Cloath Coat, for each whale, hee and his Company shall Kill, or halfe the Blubber, without the Whale Bone under a Penalty therein exprest: Upon Considerac'on had thereupon, I have thought good to Allow of the said Order, And do hereby Confirm the same, untill some inconvenience therein shall bee made ap- peare, And do also Order that the like Rule shall bee followed at East Hampton and other Places if they shall finde it practicable amongst them.

Given under my hand in New Yorke, the 28th of Novemb'r, 1672.

[Sign.] *FRAN: LOVELACE.*

Declarations, 1675-1683 | Quoted in *Imagining the Past: East Hampton histories* by T. H. Breen (1989)

April 14, 1675: we the aforesaid Indians do engage ourselves to go to sea from year to year at all seasonable times for these our Copartners a whale killing till we have discharged to their satisfaction all former arrears or debts we stand engaged to them: and shall not take advantage of them to defraud or deceive them in the due performance of what we stand engaged to them by former agreements upon any pretense whatsoever. We also engage to the aforesaid Englishmen, our Copartners, that what goods any or all of them shall supply us with … the oil and bone we get this year shall be payment of the same, & so from year to year till all debts be discharged…

January 6, 1681: I, Harry, alias Quauquaheid, Indian of Montauk, do firmly bind and engage myself to Jon Stretton, Sr., of East Hampton upon consideration that I am much indebted to him upon former accounts and his present supply of my present necessity do, I say, bind and engage myself to go to sea awhaling…"

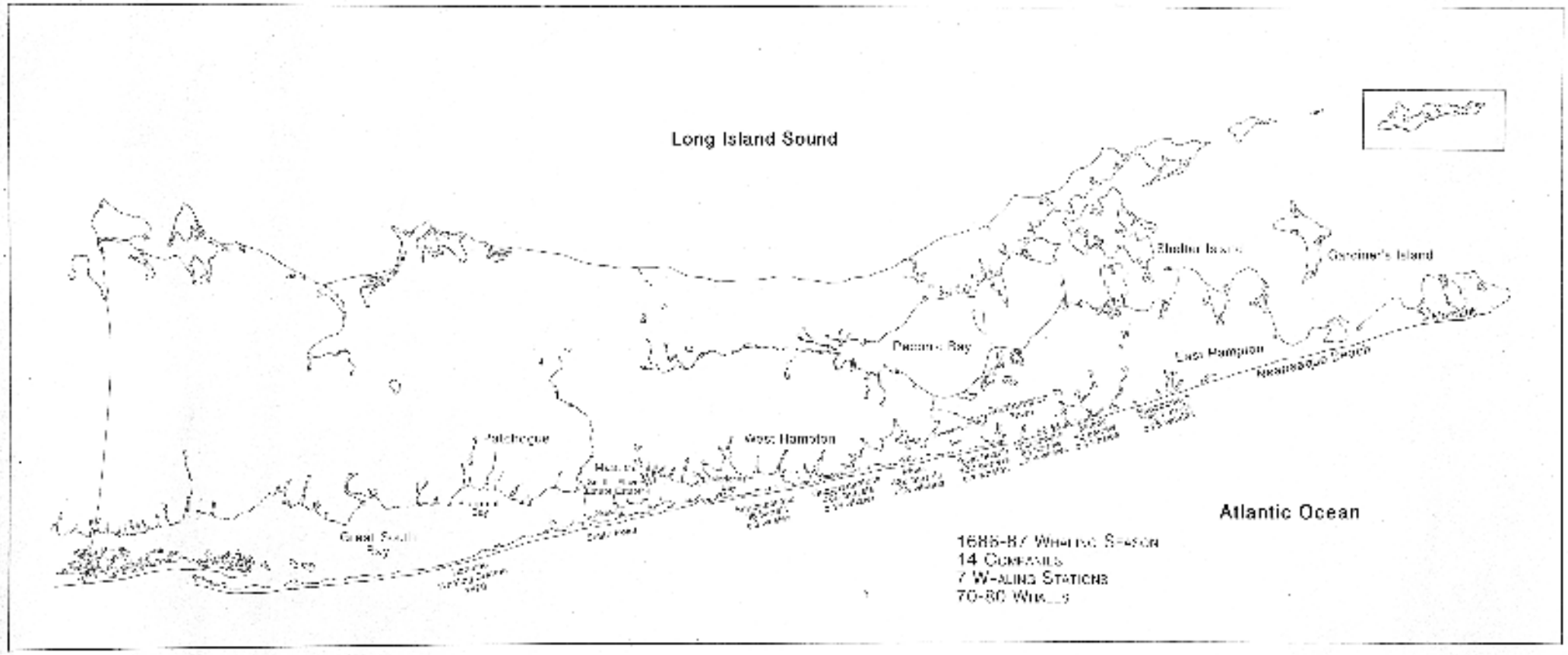
March 5, 1681: … in case at the end of the said voyage, we or any of us [five Montauks] shall be indebted unto the said [Benjamin] Conckling or his assigns, then we do oblige ourselves to go to sea for him again the season that shall follow upon the same terms and so from year to year until we shall have wholly paid what we are indebted to him …

March 14, 1681: Also we [whose names are] underwritten do covenant and agree that we will continue under the said [John] Wheller's employ from season to season … until such time as we shall fully balance our account with the said Wheller or his orders in respect to what he shall betrust us with all …

March 10, 1683: … further I [Hector, a Montauk] bind myself that if I do not get so much by my half share this next season as will pay the said Robert Kedy what I shall be indebted to him, then I do hereby engage to go for him the next ensuing season until such time as I have paid him whatsoever I shall be indebted unto him…

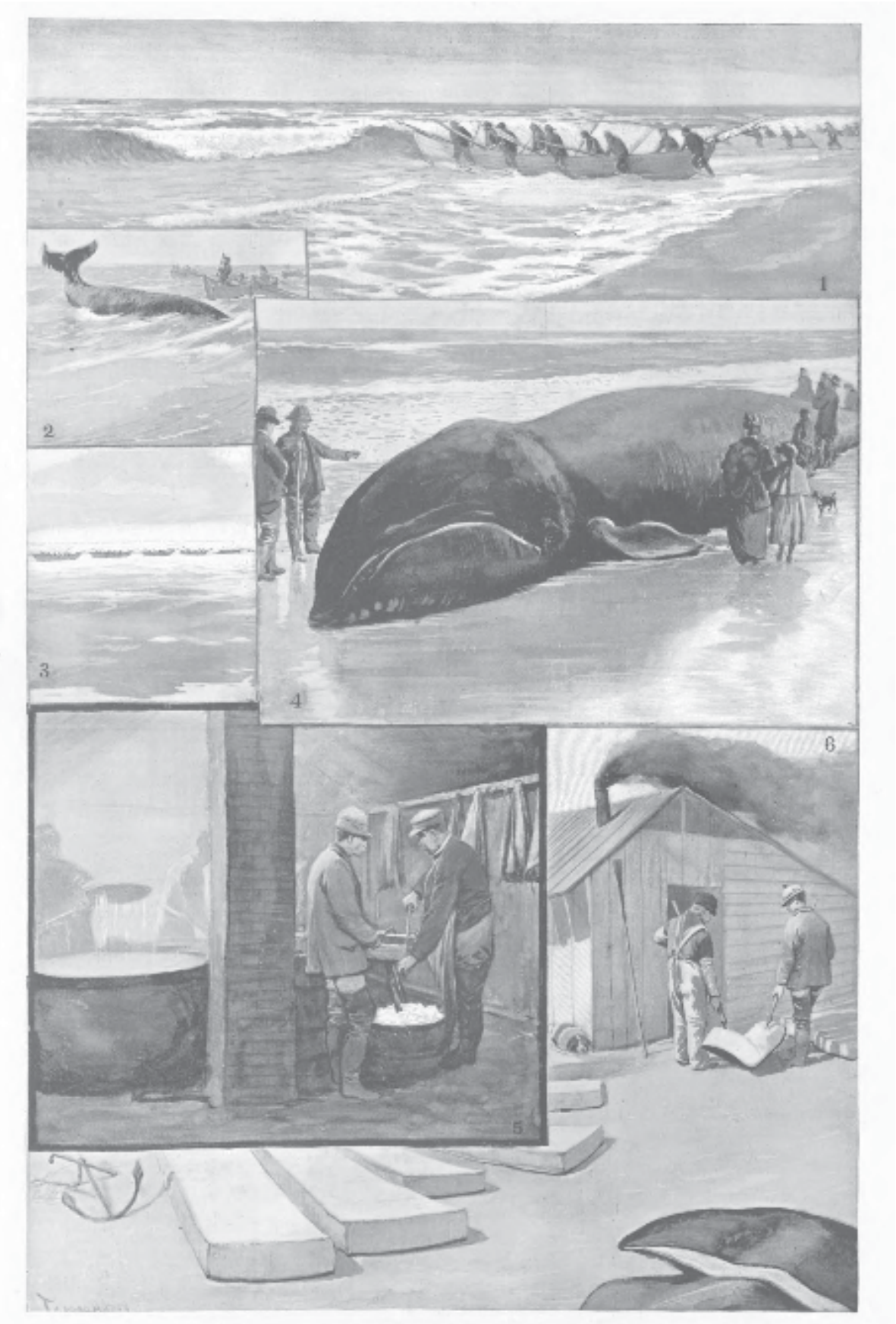
Set A

Map showing Whaling Stations along the south shore of Long Island and numbers of whales taken in 1687. Map by Jeremy Dennis via Stony Brook University



Set B

"Whaling off Amagansett, Long Island" by Tappan Adney for *Harper's Illustrated Weekly*, April 10, 1897



Set B

Quantities and estimated values (in pounds sterling) of selected commodities exported from the British North American colonies to Great Britain, 1768-1772

Adapted from *Shipping, maritime trade, and the economic development of colonial North America* (1972) by James Shepherd, p. 211-212

	1768		1769		1770		1771		1772	
Commodity	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
From northern colonies										
Bread & flour (tn)					0.60	6				
Deerskins (lb)			104,116	10,050	145,821	14,392	209,042	20,420	103,120	10,468
Fish, dried (qn)	11,696	5,556	13,321	6,607	12,082	6,174	11,362	5,783	16,952	8,502
Grain, wheat (bu)	45	10			39	8	40	9	5,940	1,443
Iron										
bar (tn)			0.57	8			19.57	294		
pig (tn)							186.39	900	200.72	1,016
Naval stores										
pitch (bbl)	55	24					13	5		
tar (bbl)			393	126	20	7			5	2
turpentine (bbl)									5	3
Oil, whale (tn)	690.36	8,284	309.14	3,710	918.47	11,022	2,342.71	28,113	815.44	9,785
Potash (tn)	8.13	178	35.20	772	41.19	1,153	35.71	1,101	65.12	1,478
Rum, West Indian (gal)							13,500	1,364		
Wood products										
pine boards (1K ft)	167	225	271	366	203	325	180	290	220	374
staves and headings (1K)	265	723	337	1,008	78	237	243	764	188	599
Total, northern colonies		*15,000*		*22,647*		*33,324*		*59,043*		*33,670*

Set B

Commodity	1768 Quantity	1768 Value	1769 Quantity	1769 Value	1770 Quantity	1770 Value	1771 Quantity	1771 Value	1772 Quantity	1772 Value
From New England										
Beef & pork (bbl)	939	1,776							40	93
Beeswax (lb)	1,731	86	3,933	197	7,373	369	2,758	139	6,874	344
Bread & flour (lb)	8.25	84					0.60	6		
Cotton (lb)	17,072	851	500	22			300	13	19,930	917
Deerskins (lb)									1,800	225
Fish, dried (qn)			10	5	4	2	2,000	1,018	7	4
Flaxseed (bu)	5,256	870	6,370	812	4,407	738	7,190	1,409	9,014	2,461
Grain										
Indian corn (bu)	140	11		100	9					
rice (bbl)	1	2	9	24	102	252	77	184	6	20
Indigo (lb)	1,790	270								
Naval stores										
pitch (bbl)	1,646	709	473	178	240	90	51	18	12	5
tar (bbl)	8,506	2,815	5,041	1,618	3,413	1,256	11,303	4,239	11,317	5,025
turpentine (bbl)	2,615	1,246	2,883	1,334	1,813	814	1,055	456	215	112
Oil, whale (tn)	3,594.26	43,130	3,870.52	46,446	4011.42	48,137	2,838.68	34,064	2,536.46	30,438
Potash (tn)	926.62	20,340	880.42	19,316	760.53	21,294	953.28	21,639		
Rum										
American (gal)	1,700	104	21,340	1,366	600	38	700	43	117	7
West Indian (gal)			324	34	6,158	600	1,600	162		
Wood products										
pine boards (1K ft)	1,622	2,190	2,486	3,356	3,303	5,286	1,596	2,552	1,432	2,435
staves and headings (1K)	867	2,378	720	1,920	981	3,008	947	2,966	1,205	3,825
Total, New England		78,297		77,718		83,201		77,508		68,151

Set B

Excerpt from *The Whale Oil Trade*, 1750-1775 by Richard C. Kugler (1980)

Not only were oil and baleen early used as commodities of trade; once the beaver pelts and furs of the New England hinterland were exhausted, whale oil alone emerged to take their place as the foremost source of sterling earned in direct trade with England.

[…]

[Around 1750] two innovations occurred that transformed the methods and conditions of the whale-oil trade. […] The first of the changes, simple in itself, profoundly altered the scope of whale hunting. It consisted of the installation aboard the vessel of the tryworks, an apparatus of iron pots set in a brick furnace, which were used to render oil from blubber.

[…]

Earlier, tryworks aboard the vessels had not been needed, either by European or American whalemen. The former could do without them because their voyages took place in cold climates where blubber would keep when packed in casks until the vessel's return to a shore-based tryworks, either at home or on some northern coast. Nor did the New England whalemen need them, as long as the stocks of whales close to shore were plentiful enough to permit short voyages. For the first half of the eighteenth century, this was so: a three- or four- week voyage from Nantucket or the mainland coast could be launched with a reasonable chance of taking two or three whales and getting home before the blubber spoiled. By 1750 as these local stocks became thinned out, voyages to more distant grounds were necessary.

[…]

With tryworks once aboard, the vessels were liberated for ever-lengthening voyages; as rudimentary factory ships, they could process their catch wherever they might find it.

[…]

Although the properties of sperm oil differed from that of the right or humpback, little distinction was made between them in commerce before 1750. After that year, and because of the second of the innovations that then occurred, the sperm whale became the greater prize, and through the agency of the tryworks, its capture in the temperate waters it inhabited was possible.

The innovation that increased the sperm whale's value consisted of a method of separating and utilizing spermaceti, the waxy substance found in the large cavity, or case, of the whale's head. As with the tryworks, the originators of the new procedure cannot be identified, although the meager evidence suggests as a likely candidate a Sephardic Jew, Jacob Rodriguez Rivera, who arrived in Newport in 1748.4 Apparently familiar with the process of tallow candle manufacturing, Rivera began in about 1751 to purchase head matter, the name then given to the mixture of oil and spermaceti taken from the whale's head, for the purpose of making candles. The process required separating the two ingredients, for only spermaceti was needed for the candles. The oil obtained was a by-product, but of such superior quality that it was quickly recognized as a more satisfactory illuminant in lamps than the oil of right or humpback whales.

Set B

Account by J. Hector St. John de Crèvecoeur ca. 1760s, quoted in *Living With Whales* by Nancy Shoemaker (2014)

The vessels most proper for whale fishing, are brigs of about 150 tons burden, particularly when they are intended for distant latitudes; they always man them with thirteen hands, in order that they may row two whale boats; the crews of which must necessarily consist of six, four at the oars, one standing on the bows with the harpoon, and the other at the helm. It is also necessary that there should be two of these boats, that if one should be destroyed in attacking the whale, the other, which is never engaged at the same time, may be ready to save the hands. Five of the thirteen are always Indians; the last of the complement remains on board to steer the vessel during the action. They have no wages; each draws a certain established share in partnership with the proprietor of the vessel; by which economy they are all proportionably concerned in the success of the enterprise, and all equally alert and vigilant.

None of these whale-men ever exceed the age of forty: they look on those who are past that period, not to be possessed of all that vigour and agility which so adventurous a business requires. Indeed if you attentively consider the immense disproportion between the object assailed and the assailants—if you think on the diminutive size, and weakness of their frail vehicle—if you recollect the treachery of the element on which this scene is transacted—the sudden and unforeseen accidents of winds, &c. you will readily acknowledge, that it must require the most consummate exertion of all the strength, agility, and judgment, of which the bodies and the minds of men are capable, to undertake these adventurous encounters. As soon as they arrive in those latitudes where they expect to meet with whales, a man is sent up to the mast head; if he sees one, he immediately cries out, AWAITE PAWANA, here is a whale; they all remain still and silent, until he repeats PAWANA, a whale, when, in less than six minutes the two boats are launched, filled with every implement necessary for the attack. They row toward the whale with astonishing velocity; and as the Indians early became their fellow labourers in this new warfare, you can easily conceive, how the Nattick [language] expressions became familiar on board the whale-boats. Formerly it often happened that whale vessels were manned with none but Indians and the master; recollect also that the Nantucket people understand the Nattick, and that there are always five of these people on board.

There are various ways of approaching the whale, according to their peculiar species; and this previous knowledge is of the utmost consequence. When these boats are arrived at a reasonable distance, one of them rests on its oars, and stands off, as a witness of the approaching engagement; near the bows of the other the harpooner stands up, and on him principally depends the success of the enterprise. He wears a jacket closely buttoned, and round his head a handkerchief tightly bound: in his hands he holds the dreadful weapon, made of the best steel, marked sometimes with the name of their town, and sometimes with that of their vessel; to the shaft of which the end of a cord of due strength, coiled up with the utmost care in the middle of the boat, is firmly tied; the other end is fastened to the bottom of the boat. Thus prepared, they row in profound silence, leaving the whole conduct of the enterprise to the harpooner and to the steersman, attentively following their directions. When the former judges himself to be near enough to the whale, that is, at the distance of about fifteen feet, he bids them stop; perhaps she has a calf, whose safety attracts all the attention of the dam, which is a favourable circumstance; perhaps she is of a dangerous species, and it is safest to retire, though their ardour will seldom permit them; perhaps she is asleep; in that case he balances high the harpoon, trying in this important moment to collect all the energy of which he is capable. He launches it forth—she is struck: from her first movement, they

judge of her temper, as well as of their future success. Sometimes, in the immediate impulse of rage, she will attack the boat, and demolish it with one stroke of her tail; in an instant the frail vehicle disappears, and the assailants are immersed in the dreadful element. Were the whale armed with the jaws of the shark, and as voracious, they never would return home to amuse their listening wives with the interesting tale of the adventure. At other times she will dive and disappear from human sight; and every thing must then give way to her velocity; or else all is lost. Sometimes she will swim away, [as] if untouched, and draw the cord with such swiftness, that it will set the edge of the boat on fire by the friction. If she rises, before she has run out the whole length, she is looked upon as a sure prey. The blood she has lost in her flight, weakens her so much, that if she sinks again, it is but for a short time; the boat follows her course, with an almost equal speed. She soon re-appears; tired at last with convulsing the element, which she tinges with her blood, she dies, and floats on the surface. At other times it may happen, that she is not dangerously wounded, though she carries the harpoon fast in her body; when she will alternately dive and rise, and swim on with unabated vigour. She then soon reaches beyond the length of the cord, and carries the boat along with amazing velocity; this sudden impediment sometimes will retard her speed, at other times it only serves to rouse her anger, and to accelerate her progress. The harpooner, with the axe in his hands, stands ready. When he observes that the bows of the boat are greatly pulled down by the diving whale, and that it begins to sink deep, and to take much water, he brings the axe almost in contact with the cord; he pauses, still flattering himself that she will relax; but the moment grows critical, unavoidable danger approaches: sometimes men more intent on gain, than on the preservation of their lives, will run great risks; and it is wonderful how far these people have carried their daring courage at this awful moment! But it is in vain to hope; their lives must be saved; the cord is cut; the boat rises again.

If, after thus getting loose, she re-appears, they will attack and wound her a second time. She soon dies, and when dead she is towed along-side of their vessel, where she is fastened. The next operation is to cut with axes and spades, every part of her body which yields oil; the kettles are set a boiling; they fill their barrels as fast as it is made; but as this operation is much slower than that of cutting up, they fill the hold of their ship with those fragments, least a storm should arise and oblige them to abandon their prize. It is astonishing what a quantity of oil some of these fish will yield, and what profit it affords to those who are fortunate enough to overtake them. The river St. Laurence whale, which is the only one I am well acquainted with, is seventy-five feet long, sixteen deep, twelve in the length of its bone, (which commonly weighs 3000 lb.) twenty in the breadth of its tail, and produces 180 barrels of oil: I once saw 16 boiled out of the tongue only. After having once vanquished this leviathan, there are two enemies to be dreaded beside the wind; the first of which is the shark: that fierce voracious fish, to which nature has given such dreadful offensive weapons, often comes along-side, and in spite of the people's endeavours will share with them in their prey; at night particularly, they are very mischievous. But the second enemy is much more terrible and irresistible; it is the killer, sometimes called the thrasher, a species of whales about thirty feet long. They are possessed of such a degree of agility and fierceness, as often to attack the largest spermaceti whales, and not seldom to rob the fishermen of their prey; nor is there any means of defence against so potent an adversary. When all their barrels are full, (for every thing is done at sea,) or when their limited time is expired and their stores almost expended, they return home, freighted with their valuable cargo; unless they have put it on board a vessel for the European market. Such are, as briefly as I can relate them, the different branches of the œconomy practised by these bold navigators, and the method with which they go such distances from their island to catch this huge game.

Though the world we live in includes many more sources of energy than were available to Native Americans or European colonists in the 17th and 18th centuries, food is still one of our primary energy needs. The systems that allow us to meet those needs still shape the geography of our world.

As the table of exports from *Shipping, maritime trade, and the economic development of colonial North America* demonstrates, European colonization marked the beginning of an era of globalized food production, consumption, and distribution. Today, the food grown in any given place rarely reflects the energy needs of the people who live there. Rather, when food is bought and sold in a global market, agricultural land use across the world is determined in part by what crops the climate and terrain of a place best support. For instance, fruits like bananas and mangos grow well in tropical climates. Current and historical political relationships between countries also come to bear on which places produce what kinds of food.

In recent decades, the local food movement, also known as the "locavore" or "slow food" movement, has advocated for a return to more regional agriculture. Under that model, regions would grow food according to the needs of their population, and people would only eat food grown within a certain distance — for instance, a day's train journey.

Instructions

Use the interactive digital resources to investigate the import and export relationships between global regions and how these relationships shape the geography of the world.

Then read the report from the Office of the New York State Comptroller on the state of agriculture in New York.

Reflect in writing on the positive possibilities and potential drawbacks of a local food system. Consider:

Which regions of the world appear to import the most food? What do they import?

Which regions export the most? What do they export?

Which regions have seen the largest growth in amount of land used for agriculture ("cropland") and for grazing from 1600 to today?

Which have seen the least growth?

Why might these different rates of growth have occurred?

What are New York State's present-day agricultural strengths and weaknesses? Which regions or countries of the world also have those strengths and weaknesses?

What do you think are New York's comparative advantages and disadvantages when competing with global agricultural producers?

What are two ways that policymakers in Long Island and New York State could help encourage the growth of a local food system?

How would your life and daily eating habits be affected by the growth of a local food system?

When you think about your daily eating habits, what's missing from the picture painted by these data?

Sources

International Center for Tropical Agriculture | Where our food crops come from

blog.ciat.cgiar.org/origin-of-crops/

Our World in Data | Countries by agricultural production; land use

ourworldindata.org/agricultural-production

ourworldindata.org/land-use

"A Profile of Agriculture in New York State," Office of the New York State Comptroller: Thomas Di Napoli, Comptroller, August 2019

Document analysis

How are absolute energy consumption and per capita energy consumption related?

From these data, what would you extrapolate about the changes in population in England and Whales during this period?

What do these trends suggest about the relationship between energy sources like coal ("fossil fuels"), efficiency, and expansion?

Sources

Tables adapted from "Energy and the English Industrial Revolution" by EA Wrigley, published in *Philosophical Transactions of the Royal Society* (2013)

Annual energy consumption in England and Wales, 1561–1570 to 1850–1859 (terajoules).

	Human	Draught animals	Firewood	Wind	Water	Coal	Total
1561-1571	14,860	21,100	21,490	200	550	6930	65,130
1600-1609	19,190	21,430	21,810	390	700	14,540	78,060
1650-1659	26,080	27,700	22,200	880	900	39,060	116,820
1700-1709	27,330	32,780	22,480	1,360	990	84,000	168,940
1750-1759	29,730	33,640	22,560	2,810	1,300	140,810	230,850
1800-1809	41,810	34,290	18,540	12,660	1,100	408,680	517,080
1850-1859	67,800	50,090	2,240	24,360	1,700	1,689,100	1,835,300

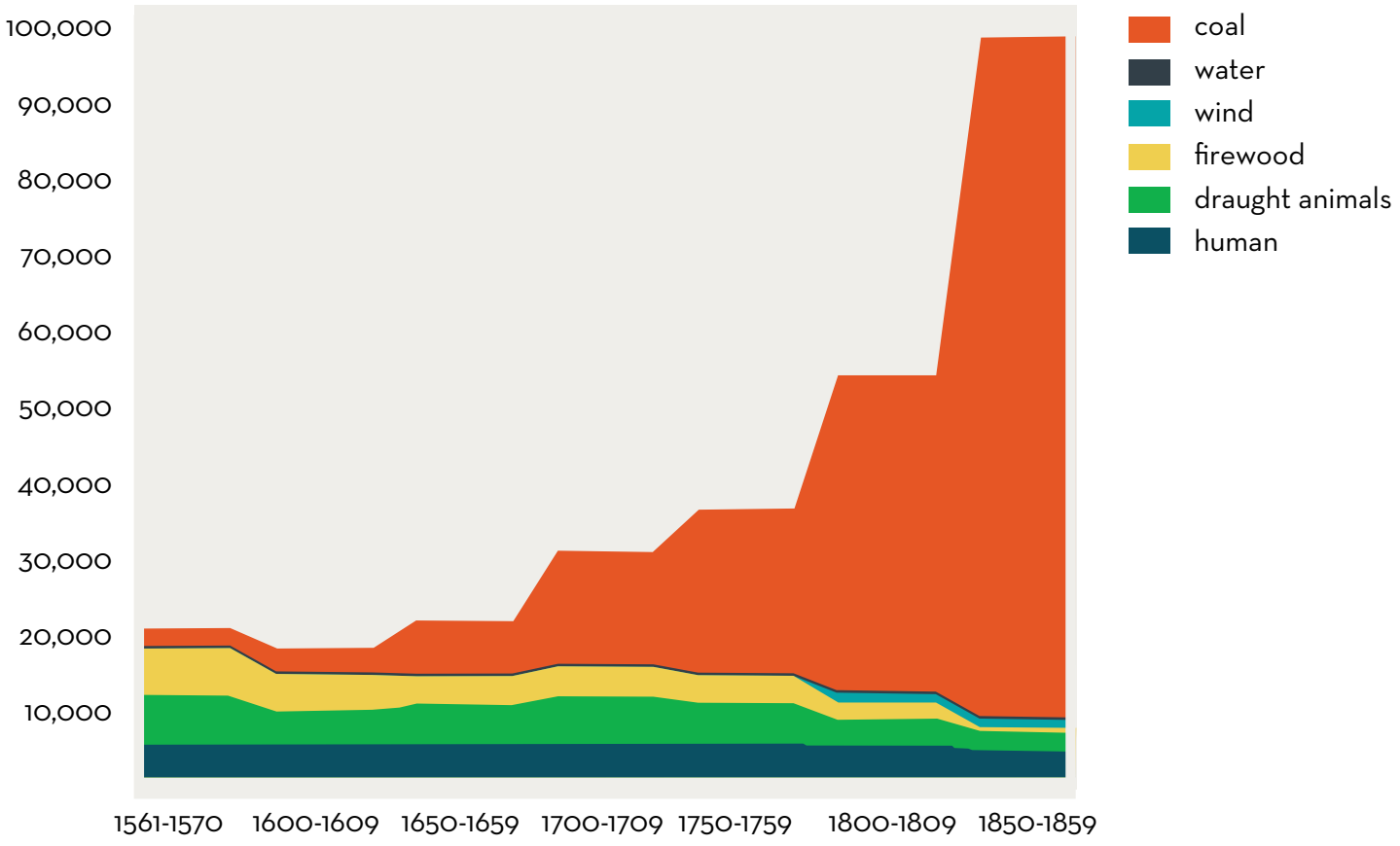
Percentage share of each energy source

	Human	Draught animals	Firewood	Wind	Water	Coal	Total
1561-1571	22.8	32.4	33.0	0.3	0.8	10.6	100
1600-1609	24.6	27.5	27.9	0.5	0.9	18.6	100
1650-1659	22.3	23.7	19.0	0.8	0.8	33.4	100
1700-1709	16.2	19.4	13.3	0.8	0.6	49.7	100
1750-1759	12.9	14.6	9.8	1.2	0.6	61.0	100
1800-1809	8.1	6.6	3.6	2.4	0.2	79.0	100
1850-1859	3.7	2.7	0.1	1.3	0.1	92.0	100

Annual energy consumption per head of population (megajoules)

	Human	Draught animals	Firewood	Wind	Water	Coal	Total
1561-1571	4,373	6,210	6,324	59	162	2,039	19,167
1600-1609	4,161	4,647	4,729	85	152	3,153	16,925
1650-1659	4,521	4,802	3,849	153	156	6,772	20,253
1700-1709	4,789	5,744	3,939	238	173	14,719	29,602
1750-1759	4,519	5,113	3,429	427	198	21,403	35,089
1800-1809	4,233	3,471	1,877	1,282	111	41,373	52,347
1850-1859	3,564	2,633	118	1,280	89	88,779	96,462

Annual energy consumption per head (megajoules) in England and Wales 1561–1570 to 1850–1859



Document analysis

What do you notice about the relationship between the topography (distribution and elevation of land) of this area and the kinds of coal that are available?

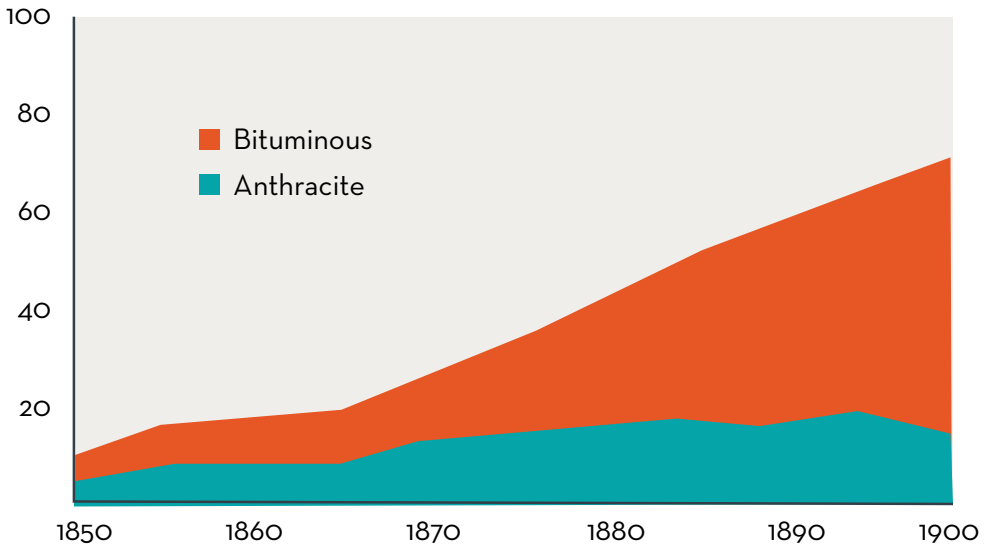
What do you notice about the relationship between topography and canal or railroad routes?

According to the graphs, what is the relationship between overall coal production and anthracite and bituminous production, respectively?

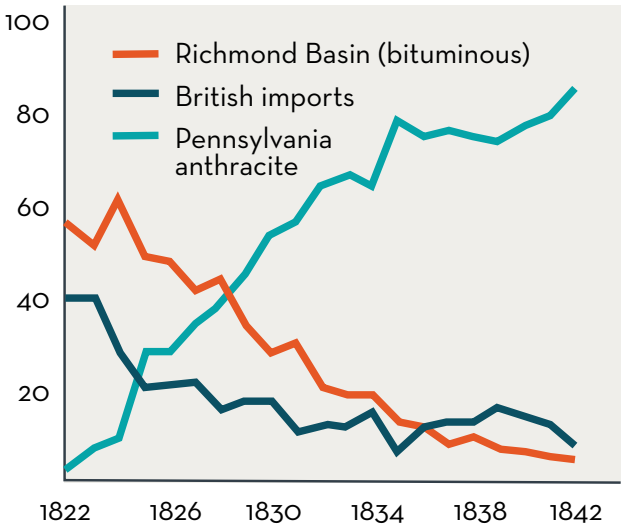
Sources

Charts from "The US Coal Industry in the Nineteenth Century," by Sean Patrick Adams, in *Economic History Association* (2003)

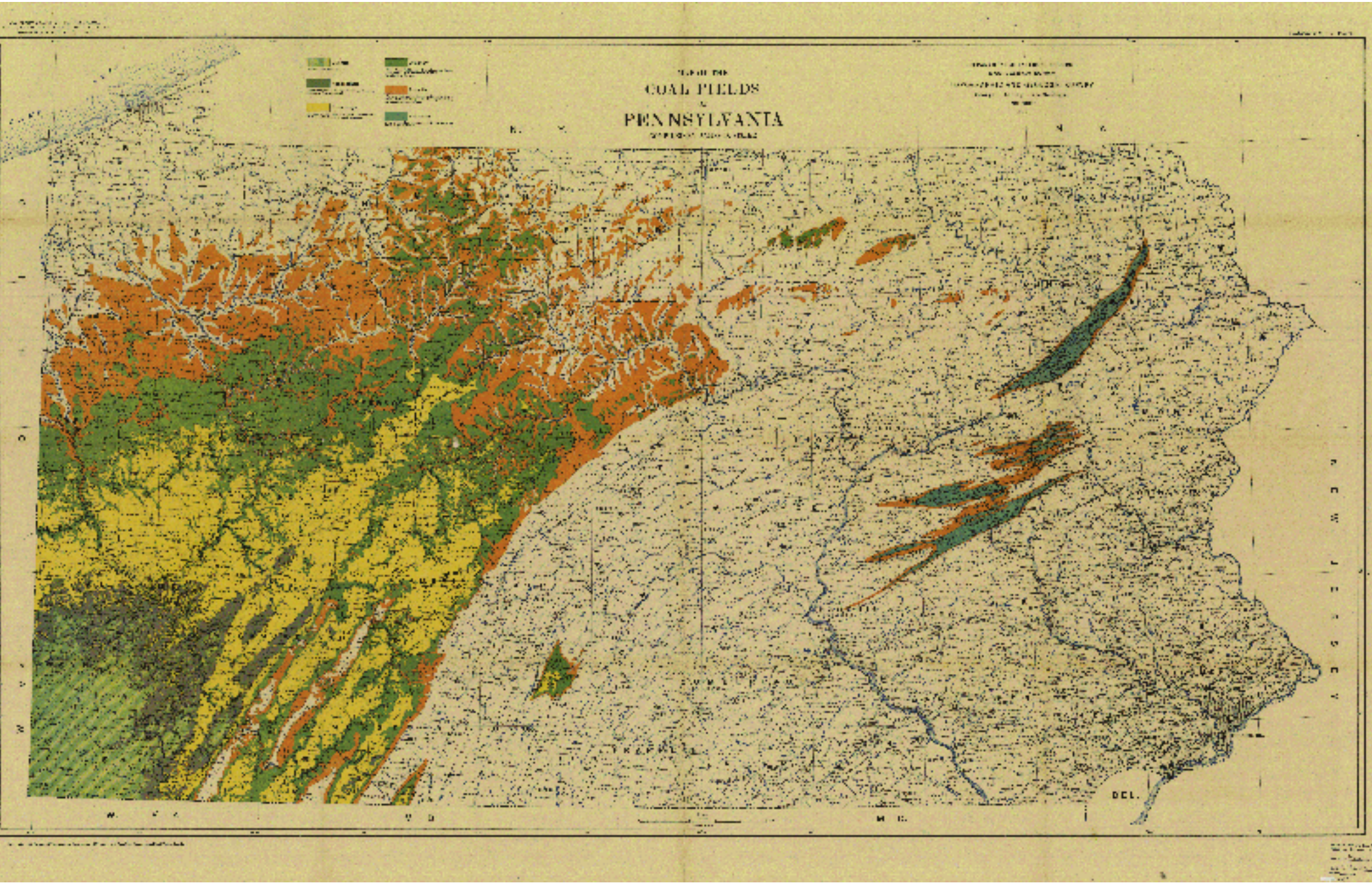
Coal as a percentage of American energy consumption, 1850-1900



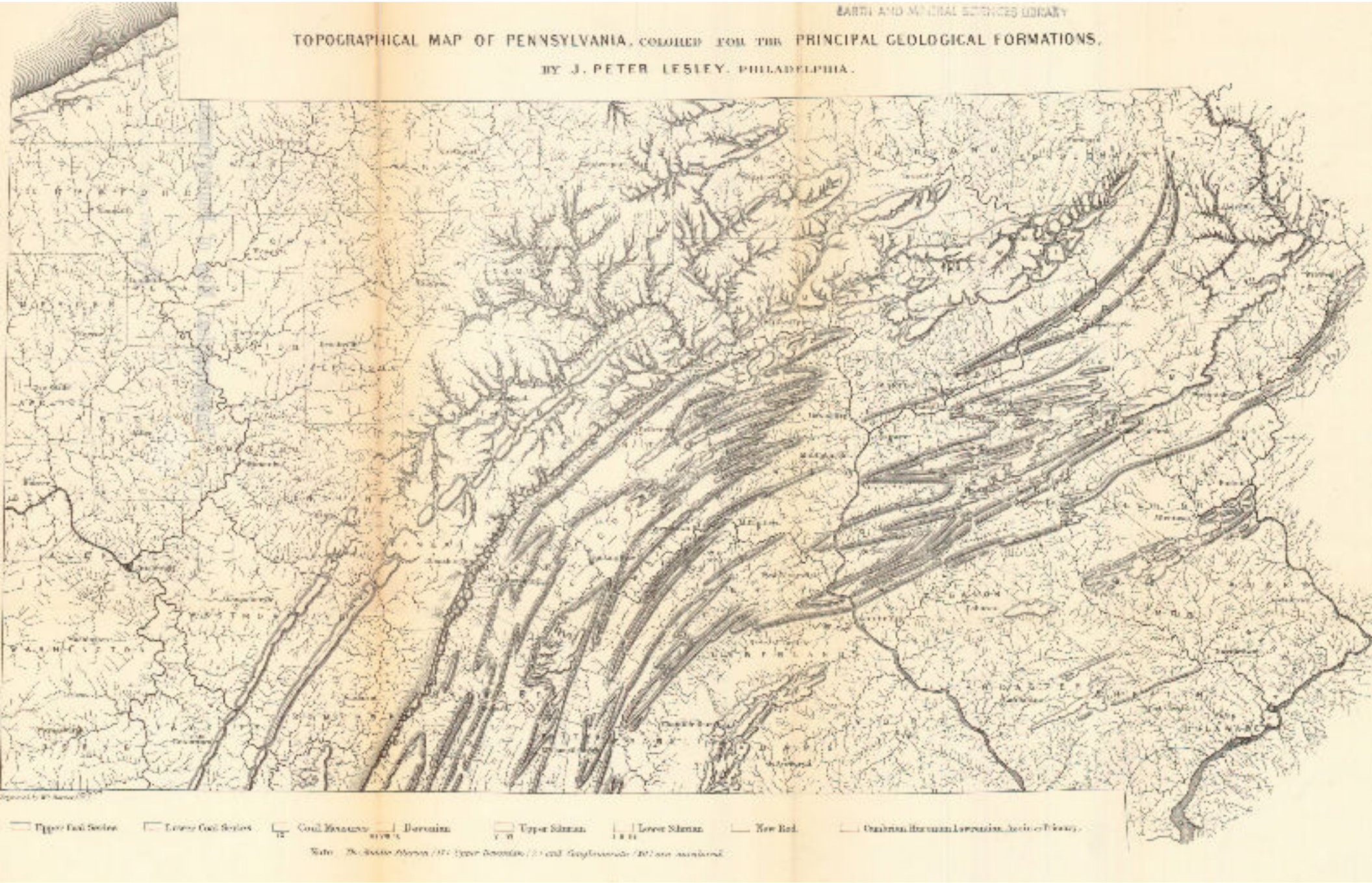
Percentage of seaboard coal by origin, 1822-1842



"Map of the coal fields of Pennsylvania," Commonwealth of Pennsylvania, Department of Environmental Resources, Bureau of Topographic and Geologic Survey (1929)



"Topographical Map of Pennsylvania, Colored for the Principle Geological Formations," J. Peter Lesley, in *Historical sketch of geological explorations in Pennsylvania and other states, Geological Survey of Pennsylvania* (1876)



"Sketch illustrating the positions of the commercial cities and towns of the Eastern, Middle and Western States with the principal existing and proposed lines of communication," creator unknown, ca. 1850

Document analysis

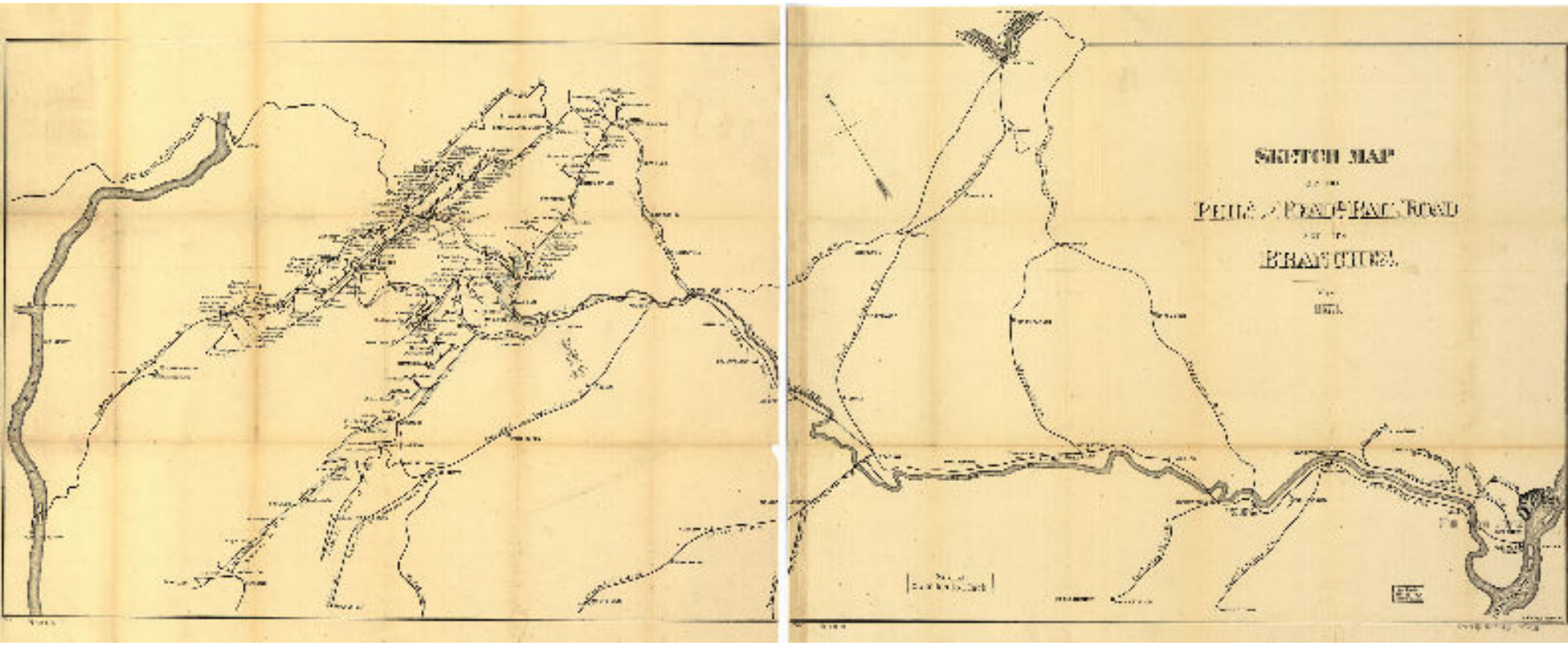
How does the regional railroad network change between 1850 and 1873?

How does the population change over 100 years from the end of the Revolutionary War to the beginning of the 20th century?

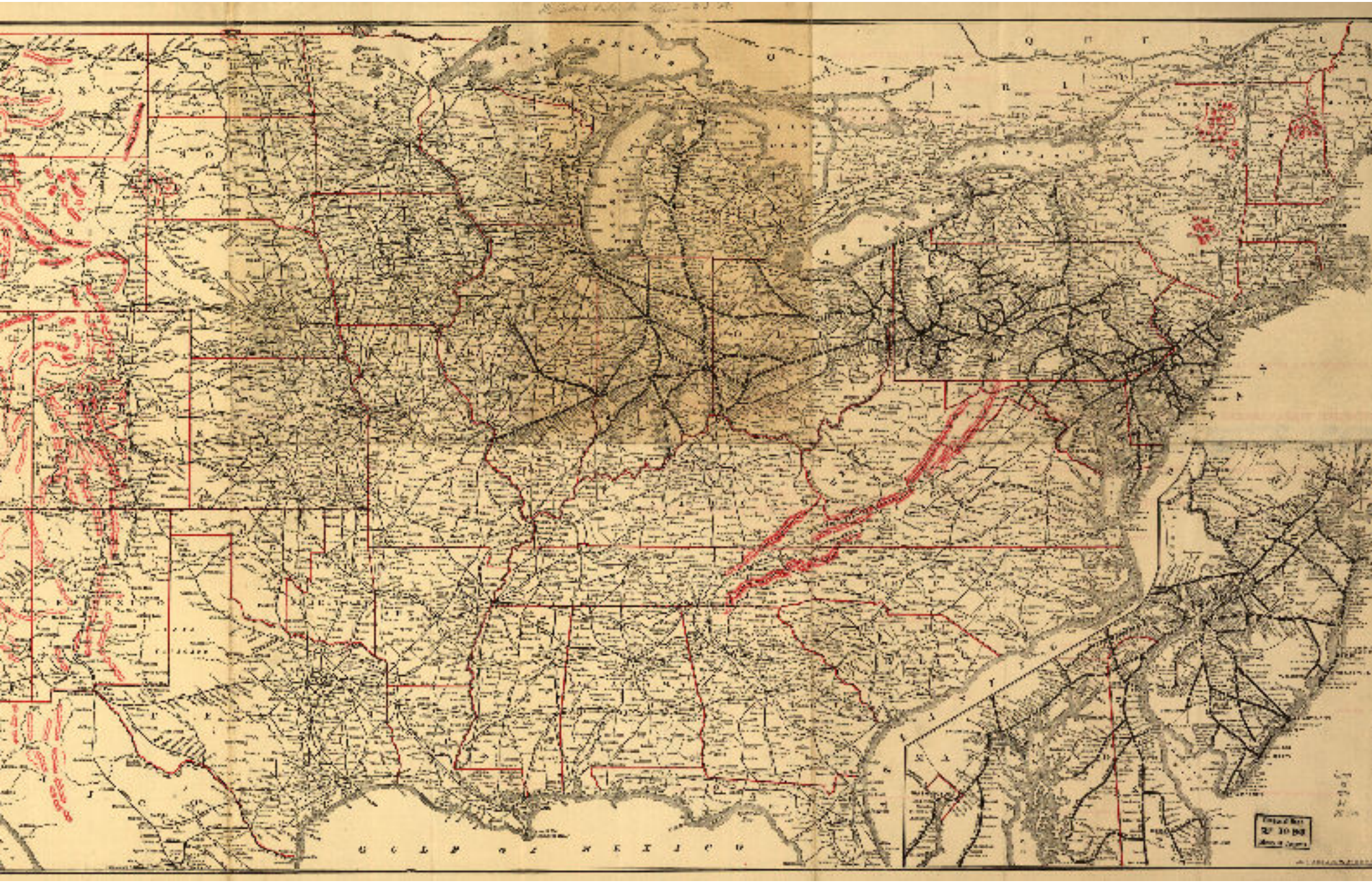
Where is population growth most concentrated? What could account for this?

"Sketch illustrating the positions of the commercial cities and towns of the Eastern, Middle and Western States with the principal existing and proposed lines of communication," creator unknown, ca. 1850

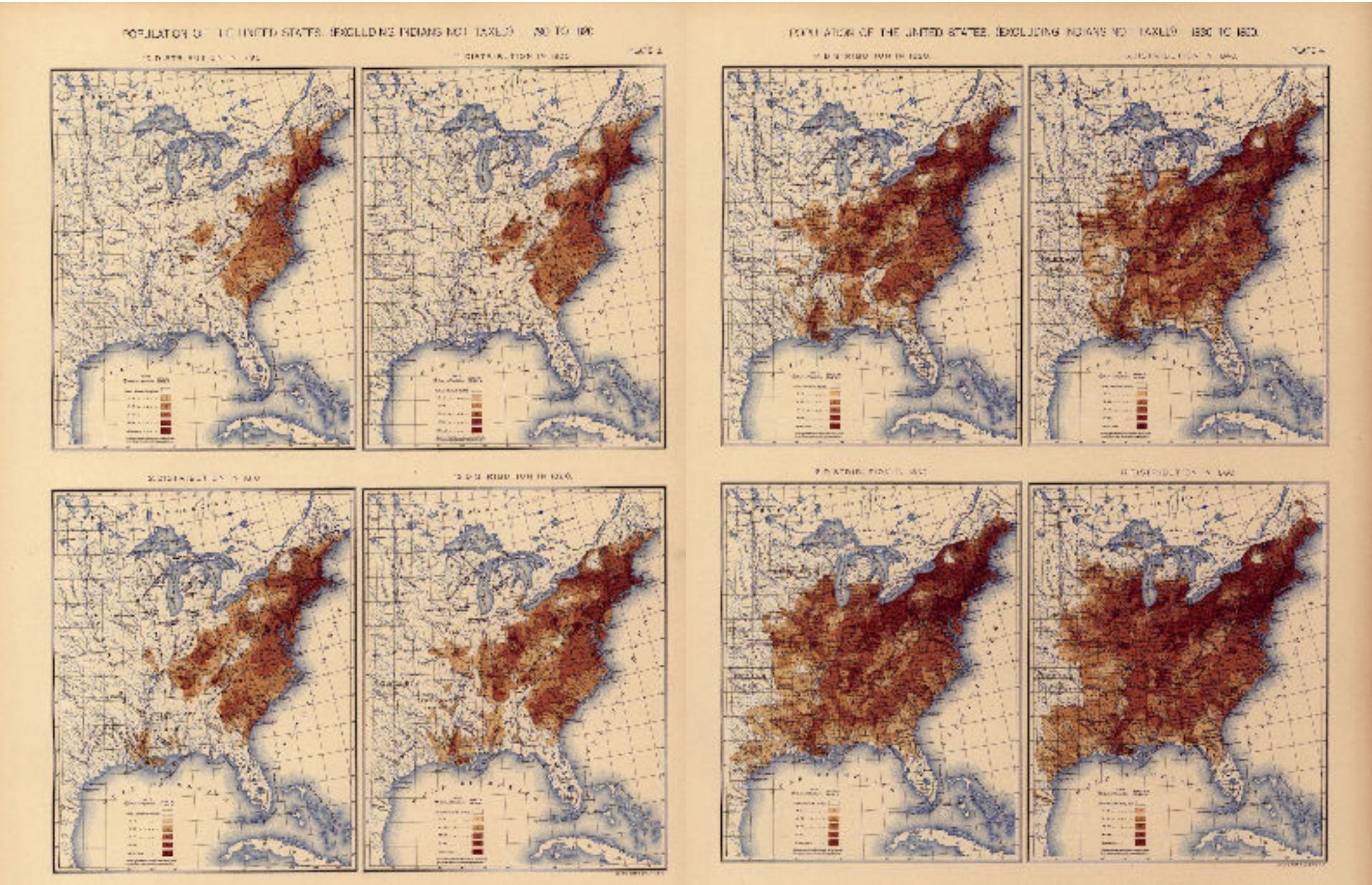
"Sketch map of the Philadelphia and Reading Rail Road and its branches, May, 1873," by T.V. Fay for the P&R RR (1873)



Detail from “General map of the Pennsylvania Railroad and its connections” by Allen, Lane & Scott for the Pennsylvania Railroad (1893)



Plates from Statistical atlas of the United States, based upon the results of the eleventh census, by Henry Gannett for the U.S. Department of the Interior Census Office (1898)



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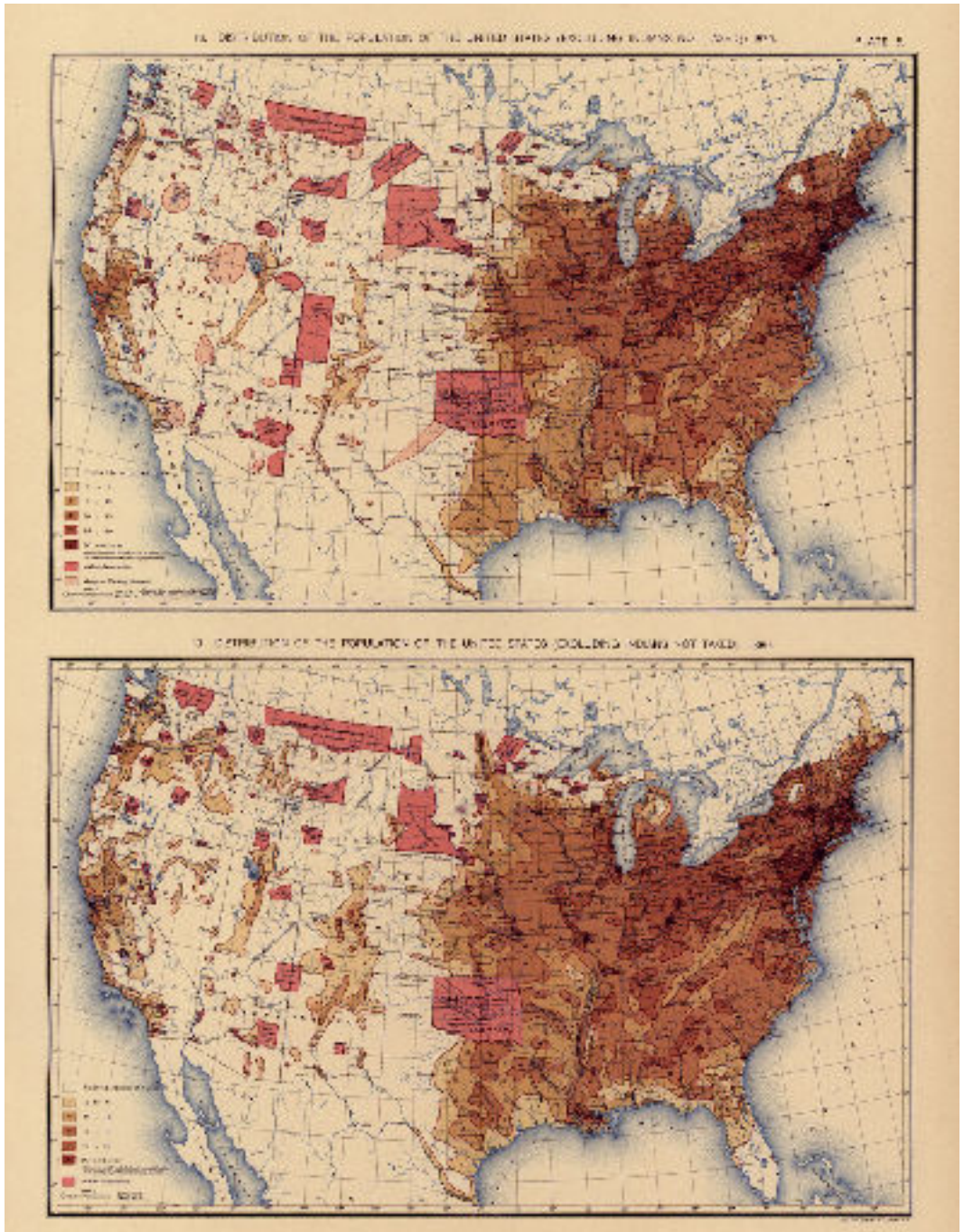
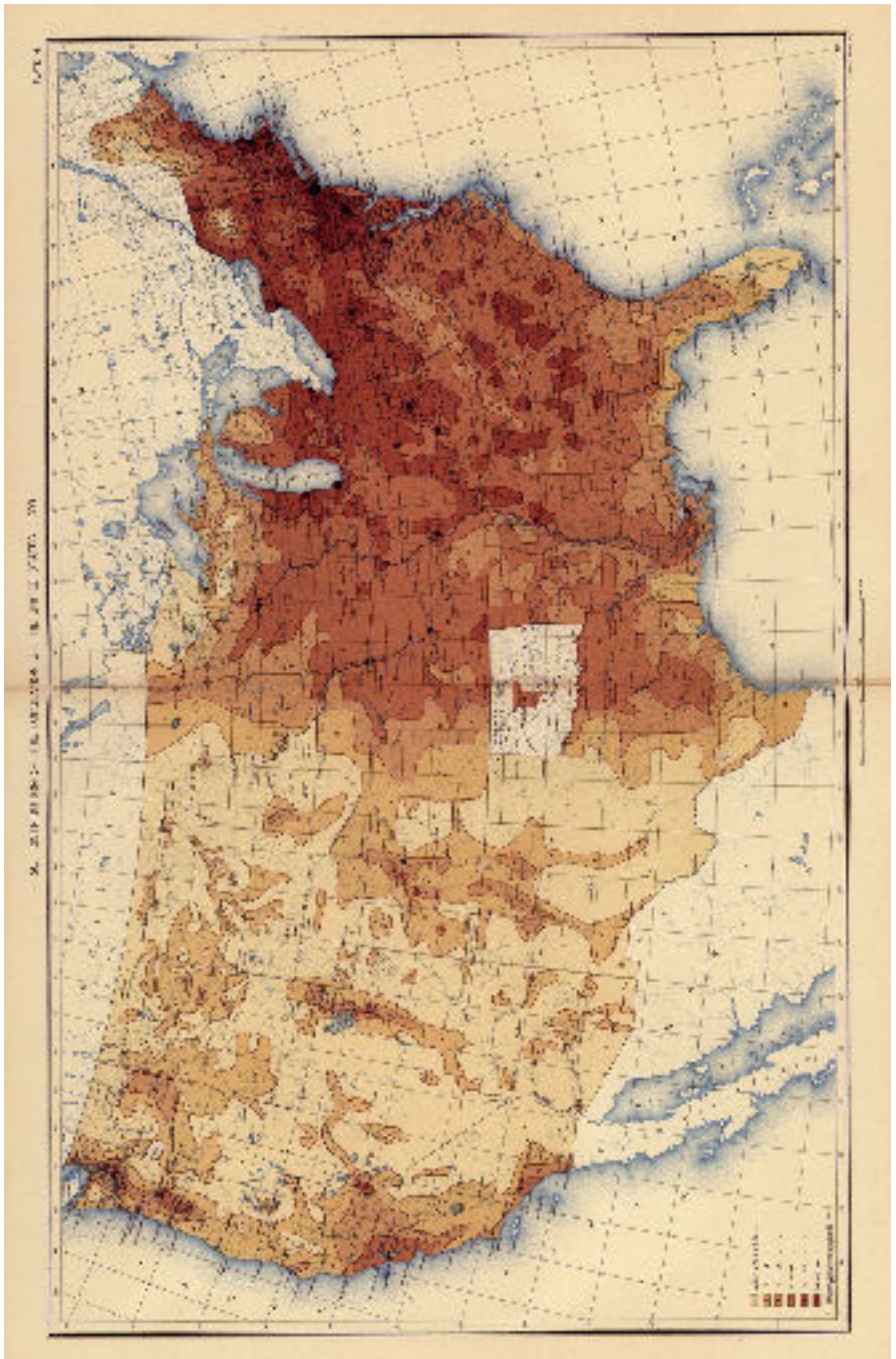
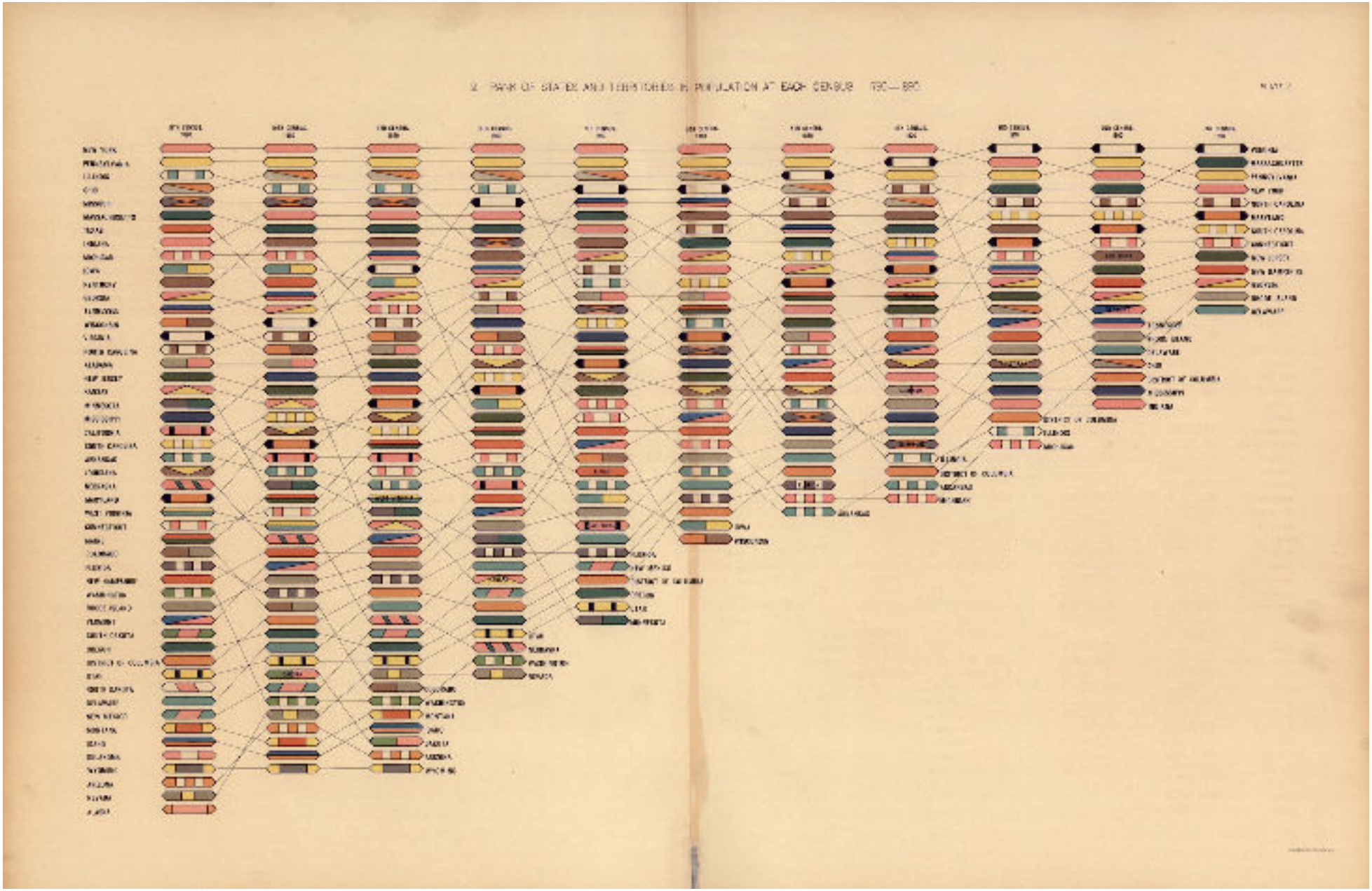




"Rank of States and Territories by Population at each census, 1790-1890," from *Statistical atlas of the United States, based upon the results of the eleventh census*, by Henry Gannett for the U.S. Department of the Interior Census Office (1898)



Document analysis

What drove population growth in New York and the whole country?

How does the route of the Long Island Rail Road indicate the motivations behind the line? What do the texts suggest about these motivations?

Sources

Total and Foreign-born population of New York City, 1790 - 2000

Year	Total	Foreign-born
1790	33,131	-
1800	60,515	-
1810	96,373	-
1820	123,706	5,390
1830	202,589	17,773
1840	312,710	-
1850	515,547	235,733
1860	813,669	383,717
1870	942,292	419,094
1880	1,206,299	478,670
1890	1,515,301	639,943
1900	3,437,202	1,270,080
1910	4,766,883	1,944,357
1920	5,620,048	2,028,160
1930	6,930,446	2,358,686
1940	7,454,995	2,138,657
1950	7,891,957	1,784,206
1960	7,783,314	1,558,690
1970	7,894,798	1,437,058
1980	7,071,639	1,670,199
1990	7,311,564	2,082,931
2000	8,008,278	2,871,032

NB: In 1820 and 1830 the foreign-born numbers represent the population of "Foreigners Not Naturalized"; the 1950 foreign-born include only foreign-born whites. In 1898, New York City expanded to encompass its current geographic boundaries.

Sources:

Lobo, Arun Peter and Salvo, Joseph J. 2004. *The Newest New Yorkers 2000: Immigrant New York in the New Millennium.*

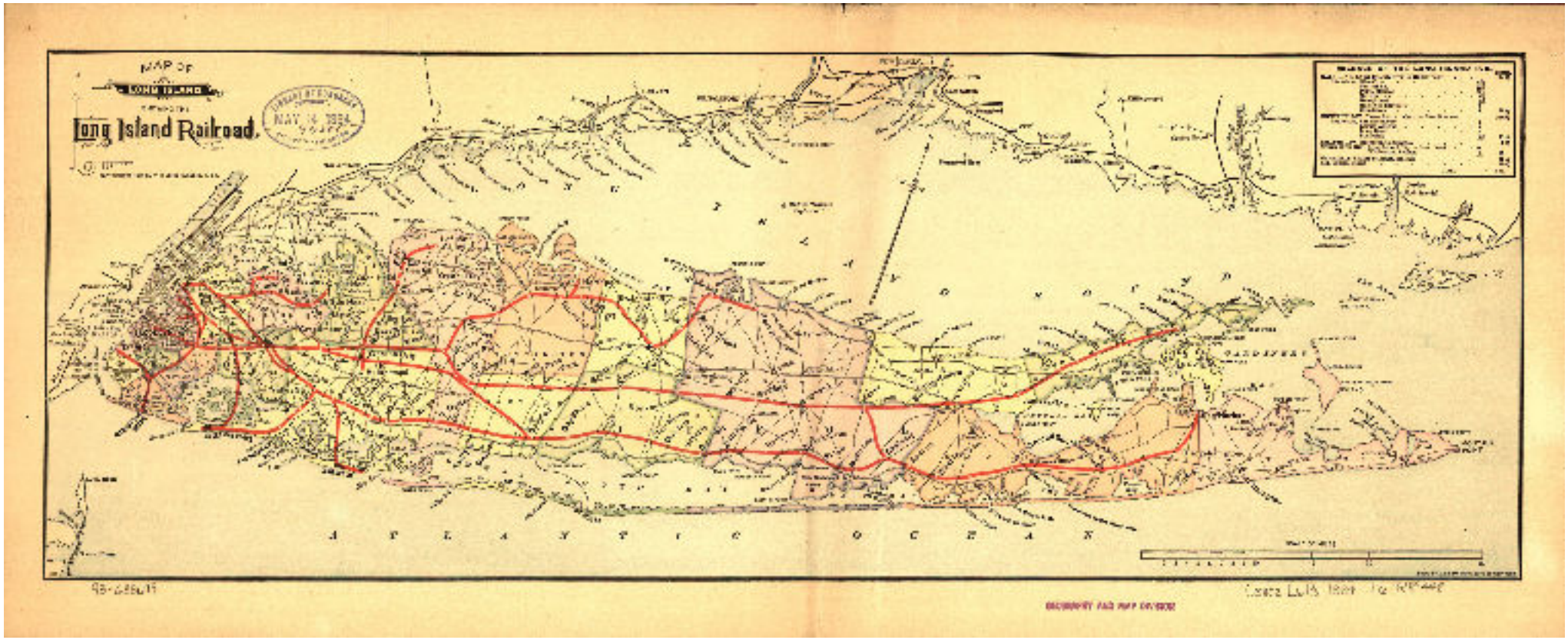
Rosenwalke, Ira. 1972. *Population History of New York City.*

United States Census Office. 1901. *Census Reports Volume 1, Twelfth Census of the United States, 1900.*

Compiled by the New York City Department of City Planning: Population Division

Detail from Insurance Maps of the City of New York, by Perris & Browne (1889)

"Map of Long Island showing the Long Island Railroad," creator unknown, for the Long Island Railroad (ca. 1884)



Statement by Henry V. Poor, editor of *American Railroad Journal*, 1852 | Quoted in *Hunt's Merchants' Magazine and Commercial Review* Vol. 27, ed. Freeman Hunt

The city of New York is now accessible from every part of New England (with the exception of the eastern part of Maine) and the State of New York, by one day's journey on railroads. A traveler may leave Waterville, Me., which is 480 miles distant from New York; Montreal, Canada, which is 400; and Dunkirk and Buffalo, which are about 470, in the morning, and reach this city the same evening by continuous lines of railroad, at an average charge of two cents per mile. Light articles of freight, newspapers, etc., are forwarded to, and received from the same points with equal dispatch; so that the six millions of people residing within the States named, are within one day's time of this city. And in the evening, the most remote parts of it are, in the ordinary course of the mail, put into possession of our morning news; on the other hand, our shops and the stands in our markets display the delicacies and dainties which the morning light shone upon some 400 miles distant. The whole country within this distance, by means of railroads, is made the market garden of the city, and every inhabitant is brought into as intimate relation to it, as was the person who lived within 80 miles a few years since…

From *The Quality of the "Wild Lands" of Long Island* by Thomas Schnebly, 1860

…as much land as would subserve for domestic purposes was only cultivated, thus confining their farming to a few acres, whilst the great body of their lands, grown up with "heavy timber" and under growth almost impenetrable, and reaching for miles to the middle of the Island, were left uncultivated and unimproved in its native luxuriance for the "wild deer" to roam in, or the feathered songsters to mate and propagate and raise their young.

[…]

The Long Island Rail Road passes through the middle of these lands, and furnishes a quick and easy access to the cities of New York and Brooklyn, containing a million of population, and thus brings the markets within easy and quick reach, transferring fertilizers from the cities, and taking in the varied products of farm and gardens, beside the reclaiming of those lands, which until then lay entirely wild and unproductive. At any rate, if the Rail Road Company do not reap the advantages contemplated by building their road, the citizens of Brooklyn and New York should ever accord to them the mead of praise for opening to them an avenue of trade, which now yearly supplies a large portion of their marketing and provisions."

Document analysis

What devices do those who favor industrialization use to make their arguments? What are their aspirations?

What devices do industrialization's opponents use? What are their concerns?

What elements of these aspirations and concerns can you identify in present-day American culture and daily life?

Sources

"Moral View of the Railroads," By Rev. B. C. Alken, D. D., Pastor of the First Presbyterian Church, delivered on the occasion of the opening of the Cleveland and Columbus Railroad, February 23, 1851 | Quoted in *Hunt's Merchants' Magazine and Commercial Review*

The elements of water-power have been in existence since the world was made; and yet, there doubtless was a time when there was no water-wheel applied to a dashing current, to propel machinery. Why did not the human mind grasp at once the simple law, and dispense with animal power to grind meal for daily bread? On the principles of philosophy, this question is not so easily answered. To say that mind is slow in its development, does not solve the difficulty. From the earliest ages, it has accomplished wonders in the arts. It has built cities and pyramids—aqueducts and canals—calculated eclipses and established great principles in science.

The truth is, there is a providence in mechanical invention as well as in all the affairs of men. And when God has purposes to accomplish by this invention, he arouses some active spirit to search for the laws already in existence, and to arrange the materials with reference to the end.

In past ages, for all practical purposes, the world has done well enough with the mechanical powers it possessed. The water-wheel has moved the machinery attached to it. The stage-coach has trundled its passengers along, contented and y with the slow pace, though not always convenient or comfortable, because they had no better mode of conveyance. The merchant has cheerfully committed his goods to the sail boat, because he knew of no more powerful agent than the winds. But the human mind has received a new impulse. It is waked up to unwonted energy. It is filled with the great idea of progress. It is leaving the things that are behind, and pressing onward.

Nothing has contributed more to wake up the mind from its sleep of ages—to draw out its powers and to set it on the track of discovery, than the invention of the steam-engine. This event occurred about eighty years since, and the name of the inventor is inscribed on the tablet of immortality. It was no freak of chance—no random thought of human intellect, unaided by that Infinite Intelligence, at whose disposal is all matter and mind; and who, in his own, time and way, makes them subserve his own purposes. Was Bezaleel raised up by God and filled with wisdom "to devise cunning work—to work in gold and silver and brass"—to aid Moses in building the tabernacle? Was Hiram afterward endowed with great mechanical skill in the erection of Solomon's temple? So was Watt. God raised him up to

invent the steam-engine; and, when "he gave it to mankind in the form in which it is now employed for countless uses, it was as if God had sent into the world a legion of strong angels to toil for man in a thou- sand forms of drudgery, and to accomplish for man a thousand achievements which human hands could never have accomplished, even with the aid of such powers of nature as were previously known and mastered. The earth with the steam-engine in it, and with all the capabilities which belong to that mighty instrument for aiding the industry and multiplying the comforts of mankind, is a new earth,—far better fitted in its physical arrangements for the universal establishment of the kingdom of Christ, or in other words, for the universal prevalence of knowledge, liberty, righteousness, peace, and salvation."

The application of steam, as a mechanical power, to locomotion on land and water, forms a new era in invention, and in the history of the world. Twenty years ago, the first successful experiment with the locomotive, was made between Liverpool and Manchester. Now, we can hardly compute the number of railways. Forty-three years ago the Hudson was first successfully navigated by a steamer. In the summer of 1838 the Atlantic ocean was crossed for the first time by vessels exclusively propelled by steam power. Now look at the progress. The steamer plows our navigable rivers, our great lakes, our coasts; and asserts its supremacy over all other craft, from the Pacific to the Atlantic, and from the Atlantic to the Indian ocean. The changes in the moral and physical condition of our world, by means of this wonderful agency, are what no one can witness, without mingled emotions of admiration and wonder. That the hand of the Almighty is in it; that he has some good and grand design to accomplish through its instrumentality, must be evident to all who believe Him to be the moral Governor of the world. Were a new planet to start into existence, I should as soon think it the result of a fortuitous conglomeration of atoms, as to disconnect the present revolutions by steam, from the wisdom and power of God.

[…]

From Labor Standard 3, no. 12 (28 July 1877)

Strike and live! Bread we must have! Remain and perish! Be it understood, if the Baltimore and Ohio Railroad Company does not meet the demands of its employees at an early date, the officials will hazard their lives and endanger their property, for we shall run their trains, and locomotives into the river; we shall blow up their bridges; we shall tear up their railroads; we shall consume their shops with fire and ravage their hotels with desperation.

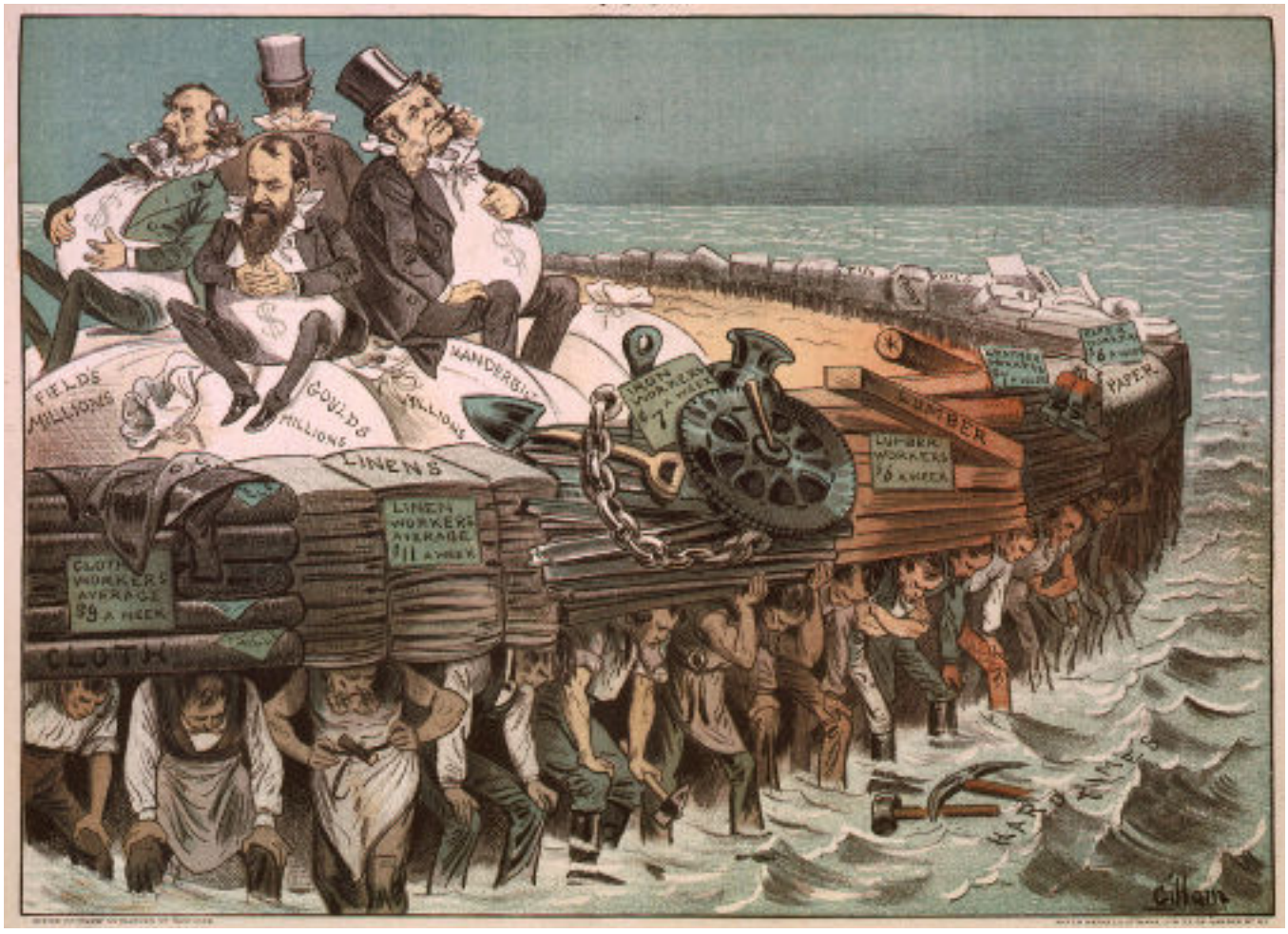
A company that has from time to time so unmercifully cut our wages, and finally has reduced us to starvation, for such we have, has lost all sympathy. We have humbled ourselves from time to time to unjust demands until our children cry for bread. A company that knows all this, we should ask in the name of high heaven what more do they want—our blood!

They can get our lives. We are willing to sacrifice them, not for the company, but for our rights. Call out your armed hosts if you want them. Shield yourselves if you can, and remember that no foe, however dreaded, can repel us for a moment. Our determination may seem frail, but let it come. They may think our cause is weak. Fifteen thousand noble miners, who have been insulted and put upon by this selfsame company, are at our backs. The working classes of every State in the Union are in our favor, and we feel confident that the God of the poor and the oppressed of the earth is with us. Therefore let the clashing of arms be heard; let the fiery elements be poured out if they think it right, but in need of our right and defence of our families, we shall conquer or we shall die.

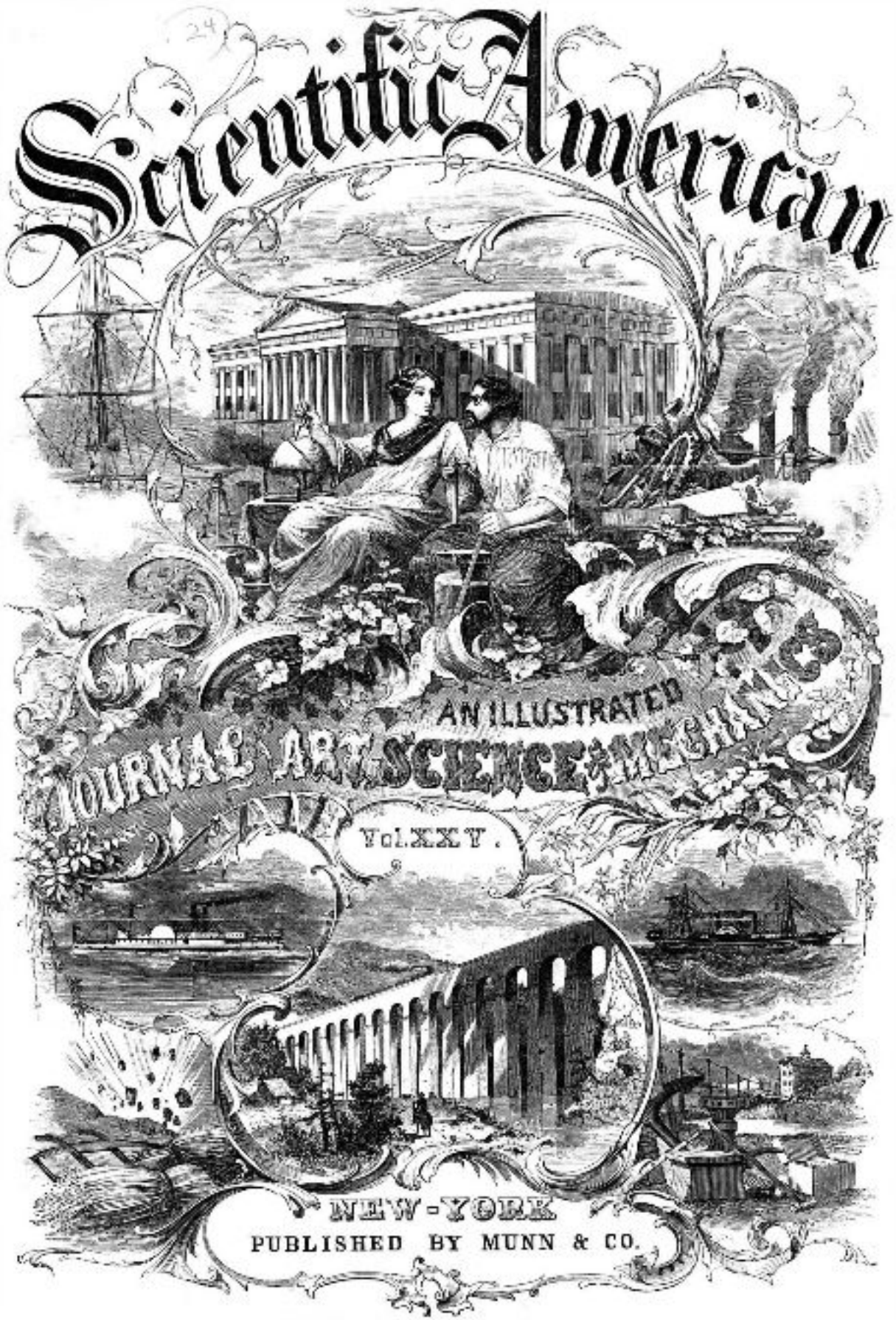
From "The American Scholar," by Ralph Waldo Emerson, delivered to the Phi Beta Kappa Society in Cambridge, Massachusetts, August 31, 1837

Man is not a farmer, or a professor, or an engineer, but he is all. Man is priest, and scholar, and statesman, and producer, and soldier. In the divided or social state, these functions are parceled out to individuals, each of whom aims to do his stint of the joint work, whilst each other performs his. The fable implies, that the individual, to possess himself, must sometimes return from his own labor to embrace all the other laborers. But unfortunately, this original unit, this fountain of power, has been so distributed to multitudes, has been so minutely subdivided and peddled out, that it is spilled into drops, and cannot be gathered. The state of society is one in which the members have suffered amputation from the trunk, and strut about so many walking monsters, a good finger, a neck, a stomach, an elbow, but never a man. Man is thus metamorphosed into a thing, into many things. The planter, who is Man sent out into the field to gather food, is seldom cheered by any idea of the true dignity of his ministry. He sees his bushel and his cart, and nothing beyond, and sinks into the farmer, instead of Man on the farm. The tradesman scarcely ever gives an ideal worth to his work, but is ridden by the routine of his craft, and the soul is subject to dollars. The priest becomes a form; the attorney, a statute-book; the mechanic, a machine; the sailor, a rope of a ship.

"The protectors of our industries," cartoon by Bernhard Gillam, published by Keppler & Schwarzmann (1883)



Cover of *Scientific American*, July 1, 1871



As the city grew and became denser, and as industrialization progressed, urban geography also changed in response. Powerful energy sources became more available both for industrial and individual purposes. Households used hearths and grates to burn anthracite coal for heating and cooking, but the new availability of coal led to another, more dramatic change: the creation of urban infrastructure for lighting public and private spaces. After 1823, gas made from coal, called manufactured gas, was used to light both street lamps and many domestic lamps, replacing the oil that had been used since the earliest English and Dutch settlements.

Coal was brought to the city in trains and barges, and then conveyed to plants where gas was "manufactured" using a carbonization process similar to the one that produced coke for industrial use. Then, manufactured gas was conveyed to homes and business through pipes underneath roads. With the advent of electrical lighting in the late 19th century, gas companies refocused their efforts towards providing gas for heating and cooking in homes.

Instructions

Examine and analyze the documents attached, considering the following questions:

What do you notice?

Where are different land uses in the city in relation to one another? How does the form of the city reflect the new availability of non-organic energy sources?

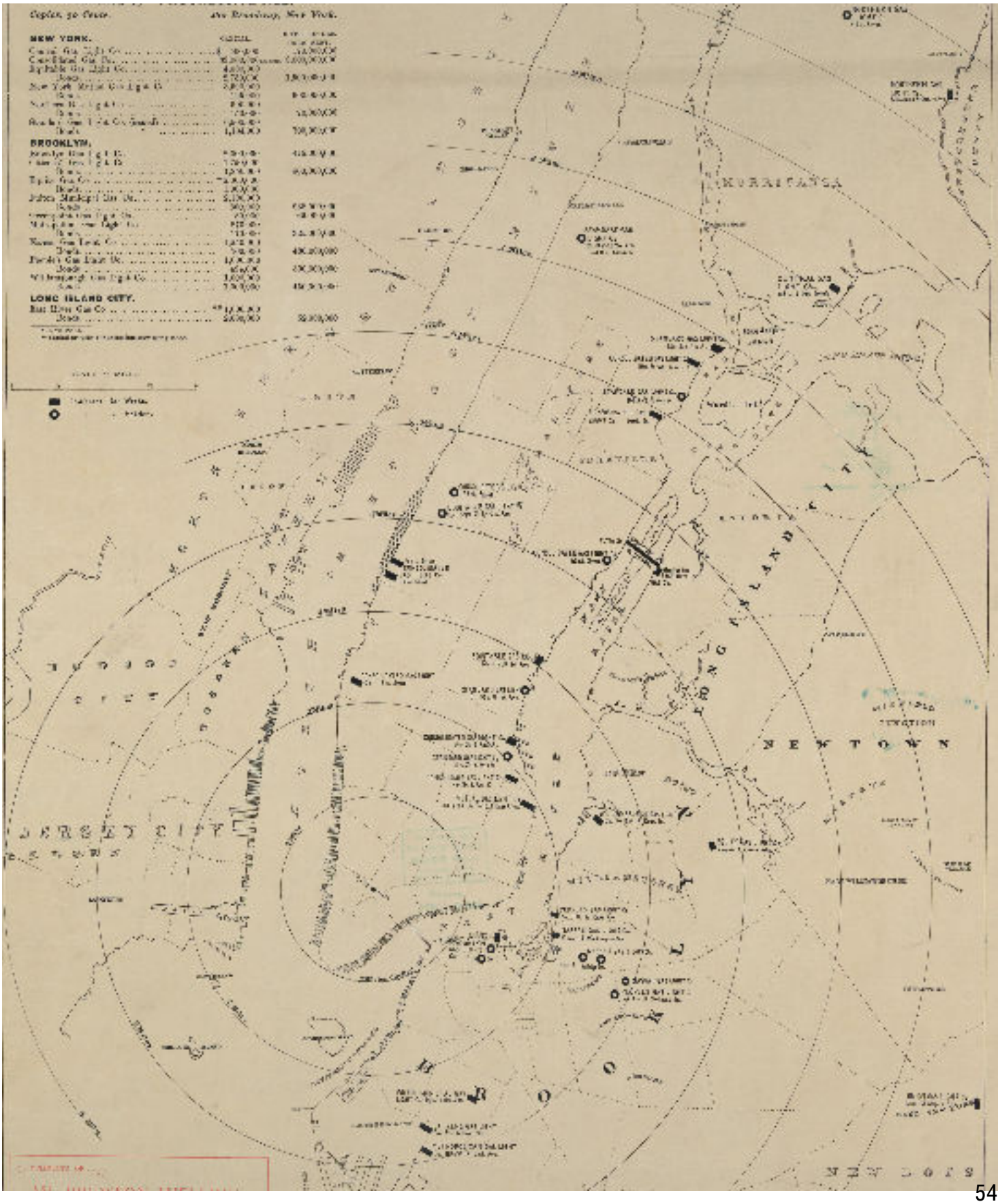
How would you predict coal and manufactured gas would change the lives of people living in the city? How would they change the ways different people and groups related to one another?

How do you think the introduction of energy distribution systems impacts the future development of the city? What would be newly possible and what would be no longer possible?

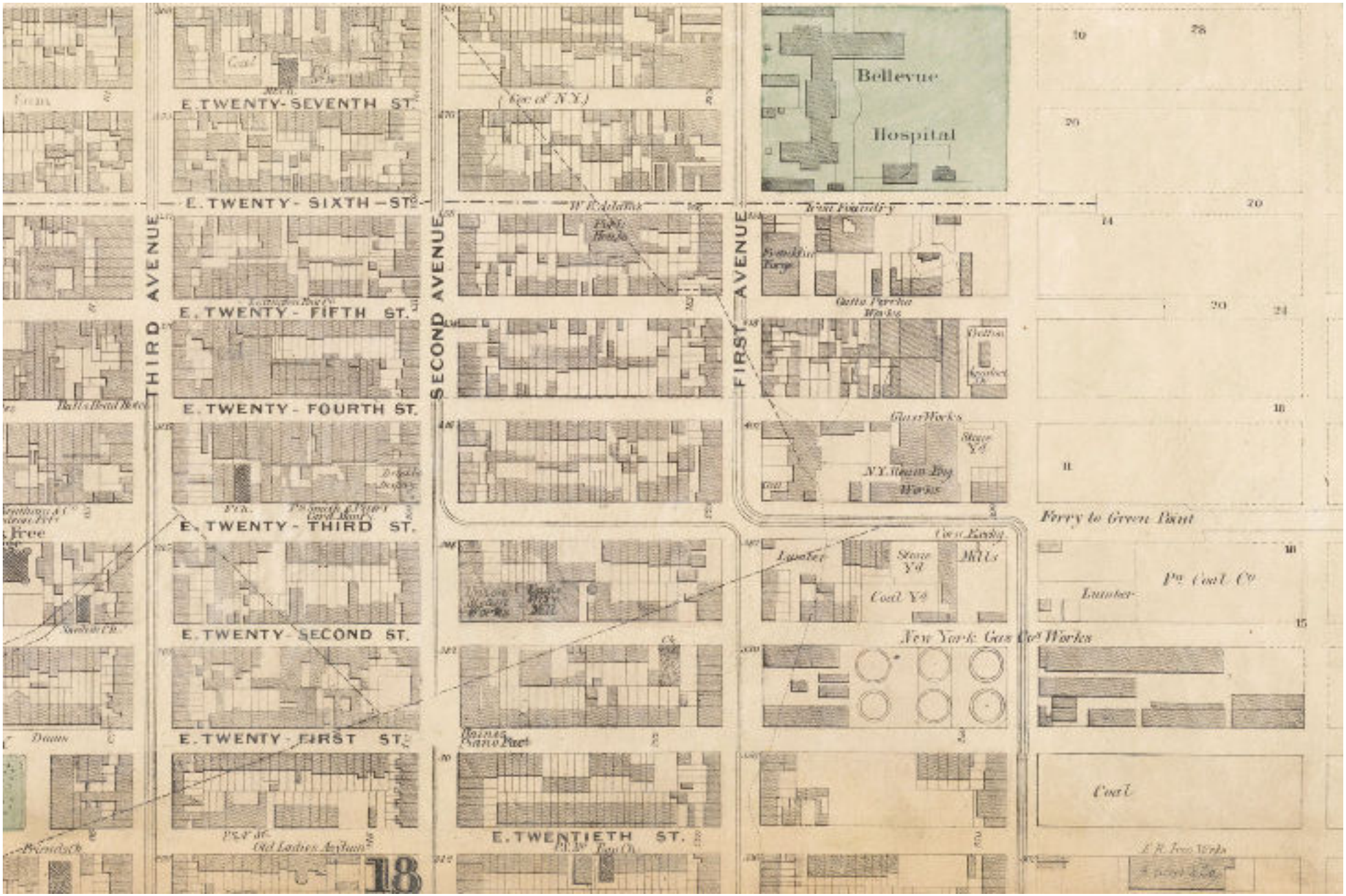
Then, imagine you are a local politician in New York City in the year 1823, when the New York Gas Light Company has been granted a 30-year exclusive franchise from the city to lay underground gas pipes in the area south of Grand Street. But some New Yorkers are suspicious of the new technology, concerned about how installing gas infrastructure might disrupt their neighborhoods, or fear that bringing manufactured gas into homes could be dangerous.

Pick a side in the debate, then write a short speech appealing to your constituents.

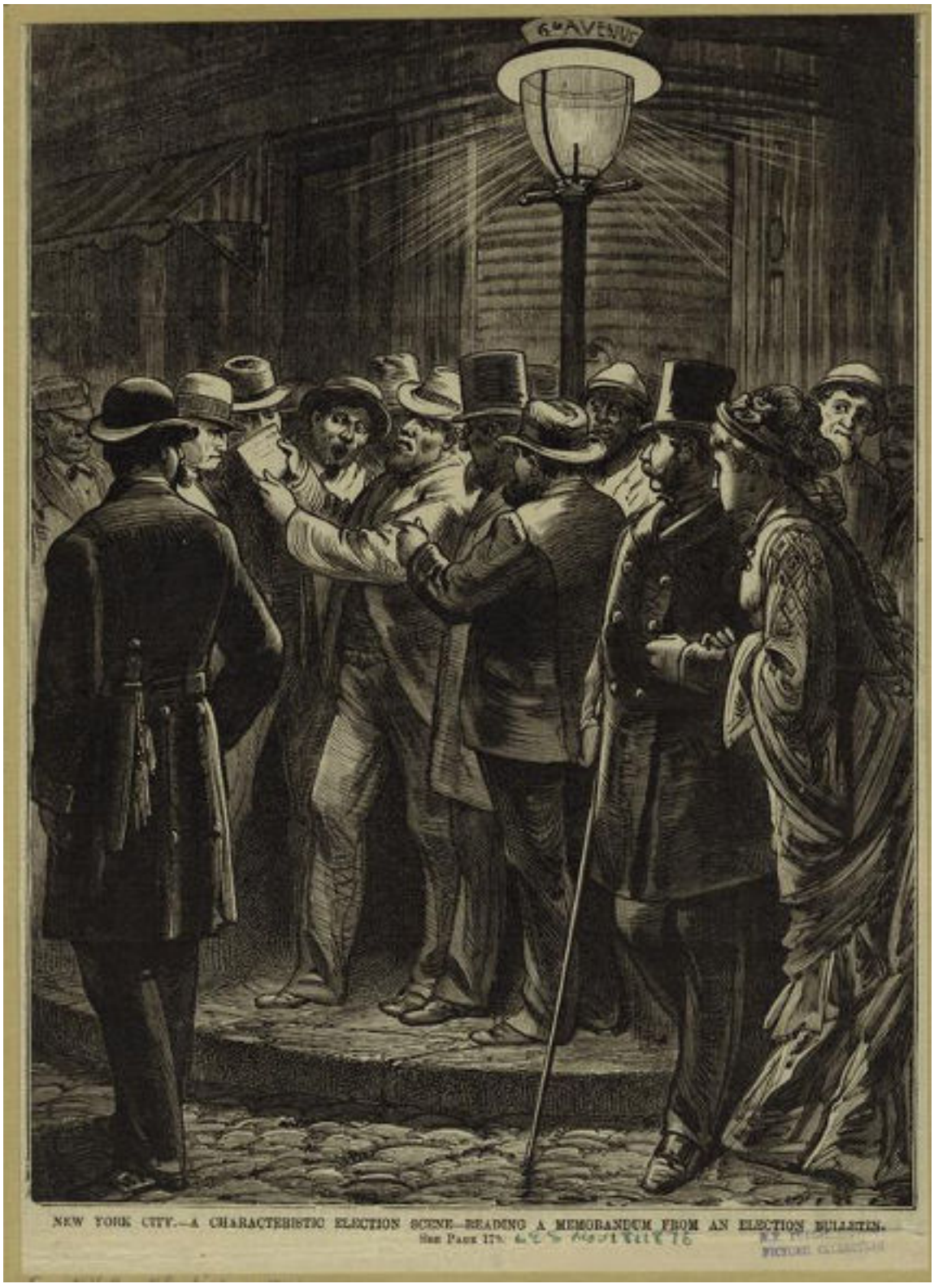
"Map showing location of works and holders New York and Brooklyn gas companies" by E.C. Brown for *Progressive Age* (1893)



Detail from “Plan of New York City, from the Battery to Spuyten Duyvil Creek” by Matthew Dripps (1867)



"A characteristic election scene — reading a memorandum from an election bulletin," creator unknown (1876)



One major impact of industrialization in general, and the expansion of the railroads in particular, was the standardization of time. Before the Industrial Revolution, timekeeping was primarily a local enterprise that related agricultural work to the rising and setting sun. But in order to keep to regular schedules, railroad companies needed a way to standardize timekeeping across long distances; eventually, this led to the establishment of regional time zones. Other industrialists found standardized timekeeping useful too, particularly as a strategy for controlling their workers. Meanwhile, Progressive social reformers who sought to improve the morals of the poor supported the development of the public school system, which relied heavily on timekeeping to instill pupils with discipline. Later, when workers would organize to demand labor rights and protections, timekeeping would play a role: limited working hours were a central goal for the early labor movement. In 1886 striking laborers won the eight-hour workday that has lasted to the present. The benefits of industrialization were also often described in terms of time saved by machines and manufactured goods.

Instructions

Reflect on your own relationship to timekeeping, labor, and energy. Write a journal entry that explores the role of timekeeping in your daily life. Consider:

When have you been most and least aware of the passage of time?

How does your awareness of time passing impact how energetic you feel? Does it change what you feel capable to do?

How does your awareness of time shape your experience of geography? Does it change where you feel you can or want to go?

What saves you time? How is energy involved in that?

Do you think timekeeping has had more positive or negative impacts on modern society?

Document analysis

What would have been the challenges of building the first Grid in Lower Manhattan?

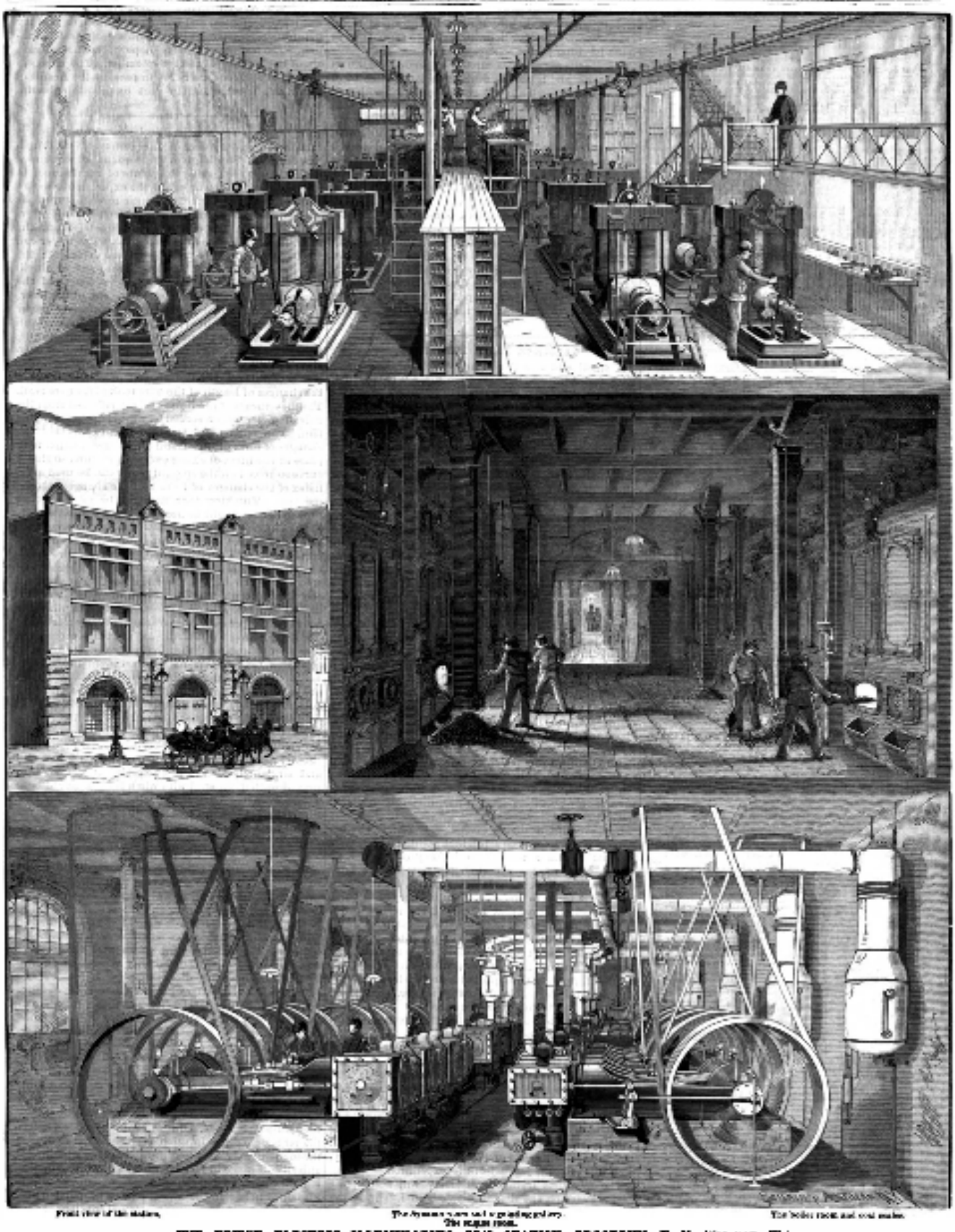
Why would the power lines have been laid underground? What other forms of infrastructure do you notice underground?

How did the Pearl Street power station work? Can you identify the energy source, the dynamo, and the mechanism that makes it turn? What kind of labor was involved in operating this power station?

SCIENTIFIC AMERICAN

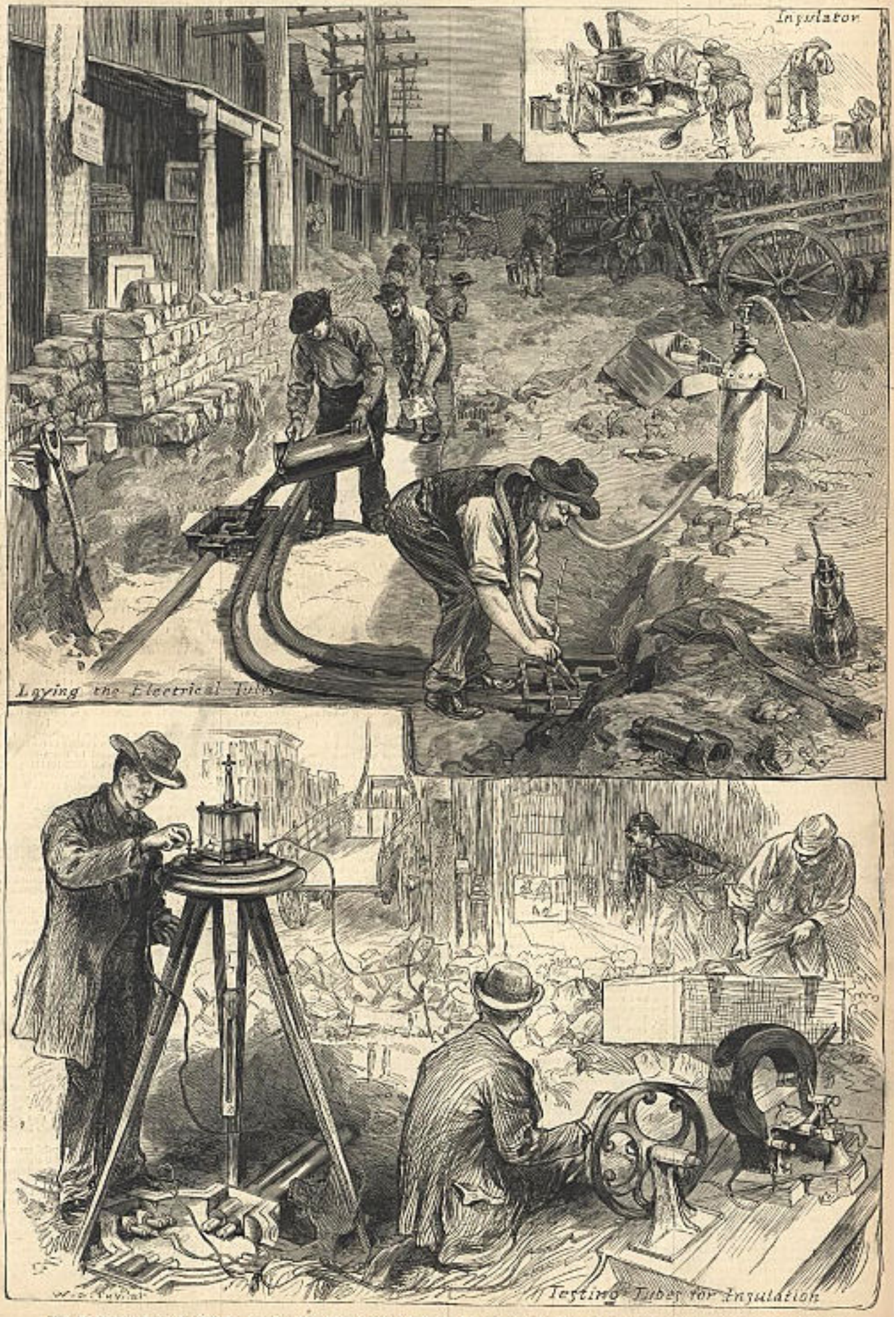
A WEEKLY JOURNAL OF PRACTICAL INFORMATION, ART, SCIENCE, MECHANICS, CHEMISTRY, AND MANUFACTURES.

NEW YORK, JUNE 13, 1891.



THE EDISON ELECTRIC ILLUMINATING CO.'S STATION, BROOKLYN, N. Y.—[See page 377.]

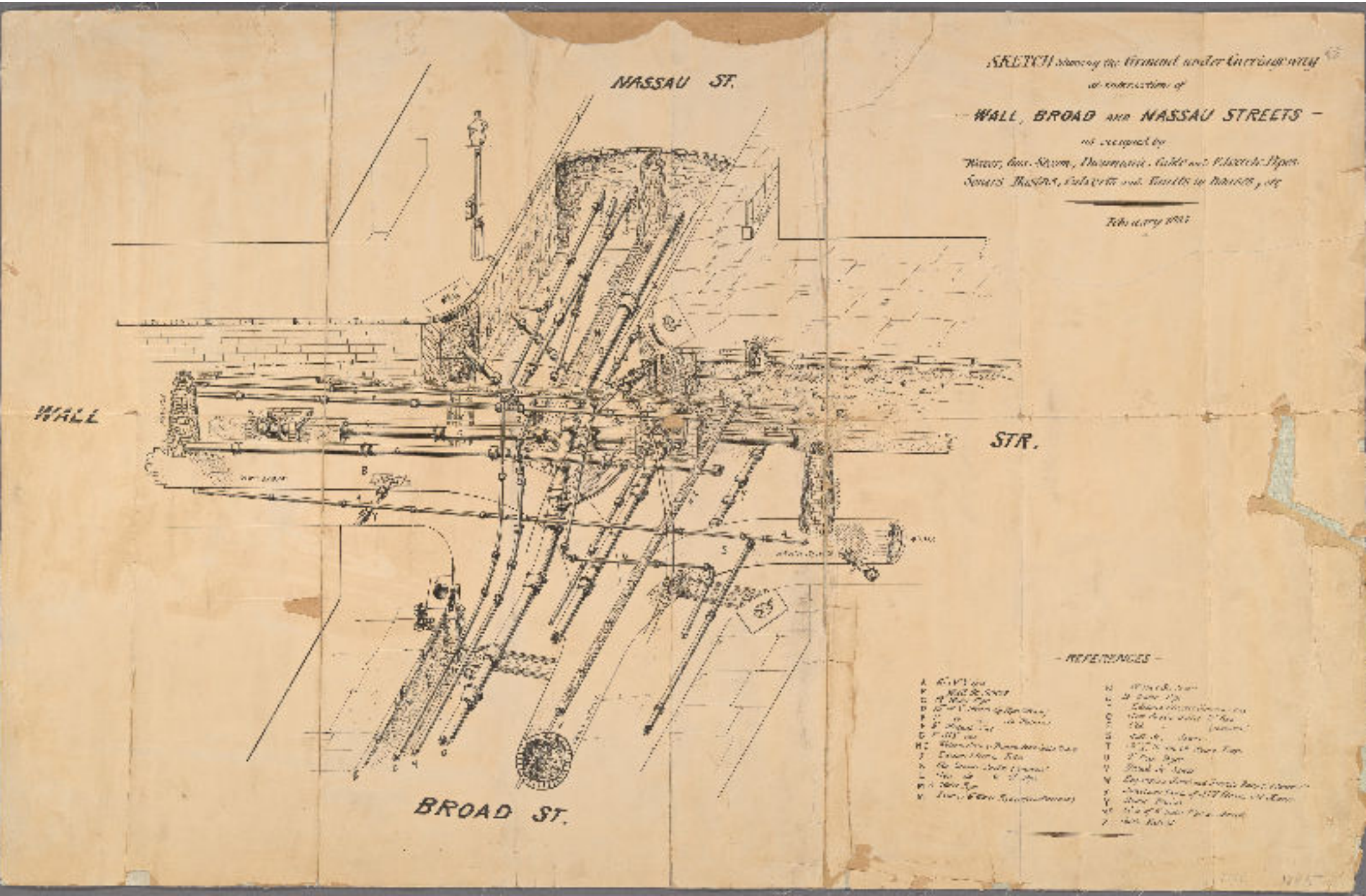
Cross-section of Brooklyn Pearl Street station, *Scientific American*, June 13, 1891



THE ELECTRIC LIGHT IN HOUSES—LAYING THE TUBES FOR WIRES IN THE STREETS OF NEW YORK.—DRAWN BY W. P. SNYDER.—[SEE PAGE 394.]

The Electric Light in Houses – Laying the tubes for wires in the streets of New York," by W. P. Snyder for *Harpers Weekly*, June 24, 1882

Underground infrastructure at Broadway and Fulton Street, *Engineering News*, Vol. 72 (1890)



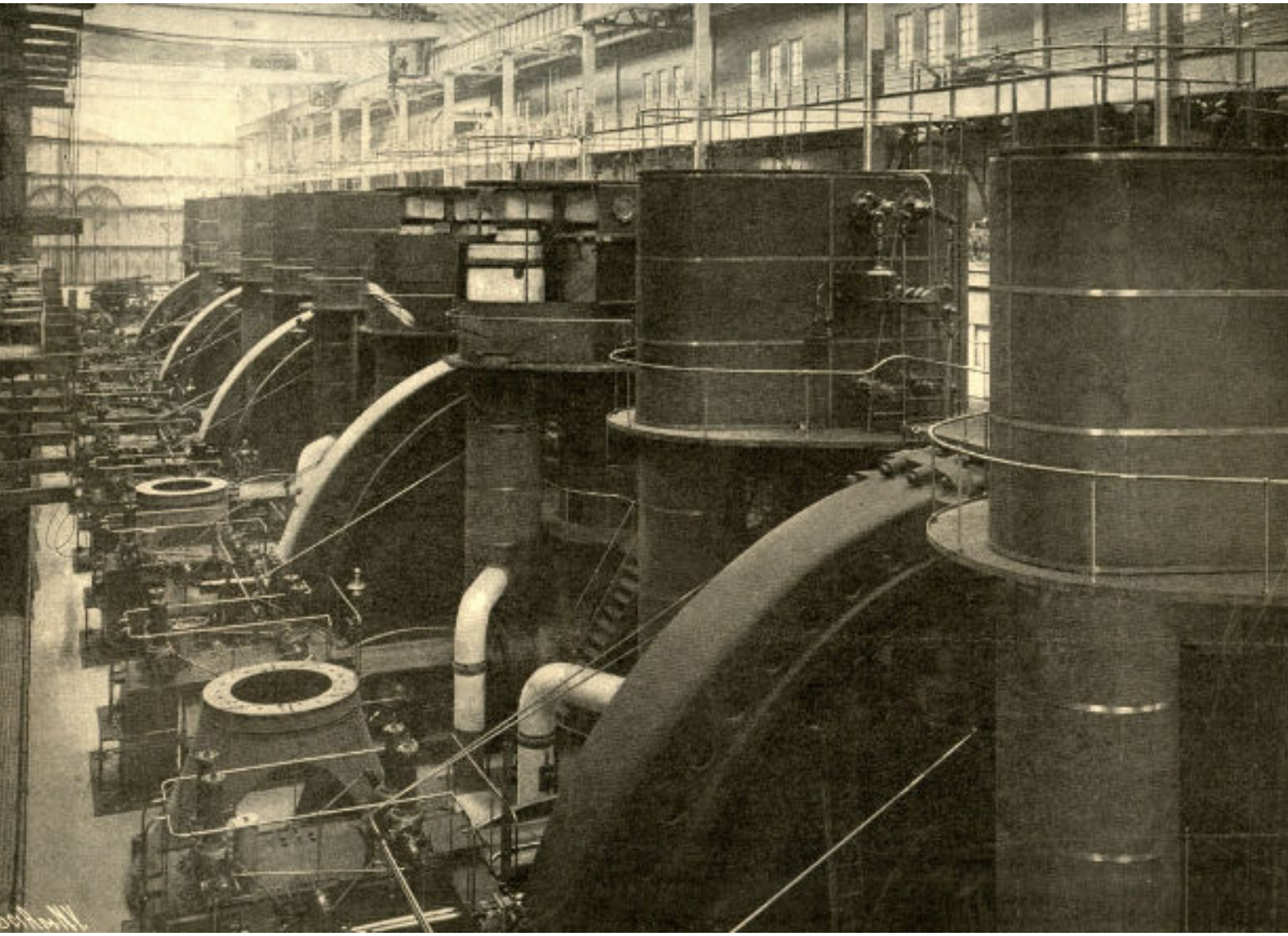
Document analysis

What do you notice about the location of the transit lines? What about the substations?

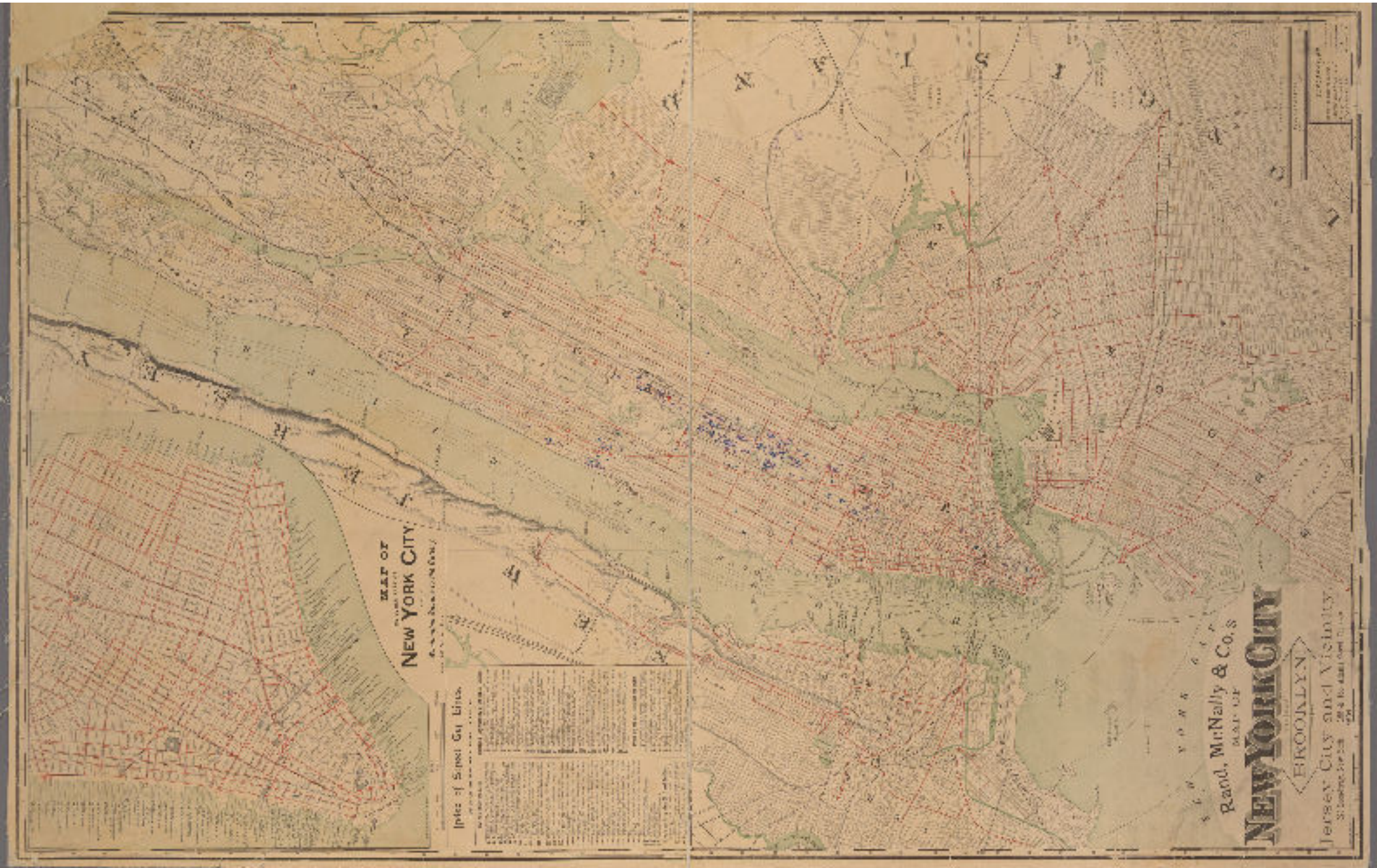
What does the diagram of the station tell you about how power for the subway was generated?

Sources

"The Great Subway Power Station, with Five of the Eleven Engines and Generators In Place. Ultimate Capacity, 132,000 Horse Power," from *Scientific American*, October 29, 1904



"Map of New York City, Brooklyn, Jersey City, and Vicinity" with index of streetcar lines, by Rand, McNally & Co. (1891)



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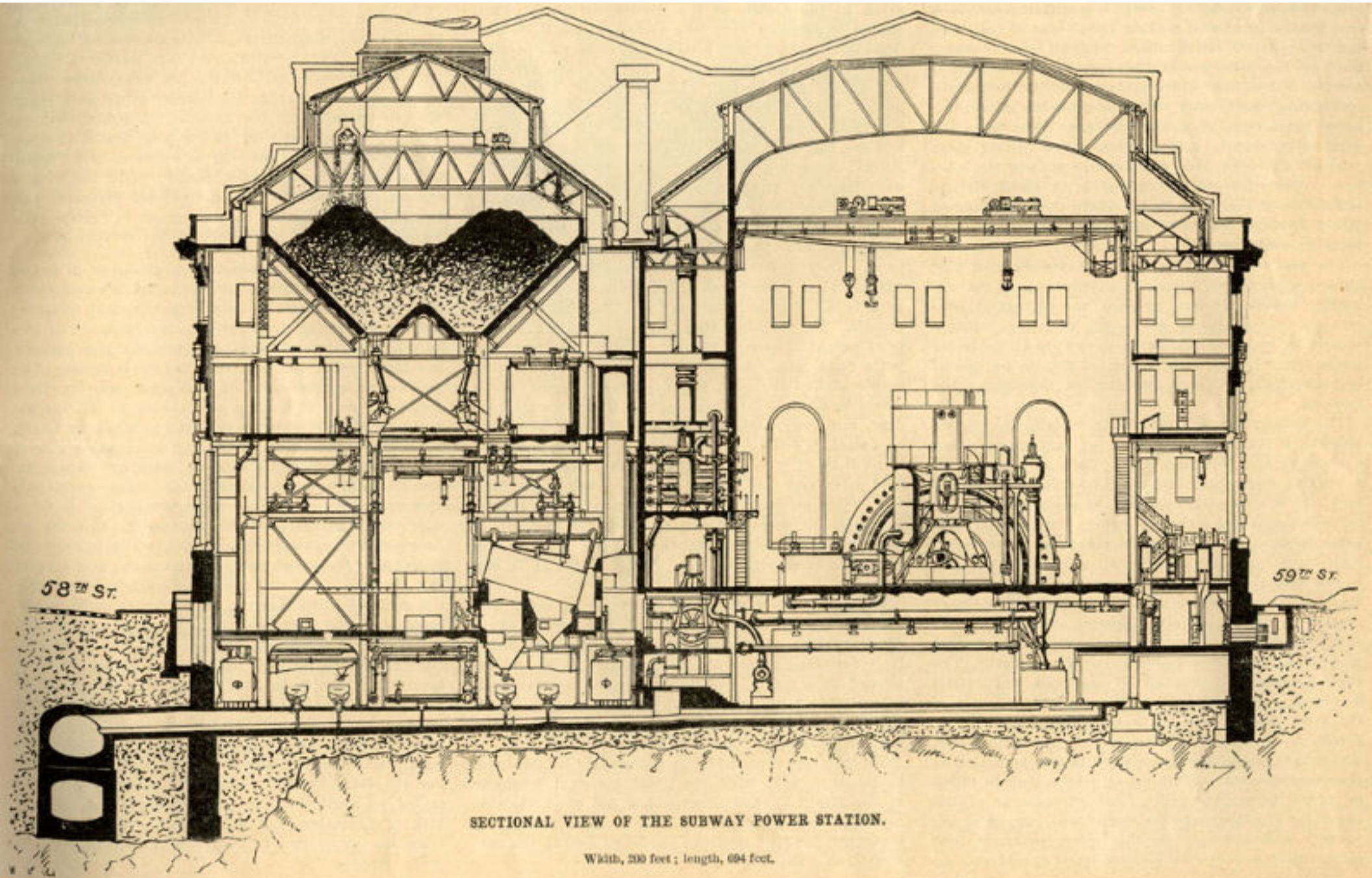


Document analysis

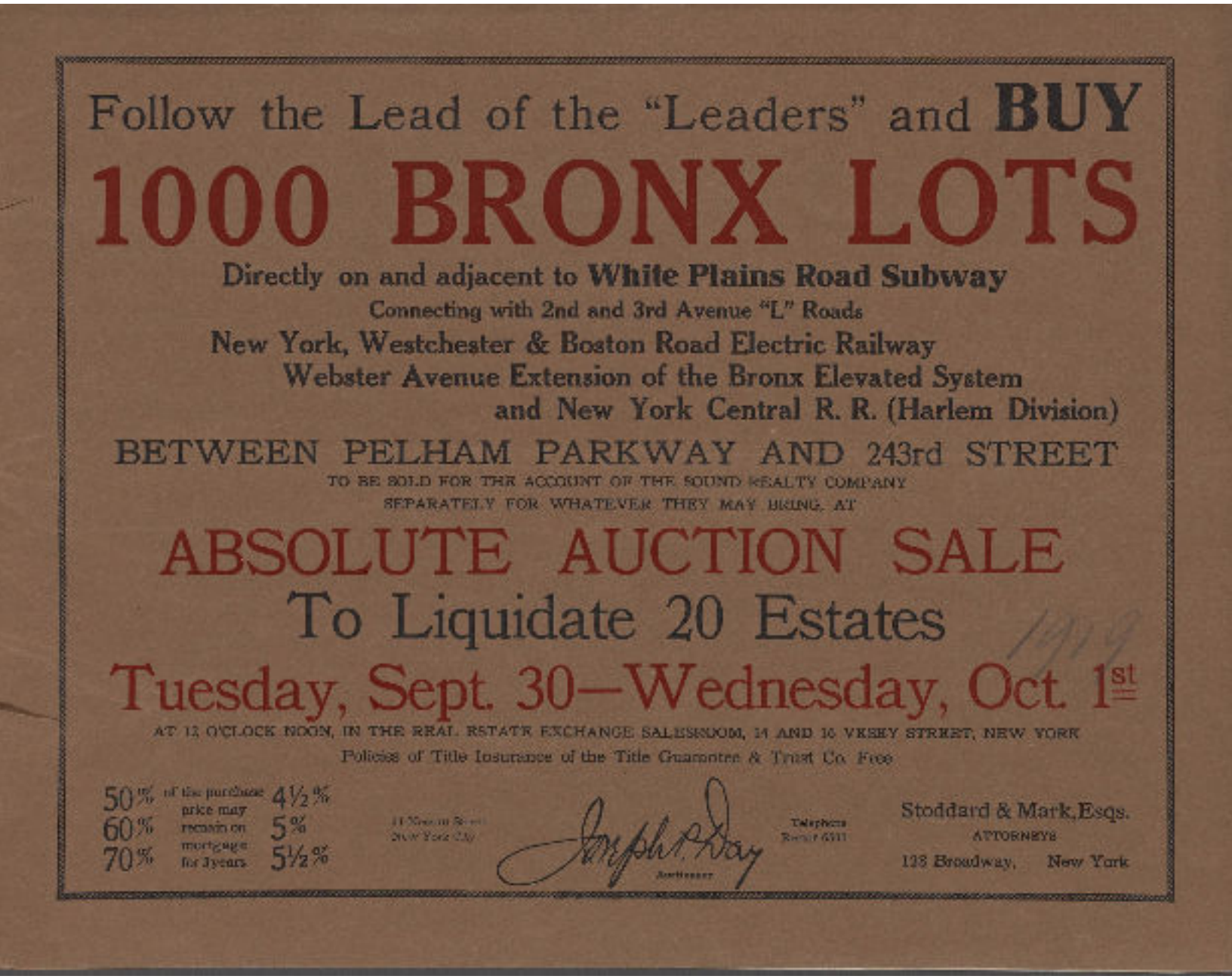
How did these documents appeal to their intended audience?

What do you notice about the language of the advertisements?

What do you notice about the geography of the subway lots?

Sources

Advertisements for "subway lots" arising from estate liquidations in Brooklyn, the Bronx, and Queens, via New York Public Library



JERE JOHNSON JR. CO.
REAL ESTATE
AUCTIONEERS

Surrogate's Court—Kings County

By order of the SURROGATE'S COURT bearing date May 20th, 1915, "In the matter of the application of MINNIE PROTZMANN, as Executrix, and CHAS. PROTZMANN, as Executor, of the last Will and Testament of WM. PROTZMANN, deceased, etc."

Jere. Johnson Jr. Co. will sell at Public Auction

WITHOUT RESERVE TO THE HIGHEST BIDDER

On WEDNESDAY, JUNE 30th, 1915

AT TWELVE O'CLOCK NOON IN THE

Brooklyn Real Estate Exchange, 189 and 191 Montague Street, Brooklyn

121 Dual Subway Lots

ALL IN THE MOST ACTIVE SECTIONS OF THE BOROUGH OF BROOKLYN, LOCATED AS FOLLOWS:

29 Lots on Cortelyou Road, Gravesend Avenue and East 2nd Street

Flatbush (these lots constituting a plot now known as Suburban Field). Right at Ditmas Avenue Station Dual Subway System (Culver Elevated Extension), and opposite 18th Avenue Transfer Station.

39 Lots on Avenue M, East 7th, East 8th, East 9th and East 10th Streets

Between Coney Island Avenue and Ocean Parkway. South Street and Franklin Avenue Trolley Cars on Coney Island Avenue. Also within a short walk of Brighton Beach and Culver Extensions of Dual Subway System.

38 Lots on Gravesend Avenue and West Street

Beginning less than 300 feet from Kings Highway. Right at express station (Kings Highway) of Dual Subway System—Culver Elevated Extension.

10 Lots on Avenue S, between West 4th and West 3rd Streets

3½ short city blocks from Sea Beach Subway Line.

5 Lots cor. East 2nd Street and Avenue Q

Half a block from Culver Line Elevated Extension on Gravesend Avenue, and one and a half blocks from said Express Station at Kings Highway.

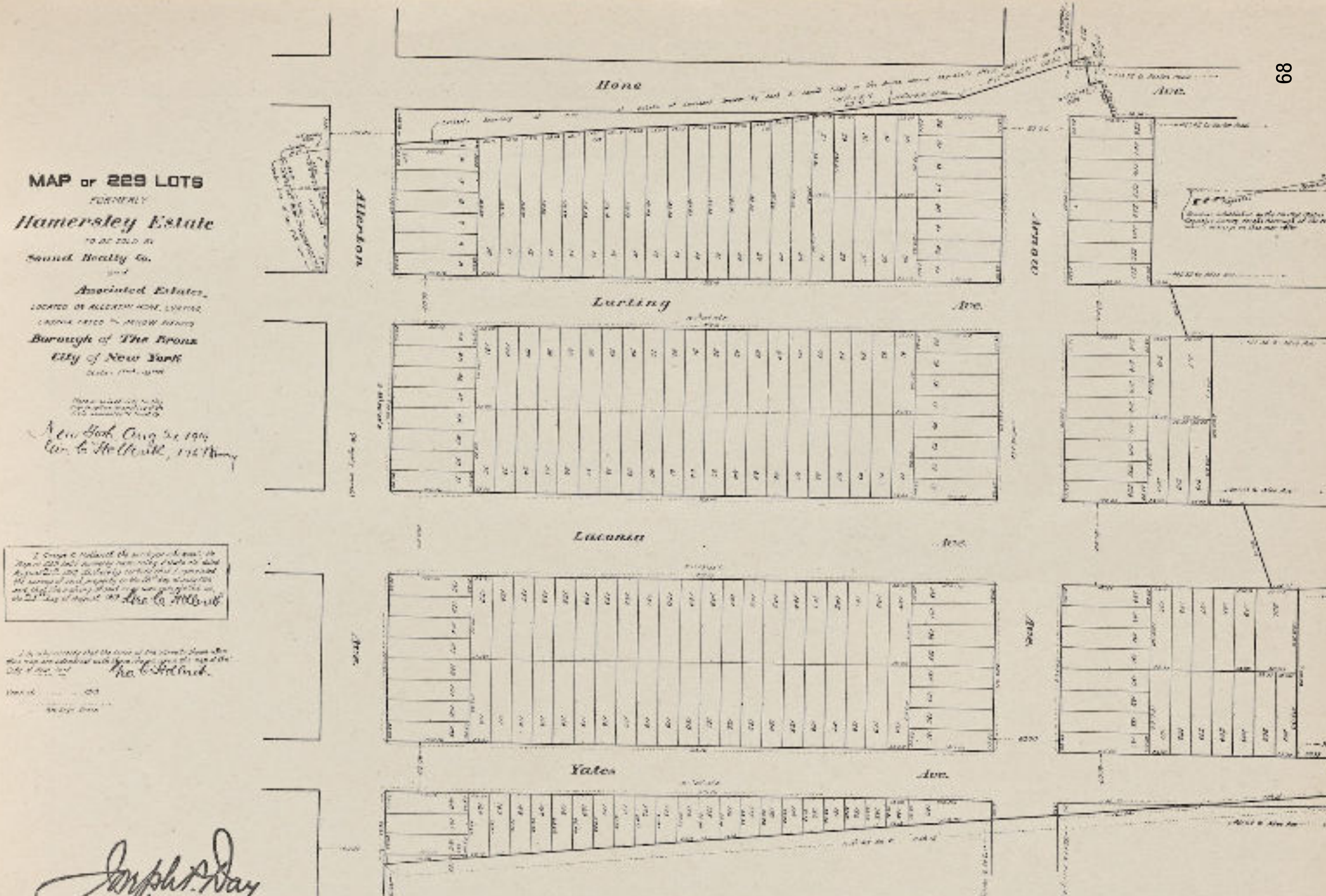
On all purchases of $1,000 and over 60% may remain on Bond and Mortgage

Lots will be sold singly, but with privilege of adjoining lots in same tier of similar character and value. Read carefully on within pages description of various parcels.

Additional information and diagram books from { *GEORGE C. BUECHNER, Esq., Attorney for Charles Protzmann, Executor, 160 Fulton Street, Brooklyn,* *KRAMER, COHN & MEYER, Esqs., Attorneys for Minnie Protzmann, Executrix, 200 Park Avenue, Brooklyn, or* *JERE. JOHNSON JR. CO., Real Estate Auctioneers, 187 Broadway, New York, and 189 Montague St., Brooklyn.* (2684)

T. J. Dixon & Son, Printers and Publishers, 165 Washington St., Brooklyn

JACKSON HEIGHTS
Plaza Hotel
Times Square
Herald Square
City Hall
16 Min. to Jackson Heights
22 Min. to Jackson Heights
24 Minutes to Jackson Heights
36 Minutes to Jackson Heights
STATION
New Quick Subway Service
by
B.R.T.–Broadway Line
to
Jackson Heights
New Garden Apartments Now Served by Three Lines of Rapid Transit—B.R.T.—I.R.T. & 2d Ave. "L"
Running Time
24 minutes
Jackson Heights Elevator Garden Apartments, 5, 6, and 7 rooms, 2 and 3 bathrooms, are offered on the Jackson Heights Tenant Ownership Plan. Liberal terms arranged for those whose social and business references are acceptable. Residents at Jackson Heights are now enjoying the golf course, tennis courts, children's playgrounds, gardens, etc.
The Queensboro Corporation 50 East 42d St.
SELECT YOUR APARTMENT NOW



Joseph P. Day
Auctioneer

MAP No. 4

The 229 lots shown on the accompanying map formerly belonged to the Hamersley Estate and are located on Allerton, Hone, Lurting, Laconia, Yates and Arnow Avenues. These lots, in addition to having extensive frontages on Allerton and Arnow Avenues, both of which are important east and west thoroughfares leading to the Allerton Avenue Station on the White Plains Road, Elevated and Subway extension and to the Gun Hill Road station on the New York, Westchester and Boston R. R., have the additional advantage of being located close to the point at which the Williamsbridge Road and Boston Road meet and cross one another. This point promises to be one of the most interesting and important centers of this section of the Bronx and is being closely watched by real estate experts. Laconia Avenue is a 100-foot wide thoroughfare and from the Bronx and Pelham Parkway to East 233rd Street through Edenwald, is a direct extension, North, of the Williamsbridge Road.

Data analysis

How did the total number of automobiles, and automobile ownership rate, relate to one another?

When did major changes to these trends occur? What could be the cause?

Source

Table from "20th-Century Statistics," in US Census Bureau, Statistical Abstract of the United States 1999

No. 1439. Transportation Indicators for Motor Vehicles and Airlines: 1900 to 1998

Year	Motor vehicle								Scheduled airlines		
	Registrations			Vehicle miles of travel (VMT)		Highway fatalities					
	Motor vehicles, total (1,000)	Passenger cars		Motor vehicles, total (mil.)	Average travel per vehicle (miles)	Number [1]	Rate per 100 million VMT	Public road miles (1,000)	Passengers carried (mil.)	Fatal accidents per 100,000 departures	Revenue per passenger mile [2]
		Number (1,000)	Rate per 1,000 persons								
1900	8	8	0.1	100	12,500	36	36.00	2,320	(NA)	(NA)	(NA)
1905	78	77	0.9	970	12,310	252	25.98	2,360	(NA)	(NA)	(NA)
1910	469	458	5.0	3,580	7,641	1,599	44.66	2,430	(NA)	(NA)	(NA)
1915	2,491	2,332	23.2	19,530	7,840	6,779	34.71	2,745	(NA)	(NA)	(NA)
1920	9,239	8,132	76.4	47,600	5,152	12,155	25.54	3,105	(NA)	(NA)	(NA)
1925	20,069	17,481	160.9	122,345	6,096	20,771	16.98	3,246	(NA)	(NA)	(NA)
1930	26,750	23,035	187.2	206,320	7,713	31,204	15.12	3,259	(NA)	(NA)	(NA)
1935	26,546	22,568	177.4	228,568	8,610	34,494	15.09	3,310	(NA)	(NA)	(NA)
1940	32,453	27,466	208.1	302,168	9,311	32,914	10.89	3,267	3.2	(NA)	(NA)
1945	31,035	25,797	194.7	250,173	8,061	25,785	10.71	3,319	7.2	(NA)	(NA)
1950	49,162	40,339	265.6	458,246	9,321	33,186	7.24	3,313	19.1	0.242	27.62
1955	62,689	52,145	315.9	605,646	9,661	36,698	6.06	3,418	41.4	0.275	23.86
1960	73,858	61,671	342.7	718,762	9,732	36,399	5.06	3,546	57.9	0.311	21.40
1965	90,358	75,258	388.9	887,812	9,826	47,089	5.30	3,690	94.7	0.167	17.95
1970	108,418	89,244	437.5	1,109,724	10,236	53,816	4.85	3,730	171.7	0.039	14.39
1975	132,949	106,706	495.2	1,327,661	9,986	45,500	3.43	3,836	206.1	0.043	13.61
1980	155,796	121,601	535.2	1,527,295	9,803	51,091	3.35	3,860	296.9	0.000	12.89
1985	171,689	127,885	537.5	1,774,826	10,337	43,825	2.47	3,864	382.0	0.069	10.46
1990	188,798	133,700	536.0	2,144,362	11,358	44,599	2.08	3,867	466.6	0.087	9.42
1991	188,136	128,300	508.9	2,172,050	11,545	41,508	1.91	3,884	452.3	0.059	9.03
1992	190,362	126,561	496.4	2,247,151	11,805	39,250	1.75	3,901	475.1	0.057	8.60
1993	194,063	127,327	494.0	2,296,378	11,833	40,150	1.75	3,905	468.5	0.014	8.72
1994	198,045	127,883	491.3	2,357,588	11,904	40,716	1.73	3,907	528.8	0.053	8.20
1995	201,530	128,387	488.6	2,422,696	12,022	41,817	1.73	3,912	547.8	0.025	8.15
1996	206,365	129,728	489.2	2,485,848	12,046	41,907	1.69	3,919	581.2	0.036	8.00
1997	207,754	129,749	484.6	2,560,373	12,324	41,967	1.64	3,945	599.1	0.037	7.89
1998	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	614.2	0.012	7.74

NA Not available [1] Beginning 1980, covers only persons injured in highway vehicular crash that died within 30 days [2] In constant (1982) dollars. Also known as constant dollar yield.

Source: U.S. Federal highway Administration, *Highway Statistics Summary to 1995*, and *Highway Statistics*, annual; and Air Transport Association, <http://www.air-transport.org/public/industry/28.asp> and <http:www.air-transport.org/public/industry/27.asp> (accessed 17 August 1999).

Document analysis

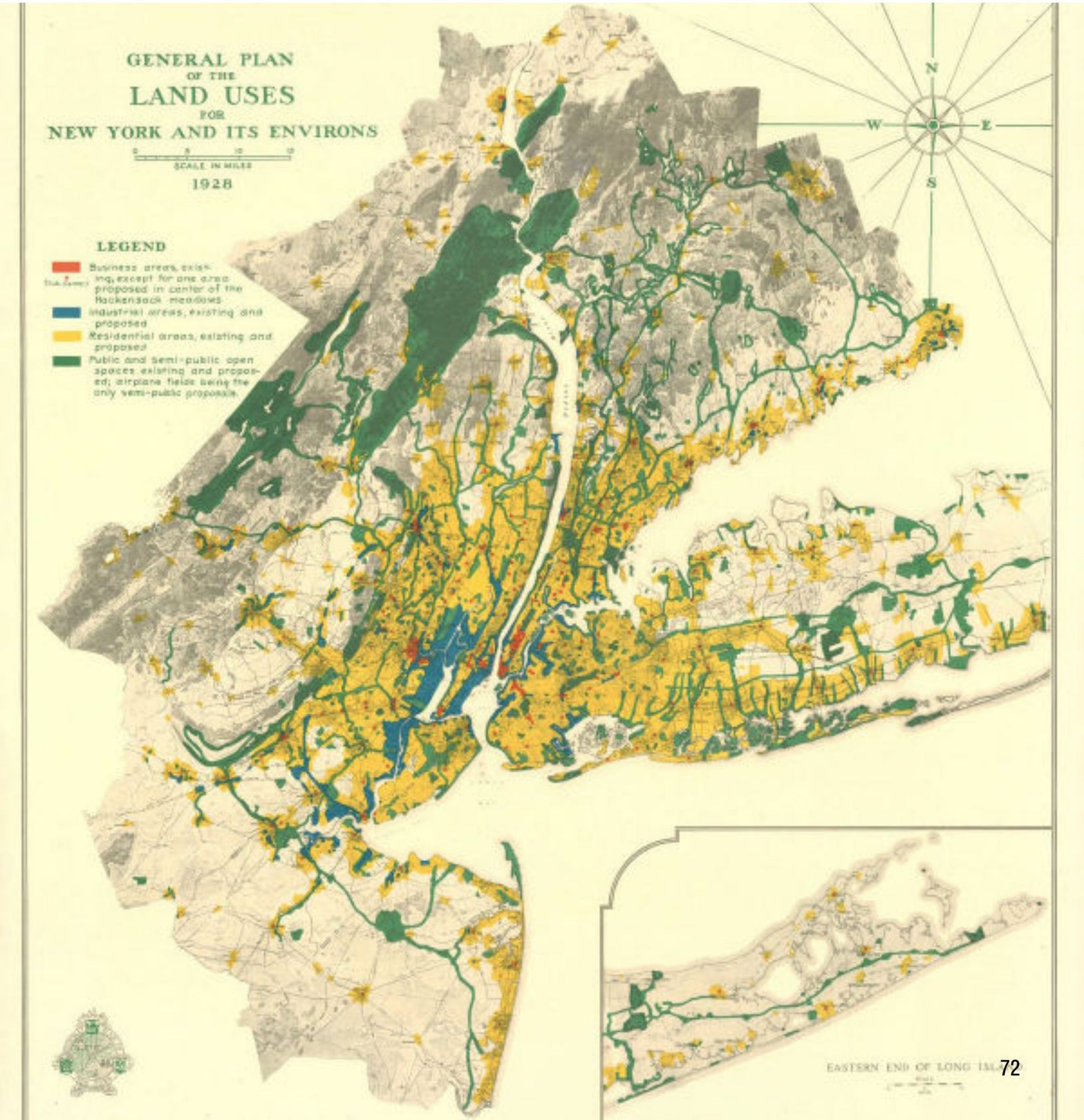
What do you notice about the distribution of the proposed parks and parkways on Long Island? Where do they go, and where don't they go?

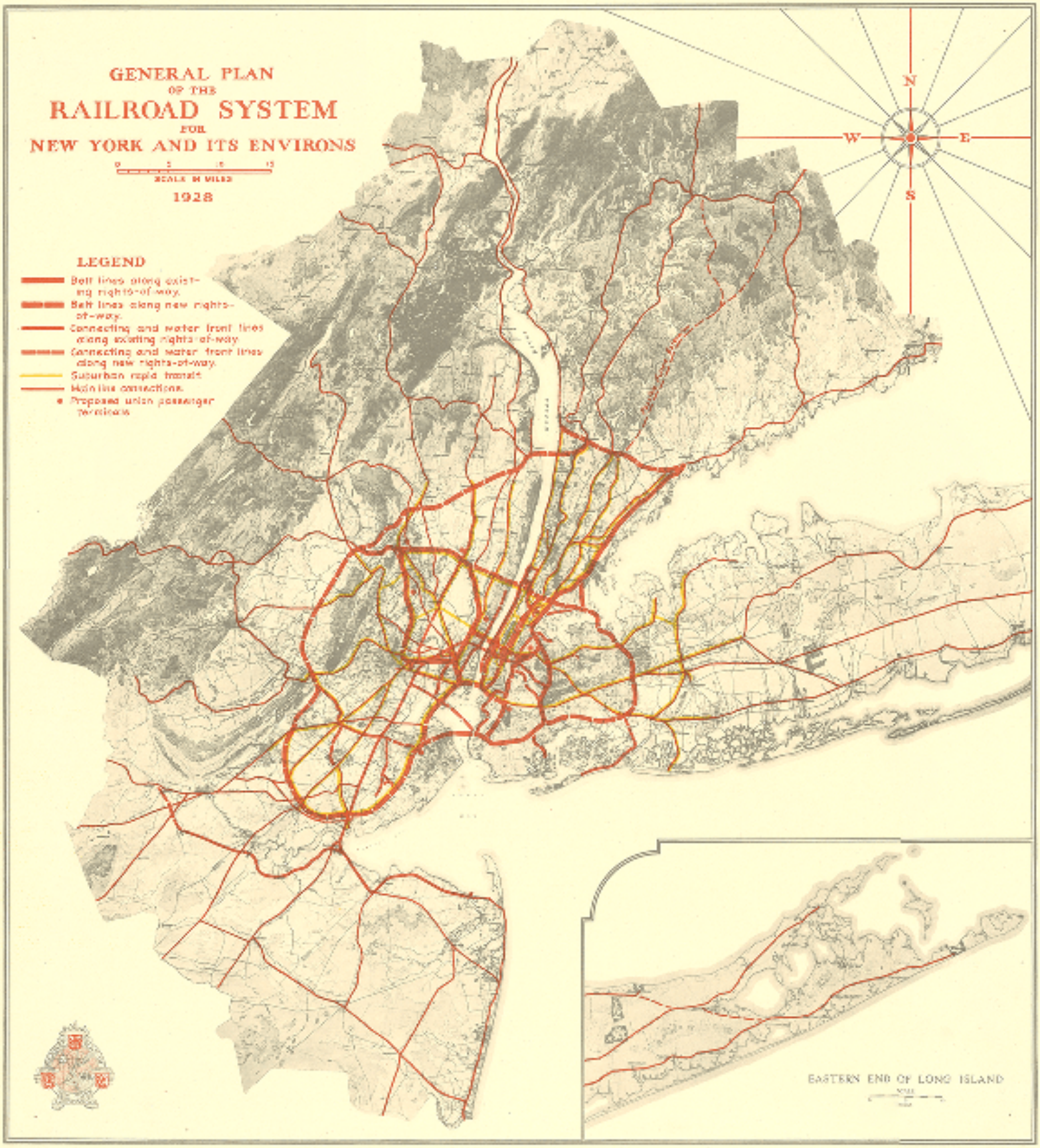
Why do you think the barrier islands, including then-Jones Island, were appealing sites for the new parks system?

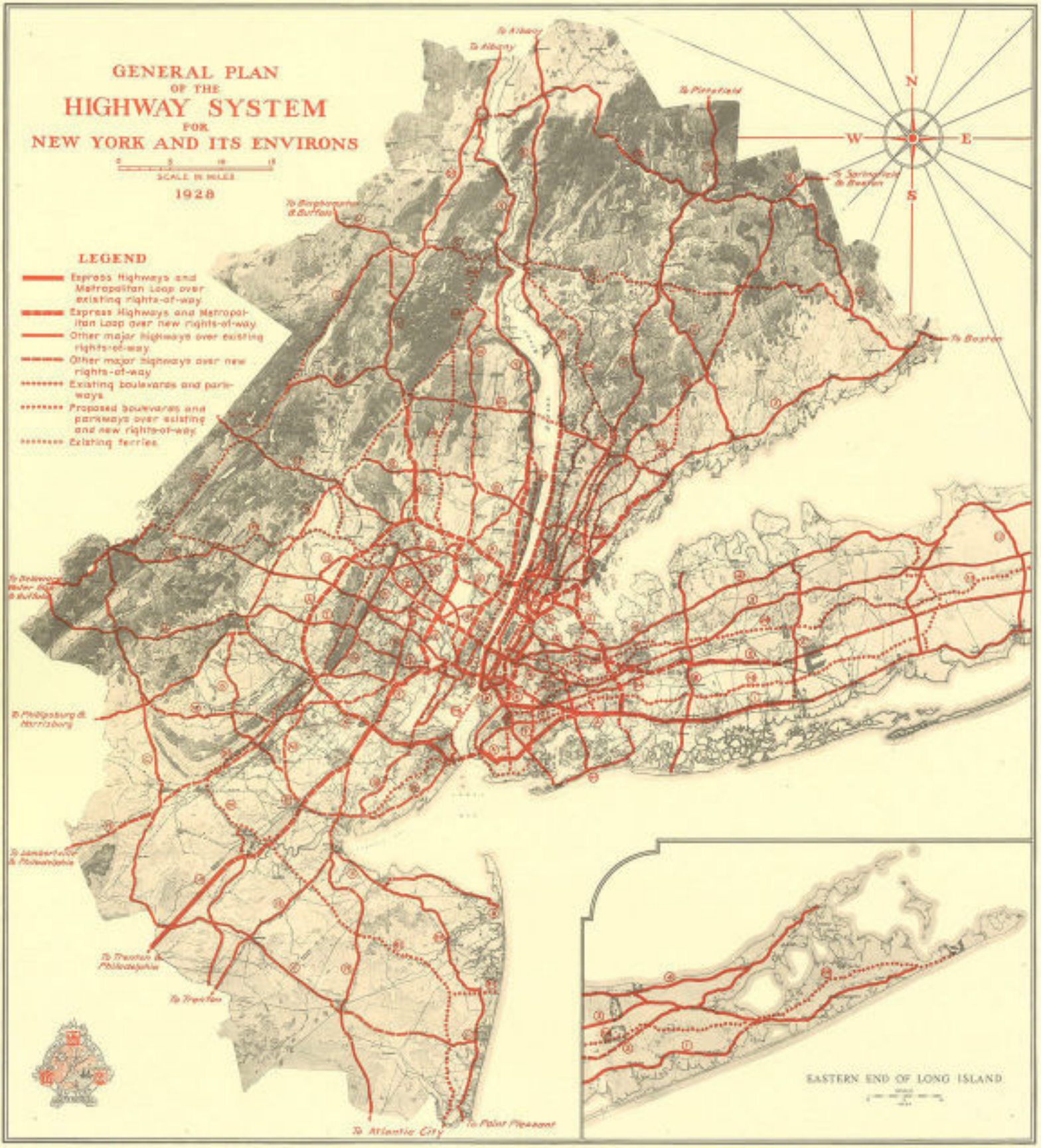
"Maps Showing System of State Parkways and Parks on the Western Section of the South Shore of Long Island," by Long Island State Parks Commission (1929)

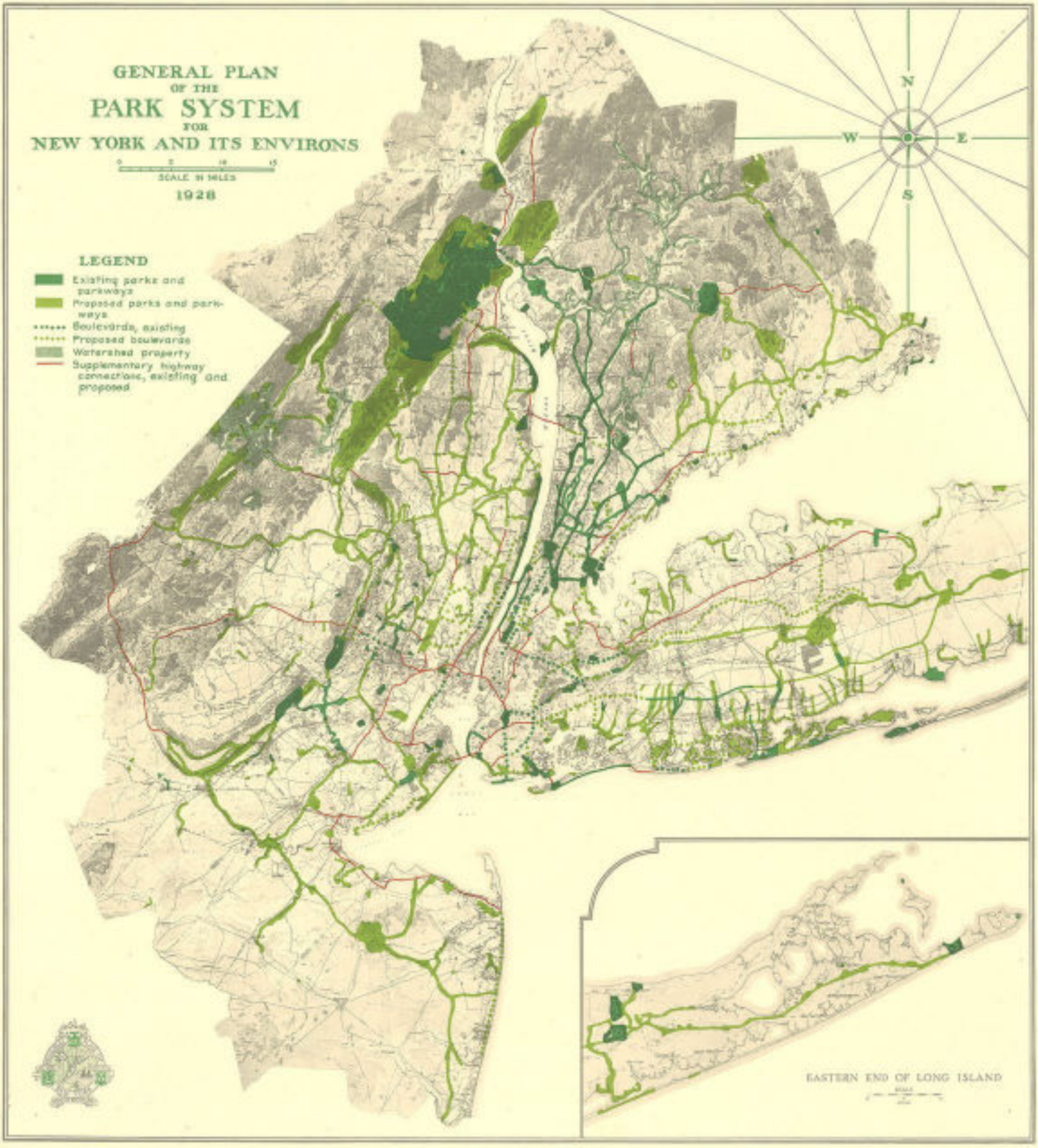
Archive investigation

How do these documents reflect a new logic of regional planning?




GENERAL PLAN
OF THE
RAILROAD SYSTEM
FOR
NEW YORK AND ITS ENVIRONS
SCALE IN MILES
1928
LEGEND
Belt lines along existing rights-of-way.
Belt lines along new rights-of-way.
Connecting and water front lines along existing rights-of-way.
Connecting and water front lines along new rights-of-way.
Suburban rapid transit.
Main line connections.
Proposed union passenger terminals.
N
W
E
S
EASTERN END OF LONG ISLAND


GENERAL PLAN
OF THE
HIGHWAY SYSTEM
FOR
NEW YORK AND ITS ENVIRONS
SCALE IN MILES
1928
LEGEND
Express Highways and Metropolitan Loop over existing rights-of-way
Express Highways and Metropolitan Loop over new rights-of-way
Other major highways over existing rights-of-way
Other major highways over new rights-of-way
Existing boulevards and parkways
Proposed boulevards and parkways over existing and new rights-of-way
Existing ferries
N
W
E
S
To Albany
To Pittsfield
To Springfield & Boston
To Boston
To Binghamton & Buffalo
To Phillipsburg & Harrisburg
To Trenton & Philadelphia
To Trenton
To Atlantic City
To Point Pleasant
EASTERN END OF LONG ISLAND


GENERAL PLAN
OF THE
PARK SYSTEM
FOR
NEW YORK AND ITS ENVIRONS
SCALE IN MILES
1928
LEGEND
Existing parks and parkways
Proposed parks and parkways
Boulevards, existing
Proposed boulevards
Watershed property
Supplementary highway connections, existing and proposed
N
W
E
S
EASTERN END OF LONG ISLAND

Document analysis

What criteria does Governor Roosevelt set out?

How does this letter reflect the thinking that would guide the development of the New Deal?

Why would the construction and maintenance of parks (like Jones Beach), highways, and bridges have made sense according to this logic?

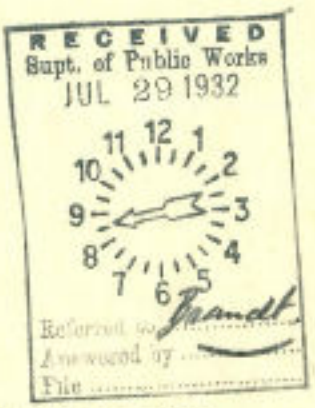
Source

Letter from New York Governor Franklin D. Roosevelt to New York's Superintendent of Public Works, Franklin S. Greene, describing an allocation of funds for the improvement of Northern, Grand Central, and Eastern Parkways, July 28, 1932

STATE OF NEW YORK
EXECUTIVE CHAMBER
ALBANY

FRANKLIN D. ROOSEVELT
GOVERNOR

July 28, 1932



Hon. Frederick Stewart Greene
Superintendent of Public Works,
State Office Building, Albany, N.Y.

Dear Colonel Greene:

By a recent act of the Congress, approved by the President, there is available to this State an emergency relief advance of $6,059,000 for expenditure upon highway projects. The Federal Act permits the expenditure of these moneys on parkways. A condition imposed by the Act is that the money shall be expended prior to July 1, 1933. This allows us less than eleven and a half months in which to award contracts and secure the completion of the work, as well as payment therefor.

I am informed by Mr. Hopkins, Chairman of the Temporary Emergency Relief Administration, that a vast amount of unemployment exists ~~in New York City and~~ in the entire Metropolitan area. It has been suggested, and I am thoroughly in accord with the proposal, that ~~upwards of~~ not more than $2,000,000 of this sum be expended on the Northern, Grand Central and Eastern Parkways. These three projects readily lend themselves to the purposes for which this advance of Federal funds is being made. First, they are situated in areas where thousands of men are unemployed; second, sections of these parkways are graded and ready to have pavements laid; third, plans and specifications are ready so that contracts may be immediately advertised and let, and the work completed within the allotted time, and fourth, the completion of these parkway projects will afford to hundreds of thousands of people outlets from the Greater City to Long Island on the east and through the Eastern Parkway on the north.

Hon. Frederick Stewart Greene:

May I not urge that you facilitate with all possible speed the advertising and awarding of these contracts, and that you impose conditions therein which will insure the employment of the greatest number of men on these projects?

The expenditure on these projects of this portion of the advance by the Federal Government will not retard highway development in the other counties of the State, for the reason that the time limitation - - six months of which are in the winter period when little or no construction work can be done - - for expenditure, (July 1, 1933) does not make it possible to secure rights of way, advertise and let contracts, and complete projects in scarcely more than eleven months. The remainder of the advance - something more than $4,000,000 - will be all, I am satisfied, that can actually be expended in other sections of the State in addition to the sums made available by the Legislature of 1932.

Very sincerely yours

Franklin D. Roosevelt

GOVERNOR.

Data analysis

Where in these numbers can you locate the growth of the consumer middle class?

Where can you locate an improving standard of living?

What do you think were the benefits and problems caused by this expanded consumerism?

Source

Tables from "20th-Century Statistics," in US Census Bureau, Statistical Abstract of the United States 1999

Section 31

20th Century Statistics

This new section presents summary statistics that cover the social, economic, and political organization of the United States. The main objective is to present some of the important historical trends for this century in statistical form. Population growth, the arrival of many different immigrant groups, the changing marital status, types of households, and age structure are some of the demographic trends covered. Increased life expectancy, school enrollment, and educational attainment along with the growth in household income are covered as well as the fall in the incidence of some diseases. Relatedly, changes in the workplace are covered with greater female participation and fewer agricultural workers. The Nation's economy is covered by trends in the Gross Domestic Product, labor force, and basic economic measures such as housing starts, retail sales, industrial production, and foreign trade. Special sectors in the economy, such as agriculture, transportation with the automobile and airlines, and communications with radio, television, and cable TV are also portrayed. The growth of the Federal Government, social welfare and health programs, and rise and fall in national defense between wars and peacetime are also covered. Presidential elections and changes in the composition of congress are presented in this reflective look at this century in statistics.

Statistics in this section start in 1900 where possible or the earliest year available (i.e., 1912 for data on diseases, 1913 for consumer prices, 1929 for Gross Domestic Product and unemployment, and 1940 for housing). Space considerations prevented showing every year available in most tables. However, the compact disc version of the *Statistical Abstract* will present all years that are available.

No. 1411. Population: 1900 to 1998

[**In thousands, except percent. Estimates as of July 1**. Prior to 1940, excludes Alaska and Hawaii. Total population includes Armed Forces abroad; civilian population excludes Armed Forces. For basis of estimates, see text, Section 1, Population]

Year	Total			Resident			Civilian		
	Population	Net change [1]	Percent change [1]	Population	Net change [1]	Percent change [1]	Population	Net change [1]	Percent change [1]
1900	(NA)	(NA)	(NA)	76,094	6,514	9.36	(NA)	(NA)	(NA)
1905	(NA)	(NA)	(NA)	83,822	7,728	10.16	(NA)	(NA)	(NA)
1910	(NA)	(NA)	(NA)	92,407	8,585	10.24	(NA)	(NA)	(NA)
1915	(NA)	(NA)	(NA)	100,546	8,139	8.81	(NA)	(NA)	(NA)
1920	(NA)	(NA)	(NA)	106,461	5,915	5.88	(NA)	(NA)	(NA)
1925	(NA)	(NA)	(NA)	115,829	9,368	8.80	(NA)	(NA)	(NA)
1930	123,188	(NA)	(NA)	123,077	7,248	6.26	122,923	(NA)	(NA)
1935	127,362	4,174	3.39	127,250	4,173	3.39	127,099	4,176	3.40
1940	132,122	4,760	3.74	131,954	4,704	3.70	131,658	4,559	3.59
1945	139,928	7,806	5.91	132,481	527	0.40	127,573	-4,085	-3.10
1950	152,271	12,343	8.82	151,868	19,387	14.63	150,790	23,217	18.20
1955	165,931	13,660	8.97	165,069	13,201	8.69	162,967	12,177	8.08
1960	180,671	14,740	8.88	179,979	14,910	9.03	178,140	15,173	9.31
1965	194,303	13,632	7.55	193,526	13,547	7.53	191,605	13,465	7.56
1970	205,052	10,749	5.53	203,984	10,458	5.40	201,895	10,290	5.37
1975	215,973	10,921	5.33	215,465	11,481	5.63	213,789	11,894	5.89
1980	227,726	11,753	5.44	227,225	11,760	5.46	225,621	11,832	5.53
1985	238,466	10,740	4.72	237,924	10,699	4.71	236,219	10,598	4.70
1990	249,948	11,482	4.81	249,439	11,515	4.84	247,798	11,579	4.90
1995	263,044	13,096	5.24	262,765	13,326	5.34	261,414	13,616	5.49
1998	270,561	7,517	2.86	270,299	7,534	2.87	269,078	7,664	2.93

NA Not available. [1] Net or percent change from prior year shown; 1900 from 1895.

Source: U.S. Census Bureau, *Current Population Reports,* P25-311, P25-802, and P25-1095; and "Monthly estimates of the United States population: April 1, 1980, to November 1, 1998"; release date: December 28, 1998; <http://www.census.gov/population/estimates/nation/intfile1-1.txt>.

No. 1412. Population Characteristics: 1900 to 1998

Year		Sex		Race					
					Black and other races				
	Total	Male	Female	White	Total	Black	Other	Urban	Rural
NUMBER (1,000)									
Census: [1]									
1900	75,995	38,816	37,178	66,809	9,185	8,834	351	30,215	45,997
1910	91,972	47,332	44,640	81,732	10,241	9,828	413	42,064	50,164
1920	105,711	53,900	51,810	94,821	10,890	10,463	427	54,253	51,768
1930	122,775	62,137	60,638	110,287	12,488	11,891	597	69,161	54,042
1940	131,669	66,062	65,608	118,215	13,455	12,866	589	74,705	57,459
1950	150,697	74,833	75,864	134,942	15,755	15,042	713	96,847	54,479
1960	179,323	88,331	90,992	158,832	20,492	18,872	1,620	125,269	54,054
1970 [2]	203,302	98,926	104,309	178,098	25,138	22,581	2,557	149,647	53,565
1980 [3]	226,542	110,053	116,493	194,713	31,833	26,683	5,150	167,051	59,495
1990 [3]	248,718	121,271	127,494	208,727	40,038	30,511	9,527	187,053	61,656
Estimates:									
1990	249,948	121,613	127,825	209,182	40,257	30,623	9,634	(NA)	(NA)
1991	252,639	122,943	129,184	210,961	41,166	31,131	10,035	(NA)	(NA)
1992	255,374	124,404	130,590	212,860	42,134	31,667	10,467	(NA)	(NA)
1993	258,083	125,767	131,979	214,677	43,069	32,179	10,890	(NA)	(NA)
1994	260,599	127,028	133,261	216,365	43,925	32,654	11,271	(NA)	(NA)
1995	263,044	128,272	134,493	218,010	44,755	33,098	11,657	(NA)	(NA)
1996	265,463	129,483	135,707	219,623	45,568	33,518	12,050	(NA)	(NA)
1997	268,008	130,760	136,984	221,317	46,427	33,973	12,454	(NA)	(NA)
1998	270,561	132,046	138,252	223,001	47,298	34,431	12,867	(NA)	(NA)
PERCENT DISTRIBUTION									
Census: [1]									
1900	100.0	51.1	48.9	87.9	12.1	11.6	0.5	39.6	60.4
1910	100.0	51.5	48.5	88.9	11.1	10.7	0.4	45.6	54.4
1920	100.0	51.0	49.0	89.7	10.3	9.9	0.4	51.2	48.8
1930	100.0	50.6	49.4	89.8	10.2	9.7	0.5	56.1	43.9
1940	100.0	50.2	49.8	89.8	10.2	9.8	0.4	56.5	43.5
1950	100.0	49.7	50.3	89.5	10.5	10.0	0.5	64.0	36.0
1960	100.0	49.3	50.7	88.6	11.4	10.5	0.9	69.9	30.1
1970 [2]	100.0	48.7	51.3	87.6	12.4	11.1	1.3	73.6	26.4
1980 [3]	100.0	48.6	51.4	85.9	14.1	11.8	2.3	73.7	26.3
1990 [3]	100.0	48.8	51.3	83.9	16.1	12.3	3.8	75.2	24.8
Estimates:									
1990	100.0	48.7	51.1	83.7	16.1	12.3	3.9	(NA)	(NA)
1995	100.0	48.8	51.1	82.9	17.0	12.6	4.4	(NA)	(NA)
1998	100.0	48.8	51.1	82.4	17.5	12.7	4.8	(NA)	(NA)

NA Not available. [1] Beginning 1960, includes Alaska and Hawaii. [2] The revised 1970 resident population count is 203,302,031; which incorporates changes due to errors found after tabulations were completed. [3] Total population count has been revised since the 1980 and 1990 census publications to 226,542,199 and 248,718,301, respectively.

Source: U.S. Census Bureau, *U.S. Census of Population: 1940*, Vol. II, Part 1, and Vol. IV, Part 1; *1950*, Vol. II, Part 1; *1960*, Vol. I, Part 1; *1970*, Vol. I, Part B; *Current Population Reports*, P25-1095 and P25-1130; and "Resident Population of the United States: Estimates, by Sex, Race, and Hispanic Origin, with Median Age"; release date: December 28, 1998; <http://www.census.gov/population/estimates/nation/intfile3-1.txt>.

No. 1413. Resident Population, by Age: 1900 to 1997

[In thousands (75,995 represents 75,995,000), except as indicated. 1900-30, resident population; 1940-70, total population, including Armed Forces overseas. 1970-97, resident population]

Year	Number (1,000)								
	Total, all years	Under 5 yrs. old	5-14 yrs. old	15-24 yrs. old	25-34 yrs. old	35-44 yrs. old	45-54 yrs. old	55-64 yrs. old	65 yrs. old and over
NUMBER (1,000)									
Census									
1900	[1]75,995	9,171	16,954	14,891	12,085	9,212	6,397	4,003	3,080
1910	[1]91,972	10,631	18,868	18,121	15,152	11,658	8,370	5,054	3,950
1920	[1]105,711	11,573	22,039	18,708	17,158	14,121	10,498	6,532	4,933
1930	[1]122,775	11,444	24,612	22,422	18,954	17,199	13,018	8,397	6,634
1940	131,669	10,542	22,431	23,921	21,339	18,333	15,512	10,572	9,019
1950	150,697	16,164	24,319	22,098	23,759	21,450	17,343	13,295	12,270
1960 [2]	179,323	20,321	35,465	24,020	22,818	24,081	20,485	15,572	16,560
1970	203,212	17,154	40,746	35,441	24,907	23,088	23,220	18,590	20,066
1980	226,546	16,298	34,940	42,472	37,181	25,638	22,732	21,786	25,498
1990	248,765	18,763	35,105	37,029	43,170	37,441	25,060	21,115	31,081
Estimates (July 1)									
1991	252,124	19,187	35,879	36,385	42,865	39,288	25,746	21,001	31,778
1992	255,002	19,489	36,288	36,220	42,371	39,901	27,411	20,920	32,285
1993	257,753	19,670	36,944	36,154	41,798	40,809	28,657	20,912	32,812
1994	260,292	19,694	37,462	36,125	41,231	41,689	29,871	21,007	33,208
1995	262,761	19,526	37,941	36,178	40,720	42,550	31,097	21,131	33,618
1996	265,179	19,324	38,435	36,208	40,236	43,358	32,355	21,352	33,955
1997	267,636	19,150	38,840	36,623	39,544	44,005	33,622	21,817	34,198
PERCENT DISTRIBUTION									
Census									
1900	[1]100.0	12.1	22.3	19.6	15.9	12.1	8.4	5.3	4.1
1910	[1]100.0	11.6	20.5	19.7	16.5	12.7	9.1	5.5	4.3
1920	[1]100.0	10.9	20.8	17.7	16.2	13.4	9.9	6.2	4.7
1930	[1]100.0	9.3	20.0	18.3	15.4	14.0	10.6	6.8	5.4
1940	100.0	8.0	17.0	18.2	16.2	13.9	11.8	8.0	6.8
1950	100.0	10.7	16.1	14.7	15.8	14.2	11.5	8.8	8.1
1960 [2]	100.0	11.3	19.8	13.4	12.7	13.4	11.4	8.7	9.2
1970	100.0	8.4	20.1	17.4	12.3	11.4	11.4	9.1	9.9
1980	100.0	7.2	15.4	18.7	16.4	11.3	10.0	9.6	11.3
1990	100.0	7.5	14.1	14.9	17.4	15.1	10.1	8.5	12.5
Estimates (July 1)									
1995	100.0	7.4	14.4	13.8	15.5	16.2	11.8	8.0	12.8
1997	100.0	7.2	14.5	13.7	14.8	16.4	12.6	8.2	12.8
NET CHANGE (1,000)									
Census									
1900-1910	15,978	1,461	1,913	3,229	3,067	2,446	1,973	1,052	869
1910-1920	13,738	942	3,171	587	2,005	2,463	2,129	1,478	984
1920-1930	17,064	-129	2,573	3,715	1,796	3,078	2,520	1,865	1,701
1930-1940	8,894	-903	-2,182	1,499	2,385	1,134	2,494	2,175	2,386
1940-1950	19,028	5,622	1,888	-1,823	2,420	3,117	1,831	2,722	3,250
1950-1960 [2]	28,626	4,157	11,146	1,922	-941	2,631	3,143	2,278	4,290
1960-1970	23,889	-3,167	5,280	11,421	2,089	-994	2,735	3,017	3,506
1970-1980	23,334	-856	-5,806	7,031	12,274	2,550	-488	3,196	5,433
1980-1990	22,219	2,465	165	-5,443	5,989	11,803	2,328	-671	5,583
Estimates (July 1)									
1990-1997	18,871	387	3,735	-406	-3,626	6,564	8,562	702	3,117
1989-1990	1,946	260	391	-362	-266	1,026	427	-126	399
1900-1991	3,359	424	774	-644	-305	1,847	686	-114	697
1991-1992	2,878	302	409	-165	-494	613	1,665	-81	507
1992-1993	2,751	181	656	-66	-573	908	1,246	-8	527
1993-1994	2,539	24	518	-29	-567	880	1,214	95	396
1994-1995	2,469	-168	479	53	-511	861	1,226	124	410
1995-1996	2,418	-202	494	30	-484	808	1,258	221	337
1996-1997	2,457	-174	405	415	-692	647	1,267	465	243

[1] Includes age not stated, not shown separately. [2] Denotes first year for which figures include Alaska and Hawaii.

Sources: U.S. Census Bureau, census, 1900-50, *U.S. Census of Population: 1950,* Vol. IV, Part 3, Chapter A; 1960, *U.S. Census of Population: 1960,* Vol. I, Part 1; 1970, *U.S. Census of Population: 1970,* Vol. I, Part 1; 1980, *1980 Census of Population,* Vol. 1, Part B; 1990, *1990 Census of Population,* CP-1-1; estimates, 1991-98, Internet release 1.

No. 1414. Resident Population, by State: 1900 to 1998

[In thousands. As of July 1, except as indicated]

State	1900	1910	1920	1930	1940	1950	1960	1970	1980 (April)	1990	1998
United States	**76,094**	**92,407**	**106,466**	**123,077**	**131,954**	**151,868**	**179,975**	**203,302**	**226,546**	**249,439**	**270,299**
Alabama	1,830	2,150	2,359	2,647	2,845	3,058	3,274	3,444	3,894	4,048	4,352
Alaska	(NA)	(NA)	(NA)	(NA)	(NA)	135	229	303	402	553	614
Arizona	124	206	340	434	499	756	1,321	1,775	2,718	3,679	4,669
Arkansas	1,314	1,583	1,756	1,859	1,955	1,908	1,789	1,923	2,286	2,354	2,538
California	1,490	2,406	3,554	5,711	6,950	10,677	15,870	19,971	23,668	29,926	32,667
Colorado	543	804	937	1,040	1,130	1,325	1,769	2,210	2,890	3,304	3,971
Connecticut	910	1,122	1,391	1,613	1,708	2,016	2,544	3,032	3,108	3,289	3,274
Delaware	185	203	219	239	269	321	449	548	594	669	744
District of Columbia	278	334	440	488	690	806	765	757	638	604	523
Florida	530	756	962	1,471	1,915	2,810	5,004	6,791	9,746	13,019	14,916
Georgia	2,220	2,618	2,926	2,910	3,119	3,458	3,956	4,588	5,463	6,506	7,642
Hawaii	(NA)	(NA)	(NA)	(NA)	(NA)	498	642	770	965	1,113	1,193
Idaho	163	329	433	447	522	590	671	713	944	1,012	1,229
Illinois	4,828	5,668	6,663	7,644	7,905	8,738	10,086	11,110	11,427	11,447	12,045
Indiana	2,518	2,713	2,947	3,242	3,433	3,967	4,674	5,195	5,490	5,555	5,899
Iowa	2,231	2,228	2,400	2,475	2,537	2,625	2,756	2,825	2,914	2,780	2,862
Kansas	1,473	1,692	1,769	1,883	1,788	1,916	2,183	2,249	2,364	2,481	2,629
Kentucky	2,148	2,299	2,421	2,623	2,859	2,936	3,041	3,221	3,661	3,693	3,936
Louisiana	1,384	1,667	1,813	2,105	2,370	2,697	3,260	3,645	4,206	4,219	4,369
Maine	695	745	771	800	849	917	975	994	1,125	1,231	1,244
Maryland	1,189	1,302	1,464	1,636	1,839	2,355	3,113	3,924	4,217	4,797	5,135
Massachusetts	2,788	3,365	3,882	4,250	4,318	4,686	5,160	5,689	5,737	6,018	6,147
Michigan	2,423	2,832	3,723	4,834	5,315	6,407	7,834	8,882	9,262	9,311	9,817
Minnesota	1,754	2,086	2,403	2,576	2,790	2,997	3,425	3,806	4,076	4,387	4,725
Mississippi	1,553	1,802	1,800	2,006	2,176	2,176	2,182	2,217	2,521	2,577	2,752
Missouri	3,108	3,301	3,404	3,646	3,786	3,964	4,326	4,678	4,917	5,126	5,439
Montana	245	380	543	539	558	593	679	694	787	800	880
Nebraska	1,067	1,198	1,300	1,380	1,316	1,327	1,417	1,485	1,570	1,581	1,663
Nevada	43	82	78	92	113	162	291	489	800	1,219	1,747
New Hampshire	412	431	444	466	492	532	609	738	921	1,112	1,185
New Jersey	1,884	2,550	3,198	4,068	4,175	4,872	6,103	7,171	7,365	7,758	8,115
New Mexico	196	329	363	427	531	689	954	1,017	1,303	1,520	1,737
New York	7,283	9,137	10,282	12,647	13,456	14,865	16,838	18,241	17,558	18,002	18,175
North Carolina	1,897	2,221	2,588	3,167	3,574	4,068	4,573	5,084	5,882	6,657	7,546
North Dakota	321	580	646	682	640	619	634	618	653	637	638
Ohio	4,161	4,786	5,799	6,662	6,929	7,980	9,734	10,657	10,798	10,862	11,209
Oklahoma	800	1,671	2,055	2,401	2,325	2,229	2,336	2,559	3,025	3,147	3,347
Oregon	415	677	788	956	1,086	1,532	1,772	2,092	2,633	2,859	3,282
Pennsylvania	6,313	7,706	8,740	9,649	9,896	10,507	11,329	11,801	11,864	11,896	12,001
Rhode Island	430	545	613	686	719	786	855	950	947	1,005	988
South Carolina	1,342	1,523	1,685	1,745	1,902	2,113	2,392	2,591	3,122	3,499	3,836
South Dakota	403	590	640	693	641	655	683	666	691	697	738
Tennessee	2,023	2,191	2,329	2,619	2,935	3,315	3,575	3,926	4,591	4,891	5,431
Texas	3,055	3,922	4,723	5,844	6,425	7,776	9,624	11,199	14,229	17,045	19,760
Utah	277	377	453	509	552	696	900	1,059	1,461	1,730	2,100
Vermont	344	357	353	360	363	379	389	445	511	564	591
Virginia	1,858	2,071	2,347	2,427	2,720	3,315	3,986	4,651	5,347	6,214	6,791
Washington	523	1,148	1,373	1,568	1,740	2,387	2,855	3,413	4,132	4,901	5,689
West Virginia	959	1,231	1,470	1,733	1,907	2,006	1,853	1,744	1,950	1,792	1,811
Wisconsin	2,072	2,345	2,679	2,950	3,143	3,438	3,962	4,418	4,706	4,902	5,224
Wyoming	93	147	197	226	250	290	331	332	470	453	481

NA Not available.

Source: U.S. Census Bureau, 1900-1940, *Current Population Reports,* Series P25-139; 1950, *Current Population Reports,* Series P25-304; 1960, *Current Population Reports,* Series P25-460; 1970, *Current Population Reports,* Series P25-957; 1980, *Current Population Reports,* Series, P25-1106; 1990 and 1998, estimates were released to the public with Press Release CB98-242, December 1998.

No. 1415. Population of the Largest 75 Cities: 1900 to 1996

Rank	1900		1930		1960		1996	
	Place	Population	Place	Population	Place	Population	Place	Population
1	New York City, NY	3,437,202	New York City, NY	6,930,446	New York City, NY	7,781,984	New York, NY	7,380,906
2	Chicago, IL	1,698,575	Chicago, IL	3,376,438	Chicago, IL	3,550,404	Los Angeles, CA	3,553,638
3	Philadelphia, PA	1,293,697	Philadelphia, PA	1,950,961	Los Angeles, CA	2,479,015	Chicago, IL	2,721,547
4	St. Louis, MO	575,238	Detroit, MI	1,568,662	Philadelphia, PA	2,002,512	Houston, TX	1,744,058
5	Boston, MA	560,892	Los Angeles, CA	1,238,048	Detroit, MI	1,670,144	Philadelphia, PA	1,478,002
6	Baltimore, MD	508,957	Cleveland, OH	900,429	Baltimore, MD	939,024	San Diego, CA	1,171,121
7	Cleveland, OH	381,768	St. Louis, MO	821,960	Houston, TX	938,219	Phoenix, AZ	1,159,014
8	Buffalo, NY	352,387	Baltimore, MD	804,874	Cleveland, OH	876,050	San Antonio, TX	1,067,816
9	San Francisco, CA	342,782	Boston, MA	781,188	Washington, DC	763,956	Dallas, TX	1,053,292
10	Cincinnati, OH	325,902	Pittsburgh, PA	669,817	St. Louis, MO	750,026	Detroit, MI	1,000,272
11	Pittsburgh, PA	321,616	San Francisco, CA	634,394	Milwaukee, WI	741,324	San Jose, CA	838,744
12	New Orleans, LA	287,104	Milwaukee, WI	578,249	San Francisco, CA	740,316	Indianapolis, IN [1]	746,737
13	Detroit, MI	285,704	Buffalo, NY	573,076	Boston, MA	697,197	San Francisco, CA	735,315
14	Milwaukee, WI	285,315	Washington, DC	486,869	Dallas, TX	679,684	Jacksonville, FL [1]	679,792
15	Washington, DC	278,718	Minneapolis, MN	464,356	New Orleans, LA	627,525	Baltimore, MD	675,401
16	Newark, NJ	246,070	New Orleans, LA	458,762	Pittsburgh, PA	604,332	Columbus, OH	657,053
17	Jersey City, NJ	206,433	Cincinnati, OH	451,160	San Antonio, TX	587,718	El Paso, TX	599,865
18	Louisville, KY	204,731	Newark, NJ	442,337	San Diego, CA	573,224	Memphis, TN	596,725
19	Minneapolis, MN	202,718	Kansas City, MO	399,746	Seattle, WA	557,087	Milwaukee, WI	590,503
20	Providence, RI	175,597	Seattle, WA	365,583	Buffalo, NY	532,759	Boston, MA	558,394
21	Indianapolis, IN	169,164	Indianapolis, IN	364,161	Cincinnati, OH	502,550	Washington, DC	543,213
22	Kansas City, MO	163,752	Rochester, NY	328,132	Memphis, TN	497,524	Austin, TX	541,278
23	St. Paul, MN	163,065	Jersey City, NJ	316,715	Denver, CO	493,887	Seattle, WA	524,704
24	Rochester, NY	162,608	Louisville, KY	307,745	Atlanta, GA	487,455	Nashville-Davidson, TN [1]	511,263
25	Denver, CO	133,859	Portland, OR	301,815	Minneapolis, MN	482,872	Cleveland, OH	498,246
26	Toledo, OH	131,822	Houston, TX	292,352	Indianapolis, IN	476,258	Denver, CO	497,840
27	Allegheny, PA	129,896	Toledo, OH	290,718	Kansas City, MO	475,539	Portland, OR	480,824
28	Columbus, OH	125,560	Columbus, OH	290,564	Columbus, OH	471,316	Fort Worth, TX	479,716
29	Worcester, MA	118,421	Denver, CO	287,861	Phoenix, AZ	439,170	New Orleans, LA	476,625
30	Syracuse, NY	108,374	Oakland, CA	284,063	Newark, NJ	405,220	Oklahoma City, OK	469,852
31	New Haven, CT	108,027	St. Paul, MN	271,606	Louisville, KY	390,639	Tucson, AZ	449,002
32	Paterson, NJ	105,171	Atlanta, GA	270,366	Portland, OR	372,676	Charlotte, NC	441,297
33	Fall River, MA	104,863	Dallas, TX	260,475	Oakland, CA	367,548	Kansas City, MO	441,259
34	St. Joseph, MO	102,979	Birmingham, AL	259,678	Fort Worth, TX	356,268	Virginia Beach, VA	430,385
35	Omaha, NE	102,555	Akron, OH	255,040	Long Beach, CA	344,168	Honolulu, HI [2]	423,475
36	Los Angeles, CA	102,479	Memphis, TN	253,143	Birmingham, AL	340,887	Long Beach, CA	421,904
37	Memphis, TN	102,320	Providence, RI	252,981	Oklahoma City, OK	324,253	Albuquerque, NM	419,681
38	Scranton, PA	102,026	San Antonio, TX	231,542	Rochester, NY	318,611	Atlanta, GA	401,907
39	Lowell, MA	94,969	Omaha, NE	214,006	Toledo, OH	318,003	Fresno, CA	396,011
40	Albany, NY	94,151	Syracuse, NY	209,326	St. Paul, MN	313,411	Tulsa, OK	378,491
41	Cambridge, MA	91,886	Dayton, OH	200,982	Norfolk, VA	305,872	Las Vegas, NV	376,906
42	Portland, OR	90,426	Worcester, MA	195,311	Omaha, NE	301,598	Sacramento, CA	376,243
43	Atlanta, GA	89,872	Oklahoma City, OK	185,389	Honolulu, HI	294,194	Oakland, CA	367,230
44	Grand Rapids, MI	87,565	Richmond, VA	182,929	Miami, FL	291,688	Miami, FL	365,127
45	Dayton, OH	85,333	Youngstown, OH	170,002	Akron, OH	290,351	Omaha, NE	364,253
46	Richmond, VA	85,050	Grand Rapids, MI	168,592	El Paso, TX	276,687	Minneapolis, MN	358,785
47	Nashville, TN	80,865	Hartford, CT	164,072	Jersey City, NJ	276,101	St. Louis, MO	351,565
48	Seattle, WA	80,671	Fort Worth, TX	163,447	Tampa, FL	274,970	Pittsburgh, PA	350,363
49	Hartford, CT	79,850	New Haven, CT	162,655	Dayton, OH	262,332	Cincinnati, OH	345,818
50	Reading, PA	78,961	Flint, MI	156,492	Tulsa, OK	261,685	Colorado Springs, CO	345,127
51	Wilmington, DE	76,508	Nashville, TN	153,866	Wichita, KS	254,698	Mesa, AZ	344,764
52	Camden, NJ	75,935	Springfield, MA	149,900	Richmond, VA	219,958	Wichita, KS	320,395
53	Trenton, NJ	73,307	San Diego, CA	147,995	Syracuse, NY	216,038	Toledo, OH	317,606
54	Bridgeport, CT	70,996	Bridgeport, CT	146,716	Tucson, AZ	212,892	Buffalo, NY	310,548
55	Lynn, MA	68,513	Scranton, PA	143,433	Des Moines, IA	208,982	Santa Ana, CA	302,419
56	Oakland, CA	66,960	Des Moines, IA	142,559	Providence, RI	207,498	Arlington, TX	294,816
57	Lawrence, MA	62,559	Long Beach, CA	142,032	San Jose, CA	204,196	Anaheim, CA	288,945
58	New Bedford, MA	62,442	Tulsa, OK	141,258	Mobile, AL	202,779	Tampa, FL	285,206
59	Des Moines, IA	62,139	Salt Lake City, UT	140,267	Charlotte, NC	201,564	Corpus Christi, TX	280,260
60	Springfield, MA	62,059	Paterson, NJ	138,513	Albuquerque, NM	201,189	Newark, NJ	268,510
61	Somerville, MA	61,643	Yonkers, NY	134,646	Jacksonville, FL	201,030	Louisville, KY	260,689
62	Troy, NY	60,651	Norfolk, VA	129,710	Flint, MI	196,940	St. Paul, MN	259,606
63	Hoboken, NJ	59,364	Jacksonville, FL	129,549	Sacramento, CA	191,667	Birmingham, AL	258,543
64	Evansville, IN	59,007	Albany, NY	127,412	Yonkers, NY	190,634	Riverside, CA	255,069
65	Manchester, NH	56,987	Trenton, NJ	123,356	Salt Lake City, UT	189,454	Aurora, CO	252,341
66	Utica, NY	56,383	Kansas City, KS	121,857	Worcester, MA	186,587	Anchorage, AK	250,505
67	Peoria, IL	56,100	Chattanooga, TN	119,798	Austin, TX	186,545	Raleigh, NC	243,835
68	Charleston, SC	55,807	Camden, NJ	118,700	Spokane, WA	181,608	Lexington-Fayette, KY	239,942
69	Savannah, GA	54,244	Erie, PA	115,967	St. Petersburg, FL	181,298	St. Petersburg, FL	235,988
70	Salt Lake City, UT	53,531	Spokane, WA	115,514	Gary, IN	178,320	Norfolk, VA	233,430
71	San Antonio, TX	53,321	Fall River, MA	115,274	Grand Rapids, MI	177,313	Stockton, CA	232,660
72	Duluth, MN	52,969	Fort Wayne, IN	114,946	Springfield, MA	174,463	Jersey City, NJ	229,039
73	Erie, PA	52,733	Elizabeth, NJ	114,589	Nashville, TN	170,874	Rochester, NY	221,594
74	Elizabeth, NJ	52,130	Cambridge, MA	113,643	Corpus Christi, TX	167,690	Akron, OH	216,882
75	Wilkes-Barre, PA	51,721	New Bedford, MA	112,597	Youngstown, OH	166,689	Baton Rouge, LA	215,882

[1] Represents the portion of a consolidated city that is not within one or more separately incorporated places. [2] The population shown in this table is for the CDP; the 1990 census population for the city and county of Honolulu is 836,231.

Source: U.S. Census Bureau, 1900-1990, *Population of the 100 Largest Cities and Other Urban Places in the United States: 1790 to 1990,* Working Paper No. 27; 1996, "Estimates of the Population of Cities with Populations of 100,000 and Greater"; <http://www.census.gov/population/stimates/metro-city/SC100K96.txt>; published November 1997.

No. 1416. Immigration, by Leading Country or Region of Last Residence: 1901 to 1997

[**In thousands (8,795.4 represents 8,795,400**). Data for years prior to 1906 relate to country where alien came; data from 1906-1979 and 1984-1997 are for country of last permanent residence; and data for 1980-1983 refer to country of birth. Because of changes in boundaries, changes in lists of countries, and lack of data for specified countries, data are not comparable for all years. For 1938-45, Austria included with Germany]

Region and country of last residence	1901-1910	1911-1920	1921-1930	1931-1940	1941-1950	1951-1960	1961-1970	1971-1980	1981-1990	1991-1997
All countries	**8,795.4**	**5,735.8**	**4,107.2**	**528.4**	**1,035.0**	**2,515.5**	**3,321.7**	**4,493.3**	**7,338.1**	**6,944.6**
Europe	8,056.0	4,321.9	2,463.2	347.6	621.1	1,325.7	1,123.5	800.4	761.6	1,036.6
Austria-Hungary	2,145.3	896.3	63.5	11.4	28.3	103.7	26.0	16.0	24.9	17.9
Austria	668.2	453.6	32.9	3.6	24.9	67.1	20.6	9.5	18.3	12.1
Hungary	808.5	442.7	30.7	7.9	3.5	36.6	5.4	6.6	6.5	5.8
Germany	341.5	143.9	412.2	114.1	226.6	477.8	190.8	74.4	92.0	58.9
Ireland	339.1	146.2	211.2	11.0	19.8	48.4	33.0	11.5	32.0	53.0
Italy	2,045.9	1,109.5	455.3	68.0	57.7	185.5	214.1	129.4	67.3	54.2
Norway-Sweden	440.0	161.5	165.8	8.7	20.8	44.6	32.6	10.5	15.2	11.8
Norway	190.5	66.4	68.5	4.7	10.1	22.9	15.5	3.9	4.2	3.6
Sweden	249.5	95.1	97.2	4.0	10.7	21.7	17.1	6.5	11.0	8.2
Soviet Union	1,597.3	921.2	61.7	1.4	0.6	0.7	2.5	39.0	57.7	377.7
Italy	2,045.9	1,109.5	455.3	68.0	57.7	185.5	214.1	129.4	67.3	54.2
United Kingdom	526.0	341.4	339.6	31.6	139.3	202.8	213.8	137.4	14.7	117.2
Asia	323.5	247.2	112.1	16.6	37.0	153.2	427.6	1,588.2	2,738.2	2,141.2
China	20.6	21.3	29.9	4.9	9.7	9.7	34.8	124.3	346.7	303.4
Philippines	(1)	(1)	(1)	0.5	4.7	19.3	98.4	355.0	548.8	401.9
Vietnam	(2)	(2)	(2)	(2)	(2)	0.3	4.3	172.8	280.8	226.5
America	361.9	1,143.7	1,516.7	160.0	354.8	996.9	1,716.4	1,982.7	3,615.2	3,427.0
Canada & Newfoundland	179.2	742.2	924.5	108.5	171.7	378.0	413.3	169.9	156.9	139.1
Mexico	49.6	219.0	459.3	60.6	60.6	299.8	453.9	640.3	1,655.8	1,800.8
Caribbean	107.5	123.4	74.9	49.7	49.7	123.1	470.2	741.1	872.1	753.8
Cuba	(2)	(2)	15.9	26.3	26.3	78.9	208.5	264.9	144.6	125.0
Central America	8.2	17.2	15.8	5.9	21.7	44.8	101.3	134.6	468.1	387.6
South America	17.3	41.9	42.2	7.8	21.8	91.6	257.9	295.7	461.8	398.5
Africa	7.4	8.4	6.3	1.8	7.4	14.1	29.0	80.8	176.9	245.9
Oceania	13.0	13.4	8.7	2.5	14.6	13.0	25.1	41.2	45.2	36.3
Not specified	33.5	1.1	0.2	-	0.1	12.5	0.1	-	1.0	0.2

- Represents or rounds to zero. [1] Prior to 1934, Philippine immigrants were recorded as insular travel. [2] Data not reported separately.

Source: U.S. Immigration and Naturalization Service, *Statistical Yearbook,* annual.

No. 1417. Native and Foreign-Born Population, by Place of Birth: 1900 to 1997

[1900-1990, data are based on a sample from the census; 1995 and 1997, based on the Current Population Survey; for details, see text, Section 1, Population. See source for sampling variability]

Year	Native population						Foreign born			
				Born abroad				From—		
	Total population	Total	Born in the U.S total	Born abroad, total	Born in outlying areas [1]	Born abroad or at sea of American parents	Number	Europe	Asia	Latin America
NUMBER (1,000)										
Census										
1900	75,995	65,653	65,583	70	3	67	10,341	8,882	120	137
1910	91,972	78,456	78,381	75	7	68	13,516	11,810	191	280
1920	105,711	91,790	91,659	131	38	93	13,921	11,916	238	589
1930	122,775	108,571	108,304	267	136	131	14,204	11,748	276	792
1940	131,669	120,074	119,795	279	157	122	11,595	(NA)	(NA)	(NA)
1950	150,216	139,869	139,442	426	330	96	10,347	(NA)	(NA)	(NA)
1960	179,326	169,588	168,526	1,062	660	402	9,738	7,256	491	908
1970	203,210	193,591	191,329	2,261	891	1,370	9,619	5,741	825	1,804
1980	226,546	212,466	210,323	2,143	1,088	1,055	14,080	5,150	2,540	4,372
1990	248,710	228,943	225,696	3,247	1,382	1,864	19,767	4,350	4,979	8,408
Current Population Survey										
1995	262,105	239,115	(NA)	(NA)	(NA)	(NA)	22,990	(NA)	(NA)	(NA)
1997	266,792	241,014	(NA)	(NA)	(NA)	(NA)	25,778	(NA)	(NA)	(NA)
PERCENT DISTRIBUTION										
Census										
1900	100.0	85.3	71.3	0.1	-	0.1	14.7	12.8	0.2	0.3
1920	100.0	86.8	74.1	0.1	-	0.1	13.2	11.3	0.2	0.6
1930	100.0	88.4	74.7	0.2	0.1	0.1	11.6	9.6	0.2	0.6
1940	100.0	91.2	82.3	0.2	0.1	0.1	8.8	(NA)	(NA)	(NA)
1950	100.0	93.1	92.8	0.3	0.2	0.1	6.9	(NA)	(NA)	(NA)
1960	100.0	94.6	93.9	0.6	0.4	0.2	5.4	4.1	0.3	0.5
1970	100.0	95.2	94.4	1.1	0.4	0.7	4.8	2.8	0.4	0.9
1980	100.0	93.8	92.8	0.9	0.5	0.5	6.2	2.3	1.1	1.9
1990	100.0	92.1	90.7	1.3	0.6	0.7	7.9	1.7	2.0	3.4
Current Population Survey										
1995	100.0	91.2	(NA)	(NA)	(NA)	(NA)	8.8	(NA)	(NA)	(NA)
1997	100.0	90.3	(NA)	(NA)	(NA)	(NA)	9.7	(NA)	(NA)	(NA)

- Represents or round to zero. NA Not available. [1] Includes Puerto Rico for all years and prior to 1960 includes Alaska and Hawaii.

U.S. Census Bureau, *Historical Census Statistics on the Foreign-Born Population of the United States: 1850 to 1990*, Working Paper No. 29, February 1999; and <http://www.census.gov/population/socdemo/foreign/95/95tab-1.txt> (released 8 April 1997); and <http://www.census.gov/population/socdemo/foreign/97/ppltab1.txt> (released 9 April 1998).

No. 1418. Marital Status of the Population, by Sex: 1900 to 1998

[In thousands (25,493 represents 25,493,000), except percent. Persons 15 years old and over, except as indicated]

Year	Males					Females				
	Total	Never married	Married	Widowed	Divorced	Total	Never married	Married	Widowed	Divorced
NUMBER (1,000)										
Census										
1900	25,493	10,262	13,919	1,173	84	24,176	7,549	13,781	2,706	114
1910	32,311	12,521	18,065	1,467	156	29,993	8,918	17,664	3,167	185
1920	36,828	12,940	21,820	1,754	234	35,122	9,601	21,295	3,909	273
1930	43,829	14,938	26,311	2,023	489	42,795	11,294	26,156	4,728	572
1940	49,336	16,377	30,191	2,144	624	49,362	12,752	30,087	5,700	823
1950	53,511	13,319	36,859	2,262	1,070	56,055	10,379	37,570	6,734	1,373
1960	59,913	13,919	42,623	2,072	1,299	63,616	10,990	42,891	7,880	1,855
1970	69,349	18,315	46,981	2,128	1,925	75,861	15,604	47,644	9,610	3,002
1980	83,836	25,132	52,009	2,156	4,539	91,420	21,027	52,497	11,318	6,577
1990	93,817	28,805	55,678	2,378	6,957	101,325	23,755	55,821	12,122	9,627
Current Population Survey										
1950 [1]	54,601	14,400	36,866	2,264	1,071	57,102	11,418	37,577	6,734	1,373
1960 [1]	60,273	15,274	41,781	2,112	1,106	64,607	12,252	42,583	8,064	1,708
1970	70,559	19,832	47,109	2,051	1,567	77,766	17,167	48,148	9,734	2,717
1980	81,947	24,227	51,813	1,977	3,930	89,914	20,226	52,965	10,758	5,966
1990	91,955	27,505	55,833	2,333	6,283	99,838	22,718	56,797	11,477	8,845
1995	97,704	30,286	57,570	2,284	7,383	105,028	24,693	58,984	11,082	10,270
1998	101,123	31,591	58,633	2,569	8,331	108,168	26,713	59,333	11,029	11,093
PERCENT DISTRIBUTION										
Census										
1900	100.0	40.3	54.6	4.6	0.3	100.0	31.2	57.0	11.2	0.5
1940	100.0	33.2	61.2	4.3	1.3	100.0	25.8	61.0	11.5	1.7
1950	100.0	24.9	68.9	4.2	2.0	100.0	18.5	67.0	12.0	2.4
1960	100.0	23.2	71.1	3.5	2.2	100.0	17.3	67.4	12.4	2.9
1970	100.0	26.4	67.7	3.1	2.8	100.0	20.6	62.8	12.7	4.0
1980	100.0	30.0	62.0	2.6	5.4	100.0	23.0	57.4	12.4	7.2
1990	100.0	30.7	59.3	2.5	7.4	100.0	23.4	55.1	12.0	9.5
Current Population Survey										
1950 [1]	100.0	26.4	67.5	4.1	2.0	100.0	20.0	65.8	11.8	2.4
1960* [1]	100.0	25.3	69.3	3.5	1.8	100.0	19.0	65.9	12.5	2.6
1970	100.0	28.1	66.8	2.9	2.2	100.0	22.1	61.9	12.5	3.5
1980	100.0	29.6	63.2	2.4	4.8	100.0	22.5	58.9	12.0	6.6
1990	100.0	29.9	60.7	2.5	6.8	100.0	22.8	56.9	11.5	8.9
1995	100.0	31.0	58.9	2.3	7.6	100.0	23.5	56.2	10.6	9.8
1998	100.0	31.2	58.0	2.5	8.2	100.0	24.7	54.9	10.2	10.3

[1] Persons 14 years old and over.

Source: U.S. Census Bureau,1900-1950, *U.S. Census of Population: 1950,* Vol. II, Part 1; 1960, *Census of Population: 1960*, Vol. I; 1970, *U.S. Census of Population: 1970*, Vol. I, Part 1; 1980, *Census of Population: 1980*, Vol. I, Part 1; 1990, *Census of Population: 1990, General Population Characteristics, (CP-1-1); and Current Population Reports*, Series P20-514, *"Marital Status and Living Arrangements: March 1998 (Update)"*, and earlier reports.

No. 1419. Households, by Type and Size: 1900 to 1998

[In thousands (15,964 represents 15,964,000), except percent. 1900-1940, as of April; beginning 1947, as of March]

Year		Family households				Nonfamily households			
				Other family					
	Total house-holds	Total	Married couples	Male house-hold	Female house-hold	Total	Male house-hold	Female house-hold	Average size house-hold
NUMBER (1,000)									
Census									
1900	15,964	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	4.76
1910	20,256	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	4.54
1920	24,352	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	4.34
1930	29,905	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	4.11
1940	34,949	31,491	26,571	1,510	3,410	3,458	1,599	1,859	3.67
Current Population Survey									
1947	39,107	34,964	30,612	1,129	3,223	4,143	1,388	2,755	3.56
1950	43,554	38,838	34,075	1,169	3,594	4,716	1,668	3,048	3.37
1960	52,799	44,905	39,254	1,228	4,422	7,895	2,716	5,179	3.33
1970	63,401	51,456	44,728	1,228	5,500	11,945	4,063	7,882	3.14
1980 [1]	80,776	59,550	49,112	1,733	8,705	21,226	8,807	12,419	2.76
1990	93,347	66,090	52,317	2,884	10,890	27,257	11,606	15,651	2.63
1995	98,990	69,305	53,858	3,226	12,220	29,686	13,190	16,496	2.65
1998	102,528	70,880	54,317	3,911	12,652	31,648	14,133	17,516	2.62
PERCENT DISTRIBUTION									
1940	100.0	90.1	76.0	4.3	9.8	9.9	4.6	5.3	(X)
1947	100.0	89.4	78.3	2.9	8.2	10.6	3.5	7.0	(X)
1950	100.0	89.2	78.2	2.7	8.3	10.8	3.8	7.0	(X)
1960	100.0	85.0	74.3	2.3	8.4	15.0	5.1	9.8	(X)
1970	100.0	81.2	70.5	1.9	8.7	18.8	6.4	12.4	(X)
1980 [1]	100.0	73.7	60.8	2.1	10.8	26.3	10.9	15.4	(X)
1990	100.0	70.8	56.0	3.1	11.7	29.2	12.4	16.8	(X)
1998	100.0	69.1	53.0	3.8	12.3	30.9	13.8	17.1	(X)

NA Not available. X Not applicable. [1] Revised using population controls based on the 1980 census.

Source: U.S. Census Bureau, 1890-1930, *U.S. Census of Population: 1950,* Vol. IV, Special Reports, General Characteristics of Families; 1940-1998, *Current Population Reports,* Series P-20, Nos. 176 and 251; and *Current Population Reports,* Series P20-515.

No. 1420. Live Births, Deaths, Infant Deaths, and Maternal Deaths: 1900 to 1997

[Prior to 1960, excludes Alaska and Hawaii. Beginning 1970, excludes births to, and deaths of nonresidents of the United States. See Appendix III. 1900-1930, deaths for death registration states only]

Year	Number (1,000)			Rate per 1,000 population				Death rates per 100,000 population				
		Deaths			Deaths							
	Births	Total	Infant [1]	Births	Total	Infant [1]	Maternal [2]	Tuberculosis, all forms	Malignant neoplasms [3]	Major cardiovascular/renal diseases	Influenza and pneumonia [4]	Motor vehicle accidents [5]
1900	(NA)	(NA)	(NA)	(NA)	17.2	(NA)	(NA)	194.4	64.0	345.2	202.2	(NA)
1905	(NA)	(NA)	(NA)	(NA)	15.9	(NA)	(NA)	179.9	73.4	384.0	169.3	(NA)
1910	2,777	697	(NA)	30.1	14.7	(NA)	(NA)	153.8	76.2	371.9	155.9	1.8
1915	2,965	816	78	29.5	13.2	99.9	60.8	140.1	80.7	383.5	145.9	5.8
1920	2,950	1,118	130	27.7	13.0	85.8	79.9	113.1	83.4	364.9	207.3	10.3
1925	2,909	1,192	135	25.1	11.7	71.7	64.7	84.8	92.0	391.5	121.7	16.8
1930	2,618	1,327	142	21.3	11.3	64.6	67.3	71.1	97.4	414.4	102.5	26.7
1935	2,377	1,393	120	18.7	10.9	55.7	58.2	55.1	108.2	431.2	104.2	28.6
1940	2,559	1,417	111	19.4	10.8	47.0	37.6	45.9	120.3	485.7	70.3	26.2
1945	2,858	1,402	105	20.4	10.6	38.3	20.7	39.9	134.0	508.2	51.6	21.2
1950	3,632	1,452	104	24.1	9.6	29.2	8.3	22.5	139.8	510.8	31.3	23.1
1955	4,104	1,529	107	25.0	9.3	26.4	4.7	9.1	146.5	506.0	27.1	23.4
1957	4,308	1,633	112	25.3	9.6	26.3	4.1	7.8	148.6	523.4	35.8	22.7
1960	4,258	1,712	111	23.7	9.5	26.0	3.7	6.1	149.2	521.8	37.3	21.3
1965	3,760	1,828	93	19.4	9.4	24.7	3.2	4.1	153.5	516.4	31.9	25.4
1970	3,731	1,921	75	18.4	9.5	20.0	2.2	2.6	162.8	496.0	30.9	26.9
1975	3,144	1,893	51	14.6	9.1	16.1	1.5	1.6	171.7	455.8	26.1	21.5
1980	3,612	1,990	46	15.9	8.5	12.6	1.0	0.9	183.9	436.4	24.1	23.5
1985	3,761	2,086	40	15.8	8.6	10.6	0.8	0.7	194.0	411.0	28.4	19.3
1990	4,158	2,148	38	16.7	8.6	9.2	0.8	0.7	203.2	368.3	32.0	18.8
1995	3,900	2,312	30	14.8	8.8	7.6	0.8	0.5	204.9	362.1	31.6	16.5
1997	3,895	2,315	28	14.6	8.6	7.1	0.8	0.4	200.8	352.2	33.0	15.8

NA Not available. [1] Infants under 1 year, excluding fetal deaths; rates per 1,000 registered live births. [2] Per 10,000 live births from deliveries and complications of pregnancy, childbirth, and the puerperium. Beginning 1979, deaths are classified according to the ninth revision of the *International Classification of Diseases*; earlier years classified according to the revision in use at the time; see text, Section 2, Vital Statistics. [3] Includes neoplasms of lymphatic and hematopoietic tissues. [4] All years, excludes pneumonia of newborn; 1900-1920, excludes capillary bronchitis. [5] 1910-1925, excludes automobile collisions with trains and streetcars and motorcycle accidents.

Source: 1900-1970, U.S. Public Health Service, *Vital Statistics of the United States*, annual, Vol. I and Vol. II; 1971-1997, U.S. National Center for Health Statistics, *Vital Statistics of the United States,* annual; *National Vital Statistics Report (NVSR)* (formerly *Monthly Vital Statistics Report*); and unpublished data.

No. 1421. Expectation of Life at Birth, by Race and Sex: 1900 to 1997

[**In years**. Beginning 1970, excludes deaths of nonresidents of the United States]

Year	All races			White			Black and other			Black		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
DEATH-REGISTRATION STATES												
1900	47.3	46.3	48.3	47.6	46.6	48.7	33.0	32.5	33.5	(NA)	(NA)	(NA)
1905	48.7	47.3	50.2	49.1	47.6	50.6	31.3	29.6	33.1	(NA)	(NA)	(NA)
1910	50.0	48.4	51.8	50.3	48.6	52.0	35.6	33.8	37.5	(NA)	(NA)	(NA)
1915	54.5	52.5	56.8	55.1	53.1	57.5	38.9	37.5	40.5	(NA)	(NA)	(NA)
1920	54.1	53.6	54.6	54.9	54.4	55.6	45.3	45.5	45.2	(NA)	(NA)	(NA)
1925	59.0	57.6	60.6	60.7	59.3	62.4	45.7	44.9	46.7	(NA)	(NA)	(NA)
UNITED STATES [1]												
1930	59.7	58.1	61.6	61.4	59.7	63.5	48.1	47.3	49.2	(NA)	(NA)	(NA)
1935	61.7	59.9	63.9	62.9	61.0	65.0	53.1	51.3	55.2	(NA)	(NA)	(NA)
1940	62.9	60.8	65.2	64.2	62.1	66.6	53.1	51.5	54.9	(NA)	(NA)	(NA)
1945	65.9	63.6	67.9	66.8	64.4	69.5	57.7	56.1	59.6	(NA)	(NA)	(NA)
1950	68.2	65.6	71.1	69.1	66.5	72.2	60.8	59.1	62.9	(NA)	(NA)	(NA)
1955	69.6	66.7	72.8	70.5	67.4	73.7	63.7	61.4	66.1	(NA)	(NA)	(NA)
1960	69.7	66.6	73.1	70.6	67.4	74.1	63.6	61.1	66.3	(NA)	(NA)	(NA)
1965	70.2	66.8	73.8	71.1	67.6	74.8	64.3	61.2	67.6	(NA)	(NA)	(NA)
1970	70.8	67.1	74.7	71.7	68.0	75.6	65.3	61.3	69.4	64.1	60.0	68.3
1975	72.6	68.8	76.6	73.4	69.5	77.3	68.0	63.7	72.4	66.8	62.4	71.3
1980	73.7	70.0	77.4	74.4	70.7	78.1	69.5	65.3	73.6	68.1	63.8	72.5
1985	74.7	71.1	78.2	75.3	71.8	78.7	71.0	67.0	74.8	69.3	65.0	73.4
1990	75.4	71.8	78.8	76.1	72.7	79.4	71.2	67.0	75.2	69.1	64.5	73.6
1995	75.8	72.5	78.9	76.5	73.4	79.6	71.9	67.9	75.7	69.6	65.2	73.9
1997	76.5	73.6	79.2	77.1	74.3	73.9	(NA)	(NA)	(NA)	71.2	67.3	74.7

NA Not available. [1] Alaska included in 1959 and Hawaii in 1960.

Source: Except as noted, U.S. National Center for Health Statistics, *Vital Statistics of the United States*, annual, and *National Vital Statistics Reports (NVSR)* (formerly *Monthly Vital Statistics Reports*).

Corrections to data values for 1997 made in March 2013.

No. 1421. Expectation of Life at Birth, by Race and Sex: 1900 to 1997

[In years. Beginning 1970, excludes deaths of nonresidents of the United States]

Year	All races			White			Black and other			Black		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
DEATH-REGISTRATION STATES												
1900	47.3	46.3	48.3	47.6	46.6	48.7	33.0	32.5	33.5	(NA)	(NA)	(NA)
1905	48.7	47.3	50.2	49.1	47.6	50.6	31.3	29.6	33.1	(NA)	(NA)	(NA)
1910	50.0	48.4	51.8	50.3	48.6	52.0	35.6	33.8	37.5	(NA)	(NA)	(NA)
1915	54.5	52.5	56.8	55.1	53.1	57.5	38.9	37.5	40.5	(NA)	(NA)	(NA)
1920	54.1	53.6	54.6	54.9	54.4	55.6	45.3	45.5	45.2	(NA)	(NA)	(NA)
1925	59.0	57.6	60.6	60.7	59.3	62.4	45.7	44.9	46.7	(NA)	(NA)	(NA)
UNITED STATES [1]												
1930	59.7	58.1	61.6	61.4	59.7	63.5	48.1	47.3	49.2	(NA)	(NA)	(NA)
1935	61.7	59.9	63.9	62.9	61.0	65.0	53.1	51.3	55.2	(NA)	(NA)	(NA)
1940	62.9	60.8	65.2	64.2	62.1	66.6	53.1	51.5	54.9	(NA)	(NA)	(NA)
1945	65.9	63.6	67.9	66.8	64.4	69.5	57.7	56.1	59.6	(NA)	(NA)	(NA)
1950	68.2	65.6	71.1	69.1	66.5	72.2	60.8	59.1	62.9	(NA)	(NA)	(NA)
1955	69.6	66.7	72.8	70.5	67.4	73.7	63.7	61.4	66.1	(NA)	(NA)	(NA)
1960	69.7	66.6	73.1	70.6	67.4	74.1	63.6	61.1	66.3	(NA)	(NA)	(NA)
1965	70.2	66.8	73.8	71.1	67.6	74.8	64.3	61.2	67.6	(NA)	(NA)	(NA)
1970	70.8	67.1	74.7	71.7	68.0	75.6	65.3	61.3	69.4	64.1	60.0	68.3
1975	72.6	68.8	76.6	73.4	69.5	77.3	68.0	63.7	72.4	66.8	62.4	71.3
1980	73.7	70.0	77.4	74.4	70.7	78.1	69.5	65.3	73.6	68.1	63.8	72.5
1985	74.7	71.1	78.2	75.3	71.8	78.7	71.0	67.0	74.8	69.3	65.0	73.4
1990	75.4	71.8	78.8	76.1	72.7	79.4	71.2	67.0	75.2	69.1	64.5	73.6
1995	75.8	72.5	78.9	76.5	73.4	79.6	71.9	67.9	75.7	69.6	65.2	73.9
1997	76.5	73.6	79.4	77.1	74.3	79.9	(NA)	(NA)	(NA)	71.1	67.3	74.7

NA Not available.

[1] Alaska included in 1959 and Hawaii in 1960.

Source: Except as noted, U.S. National Center for Health Statistics, *Vital Statistics of the United States*, annual, and *National Vital Statistics Reports (NVSR)* (formerly *Monthly Vital Statistics Reports*).

No. 1422. Social Welfare Expenditures Under Public Programs and National Health Care Expenditures: 1929 to 1997

Year	Social welfare expenditures under Public Programs [1]					National health care expenditures [3]		
		Percent of—		Percent for—			Percent	
	Total (bil. dol.)	Total GDP [2]	Total govt. outlays	Social insurance	Public aid	Total (bil. dol.)	Of total GDP [2]	Government health expenditures
1929	4	3.9	36.3	8.7	1.5	3.6	3.5	13.6
1935	7	9.5	48.6	6.2	45.8	2.9	4.0	19.2
1940	9	9.2	49.0	14.5	40.9	4.0	3.9	20.3
1945	9	4.4	8.4	15.3	11.2	(NA)	(NA)	(NA)
1950	24	8.9	37.6	21.0	10.6	12.7	4.3	27.2
1955	33	8.6	32.7	30.1	9.2	17.7	4.3	25.7
1960	52	10.3	38.4	36.9	7.8	26.9	5.1	24.5
1970	146	14.8	46.5	37.6	11.3	73.2	4.5	37.8
1975	289	19.1	56.6	42.5	14.3	130.7	4.7	42.1
1980	493	18.6	57.2	46.6	14.8	247.3	7.9	42.4
1985	732	18.4	54.4	50.5	13.4	428.7	10.3	40.6
1990	1,049	18.5	58.2	49.0	14.0	699.4	12.2	40.5
1991	1,160	19.8	60.3	48.4	15.6	766.8	13.0	41.5
1992	1,267	20.6	63.7	48.9	16.4	836.5	13.4	42.2
1993	1,367	21.1	66.6	48.2	16.2	898.5	13.7	42.9
1994	1,436	21.0	64.5	47.6	16.6	947.7	13.6	44.6
1995	1,505	20.9	67.5	46.8	16.9	993.7	13.7	45.8
1996	(NA)	(NA)	(NA)	(NA)	(NA)	1,042.5	13.6	46.2
1997	(NA)	(NA)	(NA)	(NA)	(NA)	1,092.4	13.5	46.4

NA Not available. [1] For additional detail on social welfare expenditures, see Tables 607-609. [2] Gross domestic product. Source: Bureau of Economic Analysis. [3] For additional detail on national health expenditures, see Tables 163-165.

Source: Except as noted, Social welfare expenditures, U.S. Social Security Administration, *Social Welfare Expenditures Under Public Programs in the United States, 1929-1966,* Research Report Number 25; and *Social Security Bulletin,* Vol. 60, No. 3, 1997; and unpublished data; and health expenditures for 1929-1955, U.S. Social Security Administration, *Compendium of National Health Expenditures Data,* DHEW Pub. No. (SSA)73-11903, and *National Health Expenditures, Calendar Years 1929-1971,* Research and Statistics Note, No. 3, DHEW Pub. No. (SSA) 73-11701; thereafter, U.S. Health Care Financing Administration, Health Care Financing Review, fall 1998.

No. 1423. Specified Reportable Diseases: 1912 to 1997

[Rate per 100,000 population enumerated as of April 1 for 1940, 1950, 1960, 1970, 1980, and 1990 and estimated as of July 1 for all other years]

Year	Tuberculosis, all forms [1]	Syphillis and its sequelae	Gonorrhea	Malaria	Typhoid and paratyphoid fever [2]	Diphtheria	Pertussis (Whooping cough)	Measles	Acute poliomyelitis	Acquired immunodeficiency [3]
1912	(NA)	(NA)	(NA)	(NA)	81.8	139.0	(NA)	310.0	5.5	(X)
1920	(NA)	145.3	175.4	173.0	33.8	139.0	(NA)	480.5	2.2	(X)
1925	(NA)	181.2	149.3	86.8	40.0	82.1	131.2	194.3	5.3	(X)
1930	101.5	185.4	135.5	80.0	22.1	54.1	135.6	340.8	7.5	(X)
1935	87.9	205.6	130.8	108.1	14.4	30.8	141.9	584.6	8.5	(X)
1940	78.0	359.7	133.8	59.2	7.4	11.8	139.6	220.7	7.4	(X)
1945	86.8	282.3	225.8	47.4	3.7	14.1	101.0	110.2	10.3	(X)
1950	80.4	154.2	204.0	1.4	1.6	3.8	80.1	210.1	22.1	(X)
1955	46.9	76.0	149.2	0.3	1.0	1.2	38.2	337.9	17.6	(X)
1960	30.8	68.0	139.6	(Z)	0.5	0.5	8.3	245.4	1.8	(X)
1965	25.3	59.7	163.8	0.1	0.2	0.1	3.5	135.1	(Z)	(X)
1970	18.3	44.8	294.2	1.5	0.2	0.2	2.1	23.2	(Z)	(X)
1975	15.9	37.3	464.1	0.2	0.2	0.1	0.8	11.3	(Z)	(X)
1980	12.3	30.3	441.9	0.9	0.2	(Z)	0.8	5.9	(Z)	(X)
1985	9.3	28.4	383.1	0.4	0.2	(Z)	1.5	1.2	-	3.5
1990	10.3	53.8	276.6	0.5	0.2	-	1.8	11.2	-	16.7
1991	10.4	51.7	249.5	0.5	0.2	-	1.1	3.8	-	17.3
1992	10.5	45.3	201.6	0.4	0.2	-	1.6	0.9	-	17.8
1993	9.8	39.7	172.4	0.6	0.2	(NA)	2.6	0.1	-	40.2
1994	9.4	32.0	168.4	0.5	0.2	-	1.8	0.4	-	30.1
1995	8.7	26.2	149.5	0.6	0.1	(NA)	2.0	0.1	-	27.2
1996	8.0	20.0	122.8	0.7	0.2	(Z)	2.9	0.2	(Z)	25.2
1997	7.4	17.4	121.4	0.8	0.1	(Z)	2.5	0.1	(Z)	21.9

- Represents zero. NA Not available. X Not applicable. Z Less than .05 cases per 100,000. [1] New reported active cases. New diagnostic standards introduced in 1980. [2] Beginning 1950, excludes paratyphoid fever. [3] AIDS became a notifiable disease in 1984.

Source: 1912, U.S. Public Health Service, *Public Health Reports,* various issues; 1920-1950, U.S. National Office of Vital Statistics, *Vital Statistics, Special Reports,* Vol. 37, No. 9; 1951-1970, U.S. Center for Disease Control, *Morbidity and Mortality Weekly Report, Annual Supplement;* 1971-1997, U.S. Centers for Disease Control and Prevention, Atlanta, GA, *Summary of Notifiable Diseases, United States, 1997, Morbidity and Mortality Weekly Report,* Vol. 46, No. 54, November 20, 1998.

No. 1424. Food Consumption Per Capita and Food Expenditures: 1929 to 1997

[**In pounds, retail weight, except as indicated.** Consumption represents the residual after exports, nonfood use and ending stocks are subtracted from the sum of beginning stocks, domestic production, and imports. Based on U.S. Census Bureau estimated population]

Year	Consumption								Food expenditures	
	Red meat, total [1]	Poultry, total	Fish and shellfish, total	Fruits, total	Vegetables, total	Milk, total (gallons)	Carbonated soft drinks, total (gallons)	Alcoholic, total (gallons) [2]	Percent of disposable personal income	Percent spent away from home
1929	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	23.9	13.4
1935	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	24.0	12.9
1940	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	21.1	15.2
1945	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	19.5	19.6
1950	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	20.6	17.8
1955	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	18.8	18.6
1960	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	17.4	19.9
1965	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	15.0	22.8
1970	131.7	33.8	11.7	237.7	335.4	31.3	24.3	35.7	13.8	26.3
1975	125.8	32.9	12.1	252.1	337.0	29.5	28.2	39.7	13.9	28.5
1980	126.4	40.8	12.4	262.4	336.4	27.6	35.1	42.8	13.4	32.2
1985	124.9	45.5	15.0	269.4	358.1	26.7	35.7	40.7	12.0	35.8
1990	112.3	56.3	15.0	273.5	382.8	25.7	46.3	39.9	11.6	36.7
1995	115.1	62.9	14.9	285.4	405.0	24.3	51.6	38.0	10.9	38.2
1996	112.8	64.4	14.7	289.8	416.2	24.3	52.0	38.6	10.8	38.0
1997	111.0	64.8	14.5	294.7	416.0	24.0	53.0	38.9	10.7	38.0

NA Not available. [1] Boneless, trimmed weight. [2] Adult population.

Source: U.S. Dept. of Agriculture, Economic Research Service, *Food Consumption, Prices, and Expenditures,* annual; and unpublished data. *Agricultural Outlook,* monthly.

No. 1425. Education Summary—Enrollment, Graduates, and Degrees: 1900 to 1998, and Projections 1999 and 2000

[**For school year beginning in year shown. (17,072 represents 17,072,000)**]

Year	Elementary and secondary school enrollment							High school graduate		Higher education		
	Total (1,000)			Public (1,000)							BA degrees conferred [1] (1,000)	
	Number	K-8	9-12	Number	K-8	9-12	Grades 9-12 enrollment as percent 14-17 year olds	Total (1,000)	As percent of 17 yr. old population	Enrollment (1,000)	Total (1,000)	As percent high school graduates 4 years earlier
1900	17,072	16,422	650	15,703	15,161	542	10.6	[2]95	[2]6.4	[2]238	28.7	36
1905	18,056	17,231	824	16,642	15,919	723	12.4	(NA)	(NA)	(NA)	32.0	32
1910	19,636	18,349	1,288	18,035	16,878	1,157	17.8	[3]156	[3]8.8	354	37.5	30
1915	22,172	20,306	1,866	20,352	18,641	1,711	24.5	(NA)	(NA)	441	45.3	25
1920	24,049	21,292	2,757	22,409	19,872	2,537	35.0	[4] 311	[4] 16.8	(NA)	(NA)	(NA)
1925	27,180	23,127	4,053	24,741	20,984	3,757	45.9	(NA)	(NA)	941	97.3	27
1930	28,695	23,553	5,142	25,977	21,207	4,770	54.9	747	32.1	(NA)	(NA)	(NA)
1935	29,006	22,644	6,362	26,367	20,393	5,975	65.9	1,015	42.7	1,208	143.1	17
1940	27,910	20,726	7,184	25,296	18,582	6,714	73.0	(NA)	(NA)	(NA)	(NA)	(NA)
1945	26,124	19,937	6,187	23,300	17,678	5,622	67.7	1,080	47.4	1,677	136.2	11
1950	29,301	22,831	6,470	25,706	19,900	5,806	76.6	(NA)	(NA)	2,281	382.5	35
1955	35,872	28,177	7,696	31,163	24,290	6,873	83.5	1,415	63.1	2,653	309.5	26
1960	43,070	33,191	9,879	37,260	28,439	8,821	89.0	1,964	67.9	(NA)	365.2	25
1965	48,368	35,366	13,002	42,068	30,466	11,602	91.9	2,665	76.4	5,921	520.1	27
1970	51,257	36,610	14,647	45,894	32,558	13,336	92.0	2,937	75.9	8,581	839.7	31
1975	49,819	34,215	15,604	44,819	30,515	14,304	91.1	3,148	73.7	11,185	925.7	31
1980	46,208	31,639	14,570	40,877	27,647	13,231	90.3	3,020	71.8	12,097	935.1	30
1985	44,979	31,229	13,750	39,422	27,034	12,388	92.4	2,643	73.0	12,247	987.8	33
1990	46,448	33,973	12,475	41,216	29,878	11,338	93.7	2,503	73.2	13,819	1,094.5	41
1991	47,246	34,580	12,666	42,047	30,506	11,541	94.4	2,482	73.2	14,359	1,136.6	41
1992	48,198	35,300	12,898	42,823	31,088	11,735	94.5	2,490	72.2	14,487	1,165.2	43
1993	48,936	35,784	13,152	43,465	31,504	11,961	94.4	2,479	71.7	14,305	1,169.3	45
1994	49,707	36,258	13,449	44,111	31,898	12,213	93.2	2,538	70.7	14,279	1,160.1	46
1995	50,541	36,772	13,769	44,841	32,341	12,500	93.2	2,548	70.0	14,261	1,164.8	47
1996	51,376	37,245	14,131	45,593	32,759	12,834	93.3	2,623	69.6	14,300	1,166.0	47
1997	51,821	37,496	14,325	45,954	32,951	13,003	92.8	2,708	69.0	14,351	1,172.0	47
1998	52,719	38,110	14,609	46,792	33,522	13,270	(NA)	(NA)	(NA)	14,589	1,166.0	46
1999, proj.	53,112	38,338	14,774	47,142	33,722	13,420	(NA)	(NA)	(NA)	14,758	1,161.0	46
2000, proj.	53,446	38,543	14,903	47,440	33,903	13,537	(NA)	(NA)	(NA)	14,889	1,173.0	45

NA Not available. [1] Prior to 1906, includes first professional degrees. [2] 1899 data. [3] 1909 data. [4] 1919 data.

Source: U.S. National Center for Education Statistics, 1900-1985, *120 Years of Education, A Statistical Portrait*; beginning 1990, *Digest of Education Statistics*, annual.

No. 1426. Educational Attainment, by Sex: 1910 to 1998

[As of March, except as indicated. Noninstitutional population, except 1940, 1950, 1960 based on resident population]

Year	Total			Male			Female		
	Less than 5 years of elementary school	High school completion or higher [1]	4 or more years of college [2]	Less than 5 years of elementary school	High school completion or higher [1]	4 or more years of college [2]	Less than 5 years of elementary school	High school completion or higher [1]	4 or more years of college [2]
1910 [3]	23.8	13.5	2.7	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
1920 [3]	22.0	16.4	3.3	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
1930 [3]	17.5	19.1	3.9	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
1940, April	13.5	24.1	4.6	14.8	22.3	5.4	12.2	25.9	3.7
1947	10.4	32.6	5.4	11.4	30.8	6.1	9.5	34.3	4.6
1950, April	10.8	33.3	6.0	11.9	31.5	7.1	9.8	35.1	5.0
1960, April	8.3	41.0	7.7	9.4	39.4	9.6	7.3	42.5	5.8
1965	6.8	49.0	9.4	7.7	48.0	12.0	5.9	49.9	7.1
1970	5.3	55.2	11.0	5.9	55.0	14.1	4.7	55.4	8.2
1975	4.2	62.5	13.9	4.7	63.1	17.6	3.8	62.1	10.6
1980	3.4	68.6	17.0	3.6	69.2	20.9	3.2	68.1	13.6
1985	2.7	73.9	19.4	2.9	74.4	23.1	2.5	73.5	16.0
1990	2.4	77.6	21.3	2.7	77.7	24.4	2.2	77.5	18.4
1991	2.4	78.4	21.4	2.7	78.5	24.3	2.1	78.3	18.8
1992	2.1	79.4	21.4	2.3	79.7	24.3	2.0	79.2	18.6
1993	2.1	80.2	21.9	2.2	80.5	24.8	2.0	80.0	19.2
1994	1.9	80.9	22.2	2.1	81.0	25.1	1.7	80.7	19.6
1995	1.8	81.7	23.0	2.0	81.7	26.0	1.7	81.6	20.2
1996	1.8	81.7	23.6	1.9	81.9	26.0	1.7	81.6	21.4
1997	1.7	82.1	23.9	1.8	82.0	26.2	1.6	82.2	21.7
1998	1.6	82.8	24.4	1.7	82.8	26.5	1.6	82.9	22.4

NA Not available. [1] 1910 to 1992, includes all persons with at least 4 years of high school; thereafter, represents persons that are high school graduates only. [2] Beginning 1993, persons with a bachelor's degree or higher. [3] Estimates based on Census Bureau retrojection of 1940 Census data on education; see *1960 Census Monograph,* "Education of the American Population," by John K. Folger and Charles B. Nam.

Source: Except as indicated, U.S. Census Bureau, *Current Population Reports,* P20-513; and <http://148.129.31:80/population/socdemo/education/tablea-01.txt> (released 10 December 1998).

No. 1427. Money Income of Families—Median Income in Current and Constant (1997) Dollars, by Race and Type of Family: 1947 to 1997

[Constant dollars based on CPI-U-X1 deflator. Based on Current Population Survey; see text, Sections 1 and 14, and Appendix III. For definition of median, see Guide to Tabular Presentation]

Year	Median income in current dollars						Median income in constant (1997) dollars					
				Married-couple families		Female householder, no husband present				Married-couple families		Female householder, no husband present
	All families [1]	White	Black [2]	Total	Wife in paid labor force		All families [1]	White	Black [2]	Total	Wife in paid labor force	
1947	3,031	3,157	1,614	3,109	(NA)	2,172	20,102	20,938	10,704	20,620	(NA)	14,405
1950	3,319	3,445	1,869	3,446	4,003	1,922	20,332	21,104	11,449	21,110	24,522	11,774
1955	4,418	4,613	2,544	4,599	5,622	2,471	24,367	25,443	14,031	25,366	31,008	13,629
1960	5,620	5,835	3,230	5,873	6,900	2,968	28,013	29,084	16,100	29,274	34,393	14,794
1965	6,957	7,251	3,993	7,265	8,597	3,532	32,649	34,029	18,739	34,095	40,346	16,576
1970	9,867	10,236	6,279	10,516	12,276	5,093	38,345	39,779	24,401	40,867	47,707	19,792
1975	13,719	14,268	8,779	14,867	17,237	6,844	39,180	40,748	25,072	42,458	49,227	19,546
1980	21,023	21,904	12,674	23,141	26,879	10,408	40,999	42,717	24,717	45,129	52,419	20,297
1985	27,735	29,152	16,786	31,100	36,431	13,660	41,371	43,484	25,039	46,390	54,342	20,376
1990	35,353	36,915	21,423	39,895	46,777	16,932	43,414	45,332	26,308	48,991	57,442	20,793
1991	35,939	37,783	21,548	40,995	48,169	16,692	42,351	44,524	25,392	48,309	56,763	19,670
1992	36,573	38,670	21,103	41,890	49,775	17,025	41,839	44,238	24,141	47,921	56,941	19,476
1993	36,959	39,300	21,542	43,005	51,204	17,443	41,051	43,652	23,927	47,767	56,874	19,374
1994	38,782	40,884	24,698	44,959	53,309	18,236	42,001	44,277	26,748	48,690	57,733	19,750
1995	40,611	42,646	25,970	47,062	55,823	19,691	42,769	44,913	27,350	49,563	58,790	20,738
1996	42,300	44,756	26,522	49,707	58,381	19,911	43,271	45,783	27,131	50,848	59,721	20,368
1997	44,568	46,754	28,602	51,591	60,669	21,023	44,568	46,754	28,602	51,591	60,669	21,023

NA Not available. [1] Includes other races not shown separately. [2] 1947-1966, Black and other races.

Source: U.S. Census Bureau, *Current Population Reports*, P60-200 and P60-203; and <http://www.census.gov/hhes/income/histinc/f05.html> and <http://www.census.gov/hhes/income/histinc/f07.html> (accessed 15 June 1999).

No. 1428. Housing Units—Historical Trends for Selected Characteristics: 1940 to 1997

[1940 to 1990, as of **April 1** and based on the Census of Population and and Housing, which represents historical trends for housing. Data for 1997 based on American Housing Survey and represent current trends. The two sources are not directly comparable due to several differences in methodology; see sources for details]

Characteristic	1940	1950	1960	1970	1980	1990	1997
TENURE							
Occupied units, total	34,855	42,826	53,024	63,445	80,390	91,947	99,487
Owner occupied	15,196	23,560	32,797	39,886	51,795	59,025	65,487
Percent of occupied	43.6	55.0	61.9	62.9	64.4	64.2	65.8
Renter occupied	19,659	19,266	20,227	23,560	28,595	32,923	34,000
UNITS IN STRUCTURE							
All housing units [1]	37,325	45,983	58,315	67,699	86,759	102,264	112,357
1, detached	23,731	29,116	40,103	44,801	53,596	60,383	68,109
1, attached	[2]2,835	[3]2,799	3,655	1,990	3,587	5,378	6,778
2	3,464	5,302	4,464	5,444	5,309	4,948	([4])
3 or 4	2,259	3,374	3,088	3,563	4,373	4,928	10,363
5 or more	3,928	5,078	6,238	9,829	15,478	18,105	18,806
5 to 9	(NA)	2,138	(NA)	(NA)	3,835	4,936	5,657
10 to 49	(NA)	2,268	(NA)	(NA)	7,083	8,774	8,902
50 or more	(NA)	671	(NA)	(NA)	4,560	4,395	4,247
Mobile home or trailer	(NA)	315	767	2,073	4,416	7,400	8,301
Other	[5]1,108	(NA)	(NA)	(NA)	(NA)	1,121	(NA)
PLUMBING FACILITIES							
All housing units	35,026	44,502	58,315	67,657	86,693	102,264	112,357
Complete plumbing facilities	19,174	28,729	48,537	62,984	84,359	101,162	110,149
Lacking complete plumbing facilities	15,852	15,773	9,778	4,672	2,334	1,102	2,208
VEHICLES AVAILABLE [6]							
Occupied housing units	33,884	41,829	53,022	63,445	80,390	91,947	99,487
None	(NA)	(NA)	11,417	11,081	10,390	10,602	9,447
1	(NA)	(NA)	30,189	30,268	28,565	31,039	31,658
2	(NA)	(NA)	10,074	18,600	27,347	34,361	38,445
3 or more	(NA)	(NA)	1,342	3,495	14,088	15,945	19,938
TELEPHONE IN HOUSING UNIT [7]							
Occupied housing units	33,884	41,829	53,024	63,450	80,390	91,947	99,487
With telephone	(NA)	(NA)	41,618	55,177	74,720	87,130	93,377
No telephone	(NA)	(NA)	11,406	8,273	5,670	4,817	6,110

NA Not available. [1] Data for 1970 and 1980 are "Year-round housing units," which exclude seasonal and migratory vacant units. [2] Includes 1,656,858 units classified as "2-family side-by-side." [3] Includes 1,588,902 units classified as "1 and 2 dwelling unit." [4] Structures with "2 units" included with units of "3 or 4." [5] Covers 166,975 units classified as "Other dwelling place" and 940,726 units classified as '1- to 4-family with business." [6] For 1960 and 1970, vehicles available was restricted to only automobiles; beginning 1980, includes trucks and vans of 1-ton capacity or less. [7] Beginning 1980, data are not completely comparable with earlier years due to change in question asked.

Source: U.S. Census Bureau, 1940 to 1990, *1990 Census of Housing*, Series CH-1, and earlier Census reports; also *Current Housing Reports,* Series H-121-94-1, "Tracking the American Dream—50 Years of Housing History From the Census Bureau: 1940-1990." 1997, *Current Housing Reports*, Series H150-97, American Housing Survey in the United States.

No. 1429. National Air Pollutant Emissions: 1900 to 1997

[**In thousands of tons, except as indicated.** PM-10=Particulate matter of less than 10 microns. Methodologies to estimate data for 1970 to 1984 period and 1985 to present emissions differ. Beginning with 1985, the estimates are based on a modified National Acid Precipitation Assessment Program inventory]

Year	Emissions							Resident population (1,000)	Real gross domestic product [2] (bil. dol.)
	PM-10	PM-10, fugitive dust [1]	Sulfur dioxide	Nitrogen dioxides	Volatile organic compounds	Carbon monoxide	Lead (ton)		
1900	(NA)	(NA)	9,988	2,611	8,503	(NA)	(NA)	76,094	(NA)
1905	(NA)	(NA)	13,959	3,314	8,850	(NA)	(NA)	83,822	(NA)
1910	(NA)	(NA)	17,275	4,102	9,117	(NA)	(NA)	92,407	(NA)
1915	(NA)	(NA)	20,290	4,672	9,769	(NA)	(NA)	100,546	(NA)
1920	(NA)	(NA)	21,144	5,159	10,004	(NA)	(NA)	106,461	(NA)
1925	(NA)	(NA)	23,264	7,302	14,257	(NA)	(NA)	115,829	(NA)
1930	(NA)	(NA)	21,106	8,018	19,451	(NA)	(NA)	123,077	719.7
1935	(NA)	(NA)	16,978	6,639	17,208	(NA)	(NA)	127,250	698.4
1940	15,956	(NA)	19,953	7,374	17,161	93,615	(NA)	132,457	941.2
1945	16,545	(NA)	26,373	9,332	18,140	98,112	(NA)	133,434	1,626.7
1950	17,133	(NA)	22,358	10,093	20,936	102,609	(NA)	151,868	1,611.3
1955	16,346	(NA)	21,453	11,667	23,249	106,177	(NA)	165,069	2,001.1
1960	15,558	(NA)	22,227	14,140	24,459	109,745	(NA)	179,979	2,262.9
1965	14,198	(NA)	26,380	17,424	30,247	118,912	(NA)	193,526	2,881.1
1970	13,190	(NA)	31,161	21,639	30,817	128,761	220,869	203,984	3,397.6
1975	7,803	(NA)	28,011	23,151	25,895	115,968	159,659	215,465	3,873.9
1980	7,287	(NA)	25,905	24,875	26,167	116,702	74,153	227,225	4,615.0
1985	4,695	40,889	23,230	23,488	24,227	115,644	22,890	237,924	5,323.5
1990	5,425	24,419	23,678	23,436	20,935	95,794	4,975	249,440	6,136.3
1995	4,306	22,454	19,189	23,768	20,558	89,151	3,924	262,761	6,761.7
1997	8,428	25,153	20,369	23,582	19,214	87,451	3,915	267,636	7,269.8

NA Not available. [1] Sources such as agricultural tilling, construction, mining and quarrying, paved roads, unpaved roads, and wind erosion. [2] Gross domestic product in chained (1992) dollars; see Table 1434 and text, Section 14, Income.

Source: U.S. Environmental Protection Agency, *National Air Pollutant Emission Trends, 1900-1997,* EPA 454/C-98-007.

No. 1430. Employment Status of the Civilian Population: 1929 to 1998

[**In thousands (49,180 represents 49,180,000), except as indicated.** Annual averages of monthly figures. For the civilian noninstitutional population 16 years old and over, except as indicated. 1947-98, based on Current Population Survey; see text, Section 13, Labor Force]

Year	Civilian noninstitutional population	Civilian labor force							Not in labor force, number
		Total	Employed		Employed		Unemployed		
				Employment/population ratio [1]	Agriculture	Nonagricultural industries	Number	Percent of labor force	
14 AND OVER									
1929	(NA)	49,180	47,630	(NA)	10,450	37,180	1,550	3.2	(NA)
1930	(NA)	49,820	45,480	(NA)	10,340	35,140	4,340	8.7	(NA)
1933	(NA)	51,590	38,760	(NA)	10,090	28,670	12,830	24.9	(NA)
1935	(NA)	52,870	42,260	(NA)	10,110	32,150	10,610	20.1	(NA)
1940	99,840	55,640	47,520	47.6	9,540	37,980	8,120	14.6	44,200
1945	94,090	53,860	52,820	56.1	8,580	44,240	1,040	1.9	40,230
1947	106,018	60,168	57,812	54.5	8,256	49,557	2,356	3.9	45,850
16 AND OVER									
1947	101,827	59,350	57,038	56.0	7,890	49,148	2,311	3.9	42,477
1950	104,995	62,208	58,918	56.1	7,160	51,758	3,288	5.3	42,787
1955	109,683	65,023	62,170	56.7	6,450	55,722	2,852	4.4	44,660
1960	117,245	69,628	65,778	56.1	5,458	60,318	3,852	5.5	47,617
1965	126,513	74,455	71,088	56.2	4,361	66,726	3,366	4.5	52,058
1970	137,085	82,771	78,678	57.4	3,463	75,215	4,093	4.9	54,315
1971	140,216	84,382	79,367	56.6	3,394	75,972	5,016	5.9	55,834
1972	144,126	87,034	82,153	57.0	3,484	78,669	4,882	5.6	57,091
1973	147,096	89,429	85,064	57.8	3,470	81,594	4,365	4.9	57,667
1974	150,120	91,949	86,794	57.8	3,515	83,279	5,156	5.6	58,171
1975	153,153	93,775	85,846	56.1	3,408	82,438	7,929	8.5	59,377
1976	156,150	96,158	88,752	56.8	3,331	85,421	7,406	7.7	59,991
1977	159,033	99,009	92,017	57.9	3,283	88,734	6,991	7.1	60,025
1978	161,910	102,251	96,048	59.3	3,387	92,661	6,202	6.1	59,659
1979	164,863	104,962	98,824	59.9	3,347	95,477	6,137	5.8	59,900
1980	167,745	106,940	99,303	59.2	3,364	95,938	7,637	7.1	60,806
1981	170,130	108,670	100,397	59.0	3,368	97,030	8,273	7.6	61,460
1982	172,271	110,204	99,526	57.8	3,401	96,125	10,678	9.7	62,067
1983	174,215	111,550	100,834	57.9	3,383	97,450	10,717	9.6	62,665
1984	176,383	113,544	105,005	59.5	3,321	101,685	8,539	7.5	62,839
1985	178,206	115,461	107,150	60.1	3,179	103,971	8,312	7.2	62,744
1986	180,587	117,834	109,597	60.7	3,163	106,434	8,237	7.0	62,752
1987	182,753	119,865	112,440	61.5	3,208	109,232	7,425	6.2	62,888
1988	184,613	121,669	114,968	62.3	3,169	111,800	6,701	5.5	62,944
1989	186,393	123,869	117,342	63.0	3,199	114,142	6,528	5.3	62,523
1990	189,164	125,840	118,793	62.8	3,223	115,570	7,047	5.6	63,324
1991	190,925	126,346	117,718	61.7	3,269	114,449	8,628	6.8	64,578
1992	192,805	128,105	118,492	61.5	3,247	115,245	9,613	7.5	64,700
1993	194,838	129,200	120,259	61.7	3,115	117,144	8,940	6.9	65,638
1994	196,814	131,056	123,060	62.5	3,409	119,651	7,996	6.1	65,758
1995	198,584	132,304	124,900	62.9	3,440	121,460	7,404	5.6	66,280
1996	200,591	133,943	126,708	63.2	3,443	123,264	7,236	5.4	66,647
1997	203,133	136,297	129,558	63.8	3,399	126,159	6,739	4.9	66,837
1998	205,220	137,673	131,463	64.1	3,378	128,085	6,210	4.5	67,547

NA Not available. [1] Civilian employed as a percent of the civilian noninstitutional population.
Source: U.S. Bureau of Labor Statistics, Bulletin 2307; and *Employment and Earnings*, monthly.

No. 1431. Marital Status of Women in the Civilian Labor Force: 1900 to 1998

[Persons 16 years old and over, except as indicated. **1900-60, as of month indicated; 1955-98, annual averages of monthly figures.** For civilian noninstitutional population. Based on the Current Population Survey; see text, Section 1, Population, and Appendix III]

Year	Female labor force (1,000)				Female participation rate [3]			
	Total	Single	Married [1]	Other [2]	Total	Single	Married [1]	Other [2]
1900 (June) [4]	4,997	3,307	769	920	(NA)	(NA)	(NA)	(NA)
1910 (April) [4]	7,640	4,602	1,891	1,147	(NA)	(NA)	(NA)	(NA)
1920 (Jan.) [4]	8,347	[5]6,427	1,920	([5])	(NA)	(NA)	(NA)	(NA)
1930 (April) [4]	10,632	5,735	3,071	1,826	(NA)	(NA)	(NA)	(NA)
1940 (April) [4]	13,007	6,377	4,675	1,955	(NA)	(NA)	(NA)	(NA)
1950 (April) [4]	16,553	5,274	8,635	2,644	(NA)	(NA)	(NA)	(NA)
1960 (April) [4]	22,410	5,282	13,610	3,518	(NA)	(NA)	(NA)	(NA)
1955	20,548	5,281	10,809	4,458	35.7	61.1	28.5	40.7
1960	23,240	5,410	12,893	4,937	37.7	58.6	31.9	41.6
1965	26,200	5,976	14,829	5,396	39.3	54.5	34.9	40.7
1970	31,543	7,265	18,475	5,804	43.3	56.8	40.5	40.3
1975	37,475	9,125	21,484	6,866	46.3	59.8	44.3	40.1
1980	45,487	11,865	24,980	8,643	51.5	64.4	49.9	43.6
1985	51,050	13,163	27,894	9,993	54.5	66.6	53.8	45.1
1990	56,829	14,612	30,901	11,315	57.5	66.7	58.4	47.2
1995	60,944	15,467	33,359	12,118	58.9	66.8	61.0	47.4
1998	63,714	17,087	33,857	12,771	59.8	68.5	61.2	48.8

NA Not available. [1] Husband present. [2] Widowed, divorced, or separated. [3] Percent of civilian noninstitutional population of each specified group in the civilian labor force. [4] 1900-1930, persons 15 years old and over and 1940-1960, persons 14 years old and over. [5] Widowed or divorced included with "Single."
Source: U.S. Census Bureau, 1900-30, *U.S. Census of Population: 1930,* Vol. IV,; 1940-60, *U.S. Census of Population: 1970,* Vol. I; and 1955-98, U.S. Bureau of Labor Statistics, *Bulletin 2307;* and unpublished data.

No. 1432. Nonfarm Establishments, by Industry: 1919 to 1998

[27,078 represents 27,078,000. Based on data from establishment reports. See headnote, Table 688 in Section 13, Labor Force]

Item and year	Total	Goods-producing				Service-producing						
		Total	Mining	Construction	Manufacturing	Total	T & PU [1]	Wholesale trade	Retail trade	FIRE [2]	Services	Government
EMPLOYEES (1,000)												
1919	27,078	12,828	1,133	1,036	10,659	14,250	3,711	(NA)	(NA)	(NA)	(NA)	2,676
1925	28,766	12,489	1,089	1,461	9,939	16,277	3,826	(NA)	(NA)	(NA)	(NA)	2,800
1930	29,409	11,958	1,009	1,387	9,562	17,451	3,685	(NA)	(NA)	(NA)	(NA)	3,148
1935	27,039	10,893	897	927	9,069	16,146	2,786	(NA)	(NA)	(NA)	(NA)	3,481
1940	32,361	13,221	925	1,311	10,985	19,140	3,038	1,841	4,909	1,485	3,665	4,202
1945	40,374	17,507	836	1,147	15,524	22,867	3,906	1,955	5,359	1,481	4,222	5,944
1950	45,197	18,506	901	2,364	15,241	26,691	4,034	2,643	6,743	1,888	5,356	6,026
1955	50,641	20,513	792	2,839	16,882	30,128	4,141	2,934	7,601	2,298	6,240	6,914
1960	54,189	20,434	712	2,926	16,796	33,755	4,004	3,153	8,238	2,628	7,378	8,353
1965	60,765	21,926	632	3,232	18,062	38,839	4,036	3,477	9,239	2,977	9,036	10,074
1970	70,880	23,578	623	3,588	19,367	47,302	4,515	4,006	11,034	3,645	11,548	12,554
1975	76,945	22,600	752	3,525	18,323	54,345	4,542	4,430	12,630	4,165	13,892	14,686
1980	90,406	25,658	1,027	4,346	20,285	64,748	5,146	5,292	15,018	5,160	17,890	16,241
1985	97,387	24,842	927	4,668	19,248	72,544	5,233	5,727	17,315	5,948	21,927	16,394
1990	109,403	24,905	709	5,120	19,076	84,497	5,777	6,173	19,601	6,709	27,934	18,304
1995	117,191	24,265	581	5,160	18,524	92,925	6,132	6,378	21,187	6,806	33,117	19,305
1998	125,832	25,256	575	5,965	18,716	100,576	6,549	6,825	22,475	7,341	37,525	19,862
PERCENT DISTRIBUTION												
1919	100.0	47.4	4.2	3.8	39.4	52.6	13.7	-	-	-	-	9.9
1930	100.0	40.7	3.4	4.7	32.5	59.3	12.5	-	-	-	-	10.7
1940	100.0	40.9	2.9	4.1	33.9	59.1	9.4	5.7	15.2	4.6	11.3	13.0
1950	100.0	40.9	2.0	5.2	33.7	59.1	8.9	5.8	14.9	4.2	11.9	13.3
1960	100.0	37.7	1.3	5.4	31.0	62.3	7.4	5.8	15.2	4.8	13.6	15.4
1970	100.0	33.3	0.9	5.1	27.3	66.7	6.4	5.7	15.6	5.1	16.3	17.7
1980	100.0	28.4	1.1	4.8	22.4	71.6	5.7	5.9	16.6	5.7	19.8	18.0
1990	100.0	22.8	0.6	4.7	17.4	77.2	5.3	5.6	17.9	6.1	25.5	16.7
1998	100.0	20.1	0.5	4.7	14.9	79.9	5.2	5.4	17.9	5.8	29.8	15.8
WEEKLY EARNINGS [3]												
1950	53	(NA)	67	70	58	(NA)	(NA)	55	40	48	(NA)	(NA)
1960	81	(NA)	105	113	90	(NA)	(NA)	91	58	75	(NA)	(NA)
1970	120	(NA)	164	196	133	(NA)	156	137	82	113	97	(NA)
1980	235	(NA)	397	368	289	(NA)	351	267	147	210	191	(NA)
1990	345	(NA)	603	526	442	(NA)	496	411	194	357	319	(NA)
1998	442	(NA)	744	643	563	(NA)	606	538	255	512	420	(NA)

- Represents zero. NA Not available. [1] Transportation and public utilities. [2] Finance, insurance, and real estate. [3] Average hours and earnings. Private production and related workers in mining, manufacturing, and construction; nonsupervisory employees in other industries.

Source: U.S. Bureau of Labor Statistics, *Employment and Earnings,* monthly, June issues and Internet site <http://stats.bls.gov/ceshome.htm>.

No. 1433. Personal Consumption Expenditures, by Type: 1929 to 1997

Year	Total [1]	Food and tobacco	Clothing [2]	Personal care	Housing	Household operation	Medical care	Personal business	Transportation	Recreation
1929	77.5	21.2	11.2	1.1	11.7	10.7	3.1	3.9	7.7	4.4
1933	45.9	12.8	5.4	0.7	8.1	6.4	2.1	2.5	4.0	2.2
1935	55.9	17.6	7.0	0.8	7.9	7.7	2.4	2.8	5.4	2.6
1940	71.2	22.0	8.9	1.0	9.7	10.4	3.2	3.2	7.2	3.8
1945	119.9	43.5	19.6	2.0	12.8	15.5	5.2	4.2	6.8	6.2
1950	192.7	58.1	23.7	2.4	21.7	29.1	9.4	6.6	25.4	11.2
1955	259.1	73.6	28.4	3.7	34.4	37.3	14.2	10.1	34.9	14.6
1960	332.2	89.2	32.7	5.6	48.2	46.7	22.1	14.6	42.9	18.5
1965	444.3	108.8	41.4	8.1	65.4	62.1	34.1	20.9	59.1	26.8
1970	648.1	154.6	57.6	11.8	94.0	84.8	60.0	32.0	81.1	43.1
1975	1,029.1	238.2	85.6	16.7	147.0	135.4	107.9	53.0	130.2	70.5
1980	1,760.4	376.2	132.3	26.6	255.2	232.6	206.4	101.2	238.4	116.3
1985	2,704.8	497.3	188.3	39.1	407.1	342.0	366.7	182.6	372.8	185.9
1990	3,839.3	672.5	262.7	57.3	586.3	436.2	615.6	290.1	463.3	281.6
1995	4,953.9	780.4	321.8	71.8	750.4	559.4	875.0	388.8	574.1	404.2
1997	5,493.7	832.3	353.3	79.4	829.8	620.7	957.3	459.1	636.4	462.9
PERCENT DISTRIBUTION										
1929	100.0	27.4	14.5	1.4	15.1	13.8	4.0	5.0	9.9	5.7
1950	100.0	30.2	12.3	1.2	11.3	15.1	4.9	3.4	13.2	5.8
1970	100.0	23.9	8.9	1.8	14.5	13.1	9.3	4.9	12.5	6.7
1990	100.0	17.5	6.8	1.5	15.3	11.4	16.0	7.6	12.1	7.3
1997	100.0	15.2	6.4	1.4	15.1	11.3	17.4	8.4	11.6	8.4

[1] Includes other categories, not shown separately. [2] Includes accessories, and jewelry.

Source: U.S. Bureau of Economic Analysis, *National Income and Product Accounts of the United States, 1929-94: Vol. 1*; and *Survey of Current Business*, August 1998.

No. 1434. Gross Domestic Product in Current and Real (1992) Dollars: 1929 to 1998

[In billions of dollars (103.8 represents $103,800,000,000). For definition of gross domestic product and chained dollars, see text, Section 14, Income]

Year	Current dollars					Chained (1992) dollars				
	Gross domestic product	Personal consumption expenditures	Gross private domestic investment	Net exports of goods and services	Government consumption expenditures and gross investment	Gross domestic product	Personal consumption expenditures	Gross private domestic investment	Net exports of goods and services	Government consumption expenditures and gross investment
1929	103.8	77.5	16.7	0.4	9.3	790.9	593.9	92.4	(NA)	105.4
1930	91.1	70.2	10.6	0.3	9.9	719.7	562.1	59.8	(NA)	116.2
1931	76.4	60.7	5.9	-	9.8	674.0	544.9	37.6	(NA)	121.2
1932	58.6	48.7	1.1	-	8.7	584.3	496.1	9.9	(NA)	117.1
1933	56.2	45.9	1.7	0.1	8.6	577.3	484.8	16.4	(NA)	112.8
1934	65.9	51.4	3.7	0.3	10.4	641.1	519.0	31.5	(NA)	127.3
1935	73.1	55.9	6.7	-0.2	10.8	698.4	550.9	58.0	(NA)	131.3
1936	83.6	62.2	8.7	-0.2	13.0	790.0	606.9	75.5	(NA)	152.5
1937	91.8	66.8	12.2	-	12.7	831.5	629.7	94.0	(NA)	147.0
1938	85.9	64.2	7.1	0.9	13.7	801.2	619.5	61.3	(NA)	157.8
1939	91.9	67.2	9.3	0.8	14.6	866.5	654.0	79.5	(NA)	171.6
1940	101.2	71.2	13.6	1.4	15.0	941.2	688.0	111.3	(NA)	174.2
1941	126.7	81.0	18.2	1.0	26.5	1,101.8	737.1	137.3	(NA)	288.0
1942	161.6	88.9	10.5	-0.3	62.7	1,308.9	719.7	72.1	(NA)	692.0
1943	198.3	99.7	6.1	-2.4	94.9	1,523.0	739.5	41.9	(NA)	1,032.2
1944	219.7	108.5	7.8	-2.2	105.6	1,644.7	761.0	52.2	(NA)	1,158.5
1945	223.2	119.9	10.9	-0.9	93.3	1,626.7	808.4	68.8	(NA)	1,012.0
1946	222.6	144.3	31.3	7.1	39.9	1,447.7	907.9	176.8	(NA)	349.0
1947	244.6	162.3	35.0	10.8	36.5	1,430.7	926.2	169.9	(NA)	290.3
1948	269.7	175.4	48.1	5.4	40.8	1,491.0	946.4	216.0	(NA)	310.3
1949	267.8	178.9	36.7	5.2	47.0	1,479.8	972.2	163.2	(NA)	345.8
1950	294.6	192.7	54.2	0.7	47.1	1,611.3	1,034.1	234.1	(NA)	344.6
1951	339.7	208.7	60.3	2.4	68.3	1,734.0	1,049.2	235.2	(NA)	468.6
1952	358.6	219.7	54.0	1.0	83.8	1,798.7	1,082.4	210.6	(NA)	566.2
1953	379.7	233.5	56.3	-0.8	90.7	1,881.4	1,135.0	220.4	(NA)	605.2
1954	381.3	240.7	53.8	0.3	86.4	1,868.2	1,158.9	209.9	(NA)	562.6
1955	415.1	259.1	69.0	0.4	86.7	2,001.1	1,242.6	261.9	(NA)	541.3
1956	438.0	271.9	72.2	2.3	91.6	2,040.2	1,278.2	257.9	(NA)	542.8
1957	461.0	286.7	70.6	4.0	99.8	2,078.5	1,308.2	246.1	(NA)	566.8
1958	467.3	296.3	64.5	0.4	106.1	2,057.5	1,318.8	224.5	(NA)	585.3
1959	507.2	318.1	78.8	-1.7	112.0	2,210.2	1,394.6	271.7	(NA)	618.5
1960	526.6	332.2	78.8	2.4	113.2	2,262.9	1,432.6	270.5	(NA)	617.2
1961	544.8	342.6	77.9	3.4	120.9	2,314.3	1,461.5	267.6	(NA)	647.2
1962	585.2	363.4	87.9	2.4	131.4	2,454.8	1,533.8	302.1	(NA)	686.0
1963	617.4	383.0	93.4	3.3	137.7	2,559.4	1,596.6	321.6	(NA)	701.9
1964	663.0	411.4	101.7	5.5	144.4	2,708.4	1,692.3	348.3	(NA)	715.9
1965	719.1	444.3	118.0	3.9	153.0	2,881.1	1,799.1	397.2	(NA)	737.6
1966	787.8	481.9	130.4	1.9	173.6	3,069.2	1,902.0	430.6	(NA)	804.6
1967	833.6	509.5	128.0	1.4	194.6	3,147.2	1,958.6	411.8	(NA)	865.6
1968	910.6	559.8	139.9	-1.3	212.1	3,293.9	2,070.2	433.3	(NA)	892.4
1969	982.2	604.7	155.0	-1.2	223.8	3,393.6	2,147.5	458.3	(NA)	887.5
1970	1,035.6	648.1	150.2	1.2	236.1	3,397.6	2,197.8	426.1	(NA)	866.8
1971	1,125.4	702.5	176.0	-3.0	249.9	3,510.0	2,279.5	474.9	(NA)	851.0
1972	1,237.3	770.7	205.6	-8.0	268.9	3,702.3	2,415.9	531.8	(NA)	854.1
1973	1,382.6	851.6	242.9	0.6	287.6	3,916.3	2,532.6	595.5	(NA)	848.4
1974	1,496.9	931.2	245.6	-3.1	323.2	3,891.2	2,514.7	546.5	(NA)	862.9
1975	1,630.6	1,029.1	225.4	13.6	362.6	3,873.9	2,570.0	446.6	(NA)	876.3
1976	1,819.0	1,148.8	286.6	-2.3	385.9	4,082.9	2,714.3	537.4	(NA)	876.8
1977	2,026.9	1,277.1	356.6	-23.7	416.9	4,273.6	2,829.8	622.1	(NA)	884.7
1978	2,291.4	1,428.8	430.8	-26.1	457.9	4,503.0	2,951.6	693.4	(NA)	910.6
1979	2,557.5	1,593.5	480.9	-24.0	507.1	4,630.6	3,020.2	709.7	(NA)	924.9
1980	2,784.2	1,760.4	465.9	-14.9	572.8	4,615.0	3,009.7	628.3	(NA)	941.4
1981	3,115.9	1,941.3	556.2	-15.0	633.4	4,720.7	3,046.4	686.0	(NA)	947.7
1982	3,242.1	2,076.8	501.1	-20.5	684.8	4,620.3	3,081.5	587.2	-14.1	960.1
1983	3,514.5	2,283.4	547.1	-51.7	735.7	4,803.7	3,240.6	642.1	-63.3	987.3
1984	3,902.4	2,492.3	715.6	-102.0	796.6	5,140.1	3,407.6	833.4	-127.3	1,018.4
1985	4,180.7	2,704.8	715.1	-114.2	875.0	5,323.5	3,566.5	823.8	-147.9	1,080.1
1986	4,422.2	2,892.7	722.5	-131.5	938.5	5,487.7	3,708.7	811.8	-163.9	1,135.0
1987	4,692.3	3,094.5	747.2	-142.1	992.8	5,649.5	3,822.3	821.5	-156.2	1,165.9
1988	5,049.6	3,349.7	773.9	-106.1	1,032.0	5,865.2	3,972.7	828.2	-114.4	1,180.9
1989	5,438.7	3,594.8	829.2	-80.4	1,095.1	6,062.0	4,064.6	863.5	-82.7	1,213.9
1990	5,743.8	3,839.3	799.7	-71.3	1,176.1	6,136.3	4,132.2	815.0	-61.9	1,250.4
1991	5,916.7	3,975.1	736.2	-20.5	1,225.9	6,079.4	4,105.8	738.1	-22.3	1,258.0
1992	6,244.4	4,219.8	790.4	-29.5	1,263.8	6,244.4	4,219.8	790.4	-29.5	1,263.8
1993	6,558.1	4,459.2	876.2	-60.7	1,283.4	6,389.6	4,343.6	863.6	-70.2	1,252.1
1994	6,947.0	4,717.0	1,007.9	-90.9	1,313.0	6,610.7	4,486.0	975.7	-104.6	1,252.3
1995	7,269.6	4,953.9	1,043.2	-83.9	1,356.4	6,761.7	4,605.6	996.1	-96.5	1,254.5
1996	7,661.6	5,215.7	1,131.9	-91.2	1,405.2	6,994.8	4,752.4	1,084.1	-111.2	1,268.2
1997	8,110.9	5,493.7	1,256.0	-93.4	1,454.6	7,269.8	4,913.5	1,206.4	-136.1	1,285.0
1998	8,511.0	5,807.9	1,367.1	-151.2	1,487.1	7,551.9	5,153.3	1,330.1	-238.2	1,296.9

- Represents zero. NA Not available.

Source: U.S. Bureau of Economic Analysis, *National Income and Product Accounts of the United States, 1929-94, Vol.1* and *Vol. 2;* and *Survey of Current Business,* May 1999.

No. 1435. Consumer and Gross Domestic Price Indexes: 1913 to 1998

Year	Purchasing power of the dollar [1]		Consumer price index [2] (1982-84=100)				Chained-type price indexes [3] (1992=100)		Annual percent change from prior year [4]	
	Producer prices	Consumer prices	All items	Food	Shelter	Medical care	Gross domestic product	Personal consumption expenditures	Consumer price index	Personal consumption expenditures
1913	(NA)	10.077	9.9	10.0	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
1915	(NA)	9.843	10.1	10.0	(NA)	(NA)	(NA)	(NA)	1.0	(NA)
1920	(NA)	4.989	20.0	21.0	(NA)	(NA)	(NA)	(NA)	15.6	(NA)
1925	(NA)	5.701	17.5	16.5	(NA)	(NA)	(NA)	(NA)	2.3	(NA)
1929	(NA)	5.833	17.1	16.5	(NA)	(NA)	13.1	13.1	-	(NA)
1930	(NA)	5.986	16.7	15.6	(NA)	(NA)	12.6	12.5	-2.3	-4.3
1931	(NA)	6.563	15.2	12.9	(NA)	(NA)	11.3	11.1	-9.0	-10.8
1932	(NA)	7.317	13.7	10.7	(NA)	(NA)	10.1	9.8	-9.9	-11.8
1933	(NA)	7.712	13.0	10.4	(NA)	(NA)	9.8	9.5	-5.1	-3.6
1934	(NA)	7.464	13.4	11.6	(NA)	(NA)	10.3	9.9	3.1	4.6
1935	(NA)	7.281	13.7	12.4	(NA)	10.2	10.5	10.2	2.2	2.4
1936	(NA)	7.213	13.9	12.6	(NA)	10.2	10.6	10.2	1.5	0.9
1937	(NA)	6.961	14.4	13.1	(NA)	10.3	11.0	10.6	3.6	3.6
1938	(NA)	7.093	14.1	12.1	(NA)	10.3	10.8	10.4	-2.1	-2.3
1939	(NA)	7.195	13.9	11.8	(NA)	10.3	10.6	10.3	-1.4	-1.0
1940	(NA)	7.126	14.0	12.0	(NA)	10.4	10.7	10.4	0.7	0.8
1941	(NA)	6.788	14.7	13.1	(NA)	10.4	11.4	11.0	5.0	6.2
1942	(NA)	6.132	16.3	15.4	(NA)	10.7	12.3	12.4	10.9	12.4
1943	(NA)	5.779	17.3	17.1	(NA)	11.2	13.0	13.5	6.1	9.1
1944	(NA)	5.680	17.6	16.9	(NA)	11.6	13.4	14.3	1.7	5.8
1945	(NA)	5.552	18.0	17.3	(NA)	11.9	13.7	14.8	2.3	4.0
1946	(NA)	5.115	19.5	19.8	(NA)	12.5	15.4	15.9	8.3	7.1
1947	(NA)	4.474	22.3	24.1	(NA)	13.5	17.1	17.5	14.4	10.3
1948	(NA)	4.151	24.1	26.1	(NA)	14.4	18.1	18.5	8.1	5.8
1949	(NA)	4.193	23.8	25.0	(NA)	14.8	18.1	18.4	-1.2	-0.8
1950	3.546	4.151	24.1	25.4	(NA)	15.1	18.3	18.6	1.3	1.3
1951	3.247	3.846	26.0	28.2	(NA)	15.9	19.5	19.9	7.9	6.8
1952	3.268	3.765	26.5	28.7	(NA)	16.7	19.9	20.3	1.9	2.1
1953	3.300	3.735	26.7	28.3	22.0	17.3	20.2	20.6	0.8	1.3
1954	3.289	3.717	26.9	28.2	22.5	17.8	20.4	20.8	0.7	1.0
1955	3.279	3.732	26.8	27.8	22.7	18.2	20.7	20.9	-0.4	0.4
1956	3.195	3.678	27.2	28.0	23.1	18.9	21.4	21.3	1.5	2.1
1957	3.077	3.549	28.1	28.9	24.0	19.7	22.2	21.9	3.3	3.0
1958	3.012	3.457	28.9	30.2	24.5	20.6	22.7	22.5	2.8	2.5
1959	3.021	3.427	29.1	29.7	24.7	21.5	23.0	22.8	0.7	1.5
1960	2.994	3.373	29.6	30.0	25.2	22.3	23.3	23.2	1.7	1.7
1961	2.994	3.340	29.9	30.4	25.4	22.9	23.5	23.4	1.0	1.1
1962	2.985	3.304	30.2	30.6	25.8	23.5	23.8	23.7	1.0	1.1
1963	2.994	3.265	30.6	31.1	26.1	24.1	24.1	24.0	1.3	1.3
1964	2.985	3.220	31.0	31.5	26.5	24.6	24.5	24.3	1.3	1.3
1965	2.933	3.166	31.5	32.2	27.0	25.2	25.0	24.7	1.6	1.6
1966	2.841	3.080	32.4	33.8	27.8	26.3	25.7	25.3	2.9	2.6
1967	2.809	2.993	33.4	34.1	28.8	28.2	26.5	26.0	3.1	2.6
1968	2.732	2.873	34.8	35.3	30.1	29.9	27.6	27.0	4.2	4.0
1969	2.632	2.726	36.7	37.1	32.6	31.9	28.9	28.2	5.5	4.1
1970	2.545	2.574	38.8	39.2	35.5	34.0	30.5	29.5	5.7	4.7
1971	2.469	2.466	40.5	40.4	37.0	36.1	32.1	30.8	4.4	4.5
1972	2.392	2.391	41.8	42.1	38.7	37.3	33.4	31.9	3.2	3.5
1973	2.193	2.251	44.4	48.2	40.5	38.8	35.3	33.6	6.2	5.4
1974	1.901	2.029	49.3	55.1	44.4	42.4	38.5	37.0	11.0	10.1
1975	1.718	1.859	53.8	59.8	48.8	47.5	42.1	40.0	9.1	8.1
1976	1.645	1.757	56.9	61.6	51.5	52.0	44.6	42.3	5.8	5.7
1977	1.546	1.649	60.6	65.5	54.9	57.0	47.4	45.1	6.5	6.6
1978	1.433	1.532	65.2	72.0	60.5	61.8	50.9	48.4	7.6	7.3
1979	1.289	1.380	72.6	79.9	68.9	67.5	55.2	52.8	11.3	9.0
1980	1.136	1.215	82.4	86.8	81.0	74.9	60.3	58.5	13.5	10.9
1981	1.041	1.098	90.9	93.6	90.5	82.9	66.0	63.7	10.3	9.0
1982	1.000	1.035	96.5	97.4	96.9	92.5	70.2	67.4	6.2	5.8
1983	0.984	1.003	99.6	99.4	99.1	100.6	73.2	70.5	3.2	4.5
1984	0.964	0.961	103.9	103.2	104.0	106.8	75.9	73.1	4.3	3.8
1985	0.955	0.928	107.6	105.6	109.8	113.5	78.5	75.8	3.6	3.7
1986	0.969	0.913	109.6	109.0	115.8	122.0	80.6	78.0	1.9	2.8
1987	0.949	0.880	113.6	113.5	121.3	130.1	83.1	81.0	3.6	3.8
1988	0.926	0.846	118.3	118.2	127.1	138.6	86.1	84.3	4.1	4.2
1989	0.880	0.807	124.0	125.1	132.8	149.3	89.7	88.4	4.8	4.9
1990	0.839	0.766	130.7	132.4	140.0	162.8	93.6	92.9	5.4	5.1
1991	0.822	0.734	136.2	136.3	146.3	177.0	97.3	96.8	4.2	4.2
1992	0.812	0.713	140.3	137.9	151.2	190.1	100.0	100.0	3.0	3.3
1993	0.802	0.692	144.5	140.9	155.7	201.4	102.6	102.7	3.0	2.7
1994	0.797	0.675	148.2	144.3	160.5	211.0	105.1	105.2	2.6	2.4
1995	0.782	0.656	152.4	148.4	165.7	220.5	107.5	107.6	2.8	2.3
1996	0.762	0.638	156.9	153.3	171.0	228.2	109.5	109.8	3.0	2.0
1997	0.759	0.623	160.5	157.3	176.3	234.6	111.6	111.8	2.3	1.9
1998	0.766	0.600	163.0	160.7	182.1	242.1	112.7	112.7	1.6	0.8

- Represents zero. NA Not available. [1] Producer prices, 1982 = $1.00; consumer prices 1982-84 = $1.00. [2] Represents annual averages of monthly figures. [3] For definition of chained dollars, see text, Section 14, Income. [4] Change from prior year. For 1915, change from 1914; for 1920, from 1919; for 1925, from 1924; and 1929, from 1928.

Source: purchasing power and consumer prices, U.S. Bureau of Labor Statistics, *Monthly Labor Review* and *CPI Detailed Report*, January issues; and chain-type prices, U.S. Bureau of Economic Analysis, *The National Income and Product Accounts of the United States*, 1929-94, Vol. 2; and *Survey of Current Business,* May 1999.

No. 1436. Stock Prices and Yields: 1900 to 1998

Year	Stock prices									Common stock yields Standard & Poor's (percent) [1]		
				Dow-Jones & Co., Inc.								
					Industrial (30 stocks)							
	Standard and Poor's 500 composite (1941-43=10) [1 2]	NYSE composite (Dec. 31, 1965=50) [3]	NASDAQ composite (Feb. 5, 1971=100) [3]	Composite [3] (65 stocks)	Year-end close	Yearly high	Yearly low	Transportation [3] (20 stocks)	Utility [3] (15 stocks)	Dividend price ratio [4]	Earnings price ratio [5]	New York Stock Exchange volume of trading (mil. shares)
1900	6.2	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	139
1910	9.4	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	164
1920	8.0	(NA)	(NA)	(NA)	72.0	109.9	66.8	(NA)	(NA)	(NA)	(NA)	227
1929	26.0	(NA)	(NA)	(NA)	248.5	386.1	195.4	(NA)	(NA)	3.47	7.51	1,125
1933	9.0	(NA)	(NA)	(NA)	99.9	110.5	49.7	(NA)	(NA)	4.21	4.36	655
1935	10.6	(NA)	(NA)	(NA)	144.1	149.4	96.0	(NA)	(NA)	3.82	7.23	382
1940	11.0	(NA)	(NA)	(NA)	131.1	153.3	110.4	(NA)	(NA)	5.59	9.80	208
1945	15.2	(NA)	(NA)	(NA)	192.9	196.6	150.5	(NA)	(NA)	4.17	6.39	378
1950	18.4	(NA)	(NA)	(NA)	235.4	236.6	193.9	(NA)	(NA)	6.57	15.20	525
1955	40.5	(NA)	(NA)	(NA)	488.4	490.8	385.7	(NA)	(NA)	4.08	8.72	650
1960	55.9	30.9	34.5	205.9	615.9	688.2	564.2	130.9	100.0	3.47	5.88	767
1965	88.2	50.0	67.0	340.9	969.3	976.6	832.7	247.5	152.6	3.00	5.87	1,556
1970	83.2	50.2	89.6	272.8	838.9	848.2	627.5	171.5	121.8	3.83	6.45	2,937
1975	86.2	47.6	77.6	261.7	852.4	888.9	619.1	172.7	83.7	4.31	9.15	4,693
1980	118.8	77.9	202.3	373.4	964.0	1,005.2	730.0	398.1	114.4	5.26	12.66	11,352
1985	186.8	121.6	324.4	616.5	1,546.5	1,570.9	1,178.7	708.2	174.8	4.25	8.12	27,511
1990	334.6	180.5	373.8	920.6	2,633.7	3,024.3	2,344.1	910.2	209.7	3.61	6.47	39,665
1991	376.2	229.4	586.3	1,156.8	3,168.8	3,204.6	2,447.0	1,358.0	226.2	3.24	4.79	45,266
1992	415.7	240.2	677.0	1,204.6	3,301.1	3,435.2	3,087.4	1,449.2	221.0	2.99	4.22	51,376
1993	451.4	259.1	776.8	1,381.0	3,754.1	3,818.9	3,219.3	1,762.3	229.3	2.78	4.46	66,923
1994	460.4	250.9	752.0	1,274.4	3,834.4	4,002.8	3,520.8	1,455.0	181.5	2.82	5.83	73,420
1995	541.7	329.5	1,052.1	1,693.2	5,117.1	5,266.7	3,794.4	1,981.0	225.4	2.56	6.09	87,218
1996	670.5	392.3	1,291.0	2,025.8	6,448.3	6,624.0	5,000.1	2,255.7	232.5	2.19	5.24	104,636
1997	873.4	511.2	1,570.4	2,607.4	7,908.3	8,340.1	6,315.8	3,256.5	273.1	1.77	4.57	133,312
1998	1,085.5	596.1	2,192.7	2,870.8	9,181.4	9,457.9	7,379.7	3,149.3	312.3	1.49	3.46	169,745

NA Not available. [1] Source: U.S. Council of Economic Advisors, *Economic Report of the President*, annual. [2] Annual average of daily closing prices. The S&P 500 composite index includes 400 industrial stocks, 20 transportation, 40 public utility, and 40 financial stocks. [3] As of end of December. [4] Aggregate cash dividends (based on latest known annual rate) divided by aggregate market value based on Wednesday closing prices. Averages of monthly figures. [5] Averages of quarterly ratios which are ratio of earnings (after taxes) for 4 quarters ending with particular quarter to price index for last day of that quarter.

Source: Except as noted, Global Financial Data, Alhambra, CA, "US Stock Market Capitalization Indices"; <http://www.globalfindata.com/tbcap.htm>; and "Global Financial Data Dow Jones Industrial Average"; <http://www.globalfindata.com/tbdjia.htm>; (accessed 19 April 1999) and unpublished data. (Copyright).

No. 1437. Bond Yields and Interest Rates: 1900 to 1998

Year	U.S. Treasury securities 3 month bills (new issues)	Corporate bonds (Moody's) Aaa	Corporate bonds (Moody's) Baa	High grade municipal bonds (Standard & Poors)	New home mortgage yields	Commercial paper, 6 months	Prime rate charged by banks	Discount rate Federal Reserve Bank of New York	Federal funds rate
1900	(NA)	(NA)	(NA)	3.12	(NA)	5.71	(NA)	(NA)	(NA)
1910	(NA)	(NA)	(NA)	3.97	(NA)	5.72	(NA)	(NA)	(NA)
1920	(NA)	6.12	(NA)	4.98	(NA)	7.50	(NA)	(NA)	(NA)
1929	(NA)	4.73	5.90	4.27	(NA)	5.85	5.50-6.00	5.16	(NA)
1933	0.52	4.49	7.76	4.71	(NA)	1.73	1.50-4.00	2.56	(NA)
1935	0.14	3.60	(NA)	3.40	(NA)	0.75	1.50	(NA)	(NA)
1940	0.01	2.84	4.75	2.50	(NA)	0.56	1.50	1.00	(NA)
1945	0.38	2.62	3.29	1.67	(NA)	0.75	1.50	1.00	(NA)
1950	1.22	2.62	3.24	1.98	(NA)	1.45	2.07	1.59	(NA)
1955	1.75	3.06	3.53	2.53	(NA)	2.18	3.16	1.89	1.78
1960	2.93	4.41	5.19	3.73	(NA)	3.85	4.82	3.53	3.22
1965	3.95	4.49	4.87	3.27	5.81	4.38	4.54	4.04	4.07
1970	6.46	8.04	9.11	6.51	8.45	7.71	7.91	5.95	7.18
1975	5.84	8.83	10.61	6.89	9.00	6.32	7.86	6.25	5.82
1980	11.51	11.94	13.67	8.51	12.66	12.29	15.27	11.77	13.36
1985	7.48	11.37	12.72	9.18	11.55	8.01	9.93	7.69	8.10
1990	7.51	9.32	10.36	7.25	10.05	7.95	10.01	6.98	8.10
1991	5.42	8.77	9.80	6.89	9.32	5.85	8.46	5.45	5.69
1992	3.45	8.14	8.98	6.41	8.24	3.80	6.25	3.25	3.52
1993	3.02	7.22	7.93	5.63	7.20	3.30	6.00	3.00	3.02
1994	4.29	7.96	8.62	6.19	7.49	4.93	7.15	3.60	4.21
1995	5.51	7.59	8.20	5.95	7.87	5.93	8.83	5.21	5.83
1996	5.02	7.37	8.05	5.75	7.80	5.42	8.27	5.02	5.30
1997	5.07	7.26	7.86	5.55	7.71	5.62	8.44	5.00	5.46
1998	4.81	6.53	7.22	5.12	7.07	(NA)	8.35	4.92	5.35

NA Not available.

Source: Board of Governors of the Federal Reserve System. 1900-1940, *Banking and Monetary Statistics;* 1945-1960, *Supplement to Banking & Monetary Statistics*; and 1965-1998, *Federal Reserve Bulletin,* monthly issues.

No. 1438. Economic Indicators for Construction, Real Estate, Manufacturing, Retail, and Foreign Trade Sectors: 1929 to 1998

Year	Contracts awarded [1]		New housing units started [3] (1,000)	New one-family houses sold [4] (1,000)	Existing one-family houses sold [5] (1,000)	Manufacturing shipments [6] (bil. dol.)	Index of manufacturing production [7]	Retail sales total [8] (bil. dol.)	Sales of cars and trucks [9] (1,000)	Exports [10] (bil. dol.)	General imports [10] (bil. dol.)
	Value (bil. dol.)	Floor space [2] (mil. sq. ft.)									
1929	5.8	791	509	(NA)	(NA)	(NA)	(NA)	48.5	(NA)	5.2	4.4
1930	4.5	510	330	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	3.8	3.1
1931	3.1	366	254	(NA)	(NA)	(NA)	(NA)	(NA)	2,231	2.4	2.1
1932	1.4	156	134	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	1.6	1.3
1933	1.3	147	93	(NA)	(NA)	(NA)	(NA)	24.5	1,787	1.7	1.5
1934	1.5	152	126	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	2.1	1.7
1935	1.8	252	221	(NA)	(NA)	(NA)	(NA)	32.8	3,419	2.3	2.0
1936	2.7	410	319	(NA)	(NA)	(NA)	(NA)	38.3	(NA)	2.5	2.4
1937	2.9	446	336	(NA)	(NA)	(NA)	(NA)	42.2	4,153	3.3	3.1
1938	3.2	429	406	(NA)	(NA)	(NA)	(NA)	38.1	(NA)	3.1	2.0
1939	3.6	513	515	(NA)	(NA)	(NA)	(NA)	42.0	3,245	3.2	2.3
1940	4.0	690	603	(NA)	(NA)	(NA)	(NA)	46.4	(NA)	4.0	2.6
1941	6.0	941	706	(NA)	(NA)	(NA)	(NA)	55.3	4,665	5.1	3.3
1942	8.3	1,296	356	(NA)	(NA)	(NA)	(NA)	57.2	(NA)	8.1	2.8
1943	3.3	448	191	(NA)	(NA)	(NA)	(NA)	63.2	(NA)	13.0	3.4
1944	2.0	229	142	(NA)	(NA)	(NA)	(NA)	70.2	(NA)	14.3	3.9
1945	3.3	397	326	(NA)	(NA)	(NA)	(NA)	78.0	(NA)	9.8	4.2
1946	7.5	946	1,023	(NA)	(NA)	(NA)	(NA)	[11]104.8	(NA)	9.7	4.9
1947	9.2	1,060	1,268	(NA)	(NA)	186	20.6	122.4	(NA)	14.4	5.8
1948	11.1	1,060	1,362	(NA)	(NA)	217	21.3	133.6	(NA)	12.7	7.1
1949	11.8	1,038	1,466	(NA)	(NA)	193	20.2	133.8	(NA)	12.1	6.6
1950	16.6	1,475	1,952	(NA)	(NA)	224	23.5	147.2	(NA)	10.3	8.9
1951	17.2	1,279	1,491	(NA)	(NA)	261	25.4	156.5	6,275	15.0	11.0
1952	18.1	1,288	1,504	(NA)	(NA)	270	26.4	162.4	(NA)	15.2	10.7
1953	18.8	1,306	1,438	(NA)	(NA)	298	28.8	169.1	6,773	15.8	10.9
1954	20.6	1,486	1,551	(NA)	(NA)	280	26.9	169.1	(NA)	15.1	10.2
1955	24.6	1,695	1,646	(NA)	(NA)	318	30.3	183.9	8,481	15.5	11.4
1956	31.6	2,017	1,349	(NA)	(NA)	333	31.6	189.7	(NA)	19.1	12.6
1957	32.2	2,003	1,224	(NA)	(NA)	345	31.9	200.0	6,927	20.9	13.0
1958	35.1	2,101	1,382	(NA)	(NA)	327	29.7	200.4	(NA)	17.9	12.8
1959	36.3	2,337	1,554	(NA)	(NA)	363	33.5	215.4	7,065	17.6	15.2
1960	36.3	2,154	1,252	(NA)	(NA)	371	34.1	219.5	(NA)	20.6	14.7
1961	37.1	2,203	1,313	(NA)	(NA)	371	34.2	[11]219.0	6,872	21.0	14.7
1962	41.3	2,414	1,463	(NA)	(NA)	400	37.3	235.6	8,192	21.7	16.4
1963	45.5	2,711	1,610	(NA)	(NA)	421	39.5	246.7	8,990	23.3	17.1
1964	47.3	2,738	1,529	(NA)	(NA)	448	42.2	261.9	9,494	26.5	18.7
1965	49.3	2,843	1,473	(NA)	(NA)	492	46.8	284.1	10,885	27.5	21.4
1966	50.2	2,643	1,165	(NA)	(NA)	538	51.0	304.0	10,664	30.3	25.5
1967	54.5	2,820	1,292	(NA)	(NA)	558	52.0	313.8	9,882	31.5	26.8
1968	61.7	3,129	1,508	(NA)	1,569	603	54.9	339.3	11,487	34.6	33.2
1969	68.3	3,249	1,467	(NA)	1,594	642	57.4	362.9	11,552	38.0	36.0
1970	68.3	2,938	1,434	485	1,612	634	54.8	375.2	10,211	43.8	40.4
1971	(NA)	(NA)	2,052	656	2,018	671	55.6	414.2	12,338	44.7	46.2
1972	(NA)	(NA)	2,357	718	2,252	756	61.5	458.5	13,569	50.5	56.4
1973	(NA)	(NA)	2,045	634	2,334	875	66.9	511.9	14,572	72.5	70.5
1974	(NA)	(NA)	1,338	519	2,272	1,018	65.9	542.0	11,541	100.0	102.6
1975	(NA)	(NA)	1,160	549	2,476	1,039	59.3	588.1	11,103	109.3	98.5
1976	110.0	2,810	1,538	646	3,064	1,186	65.4	656.4	13,291	117.0	123.5
1977	141.0	3,542	1,987	819	3,650	1,358	71.2	722.0	14,859	123.2	151.0
1978	160.6	4,114	2,020	817	3,986	1,523	75.8	804.2	15,423	145.9	174.8
1979	170.9	3,919	1,745	709	3,827	1,727	78.5	896.8	14,153	186.5	209.5
1980	151.8	3,102	1,292	545	2,973	1,853	75.5	957.4	11,466	225.7	245.3
1981	157.3	2,805	1,084	436	2,419	2,018	76.7	1,038.0	10,796	238.7	261.0
1982	157.1	2,455	1,062	412	1,990	1,960	72.1	1,069.4	10,542	216.4	244.0
1983	194.1	3,387	1,703	623	2,697	2,071	76.3	1,170.2	12,312	205.6	258.0
1984	214.3	3,661	1,750	639	2,829	2,288	83.8	1,286.9	14,484	224.0	330.7
1985	235.6	3,853	1,742	688	3,134	2,334	85.7	1,375.0	15,724	218.8	336.5
1986	249.3	3,935	1,805	750	3,474	2,336	88.1	1,449.6	16,322	227.2	365.4
1987	259.0	3,756	1,621	671	3,436	2,476	92.8	1,541.3	15,189	254.1	406.2
1988	262.2	3,594	1,488	676	3,513	2,695	97.1	1,656.2	15,679	322.4	441.0
1989	271.3	3,516	1,376	650	3,325	2,840	99.0	1,759.0	14,713	363.8	473.2
1990	246.0	3,020	1,193	534	3,219	2,912	98.5	1,844.6	14,146	393.6	495.3
1991	230.8	2,634	1,014	509	3,186	2,878	96.2	1,855.9	12,539	421.7	488.5
1992	252.2	2,799	1,200	610	3,479	3,005	100.0	1,951.6	13,116	448.2	532.7
1993	271.5	3,062	1,288	666	3,786	3,128	103.7	2,073.8	14,199	465.1	580.7
1994	296.7	3,411	1,457	670	3,916	3,348	109.9	2,229.9	15,411	512.6	663.3
1995	306.5	3,453	1,354	667	3,888	3,595	115.9	2,329.3	15,116	584.7	743.4
1996	331.8	3,773	1,477	757	4,196	3,715	121.4	2,461.2	15,456	625.1	795.3
1997	358.4	4,076	1,474	804	4,381	3,929	129.7	2,566.2	(NA)	689.2	870.7
1998	375.3	4,483	1,617	886	4,970	(NA)	135.1	2,696.0	(NA)	682.1	911.9

NA Not available. [1] Source: F. W. Dodge Division, McGraw-Hill Information Systems Company, New York, NY (copyright). [2] For 1929-1955, for 37 states; 1956-1969, for 48 states; thereafter, for 50 states. [3] Prior to 1959, excludes farm housing. Source: U.S. Census Bureau, *Current Construction Reports,* Series C20, monthly. [4] Source: U.S. Census Bureau and U.S. Dept. of Housing and Urban Development, *Current Construction Reports,* Series C25, annual reports. [5] Source: See Table 1205. [6] U.S. Census Bureau, *Current Industrial Reports,* Series M3-1(97); and earlier reports. [7] Board of Governors of the Federal Reserve System, *Industrial Production and Capacity Utilization,* Statistical Release G.17, monthly. [8] Source: U.S. Census Bureau, *Current Business Reports, Annual Benchmark Report for Retail Trade, January 1988 Through December 1998,* (BR/98-RV) and prior issues. [9] Source: American Automobile Manufacturers Association, *Motor Vehicle Facts and Figures,* annual (copyright). [10] Source: U.S. International Trade Administration, *U.S. Foreign Trade Highlights,* annual. [11] Break in series. Not entirely comparable with earlier years.

Source: Compiled from sources listed in footnotes.

No. 1439. Transportation Indicators for Motor Vehicles and Airlines: 1900 to 1998

Year	Motor vehicle								Scheduled airlines		
	Registrations			Vehicle miles of travel (VMT)		Highway fatalities					
	Motor vehicles, total (1,000)	Passenger cars: Number (1,000)	Passenger cars: Rate per 1,000 persons	Motor vehicles, total (mil.)	Average travel per vehicle (miles)	Number [1]	Rate per 100 million VMT	Public road miles (1,000)	Passengers carried (mil.)	Fatal accidents per 100,000 departures	Revenue per passenger mile [2]
1900	8	8	0.1	100	12,500	36	36.00	2,320	(NA)	(NA)	(NA)
1905	79	77	0.9	970	12,310	252	25.98	2,360	(NA)	(NA)	(NA)
1910	469	458	5.0	3,580	7,641	1,599	44.66	2,430	(NA)	(NA)	(NA)
1915	2,491	2,332	23.2	19,530	7,840	6,779	34.71	2,745	(NA)	(NA)	(NA)
1920	9,239	8,132	76.4	47,600	5,152	12,155	25.54	3,105	(NA)	(NA)	(NA)
1925	20,069	17,481	150.9	122,346	6,096	20,771	16.98	3,246	(NA)	(NA)	(NA)
1930	26,750	23,035	187.2	206,320	7,713	31,204	15.12	3,259	(NA)	(NA)	(NA)
1935	26,546	22,568	177.4	228,568	8,610	34,494	15.09	3,310	(NA)	(NA)	(NA)
1940	32,453	27,466	208.1	302,188	9,311	32,914	10.89	3,287	3.2	(NA)	(NA)
1945	31,035	25,797	194.7	250,173	8,061	26,785	10.71	3,319	7.2	(NA)	(NA)
1950	49,162	40,339	265.6	458,246	9,321	33,186	7.24	3,313	19.1	0.242	27.62
1955	62,689	52,145	315.9	605,646	9,661	36,688	6.06	3,418	41.4	0.275	23.86
1960	73,858	61,671	342.7	718,762	9,732	36,399	5.06	3,546	57.9	0.311	21.40
1965	90,358	75,258	388.9	887,812	9,826	47,089	5.30	3,690	94.7	0.167	17.95
1970	108,418	89,244	437.5	1,109,724	10,236	53,816	4.85	3,730	171.7	0.039	14.39
1975	132,949	106,706	495.2	1,327,664	9,986	45,500	3.43	3,838	205.1	0.043	13.61
1980	155,796	121,601	535.2	1,527,295	9,803	51,091	3.35	3,860	296.9	0.000	12.89
1985	171,689	127,885	537.5	1,774,826	10,337	43,825	2.47	3,864	382.0	0.069	10.46
1990	188,798	133,700	536.0	2,144,362	11,358	44,599	2.08	3,867	465.6	0.087	9.42
1991	188,136	128,300	508.9	2,172,050	11,545	41,508	1.91	3,884	452.3	0.059	9.03
1992	190,362	126,581	496.4	2,247,151	11,805	39,250	1.75	3,901	475.1	0.057	8.60
1993	194,063	127,327	494.0	2,296,378	11,833	40,150	1.75	3,905	488.5	0.014	8.72
1994	198,045	127,883	491.3	2,357,588	11,904	40,716	1.73	3,907	528.8	0.053	8.20
1995	201,530	128,387	488.6	2,422,696	12,022	41,817	1.73	3,912	547.8	0.025	8.15
1996	206,365	129,728	489.2	2,485,848	12,046	41,907	1.69	3,919	581.2	0.036	8.00
1997	207,754	129,749	484.6	2,560,373	12,324	41,967	1.64	3,945	599.1	0.037	7.89
1998	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	614.2	0.012	7.74

NA Not available. [1] Beginning 1980, covers only persons injured in highway vehicular crash that died within 30 days. [2] In constant (1982) dollars. Also known as constant dollar yield.

Source: U.S. Federal highway Administration, *Highway Statistics Summary to 1995*, and *Highway Statistics*, annual; and Air Transport Association, <http://www.air-transport.org/public/industry/28.asp> and <http:www.air-transport.org/public/industry/27.asp> (accessed 17 August 1999).

No. 1440. Selected Communications Media: 1920 to 1998

Year	Percent of households with—			Percent of TV households with—		Commercial television stations		Cable television		Daily newspapers	
	Telephone service [1]	Radio [2]	Television [3]	Cable TV [4]	VCRs [4]	VHF [3]	UHF [3]	Systems (number) [5]	Households served [6] (mil.)	Number [7]	Circulation [7] (mil.)
1920	35	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	2,042	27.8
1925	39	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	2,008	33.7
1930	41	39	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	1,942	39.6
1935	32	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	1,950	38.2
1940	37	73	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	1,878	41.1
1945	46	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	1,749	48.4
1950	62	91	9	(NA)	(NA)	98	-	(NA)	(NA)	1,772	53.8
1955	72	94	63	(NA)	(NA)	297	114	400	0.2	1,760	56.1
1960	78	94	85	(NA)	(NA)	440	75	640	0.7	1,763	58.9
1965	85	95	90	2.3	(NA)	481	88	1,325	1.3	1,751	60.4
1970	91	99	95	6.7	(NA)	501	176	2,490	4.5	1,748	62.1
1975	95	99	97	12.6	(NA)	514	192	3,506	9.8	1,756	60.7
1980	93	99	98	19.9	1.1	516	218	4,225	17.7	1,745	62.2
1985	92	99	98	42.8	20.9	520	363	6,600	39.9	1,676	62.8
1990	93	99	98	56.4	68.6	547	545	9,575	54.9	1,611	62.3
1991	94	99	98	58.9	71.9	547	551	10,704	55.8	1,586	60.7
1992	94	99	98	60.2	75.0	551	567	11,035	56.4	1,570	60.2
1993	94	99	98	61.4	77.1	552	585	11,108	57.2	1,556	59.8
1994	94	99	98	62.4	79.0	561	584	11,214	60.5	1,548	59.3
1995	94	99	98	63.4	81.0	562	599	11,218	63.0	1,533	58.2
1996	94	99	98	65.3	82.2	554	620	11,119	64.6	1,520	57.0
1997	94	99	98	66.5	84.2	558	619	10,950	65.9	1,509	56.7
1998	(NA)	(NA)	98	67.2	84.6	562	642	10,845	(NA)	1,489	56.2

- Represents zero. NA Not available. [1] For occupied housing units. Census years as of April 1; all other years as of March. Source: U.S. Census Bureau, *1970* and *1980 Census of Housing,* Vol. 1; thereafter Federal Communications Commission, *Trends in Telephone Service,* July 1998. [2] As of December 31, except as noted. Source: Radio Advertising Bureau, New York, NY, through 1992, *Radio Facts,* annual, (copyright); beginning 1993, *Radio Marketing Guide and Fact Book for Advertisers,* annual, (copyright). Number of stations on the air compiled from Federal Communications Commission reports. [3] Through 1970, as of September of prior year; all other years as of January of year shown. Excludes Alaska and Hawaii. Source: Television Bureau of Advertising, Inc., *Trends in Television,* annual (copyright). [4] As of February. Excludes Alaska and Hawaii. Source: See footnote 3. [5] As of January 1. Source: Warren Publishing, Washington DC, *Television and Cable Factbook* (copyright). [6] Source: Nielsen Media Research, *Nielsen Station Index,* November diary estimates (copyright). [7] As of September 30. Source: Editor & Publisher, Co., New York, NY, *Editor & Publisher International Year Book,* annual (copyright).

Source: Compiled from sources mentioned in footnotes.

No. 1441. Agriculture—Farms, Acreage, Income, and Foreign Trade: 1900 to 1998

[Farms and land as of **June 1. (5,740 represents 5,740,000)**. Based on various definitions of farms; 1975-1998, based on 1974 census definition; for definition of farms and farmland, see text, Section 23, Agriculture. Data for farms and land in census years (indicated by italics) have been adjusted for underenumeration and are used as reference points along with data from acreage and livestock surveys in estimating data for other years]

Year	Land in farms			Value added to U.S. economy by agricultural sector [1]				Agricultural [2]			
	Farms (1,000)	Total (mil. acres)	Average per farm (acres)	Final agricultural sector output (mil. dol.)	Crop output (mil. dol.)	Animal output (mil. dol.)	Net farm income (mil. dol.)	Index of prices received by farmers (**1990-92=100**)	Acreage of harvested crops (mil. acres)	Exports, domestic products (bil. dol.)	Imports for consumption (bil. dol.)
1900	5,740	841	147	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	[3]0.9	[3]0.4
1910	6,366	881	139	7,707	3,599	3,663	4,176	(NA)	(NA)	0.9	0.8
1920	6,454	959	149	16,632	8,352	7,445	7,794	(NA)	(NA)	3.9	3.4
1930	6,295	990	157	11,201	4,036	6,302	4,257	(NA)	(NA)	1.5	1.9
1935	6,812	1,055	155	9,821	4,143	4,995	5,277	(NA)	(NA)	0.7	0.9
1940	6,102	1,065	175	10,617	4,005	5,868	4,481	(NA)	(NA)	0.7	1.2
1945	5,859	1,142	195	24,632	10,523	13,057	12,313	(NA)	(NA)	2.2	1.7
1950	5,388	1,161	216	32,820	13,192	18,144	13,648	(NA)	345	3.0	3.2
1955	4,654	1,202	258	33,247	14,255	17,128	11,305	(NA)	340	3.1	3.8
1960	3,962	1,177	297	37,886	15,672	19,872	11,212	(NA)	324	4.5	4.0
1965	3,356	1,140	340	44,086	19,024	22,194	12,899	(NA)	298	6.1	4.0
1970	2,954	1,103	373	55,101	20,523	30,768	14,366	(NA)	293	7.0	5.7
1975	2,521	1,059	420	99,783	50,441	42,988	25,547	73	336	21.8	9.4
1980	2,440	1,039	426	147,994	64,358	70,318	16,141	98	352	40.5	17.3
1985	2,293	1,012	441	153,519	74,105	68,690	28,648	91	342	31.2	19.7
1987	2,213	999	451	151,673	64,478	75,743	37,427	89	302	27.9	20.7
1990	2,146	987	460	188,742	83,275	90,198	44,738	104	322	40.4	22.7
1991	2,117	982	464	183,704	80,985	87,291	38,639	100	318	37.8	22.7
1992	2,108	979	464	191,309	89,036	87,089	47,538	98	317	42.6	24.5
1993	2,202	969	440	190,671	82,383	91,701	43,567	101	308	42.9	24.6
1994	2,198	966	440	207,891	100,314	89,691	48,266	100	321	44.0	26.6
1995	2,196	963	438	202,824	95,805	87,632	35,984	102	314	54.7	29.9
1996	2,191	959	438	228,452	115,591	92,190	53,352	112	326	59.9	32.6
1997	2,191	956	436	230,771	112,498	96,200	49,824	107	332	57.4	35.8
1998	2,192	954	435	(NA)	(NA)	(NA)	(NA)	101	325	53.7	37.0

NA Not available. [1] Final sector output is the gross value of the commodities and services produced within a year. Net farm income is the farm operators' share of income from the sector's production activities. [2] 1900-1965, for year ending June 30; beginning 1970 for year ending Sept. 30. [3] 1901 data.

Source: U.S. Dept. of Agriculture, National Agricultural Statistics Service, *Farms and Land in Farms,* various Statistical Bulletins; U.S. Dept. of Agriculture, *Farm Business Economic Report,* annual; *Agricultural Prices: Annual Summary; and Foreign Agricultural Trade of the United States,* Jan-Feb. issues. Also in *Agricultural Statistics,* annual.

No. 1442. Production Indicators for Agricultural, Fishery, Mineral, and Manufactured Products: 1900 to 1998

Year	Agricultural products [1]				Mineral products [2]			Fishery, landed catch [3] (mil. lb.)	Manufactured products		Electric energy net generation [2] (mil. kWh)
	Corn for grain (mil. bu.)	Wheat (mil. bu.)	Cotton (1,000 bales)	Tobacco (mil. lbs.)	Crude petroleum (mil. bbls.)	Natural gas marketed (bil. cu. ft.)	Coal (1,000 sh. tons)		Raw steel [4] (mil. tons)	Passenger cars [5] (1,000)	
1900	(NA)	599	10,124	852	64	128	269,684	(NA)	11.2	4	(NA)
1910	(NA)	625	11,609	1,142	210	509	501,596	(NA)	28.3	181	(NA)
1920	2,695	843	13,429	1,509	443	812	658,265	(NA)	46.2	1,906	39,405
1930	1,757	887	13,932	1,648	898	1,979	536,911	3,224	44.6	2,787	91,112
1935	2,001	628	10,638	1,302	997	1,969	424,532	4,135	38.2	3,274	95,287
1940	2,207	815	12,566	1,460	1,353	2,734	512,256	4,060	67.0	3,717	141,837
1945	2,577	1,108	9,015	1,991	1,714	4,042	632,551	4,598	79.7	70	222,486
1950	2,764	1,019	10,014	2,030	1,974	6,282	560,388	4,901	96.8	6,666	329,141
1955	2,873	937	14,721	2,193	2,484	9,405	490,838	4,809	117.0	7,920	547,038
1960	3,907	1,355	14,272	1,944	2,575	12,771	434,329	4,942	99.3	6,675	755,374
1965	4,103	1,316	14,938	1,855	2,849	16,040	526,954	4,777	131.5	9,306	1,055,252
1970	4,152	1,352	10,192	1,906	3,517	21,921	612,659	4,917	131.5	6,547	1,531,609
1975	5,841	2,127	8,302	2,182	3,057	20,109	654,641	4,877	116.6	6,713	1,917,649
1980	6,639	2,381	11,122	1,786	3,138	20,180	829,700	6,482	111.8	6,400	2,286,439
1985	8,875	2,424	13,432	1,512	3,274	17,270	883,638	6,258	88.3	8,002	2,469,841
1990	7,934	2,730	15,505	1,626	2,685	18,594	1,029,076	9,404	98.9	6,050	2,808,151
1991	7,475	1,980	17,614	1,664	2,707	18,532	995,984	9,484	87.9	5,407	2,825,023
1992	9,477	2,467	16,219	1,722	2,617	18,712	997,545	9,637	92.9	5,685	2,797,219
1993	6,338	2,396	16,134	1,613	2,499	18,982	945,425	10,467	97.9	5,962	2,882,525
1994	10,051	2,321	19,662	1,583	2,432	19,710	1,033,504	10,461	100.6	6,549	2,910,712
1995	7,400	2,183	17,900	1,270	2,394	19,506	1,032,974	9,788	104.9	6,310	2,994,529
1996	9,233	2,277	18,942	1,519	2,360	19,751	1,063,856	9,565	105.3	6,140	3,077,442
1997	9,207	2,481	18,793	1,787	2,355	19,866	1,089,932	9,846	108.6	(NA)	3,122,523
1998	9,761	2,550	13,796	1,530	2,279	19,945	1,118,673	(NA)	107.6	(NA)	3,212,171

NA Not available. [1] Source: U.S. Department of Agriculture, National Agricultural Statistics Service, *Agricultural Statistics,* annual. [2] Source: 1900-1945, U.S. Bureau of Mines, *Minerals Yearbook;* 1950-1998, U.S. Energy Information Administration, *Annual Energy Review.* [3] *Source: U.S. national Oceanic and Atmospheric Administration, National Marine Fisheries Service, Fisheries in the United States,* annual. [4] Source: American Iron and Steel Institute, Washington, DC, *Annual Statistical Report* (copyright). [5] Amerian Automobile Manufacturers Association, *Motor Vehicle Facts and Figures,* annual.

Source: Compiled from sources indicated above.

No. 1443. Federal Government—Receipts, Outlays, Debt, and Employment: 1900 to 1999

[**In millions of dollars, except as indicated.** Budget figures prior to 1933 are based on the "Administrative Budget" concepts rather than the "Unified Budget" concepts. Employment figures are as end of fiscal year. 1998 and 1999 estimated]

Year	Total receipts	Outlays	Surplus or deficit (-)	Source of receipts: Individual income taxes	Source of receipts: Corporation income taxes	Source of receipts: Social insurance & retirement receipts [2]	National defense outlays	Gross Federal debt, total	Executive branch civilian employment [1]: Executive branch, total	Executive branch civilian employment [1]: Department of Defense	Executive branch civilian employment [1]: Civilian agencies
1900 . .	567	521	46	(NA)	(NA)	(NA)	(NA)	(NA)	[3]231	[3]45	[3]187
1905 . .	544	567	-23	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
1910 . .	676	694	-18	(NA)	(NA)	(NA)	(NA)	(NA)	380	58	322
1915 . .	683	746	-63	(NA)	(NA)	(NA)	(NA)	(NA)	387	58	329
1920 . .	6,649	6,358	291	(NA)	(NA)	(NA)	(NA)	(NA)	645	237	408
1925 . .	3,641	2,924	717	(NA)	(NA)	(NA)	(NA)	(NA)	542	95	447
1929 . .	3,862	3,127	734	(NA)	(NA)	(NA)	(NA)	(NA)	568	103	465
1930 . .	4,058	3,320	738	(NA)	(NA)	(NA)	(NA)	(NA)	589	103	485
1933 . .	1,997	4,598	-2,602	(NA)	(NA)	(NA)	(NA)	(NA)	604	101	502
1935 . .	3,609	6,412	-2,803	527	529	31	(NA)	(NA)	766	147	619
1940 . .	6,548	9,468	-2,920	892	1,197	1,785	1,660	50,696	699	256	443
1941 . .	8,712	13,653	-4,941	1,314	2,124	1,940	6,435	57,531	1,081	556	525
1942 . .	14,634	35,137	-20,503	3,263	4,719	2,452	25,658	79,200	1,934	1,291	643
1943 . .	24,001	78,555	-54,554	6,505	9,557	3,044	66,699	142,648	2,935	2,200	735
1944 . .	43,747	91,304	-47,557	19,705	14,838	3,473	79,143	204,079	2,930	2,246	683
1945 . .	45,159	92,712	-47,553	18,372	15,988	3,451	82,965	260,123	3,370	2,635	736
1946 . .	39,296	55,232	-15,936	16,098	11,883	3,115	42,681	270,991	2,212	1,416	795
1947 . .	38,514	34,496	4,018	17,935	8,615	3,422	12,808	257,149	1,637	859	777
1948 . .	41,560	29,764	11,796	19,315	9,678	3,751	9,105	252,031	1,569	871	698
1949 . .	39,415	38,835	580	15,552	11,192	3,781	13,150	252,610	1,573	880	694
1950 . .	39,443	42,562	-3,119	15,755	10,449	4,338	13,724	256,853	1,439	753	686
1951 . .	51,616	45,514	6,102	21,616	14,101	5,674	23,566	255,288	1,974	1,235	738
1952 . .	66,167	67,686	-1,519	27,934	21,226	6,445	46,089	259,097	2,066	1,337	729
1953 . .	69,608	76,101	-6,493	29,816	21,238	6,820	52,802	265,963	2,026	1,332	694
1954 . .	69,701	70,855	-1,154	29,542	21,101	7,208	49,266	270,812	1,875	1,209	666
1955 . .	65,451	68,444	-2,993	28,747	17,861	7,862	42,729	274,366	1,860	1,187	673
1956 . .	74,587	70,640	3,947	32,188	20,880	9,320	42,523	272,693	1,864	1,180	684
1957 . .	79,990	76,578	3,412	35,620	21,167	9,997	45,430	272,252	1,869	1,161	708
1958 . .	79,636	82,405	-2,769	34,724	20,074	11,239	46,815	279,666	1,817	1,097	720
1959 . .	79,249	92,098	-12,849	36,719	17,309	11,722	49,015	287,465	1,805	1,078	727
1960 . .	92,492	92,191	301	40,715	21,494	14,683	48,130	290,525	1,808	1,047	761
1961 . .	94,388	97,723	-3,335	41,338	20,954	16,439	49,601	292,648	1,825	1,042	782
1962 . .	99,676	106,821	-7,146	45,571	20,523	17,046	52,345	302,928	1,896	1,070	827
1963 . .	106,560	111,316	-4,756	47,588	21,579	19,804	53,400	310,324	1,911	1,050	861
1964 . .	112,613	118,528	-5,915	48,697	23,493	21,963	54,757	316,059	1,884	1,030	855
1965 . .	116,817	118,228	-1,411	48,792	25,461	22,242	50,620	322,318	1,901	1,034	867
1966 . .	130,835	134,532	-3,698	55,446	30,073	25,546	58,111	328,498	2,051	1,138	913
1967 . .	148,822	157,464	-8,643	61,526	33,971	32,619	71,417	340,445	2,251	1,303	949
1968 . .	152,973	178,134	-25,161	68,726	28,665	33,923	81,926	368,685	2,289	1,317	972
1969 . .	186,882	183,640	3,242	87,249	36,678	39,015	82,497	365,769	2,301	1,342	960
1970 . .	192,807	195,649	-2,842	90,412	32,829	44,362	81,692	380,921	2,203	1,219	983
1971 . .	187,139	210,172	-23,033	86,230	26,785	47,325	78,872	408,176	2,144	1,154	989
1972 . .	207,309	230,681	-23,373	94,737	32,166	52,574	79,174	435,936	2,117	1,108	1,009
1973 . .	230,799	245,707	-14,908	103,246	36,153	63,115	76,681	466,291	2,083	1,053	1,030
1974 . .	263,224	269,359	-6,135	118,952	38,620	75,071	79,347	483,893	2,140	1,070	1,070
1975 . .	279,090	332,332	-53,242	122,386	40,621	84,534	86,509	541,925	2,149	1,042	1,107
1976 . .	298,060	371,792	-73,732	131,603	41,409	90,769	89,619	628,970	2,157	1,010	1,147
1977 . .	355,559	409,218	-53,659	157,626	54,892	106,485	97,241	706,398	2,182	1,009	1,173
1978 . .	399,561	458,746	-59,186	180,988	59,952	120,967	104,495	776,602	2,224	1,000	1,225
1979 . .	463,302	504,032	-40,729	217,841	65,677	138,939	116,342	829,470	2,161	960	1,201
1980 . .	517,112	590,947	-73,835	244,069	64,600	157,803	133,995	909,050	2,161	960	1,201
1981 . .	599,272	678,249	-78,976	285,917	61,137	182,720	157,513	994,845	2,143	984	1,159
1982 . .	617,766	745,755	-127,989	297,744	49,207	201,498	185,309	1,137,345	2,110	990	1,121
1983 . .	600,562	808,380	-207,818	288,938	37,022	208,994	209,903	1,371,710	2,157	1,026	1,131
1984 . .	666,486	851,874	-185,388	298,415	56,893	239,376	227,413	1,564,657	2,171	1,044	1,127
1985 . .	734,088	946,423	-212,334	334,531	61,331	265,163	252,748	1,817,521	2,252	1,107	1,145
1986 . .	769,215	990,460	-221,245	348,959	63,143	283,901	273,375	2,120,629	2,175	1,068	1,108
1987 . .	854,353	1,004,122	-149,769	392,557	83,926	303,318	281,999	2,346,125	2,232	1,090	1,142
1988 . .	909,303	1,064,489	-155,187	401,181	94,508	334,335	290,361	2,601,307	2,222	1,050	1,172
1989 . .	991,190	1,143,671	-152,481	445,690	103,291	359,416	303,559	2,868,039	2,238	1,075	1,162
1990 . .	1,031,969	1,253,163	-221,194	466,884	93,507	380,047	299,331	3,206,564	2,250	1,034	1,216
1991 . .	1,055,041	1,324,400	-269,359	467,827	98,086	396,016	273,292	3,598,498	2,243	1,013	1,230
1992 . .	1,091,279	1,381,681	-290,402	475,964	100,270	413,689	298,350	4,002,136	2,225	952	1,274
1993 . .	1,154,401	1,409,414	-255,013	509,680	117,520	428,300	291,086	4,351,416	2,157	891	1,266
1994 . .	1,258,627	1,461,731	-203,104	543,055	140,385	461,475	281,642	4,643,705	2,085	850	1,235
1995 . .	1,351,830	1,515,729	-163,899	590,244	157,004	484,473	272,066	4,921,018	2,012	802	1,210
1996 . .	1,453,062	1,560,512	-107,450	656,417	171,824	509,414	265,748	5,181,934	1,934	768	1,166
1997 . .	1,579,292	1,601,235	-21,943	737,466	182,293	539,371	270,473	5,369,707	1,872	723	1,149
1998 . .	1,657,858	1,667,815	-9,957	767,768	190,842	571,374	264,112	5,543,589	(NA)	(NA)	(NA)
1999 . .	1,742,736	1,733,217	9,519	791,454	197,965	595,886	265,489	5,738,119	(NA)	(NA)	(NA)

NA Not available. [1] End of fiscal year counts. Excludes Postal Service. 1940 to 1953 are estimates. [2] Includes some off-budget amounts; most of the off-budget amounts are direct payments for individuals (social security benefits). [3] 1901 data.

Source: 1940-1999, Office of Management and Budget, *Historical Tables, Budget of the United States Government, Fiscal Year 2000;* and 1900-39 for employment, U.S. Civil Service Commission (currently Office of Personnel Management, Federal Civilian Manpower Statistics; and 1900-39 for finances, U.S. Department of the Treasury, *Statistical Appendix to Annual Report of the Secretary of the Treasury, 1970.*

No. 1444. National Defense and Veterans—Summary: 1900 to 1998

[For fiscal year ending in year shown]

Year	National defense and veterans outlays (bil. dol.)			Defense outlays, percent of—		Active duty military personnel (1,000)					
	Total outlays	Defense outlays [1]	Veterans outlays [2]	Federal outlays	GDP [3]	Total	Army	Navy	Marine Corps	Air Force	Veterans (1,000)
1900	0.3	0.2	0.1	36.6	(NA)	125.9	101.7	18.8	5.4	(X)	1,224
1915	0.5	0.3	0.2	46.1	(NA)	174.1	106.8	57.1	10.3	(X)	773
1918	6.4	6.1	0.3	48.5	(NA)	2,897.2	2,395.7	448.6	52.8	(X)	(NA)
1919	11.5	11.0	0.5	59.5	(NA)	1,172.6	851.6	272.1	48.8	(X)	(NA)
1920	2.9	2.4	0.5	37.1	(NA)	343.3	204.3	121.8	17.2	(X)	5,146
1930	1.5	0.8	0.6	25.3	(NA)	255.6	139.4	96.9	19.4	(X)	4,680
1940	2.2	1.7	0.6	17.5	1.7	458.4	269.0	161.0	28.3	(X)	4,286
1941	7.0	6.4	0.6	47.1	5.6	1,801.1	1,462.3	284.4	54.4	(X)	4,337
1942	26.2	25.7	0.5	73.0	17.8	3,858.8	3,075.6	640.6	142.6	(X)	4,485
1943	67.0	66.7	0.3	84.9	37.1	9,044.7	6,994.5	1,741.8	308.5	(X)	5,002
1944	79.0	79.1	-0.1	86.7	37.9	11,451.7	7,994.8	2,981.4	475.6	(X)	5,689
1945	83.1	83.0	0.1	89.5	37.5	12,055.9	8,266.4	3,319.6	469.9	(X)	6,498
1950	22.6	13.7	8.8	32.2	5.0	1,459.5	593.2	380.7	74.3	411.3	19,077
1951	29.1	23.6	5.5	51.8	7.3	3,249.4	1,531.8	736.6	192.6	788.4	18,919
1952	51.4	46.1	5.3	68.1	13.2	3,635.9	1,596.4	824.3	232.0	983.3	19,338
1953	57.3	52.8	4.5	69.4	14.2	3,555.1	1,533.8	794.4	249.2	977.6	20,196
1954	53.9	49.3	4.6	69.5	13.0	3,302.1	1,404.6	725.7	223.9	947.9	20,951
1955	47.4	42.7	4.7	62.4	10.8	2,935.1	1,109.3	660.7	205.2	959.9	21,861
1960	53.6	48.1	5.4	52.2	9.3	2,475.4	873.1	617.0	170.6	814.8	22,534
1965	56.3	50.6	5.7	42.8	7.4	2,653.9	969.1	670.0	190.2	824.7	21,834
1966	64.0	58.1	5.9	43.2	7.7	3,092.2	1,199.8	743.3	261.3	887.4	25,534
1967	78.2	71.4	6.7	45.4	8.8	3,375.5	1,442.5	750.2	285.3	897.5	25,805
1968	89.0	81.9	7.0	46.0	9.4	3,546.1	1,570.3	763.6	307.3	904.9	26,273
1969	90.1	82.5	7.6	44.9	8.7	3,458.1	1,512.2	773.8	309.8	862.4	26,925
1970	90.4	81.7	8.7	41.8	8.1	3,064.8	1,322.5	691.1	259.7	791.3	26,976
1971	88.6	78.9	9.8	37.5	7.3	2,713.0	1,123.8	621.6	212.4	755.3	27,523
1972	89.9	79.2	10.7	34.3	6.7	2,322.0	811.0	586.9	198.2	725.8	27,956
1973	88.7	76.7	12.0	31.2	5.9	2,251.9	801.0	563.7	196.1	691.2	28,125
1974	92.7	79.3	13.4	29.5	5.5	2,162.0	783.3	545.9	188.8	644.0	28,218
1975	103.1	86.5	16.6	26.0	5.6	2,128.1	784.3	535.1	196.0	612.8	28,281
1980	155.2	134.0	21.2	22.7	4.9	2,050.6	777.0	527.2	188.5	558.0	28,640
1990	328.4	299.3	29.1	23.9	5.3	2,043.7	732.4	579.4	196.7	535.2	27,320
1995	310.0	272.1	37.9	17.9	3.8	1,518.2	508.6	434.6	174.6	400.4	26,198
1997	309.8	270.5	39.3	16.9	3.4	1,438.6	491.7	395.6	173.9	377.4	25,551
1998	307.2	264.1	43.1	16.2	3.2	(NA)	(NA)	(NA)	(NA)	(NA)	25,188

NA Not available. X Not applicable. [1] Source: 1900-39, U.S. Bureau of the Budget, unpublished data. Data represent outlays of Department of the Army and Department of the Navy. [2] Source: 1900-39, Veterans Administration, Annual Report of Administrator of Veterans Affairs. [3] Represents fiscal year Gross Domestic Product (GDP).

Source: Except as noted, budget data, U.S. Office of Management and Budget, *Historical Tables, Budget of the United States Government, Fiscal Year 2000;* personnel, U.S. Department of Defense, *Selected Manpower Statistics,* annual; and veterans, U.S. Department of Veterans affairs, *Annual Report of the Secretary of Veterans Affairs.*

No. 1445. Vote Cast for President, by Major Political Party: 1900 to 1996

[Prior to 1960, excludes Alaska and Hawaii; prior to 1964, excludes DC]

Year	Candidates for President		Vote cast for President						
				Democratic			Republican		
				Popular vote			Popular vote		
	Democratic	Republican	Total popular vote [1] (1,000)	Number (1,000)	Percent	Electoral vote	Number (1,000)	Percent	Electoral vote
1900	McKinley	Bryan	13,962	6,357	45.5	155	7,218	51.7	292
1904	Parker	Roosevelt	13,522	5,084	37.6	140	7,628	56.4	336
1908	Bryan	Taft	14,888	6,412	43.1	162	7,675	51.6	321
1912	Wilson	Taft	15,037	6,297	41.9	435	3,487	23.2	8
1916	Wilson	Hughes	18,480	9,128	49.4	277	8,534	46.2	254
1920	Cox	Harding	26,769	9,133	34.1	127	16,153	60.3	404
1924	Davis	Coolidge	29,095	8,387	28.8	136	15,720	54.0	382
1928	Smith	Hoover	36,806	15,008	40.8	87	21,437	58.2	444
1932	F. D. Roosevelt	Hoover	39,759	22,830	57.4	472	15,761	39.6	59
1936	F. D. Roosevelt	Landon	45,655	27,757	60.8	523	16,684	36.5	8
1940	F. D. Roosevelt	Willkie	49,900	27,313	54.7	449	22,348	44.8	82
1944	F. D. Roosevelt	Dewey	47,977	25,613	53.4	432	22,018	45.9	99
1948	Truman	Dewey	48,794	24,179	49.6	303	21,991	45.1	189
1952	Stevenson	Eisenhower	61,551	27,315	44.4	89	33,936	55.1	442
1956	Stevenson	Eisenhower	62,027	26,023	42.0	73	35,590	57.4	457
1960	Kennedy	Nixon	68,838	34,227	49.7	303	34,108	49.5	219
1964	Johnson	Goldwater	70,645	43,130	61.1	486	27,178	38.5	52
1968	Humphrey	Nixon	73,212	31,275	42.7	191	31,785	43.4	301
1972	McGovern	Nixon	77,719	29,170	37.5	17	47,170	60.7	520
1976	Carter	Ford	81,556	40,831	50.1	297	39,148	48.0	240
1980	Carter	Reagan	86,515	35,484	41.0	49	43,904	50.7	489
1984	Mondale	Reagan	92,653	37,577	40.6	13	54,455	58.8	525
1988	Dukakis	Bush	91,595	41,809	45.6	111	48,886	53.4	426
1992	Clinton	Bush	104,425	44,909	43.0	370	39,104	37.4	168
1996	Clinton	Dole	96,278	47,402	49.2	379	39,199	40.7	159

[1] Include votes for minor party candidates, independents, unpledged electors, and scattered write-in votes.

Source: 1900-32, U.S. Census Bureau, *Historical Statistics of the United States, Colonial Times to 1970;* 1936-96: Congressional Quarterly, Inc., Washington, DC. *America at the Polls 2,* 1965, and *America Votes,* biennial, (copyright).

No. 1446. Political Party Affiliations in Congress and the Presidency: 1939 to 1997

[D=Democrat, R=Republican. Figures are for beginning of the first session of each Congress, except as indicated. Excludes vacancies at beginning of session]

Year	Congress	House			Senate			President
		Majority party	Principal minority party	Other (except vacancies)	Majority party	Principal minority party	Other (except vacancies)	
1939-1940	76th	D-261	R-164	4	D-69	R-23	4	D (F. Roosevelt)
1941-1942	77th	D-268	R-162	5	D-66	R-28	2	D (F. Roosevelt)
1943-1944	78th	D-218	R-208	4	D-58	R-37	1	D (F. Roosevelt)
1945-1946	79th	D-242	R-190	2	D-56	R-38	1	D (Truman)
1947-1948	80th	R-245	D-188	1	R-51	D-45	-	D (Truman)
1949-1950	81st	D-263	R-171	1	D-54	R-42	-	D (Truman)
1951-1952	82d	D-234	R-199	1	D-49	R-47	-	D (Truman)
1953-1954	83d	R-221	D-211	1	R-48	D-47	1	R (Eisenhower)
1955-1956	84th	D-232	R-203	-	D-48	R-47	1	R (Eisenhower)
1957-1958	85th	D-233	R-200	-	D-49	R-47	-	R (Eisenhower)
1959-1960	86th	D-283	R-153	-	D-64	R-34	-	R (Eisenhower)
1961-1962	87th	D-263	R-174	-	D-65	R-35	-	D (Kennedy)
1963-1964	88th	D-258	R-177	-	D-67	R-33	-	D (L. Johnson) D (Kennedy)
1965-1966	89th	D-295	R-140	-	D-68	R-32	-	D (L. Johnson)
1967-1968	90th	D-246	R-187	-	D-64	R-36	-	D (L. Johnson)
1969-1970	91st	D-245	R-189	-	D-57	R-43	-	R (Nixon)
1961-1962	87th	D-263	R-174	-	D-65	R-35	-	D (Kennedy)
1963-1964	88th	D-258	R-177	-	D-67	R-33	-	D (Kennedy)
1965-1966	89th	D-295	R-140	-	D-68	R-32	-	D (Johnson)
1967-1968	90th	D-247	R-187	-	D-64	R-36	-	D (Johnson)
1969-1970	91st	D-243	R-192	-	D-57	R-43	-	R (Nixon)
1971-1972	92d	D-254	R-180	-	D-54	R-44	2	R (Nixon)
1973-1974 [1] [2]	93d	D-239	R-192	1	D-56	R-42	2	R (Nixon)
1975-1976 [3]	94th	D-291	R-144	-	D-60	R-37	2	R (Ford)
1977-1978 [4]	95th	D-292	R-143	-	D-61	R-38	1	D (Carter)
1979-1980 [4]	96th	D-276	R-157	-	D-58	R-41	1	D (Carter)
1981-1982 [4]	97th	D-243	R-192	-	R-53	D-46	1	R (Reagan)
1983-1984	98th	D-269	R-165	-	R-54	D-46	-	R (Reagan)
1985-1986	99th	D-252	R-182	-	R-53	D-47	-	R (Reagan)
1987-1988	100th	D-258	R-177	-	D-55	R-45	-	R (Reagan)
1989-1990	101st	D-259	R-174	-	D-55	R-45	-	R (Bush)
1991-1992 [5]	102d	D-267	R-167	1	D-56	R-44	-	R (Bush)
1993-1994 [5]	103d	D-258	R-176	1	D-57	R-43	-	D (Clinton)
1995-1996 [5]	104th	R-230	D-204	1	R-52	D-48	-	D (Clinton)
1996 [5]	104th	R-236	D-197	1	R-53	D-46	-	D (Clinton)
1997 [5] [6]	105th	R-226	D-207	2	R-55	D-45	-	D (Clinton)

- Represents zero. [1] Senate had one Independent and one Conservative-Republican. [2] House had one Independent-Democrat. [3] Senate had one Independent, one Conservative-Republican, and one undecided (New Hampshire). [4] Senate had one Independent. [5] House had one Independent-Socialist. [6] As of beginning of second session.

Source: U.S. Congress, Joint Committee on Printing, *Congressional Directory,* annual; beginning 1977, biennial.

No. 1447. World Population, by Region: 1950 to 1998

[In millions (2,556.0 represents 2,556,000,000), except as indicated]

Year	World, total [1]	Africa, total	Near East	Asia, excluding Near East	Latin America and the Caribbean	Europe		Northern America	
						Total	Western Europe	Total	United States
NUMBER									
1950	2,556.0	228.3	43.7	1,367.7	165.8	571.7	304.4	166.3	152.3
1955	2,780.3	253.4	49.7	1,488.1	189.5	603.5	314.0	182.1	165.9
1960	3,039.5	282.9	57.4	1,627.5	217.9	639.0	325.7	199.0	180.7
1965	3,345.4	317.7	65.7	1,804.9	250.4	674.9	340.3	214.5	194.3
1970	3,706.6	359.5	74.7	2,037.7	286.0	702.5	351.6	226.9	205.1
1975	4,086.3	408.0	86.6	2,279.2	323.5	728.6	361.1	239.3	216.0
1980	4,453.8	468.3	100.6	2,497.6	362.0	750.3	366.8	252.4	227.7
1985	4,850.6	540.3	117.3	2,732.6	401.9	769.3	370.5	264.5	238.5
1990	5,277.0	620.8	134.9	2,985.9	443.0	788.0	376.5	277.9	249.9
1995	5,682.4	705.6	152.7	3,220.7	483.6	798.5	384.4	292.8	263.0
1998	5,918.6	760.0	165.0	3,356.0	507.6	799.4	386.6	301.1	270.3
PERCENT DISTRIBUTION									
1950	100.0	8.9	1.7	53.5	6.5	22.4	11.9	6.5	6.0
1960	100.0	9.3	1.9	53.5	7.2	21.0	10.7	6.5	5.9
1970	100.0	9.7	2.0	55.0	7.7	19.0	9.5	6.1	5.5
1980	100.0	10.5	2.3	56.1	8.1	16.8	8.2	5.7	5.1
1990	100.0	11.8	2.6	56.6	8.4	14.9	7.1	5.3	4.7
1998	100.0	12.8	2.8	56.7	8.6	13.5	6.5	5.1	4.6

[1] Includes Oceania.

Source: U.S. Census Bureau, International Data Base.

3.3 **Selling a vision of the future** | Role Play

In 1964, New York City hosted the World's Fair at Flushing Meadows-Corona Park for the second time in a row (the first time being 1939). The theme of the fair was "Peace Through Understanding," and it was dedicated to "Man's Achievement on a Shrinking Globe in an Expanding Universe," an internationalist, futurist framework that was common after the end of World War II. But in addition to these lofty ideals, the Fair gave a platform to 45 companies—including General Motors, General Electric, Chrysler, IBM, Dupont Chemical, and Ford—who used exhibits and attractions to advertise their state-of-the-art products. To a critical eye, the way these companies' products are represented communicates a lot about the culture of the time.

One of the products advertised at the Fair was the General Motors Firebird IV passenger car, which like the rest of the Firebird line employed an internal gas turbine engine. This engine was meant to produce a streamlined car with a much simpler, lighter-weight engine, but noise and fuel efficiency issues prevented it from ever being mass produced. Only nine Firebirds are still intact today.

Instructions

What vision(s) of the future can be seen in these spaces and images?

What role does energy play in this future?

What ideals or aspirations do these visions speak to?

Then, work together to design and write an advertisement for a 1964 Firebird IV.

Don't try to create an entire, finished campaign, but come up with a general proposal, or pitch that speaks to the same ideals. What kind of advertisements will these be—posters? Radio messages? Television ads? Where would they appear? Brainstorm key taglines, phrases, images, and narrative elements.

Pitch your campaign to the rest of the class.

Sources

General Motors | Firebird IV turbine automobile promotional video

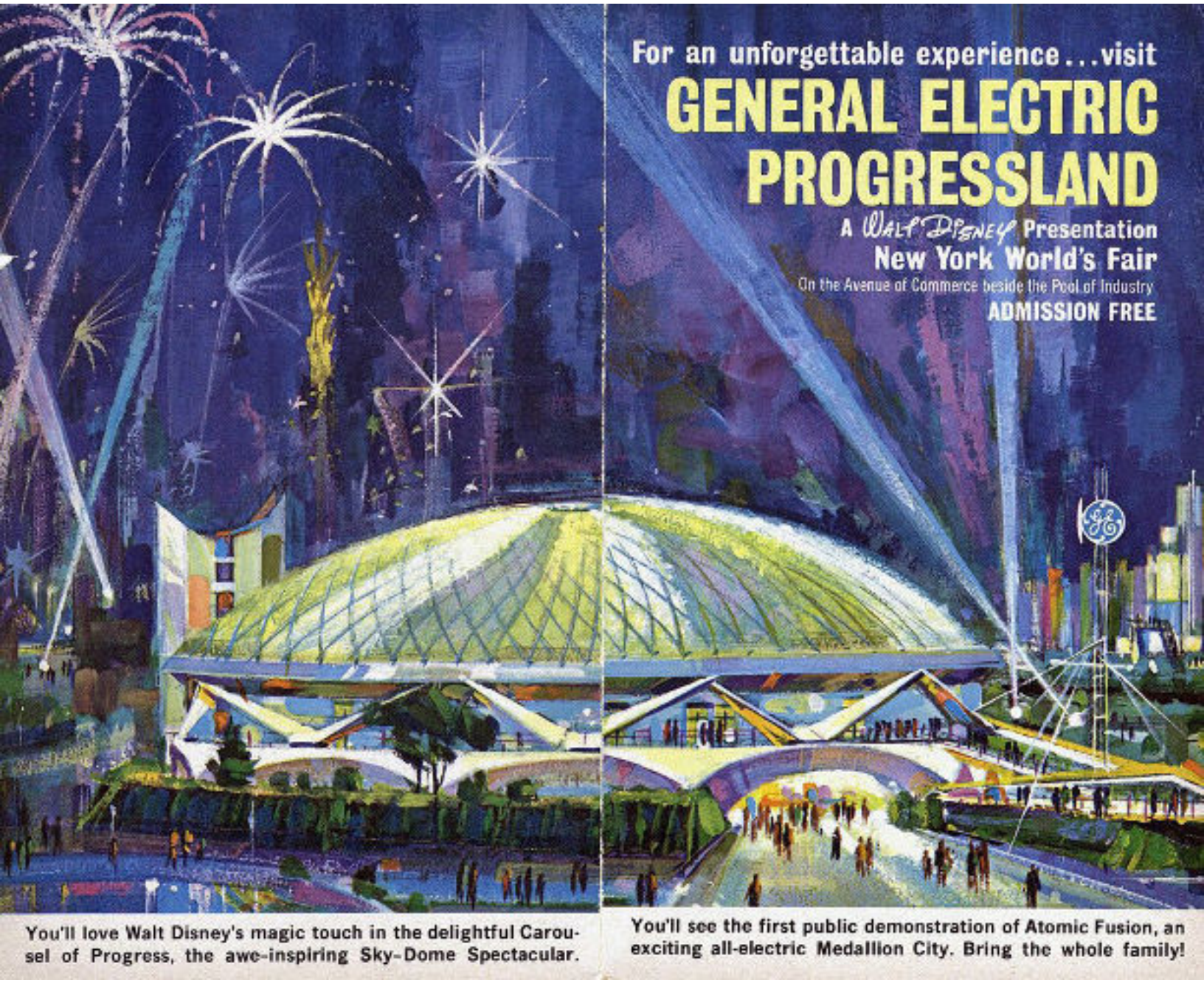
youtu.be/xKOdux6Gjno

World's Fair overview (44:25 - 47:25)

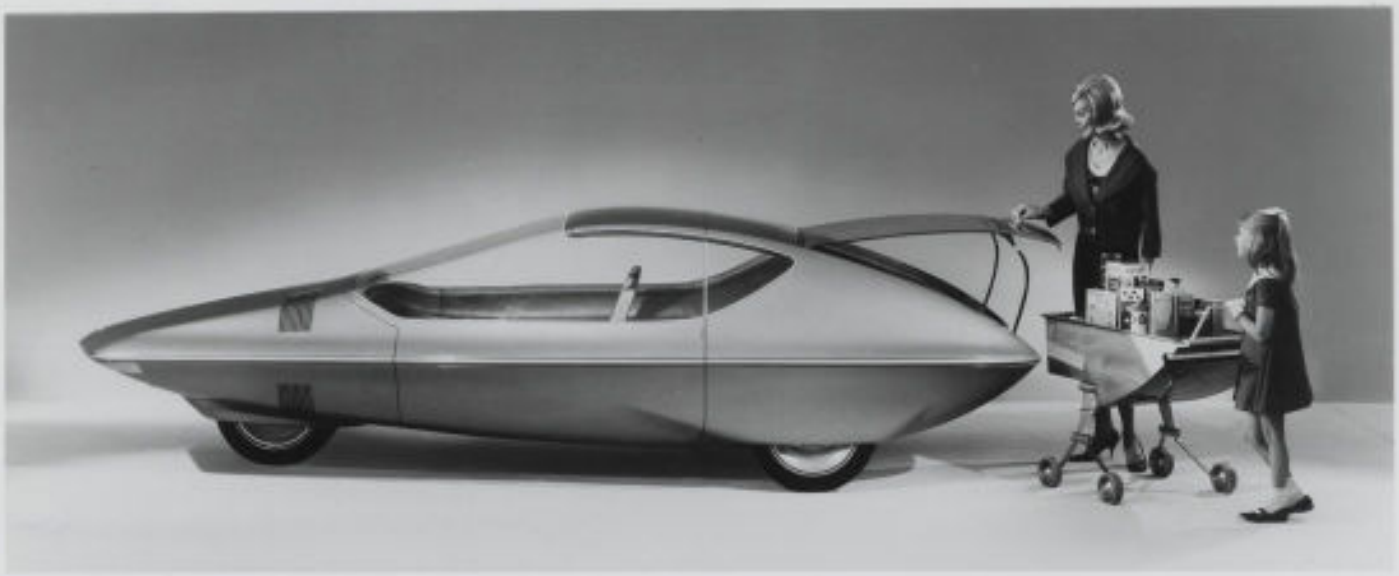
youtu.be/jOweXcJlE1g

Map of exhibits at New York World's Fair (1964), via David Rumsey Map Collection

"Progressland," promotional image by General Electric (1964)



Firebird IV promotional photographs by Chrysler (1964), courtesy of Museum of the City of New York



In the 1920s, Robert Moses lobbied for a change to New York State law that allowed his department to appropriate private land for the parks and parkways he intended to build, including the Northern State Parkway. However, some of the land that the roads were designed to pass through belonged to wealthy families with large country estates who fought the change in the courts and delayed construction for many years. Ultimately, Moses prevailed and the parkways were built. The plan also included public lands that had previously been part of the Brooklyn Waterworks system.

In the 21st century, as the problems posed by anthropogenic climate change intensify, transitioning the energy system to renewable energy sources becomes ever more urgent. The transition requires the expansion of renewable energy infrastructure, including wind and solar power plants. But not everyone agrees on the right way to go about this expansion. As in Moses' time, some people argue that government has a right to take bold steps towards building necessary infrastructure; others believe that the rights of individuals and communities who may be impacted by big projects should come first.

Long Island provides a notable example. Planned off-shore wind farms, spread over hundreds of thousands of acres south and east of the island, are expected to produce enough carbon-neutral electricity to power millions of homes. But in the planning phase, communities who work and live near the proposed sites, especially fishermen, resisted the projects, describing them as a threat to their livelihoods. Others asserted that the projects, developed by private companies with government help, will ultimately enrich corporations rather than the public.

Instructions

Use the internet to research the pros, cons, and stake-holders of off-shore wind.

Then, imagine you are a state legislator supporting or opposing a similar off-shore wind project in the future. Write a short speech to the public making the case for your position. Consider:

> **What does the government owe impacted communities?**
>
> **How should the public and the government reconcile the needs of the collective and the rights of individuals in the context of climate change?**
>
> **What is the value of central planning and expertise, versus democratic process and planning through consensus?**