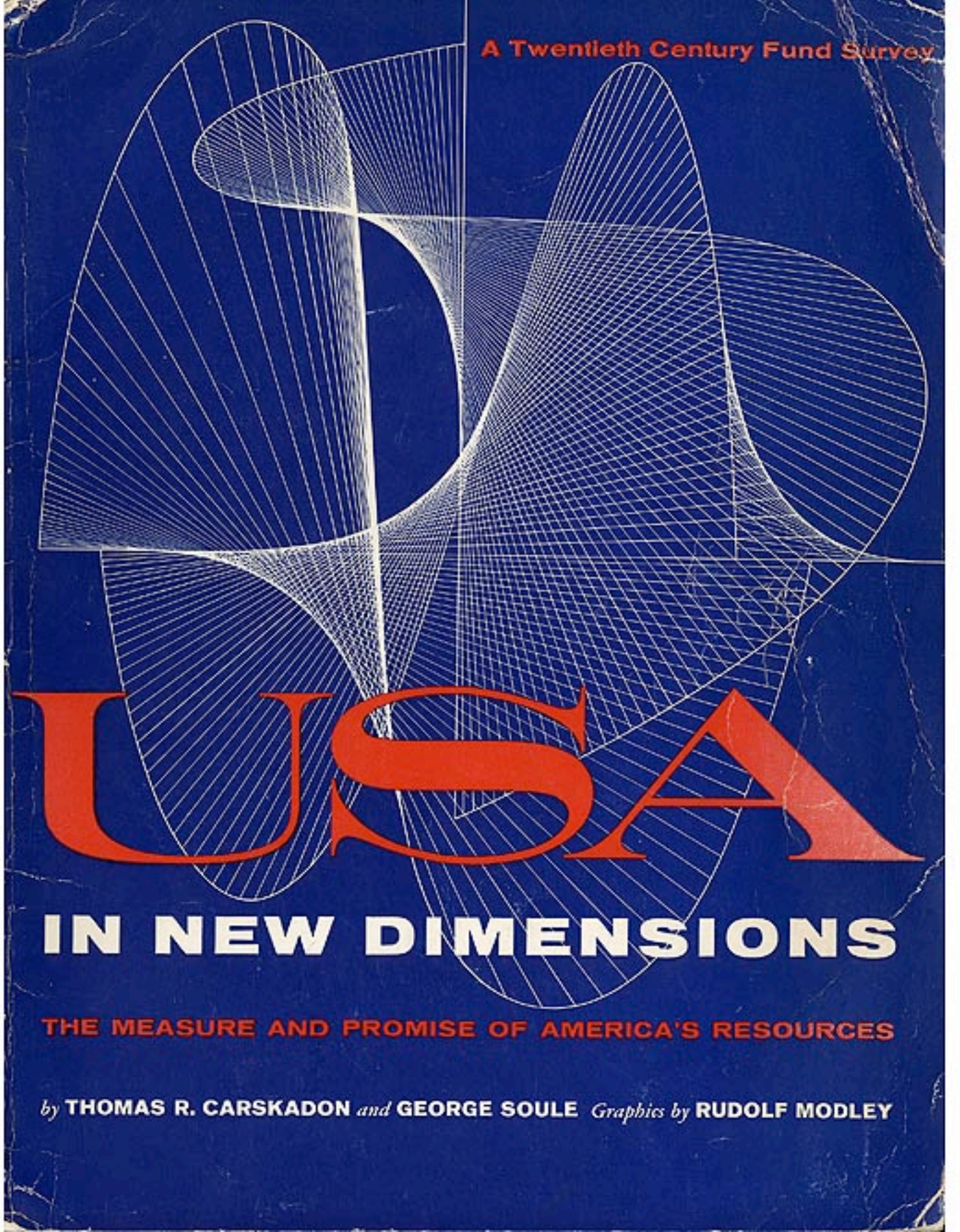

A Twentieth Century Fund Survey
USA
IN NEW DIMENSIONS
THE MEASURE AND PROMISE OF AMERICA'S RESOURCES
by THOMAS R. CARSKADON and GEORGE SOULE Graphics by RUDOLF MODLEY

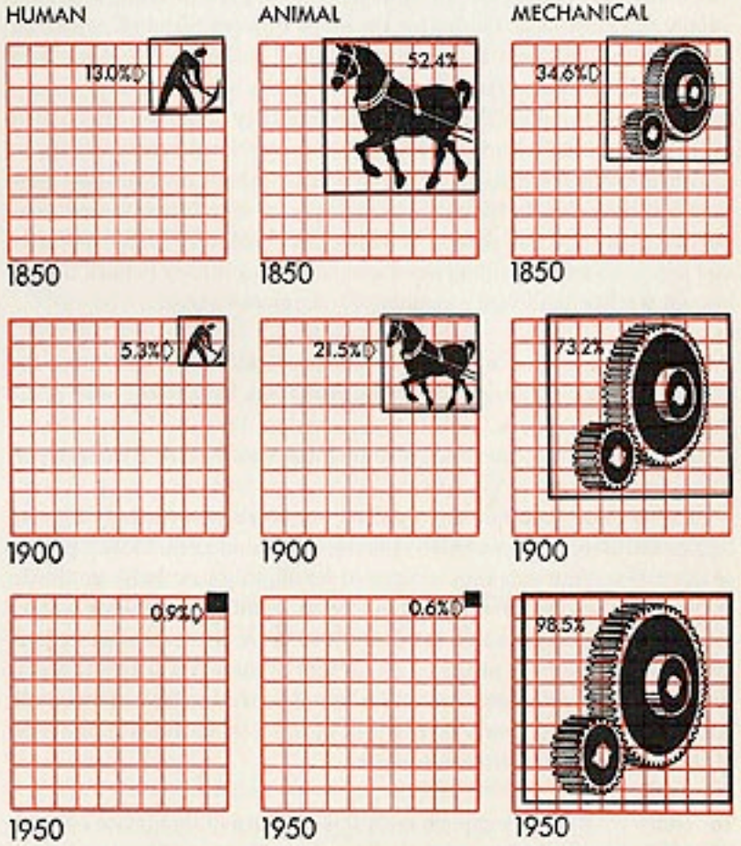
as many workers. Allowing for the shorter work week of 1950, we used less than five times as large an actual input of human energy—which means a nearly sixfold increase in productivity.

But we used 74 times as much nonhuman energy. In other words, one man with today's power-driven mechanical equipment can do as much work in 40 hours as three men working 70 hours a week with the primitive tools of a century ago.

A Recurring Theme

There is the central principle of our success, the secret of our phenomenal rise in productivity. We shall encounter the results of this principle many times as we look into every part of our entire economic system to get the full aspect of America's new dimensions.

Work Output of Sources of Energy



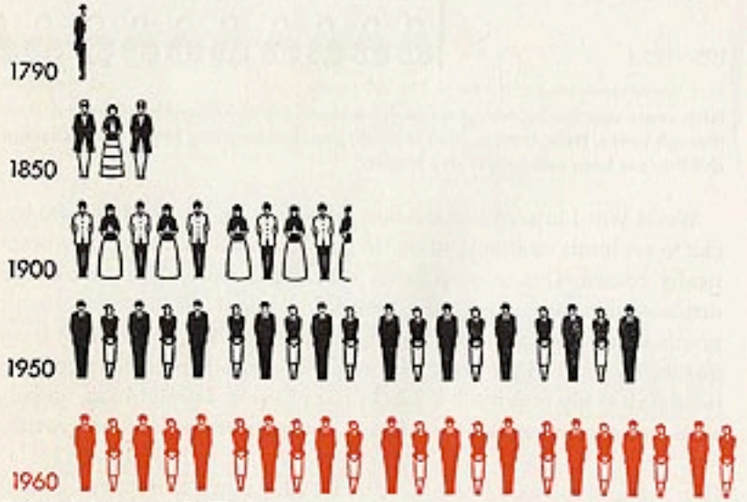
Back in 1850 men and animals did most of the work. Today, most of the work is done by inanimate machines fed with oil, coal or natural gas.

The American People

In the broadest sense, our nation consists of its people. What happens to our people—how many of us there are, how old we are, the rates at which we are born, die, marry, get divorced or have babies—vitally affects us all.

Throughout our history we have always grown rapidly in population. We faltered only once—during the long depression of the 1930s—but our growth speeded up again in the first years of World War II and expanded further with the "baby boom" of the late 1940s and 1950s. Today we face a new outlook and new dimensions in the number of our people.

Population Growth



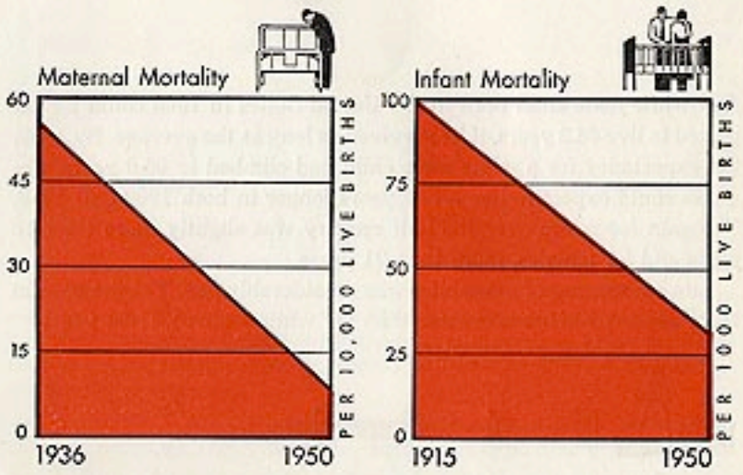
Each symbol represents 8 million people

In its first hundred years, the country's population doubled about every 25 years. After that, population grew more slowly. Since World War II it has been growing faster again.

Progress in Health and Medical Care

Two big advances mainly caused the change. One was reduction of the peril of childbirth. As late as 1936, 56.8 out of every 10,000 women who gave birth to live children died in the process. By 1950 the rate had become only 8.3 per 10,000.

A still greater advance was achieved in preserving the lives of babies and children. In 1915 the death rate for babies in their first year was approximately one out of 10. In 1950 it was less than 3 out of 100.

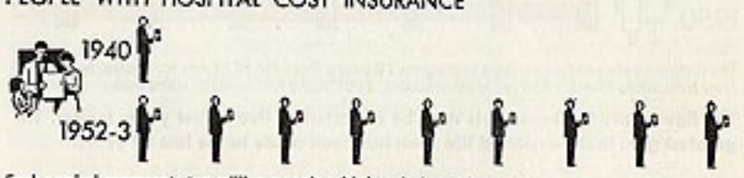


HOSPITAL BEDS PER 1000 POPULATION



Each symbol represents one bed per 1000 population

PEOPLE WITH HOSPITAL COST INSURANCE



Each symbol represents ten million people with hospital cost insurance

The greatest progress has been made in cutting the deaths of mothers in childbirth and of children in the first year of their life. There are also more hospital beds to take care of the sick—and insurance to pay for the care.

Diseases Pushed Back

Illnesses which, though they can attack anyone, are particularly deadly in the early years of life were pushed by medical science off the top of the list of causes of death. In 1900, influenza and pneumonia killed more people than any other diseases. Tuberculosis was the next most deadly enemy. Third stood gastritis, diarrhea and similar ailments.

The rate of death from influenza and pneumonia in 1950 was less than one sixth of that in 1900; from tuberculosis, about one ninth. Gastritis and its cousins as a cause of death are now barely one thirtieth of the 1900 rate.

Typhoid fever and the "children's diseases," diphtheria, measles and whooping cough, have been almost eliminated as killers; not one of them now causes as many as one death out of 100,000 persons in a year.

Gains and Losses —The Unconquered Enemies

For our population as a whole, between 1900 and 1950 the average yearly death rate was cut nearly in half—from 17.2 per one thousand persons to 9.6 per thousand. Accompanying these gains have come some losses. Heart diseases and the like now head the list of killers. They were fourth from the top in 1900, but more people now live long enough to

Problems in Health and Medical Care

MORTALITY FROM AUTOMOBILE ACCIDENTS



Each symbol represents 3 deaths per 100,000 population

MORTALITY FROM CANCER



Each symbol represents 20 deaths per 100,000 population

MORTALITY FROM DISEASES OF THE HEART



Each symbol represents 40 deaths per 100,000 population

Many health problems still remain. As people get older, more of them die from heart disease and cancer. And the growing highway travel has brought a frightening increase in automobile accidents.



In 1950, 12 cents of every dollar spent by consumers went for transportation.

Going Places

Probably more Americans go more places more often than the inhabitants of any other nation on earth. In 1953 altogether we traveled half a trillion miles.

How We Travel

If in 1952 you traveled as much as the average American man, woman or child, you went about:

- 4,300 miles, more than 3,100 of them by automobile and the rest by train, plane, bus, boat or local transit.
- You may have gone abroad. Overseas travelers were counted at 773,000. The number who went to Canada and Mexico is large but unknown.
- Nobody knows how far you walked. Probably it was not as far as your grandfather did.
- Nor is there any estimate of the miles you went on horseback or in a horse-drawn vehicle—if any.

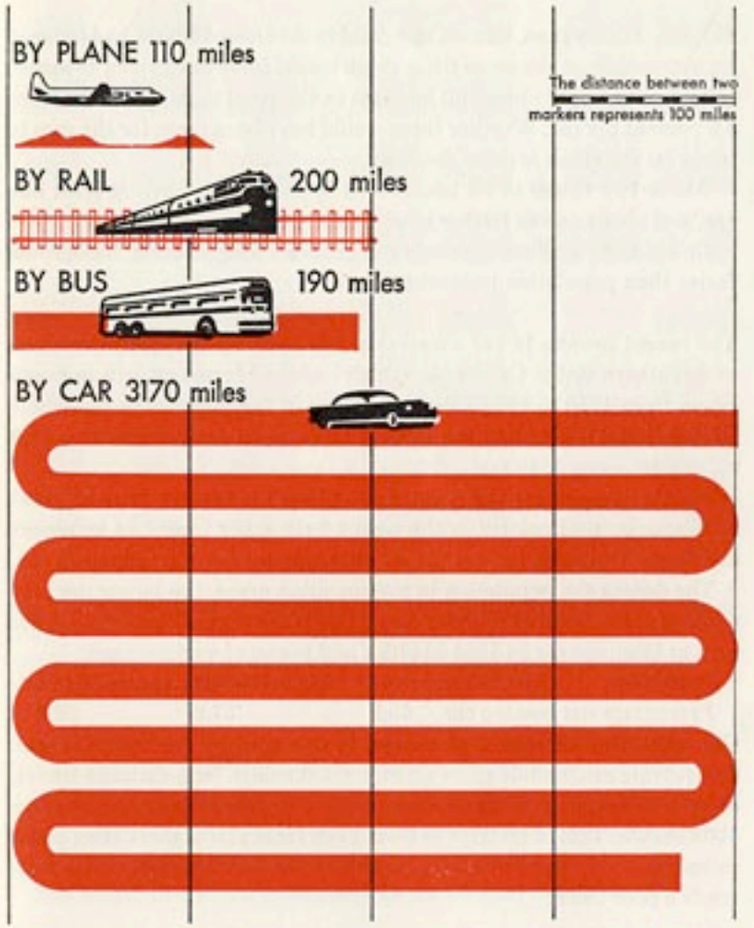
Travel Ways Have Changed

Walking, or being transported by horse, other animal power, or boat, were the only ways one could get around when this nation was young. Then came the railroads. Without them the continent could hardly have been developed. From the middle of the nineteenth century to well after its end, they dominated the scene.

Automobiles arrived after 1900. Later came airplanes and motor buses. The railway monopoly was over.

In 1916, 98 per cent of the passenger traffic between cities by common carrier (that is, paid transportation open to the public) in the United States was over the railroads. By 1952 the rails accounted for only half the passenger-miles. Intercity buses had taken away 31 per cent of the traffic, and air carriers 18 per cent. The other one per cent of the passenger traffic was on inland waterways, which in 1916 had been the chief rivals of the iron horse for paying passengers.

The shift to private motor car put the other competitors for railroad travel in the shade. In 1916, travel by railroad amounted to 42.0 billion passenger-miles, by automobile, 18 billion. In 1952, passenger-miles traveled in trains totaled 34.2 billion; by automobile, 600 billion.



How Much the Average American Travels per Year

(Intercity travel 1953)

In 1916 the average person traveled about 350 miles, not quite the distance of a round trip between New York and Baltimore. Today, he is likely to travel ten times as far—most of it by car.

and others), is the trend toward completely automatic control of the production process. The development of electronics, particularly during the past decade, is ushering in a new and revolutionary era of servo-mechanisms, or self-regulating "feedback" controls that go under the general name of automation. These systems maintain quality, discover and correct errors, reject mistakes and carry a given process through to completion without the factor of human judgment entering at any point. Earlier and on a simpler plane, American management discovered that almost any repeated task that can be done by human hands can be done as well or better by a machine—and usually at less cost.

Effects of Automation

Will this trend cause workers to lose their jobs and bring about economic distress? The record of our actual experience is reassuring.

For one thing, the trend toward automation began a long time ago and is developing gradually. It seems likely to stretch out over a long time, giving opportunity for shifts in jobs and other readjustments along the route. For another thing, automation applies primarily to physical production. As our national output continues to rise and personal incomes go up, there probably will be a great expansion in distributive and service trades that will absorb workers released from primary production.

Machines Make Jobs

In the long run machines create more jobs than they destroy. Our record of the past half-century shows that in spite of general depressions, as well as difficulties in certain localities and certain industries at certain times, we have enjoyed a vast increase in the amount and variety of goods and services available to our people as a whole. And at the same time we have had not fewer jobs but a steady rise in both the number and proportion of our people in gainful work, a rise in real income and a steady shortening of the work week. Our long-term trend is unmistakably upward.

The Promise of Automation

One group of experts has said: "Automation will help to relieve the worker of monotony and mental boredom just as mechanization relieved him of heavy work and physical fatigue."

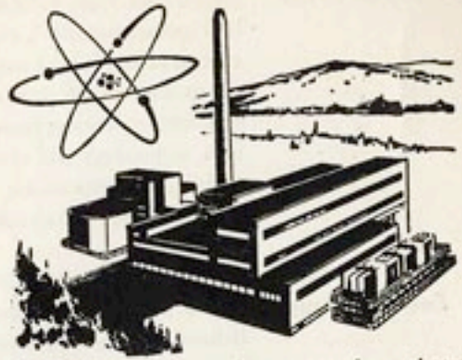
What of Our Natural Resources?

Will our productive machine, operating at ever-higher levels in the future, run out of raw materials? Will we use up our coal and oil, our iron, copper and other metals, our trees and forest resources?

Here, again, technology helps to provide an answer. Every American, of course, shares the responsibility to use wisely and sparingly the resources that nature has given our land.



Automatic controls will improve the efficiency of production and services. Often they will reduce costs



Atomic power promises to become one of several new important sources of energy



Medical advances will conquer more illnesses and check diseases. People will continue to live longer



Advances in research and technology promise an increase in agricultural yields and efficiency



The gap between the rich and the poor is narrowing. The trend is toward similar living standards



With higher output and incomes, work hours will go down —living standards and leisure go up

The program is also limited by the practice of erecting new housing only for low-income families, though a comprehensive plan of redevelopment would have to take other families into consideration also.

What Cities Have Done

One idea is to make the central cities themselves more attractive places in which to live. This, it is hoped, may lure back families that have moved to suburbs and prevent others from moving out.

Philadelphia, for example, is working on five areas, of about eight square miles in all. Public expense—city, state and federal—will be more than $30 million; this, it is expected, will encourage private investment of $200 million.

St. Louis has a long-range plan which involves a central parkway, parking areas, and redevelopment of both central and outlying areas, including housing, schools, business and recreation facilities.

Birmingham, Alabama, is eliminating one of its worst slum districts, widening streets to make room for traffic and creating a large medical center with related business facilities.

Pittsburgh has redeveloped the triangle at the tip of the land between the Allegheny and Monongahela Rivers, where they join to form the Ohio. This peninsula was subject to floods, was a blighted area and a traffic bottleneck. A park with new roads and parking facilities was created at the tip of the point. Flood control was provided for and new bridges built. Eight skyscraper office buildings are replacing hodgepodge and run-down business properties.

Program for City Housing

Many kinds of improvements need to be made in our cities and metropolitan regions, but residential improvements alone are going to be costly, if they are enough to meet the need. Included in these costs are some of the things normally found in residential neighborhoods, such as local shopping centers, recreation and community buildings, post offices, small banks, employment offices, fire and police stations.

It is estimated that to rehabilitate, replace or redevelop city residential districts only would cost from $85-$91 billion (at 1950 prices).

Somewhat more than half of this would consist of replacement of dwellings, somewhat more than one quarter would be required to buy the land. The rest would be spent for repairing and modernizing existing homes, improving the sites, and for facilities other than housing.

Of course all this improvement of city residential neighborhoods will not be done in one year, or in many years. We shall have to spend more than we have been spending even to keep things from getting worse.



Redevelopment of our cities would cost more than we Americans spend for food and clothing in a whole year.

A Program for City Housing



1. View of blighted area



2. Blighted area is surveyed



3. Plans for the project are made



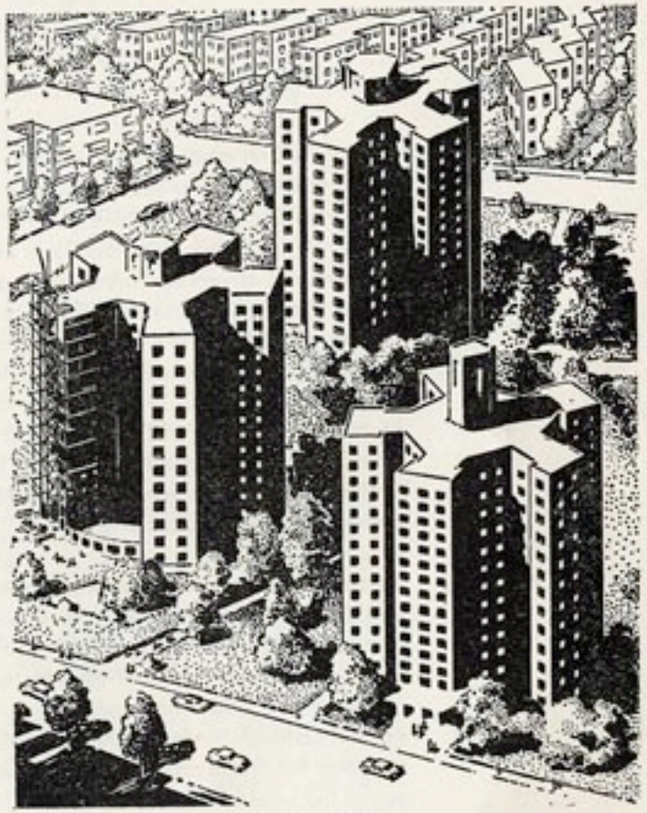
4. Displaced families are relocated in other areas



5. The slums are razed

6. Sites are prepared for housing, schools, and parks





7. Construction of a well-planned development

A major part of a program for finer cities is the replacement of slums. Other aims are better transportation, better schools, hospitals and recreational areas.

Recreation is many things...

Expenditure figures for 1952

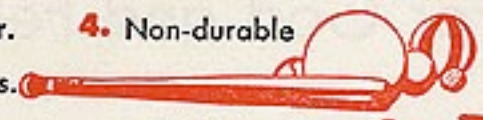


1. Much time and 2,800 million dollars are spent on television, radio, recordings and musical instruments. Serious music is getting more attention. **2.** Reading, another favorite pastime, is up to 888 million dollars for magazines, books and newspapers.





3. Movies, down because of TV, still get 1,134 million dollars per year. **4.** Non-durable toys and sports supplies took 1,284 million dollars. **5.** More money goes for durable toys and sports equipment. Of 790 million dollars, model trains, ships and airplanes took 50 million.





6. Flowers, seeds and potted plants are getting more popular. 836 million dollars are spent on them. **7.** Photography has grown rapidly in popularity. People spent 442 million dollars to keep their 34 million cameras clicking.







8. Billiards, golf and other participant recreations are growing rapidly. 867 million dollars were spent; four million people play golf. **9.** In 1953, eighteen million fishermen and fifteen million hunters bought licenses.



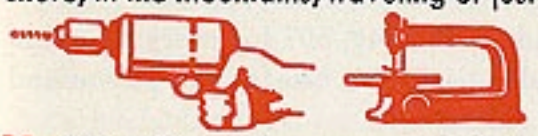


10. About half of all adults are swimmers. There are 4 million powerboats and 500,000 sailboats.



11. Millions turn out to see games: baseball, football, polo, etc., races and rodeos. **12.** Millions of people spent their vacations in government parks, on the shore, in the mountains, traveling or just playing.





13. Do-it-yourself is a growing hobby. Sixty million dollars are spent on tools for the home.

14. 556 million dollars go to athletic, fraternal and patriotic clubs and organizations and to camps.



15. There are many other forms of recreation to please everybody's taste.

government and privately owned rangelands would need a long-continued soil and moisture conservation program to restore these lands to anything like their original grazing capacity.

Bad Old Land and Good New

About 40 million acres used for crops should be permanently retired from this use; it is too poor. Much of this land is on mountainsides in the South, or in dry portions of the Great Plains where too little rain falls.

We may need to add new farmland as our population grows, if this poor land is to be withdrawn from use. Where can new land come from?

Some cut-over land which has been logged can profitably be cleared—but not much. Some land which is too wet can be drained—as much has been, particularly in the Mississippi Valley. Some dry land can be irrigated. Already nearly 25 million acres have been irrigated in seventeen western states, and about 1½ million acres elsewhere. Irrigated land is highly productive. But nobody knows how much more land it would pay to irrigate.

How Land and Water Are Misused

Worn-Out Land 1
Soil Erosion 2
Overgrazing 3
Forest Fires 4
Floods 5

Improper planting and lack of fertilizer exhaust the soil. Unchecked water washes away the topsoil. Floods and fire destroy much land. The countryside grows poorer.



Forests Are Wealth

The American people, who used to cut and burn forests to get farmland, have gradually come to recognize that the trees themselves are a great source of wealth which we could not do without. From them we now obtain every year:

1. Fifty-two billion board feet of saw timber, yielding lumber for building, furniture, boxes and other uses.
2. Wood for many chemical products such as pulp, paper, rayon and other textiles, and plastics.
3. Protection of the soil on hills and sloping land. This forest land holds water back when rain falls or snow melts, and lets it out gradually when the skies are clear.
4. Forage for cattle.
5. Shelter for wild animals and birds.
6. Recreation for a population which likes to get back to nature—camping, hiking, hunting, fishing.

In spite of the fact that one third of our original forests are gone,

Land and Water Conservation

1 Terracing
2 Strip Cropping
3 Controlled Grazing
4 Good Forest Practices
5 Flood Control
6 Recreation
7 Parks and Wildlife
8 Hydroelectric Power

The soil can be rebuilt by fertilizer and cover crops. Erosion is controlled by contour plowing and strip cropping. Selective cutting and reforestation help the forests. Dams prevent floods and provide water for power and irrigation. The countryside prospers.

