The Benefits of Public Transportation

Conserving Energy and Preserving the Air We Breathe

The facts are clear: public transportation is saving energy and reducing pollution in America today—and increased usage could have an even greater impact in the future.

Per person and per mile, traveling by public transportation uses significantly less energy and produces substantially less pollution than comparable travel by private vehicles. Any serious effort to make significant progress in improving our air quality and reducing our dependence on foreign oil should address the way Americans travel.

APTA AMERICAN PUBLIC TRANSPORTATION ASSOCIATION

PT Public Transportation Partnership for Tomorrow

Providing more freedom, mobility, access and opportunities, public transportation is an essential element in sound national energy and air quality policy. Public transportation:

■ Offers one of the most effective strategies to reduce energy consumption and improve air quality without imposing government mandates or regulations.

■ Enhances our national security by reducing our nation's dependence on imported oil. Potential threats to the supply and price of foreign oil as a result of terrorism, conflicts in the Middle East and OPEC decisions underscore the need for a sound national transportation strategy.

This document is an executive summary of the report, "Conserving Energy and Preserving the Environment: The Role of Public Transportation," by Robert J. Shapiro, Kevin A. Hassett and Frank S. Arnold. All data, statistics and comparisons are extracted from the report.

Saving Energy, Cleaning the Air

Reduced consumption

At its current levels of use, public transportation is reducing Americans' energy bills.

■ For every passenger mile traveled, public transportation is twice as fuel efficient as private automobiles.

■ Per year, public transportation saves more than 855 million gallons of gasoline, or 45 million barrels of oil. This is equal to about one month of oil imports from Saudi Arabia; three months of the energy that Americans use to heat, cool and operate their homes; or half the energy used to manufacture all computers and electronic equipment in America.

Better air quality

Even at current rates of use, public transportation greatly improves air quality. Compared to private vehicles:

■ Public transportation produces 95% less carbon monoxide (CO), more than 92% fewer volatile organic compounds (VOCs) and nearly half as much carbon dioxide (CO_2) and nitrogen oxides (NOx)—for every passenger mile traveled.

■ Public transportation reduces annual emissions of the pollutants that create smog—VOCs and NOx—by more than 70,000 tons and 27,000 tons respectively.

These reductions equal:

✓ nearly 50% of all VOCs emitted from the dry cleaning industry, a major source of this pollutant

✓ 45% of VOCs emitted from the industrial uses of coal

✓ 50% of NOx from the industrial uses of coal

✓ more than 33% of the NOx emitted by all domestic oil and gas producers or by the metal processing industry

In addition, the reduced VOC and NOx emissions that result from public transportation use save between $130 million and $200 million a year in regulatory costs.

Other emissions reduced

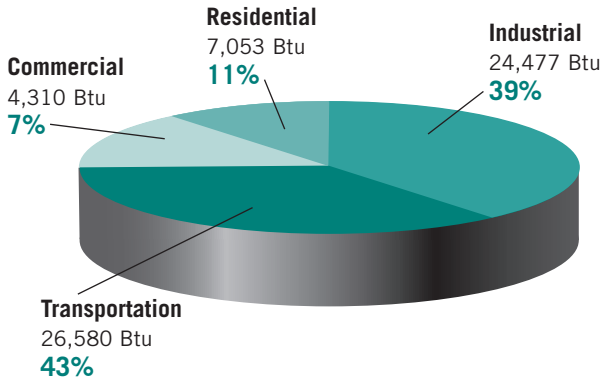
■ Public transportation reduces CO emissions by nearly 745,000 tons annually. This equals nearly 75% of the CO emissions by all U.S. chemical manufacturers.

■ Public transportation reduces emissions of CO_2, which contributes to global warming, by more than 7.4 million tons a year.

The Most Effective Strategy

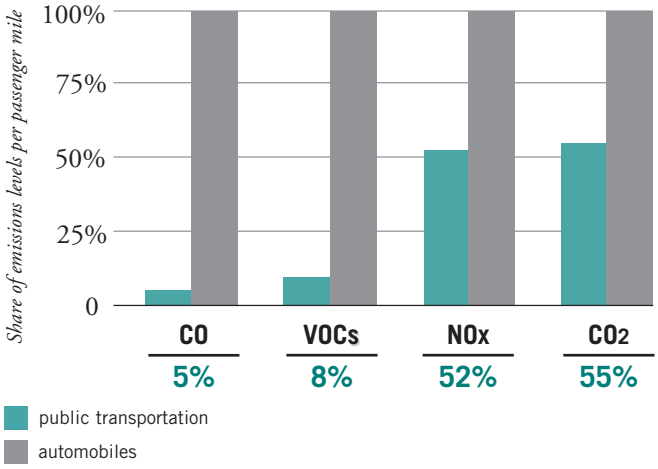
Americans use more energy for transportation than for any other activity. Nearly 43% of America's energy resources are used in transportation, compared to industrial use (39%), residential use (11%) and commercial use (7%). Greater use of public transportation therefore offers the single most effective strategy currently available for achieving significant energy savings and improving air quality, without imposing new taxes, government mandates or regulations.

Figure 1
Primary Energy Consumption in America



Americans use more energy for transportation than for any other activity.

Figure 2
Public Transportation–A Cleaner Alternative



Levels of air pollutants emitted by public transportation are only a fraction of those emitted by automobiles.

Public transportation in Europe

If Americans used public transportation at the same rate as Europeans—for roughly 10% of their daily travel needs—the U.S. would:

- Reduce its dependence on imported oil by more than 40%, or nearly the amount of oil we import from Saudi Arabia each year
- Save more energy every year than all the energy used by the U.S. petrochemical industry and nearly equal the energy used to produce food in the U.S.
- Reduce CO_2 emissions by more than 25% of the Kyoto Agreement mandate
- Reduce CO pollution by three times the combined levels emitted by the four highest-polluting industries (chemical manufacturing, oil and gas production, metals processing, and industrial use of coal)
- Reduce smog across the country by cutting NOx emissions by 35% of the combined NOx emissions from the four industries cited above, and cut VOC pollution by 84% of the combined VOC emissions from these four industries

Similar statistics apply to Canada, where public transportation accounts for roughly 7% of that country's daily travel needs.

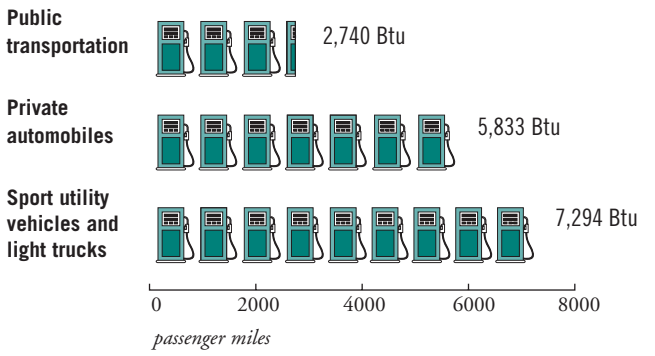
Every day, Americans use more energy and generate more pollution in vehicular travel than they do in the production of all goods, the operation of all commercial enterprises, or the running of their homes.

Modest increases would make a difference

Even modest increases in the uses of public transportation would greatly reduce hazardous pollution in congested areas where pollution now poses the greatest risk.

For example, about half of the 35 largest public transportation systems, serving 26 metropolitan areas, are located in "nonattainment areas" that currently fail to meet EPA air quality standards for CO or smog. In these highly populated urban and suburban areas, the pollution reductions that public transportation can deliver would go directly to improving air quality.

Figure 3
Public Transportation Uses Less Fuel



For every passenger mile traveled, public transportation uses about one half of the fuel consumed by automobiles, and about a third of that used by sport utility vehicles and light trucks.

Economic gains

Achieving a genuine measure of energy independence and cleaner air by investing in our public transportation systems has significant economic advantages. While the study measured current and potential benefits of public transportation, the findings suggest that achieving greater energy

savings and improvements in air quality by significantly increasing passenger loads on public transportation vehicles would:

- Be less costly than continuing to expand the fleet of private vehicles, and to build and maintain more roads and highways to accommodate them
- Absorb the rising energy, air quality and congestion expenses of this approach

An Achievable Goal for Americans

Increasing use of public transportation is a realistic objective for Americans. In the early 20th century, the U.S. led the world in public transportation development and use, demonstrating that efficient public transportation is a realistic objective in this country. Today, a public transportation renaissance is underway in the U.S. Specifically:

- Since 1995, use of public transportation has grown sharply, and faster than the use of private vehicles.
- Passenger miles accrued on public buses and rail systems have grown faster than the passenger miles accrued in private automobiles, sport utility vehicles and light trucks.
- Public transportation ridership has grown at a faster rate than air travel in recent years.

Essential to National Policy

Making much greater use of public transportation may be the most effective strategy to sharply reduce our dependence on foreign oil and make historic strides in air quality. These results can be achieved if we make public transportation a vital part of our nation's energy and air quality policies.

If Americans used public transportation at the same rate as Europeans, the energy savings would equal nearly all the energy used to produce all the food in the U.S., and the U.S. could reduce its oil dependence on the Persian Gulf by more than 40% and on Saudi Arabia by 100%.

Source

"Conserving Energy and Preserving the Environment: The Role of Public Transportation," by Robert J. Shapiro, Kevin A. Hassett and Frank S. Arnold. Copies of the complete report, which was commissioned by the American Public Transportation Association, can be obtained on line, at www.apta.com, or by calling 202-496-4800.

About the Authors

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For more information on public transportation and its many benefits, visit www.publictransportation.org.