

**Energy
Efficiency
In Nebraska:
A
Community
Investment**

Transportation

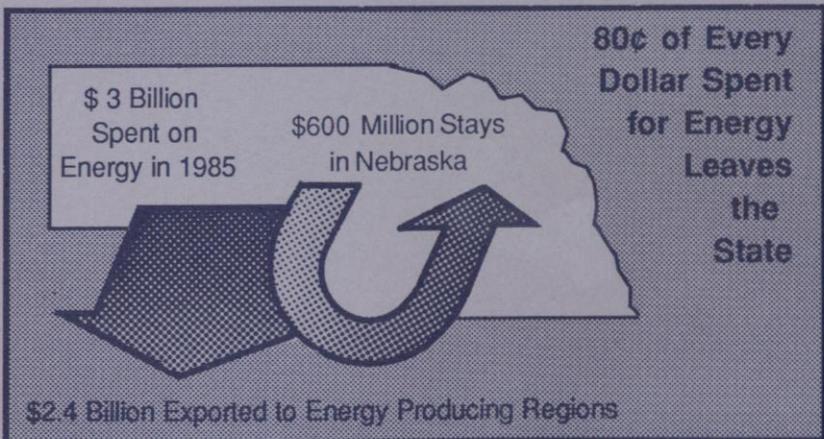
Remember When

Can you remember when gasoline cost less than 40¢ per gallon? If you can, you probably also remember how the cost of gasoline skyrocketed during the oil crisis of the early 1970's and 1980's. From 38¢ per gallon in 1970, gasoline prices soared up to more than \$1.35 per gallon in 1981.

During the oil crisis, everyone felt the bite gasoline prices put in their budget. Many people tried to minimize that bite by purchasing more fuel efficient cars and cutting down on their driving by walking, cycling or carpooling. Nebraskans did their part to conserve during the energy crisis, but now that the long lines at gas stations have disappeared and gasoline prices are dropping, some people have forgotten the impact energy consumption has on their budget and on the state's economy.

How Does Energy Affect the Economy?

Nebraskans produce very little of the natural gas, coal and oil they need, so they import the energy and export dollars to pay for it. In 1985, Nebraskans spent \$3 billion for all of their energy needs and as much as 80¢ of every \$1.00, or \$2.4 billion, of these purchases were exported to energy-producing regions like Texas, Louisiana and the OPEC nations. This huge leakage of dollars means there is less money available for other consumer purchases which create income and job opportunities for Nebraskans.



What Can be Done to Stop This Leakage?

You can reduce the leakage of dollars from your community by reducing the amount of energy you use. This can be done simply by increasing the efficiency with which you use energy, or, in other words, making less energy do the same job. Energy efficiency can be improved in any number of ways, whether by insulating your home, tuning up your car or installing energy efficient lighting and electrically-operated equipment in your workplace.

How Will Energy Efficiency Benefit the Economy?

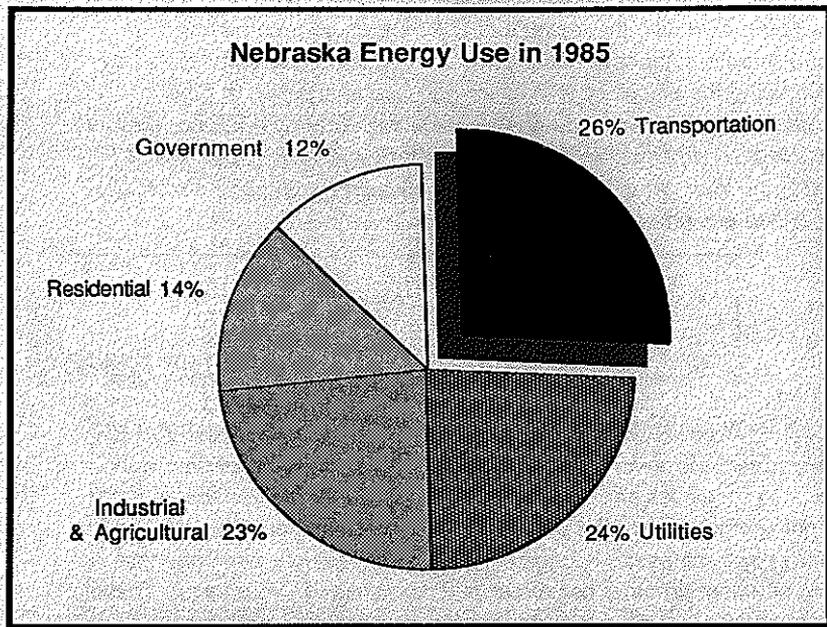
Energy efficiency improvements benefit your local economy in two ways. First, efficiency boosts the economy directly by providing work for the mechanics and auto-part stores you patronize to keep your car running efficiently, or the contractor who insulates your attic. Second, efficiency benefits the economy indirectly by saving you money that can be spent on other consumer purchases right in your town. These purchases, research suggests, benefit the economy more than expenditures on energy.

Where Should You Begin?

One of the biggest opportunities for efficiency available to Nebraskans is in the area of transportation. In 1985, Nebraskans consumed more total energy for transportation than for any other need: 26% of all energy consumed, or 135.8 trillion Btus. (A Btu is a standard unit of measure for energy which equals the amount of energy produced by completely burning one wooden kitchen match). Translated into gallons of gasoline, 135.8 trillion btus represents over one billion gallons. That's a little more than 630 gallons per Nebraskan! Of course, not all transportation fuel is in the form of gasoline. The transportation sector also includes diesel fuel, aviation fuel, and a variety of other petroleum products used to get Nebraskans from one place to another.

But since 75% of transportation needs are met by gasoline, it presents the largest opportunity for efficiency improvements. This pamphlet will show you a number of ways to decrease your gasoline consumption, some of which require action only on your part and others requiring action by your community as a whole. All of them will

improve local transportation energy efficiency to the economic benefit of the entire community.

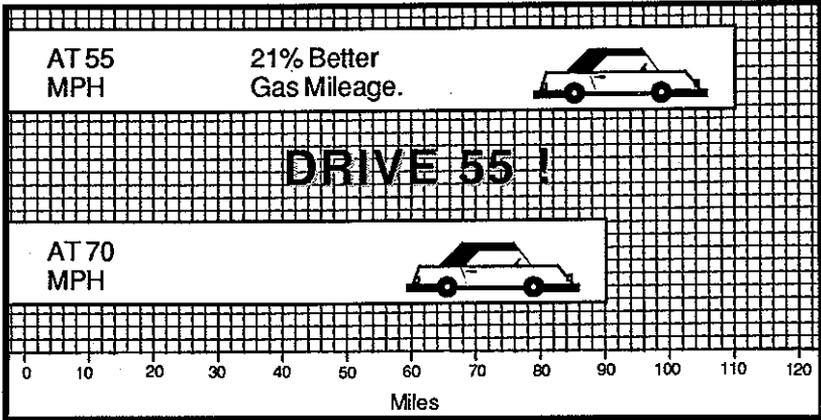


Individual Auto Handling Techniques

The most important single element in determining the fuel economy of a particular car is the driving technique of the person behind the wheel. A gas-conscious driver can achieve 30-50% better mileage than other drivers of the same vehicle. By adopting the following techniques, you can make five gallons do the work of six.

Drive Smoothly & Steadily

The smoother your driving pattern, the better your fuel economy. Avoid jack-rabbit starts. If you have a manual transmission, shift through the lower gears gently but quickly because your engine works more efficiently when traveling at 30 to 40 miles per hour rather than at 20 mph. Don't pump or race the engine while idling and avoid idling over 60 seconds. It takes less gas (you probably won't even need to step on the accelerator) to restart your car with a warm engine than to idle for more than a minute. When you're on the highway, observe the 55 mph speed limit; it will give you almost 21% better mileage than you'll get driving 70 mph.



Plan Ahead

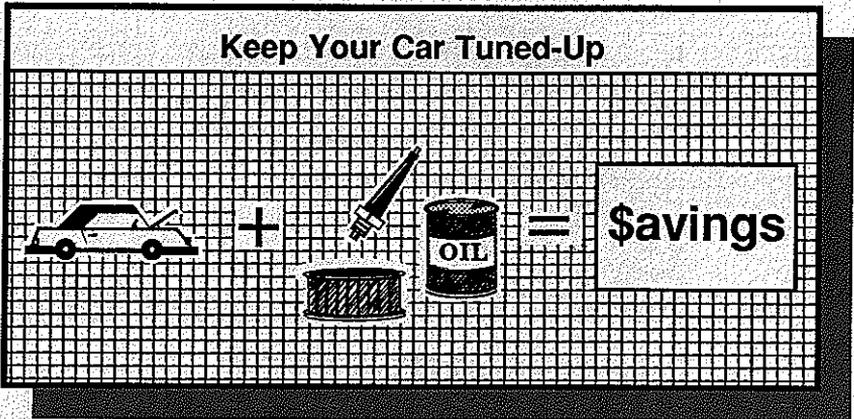
Whenever possible, combine errands requiring driving because auto engines perform most efficiently when they have been driven approximately 15 minutes and are warmed up to about 180°F. Plan your trip to take the route with the least amount of traffic and fewest stop lights and signs. When you're driving, keep an eye on traffic ahead so you can avoid unnecessary braking. Avoid braking by not tailgating other cars and by slowing down well before you reach a red light. Often, you can time your driving to coincide with the green light. And of course, walk or ride a bike rather than drive whenever possible.

Keep Your Car Properly Tuned

Follow the service schedule recommended for your car to keep it in top running condition. Check the oil level frequently and change it regularly according to your car manufacturer's recommended schedule. Friction-reducing motor oil lets an engine turn easier and thereby use less gasoline. The next section on recycling used oil will tell you what to do with your vehicle's old oil as yet another way of increasing your energy efficiency.

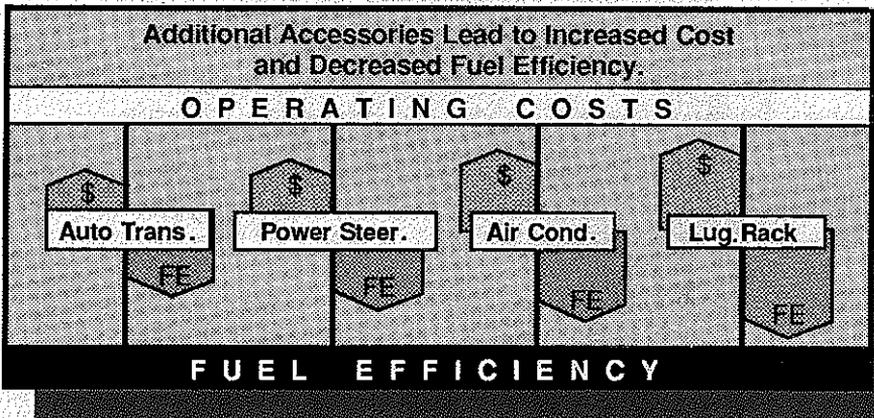
Have an engine tune-up as often as your owner's manual recommends to ensure that the carburetor and ignition timing are properly adjusted and that the spark plugs are in good condition. Just replacing old plugs, points and condenser (if your car has them), checking the wiring and setting the timing can result in significant gasoline savings. Defective

choke, heat control valve and emission controls can all affect gas consumption. Have them checked. A dirt-clogged air filter causes your engine to use less air and more gas.



Buy the Most Gas Efficient Car

Select the most gas-conserving car available in the car size you need. Purchase only the optional equipment and accessories you need because each additional option will reduce your car's fuel efficiency. Automatic transmissions, power steering and air conditioning require considerable energy and they add to the vehicle weight, which reduces fuel economy.



Other options, like luggage and ski racks also decrease efficiency by increasing wind resistance, so remove them when not in use. Wind resistance can also be reduced by keeping windows closed when traveling over 40-45 miles per hour. Using air conditioning at these speeds will give you better mileage, but avoid using it in city traffic where it will really cut into your car's fuel economy.

Recycle Used Oil

Every year, at least half of the 10 million gallons of oil used in Nebraska are dumped into garbage cans, ditches or roads. Much of this oil ends up in our streams or groundwater. People who dump their oil in that manner don't realize that it wastes two resources. First, it wastes oil. Recycling used oil back into clean lubricating oil takes only about half as much energy as refining from crude oil.

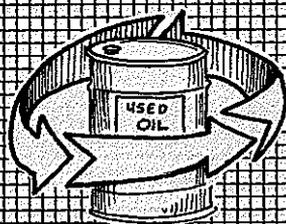
Second, it wastes money. Oil-polluted water has to be cleaned and purified before it can be used, resulting in higher costs to taxpayers. Why not capture some economic benefits for your town by starting a community recycling program? There are three basic steps to starting your community down this path of energy efficiency.

Step one is to find a market for the oil. There are currently two businesses who buy used oil from anywhere in the state and many businesses buy used oil to heat their buildings. You are likely to find answers about markets by contacting large generators of used oil, such as service stations and car dealers. Their market for used oil might be your market, too.

You will then need to find a storage place for the used oil. Service stations may be likely sites because they often have large, lidded barrels, and a safe, clean storage place. They are also pleasant and easily accessible to the public which are important factors in the next step, promotion.

Promotion efforts are needed to notify and educate the community about the project. Newspaper articles, radio public service announcements, posters, flyers and notices are all good promotion tools. Once the recycling program is established, consider opening a used-oil refinery in your town. For more complete, current information about oil recycling, contact the Nebraska Recycling Association at the address at the end of this brochure.

Steps in Community Oil Recycling Program



**First,
Find a
Market**

**Second,
Find
Storage**

**Third,
Educate the
Community**

Ridesharing

Ridesharing is an alternative to driving alone. Since most people regularly make trips to school, work, church or group meetings, each trip is another opportunity to increase energy efficiency in your community by using carpools or vanpools. Ridesharing benefits your community not only by reducing energy use, but traffic congestion and air pollution as well.

Carpools

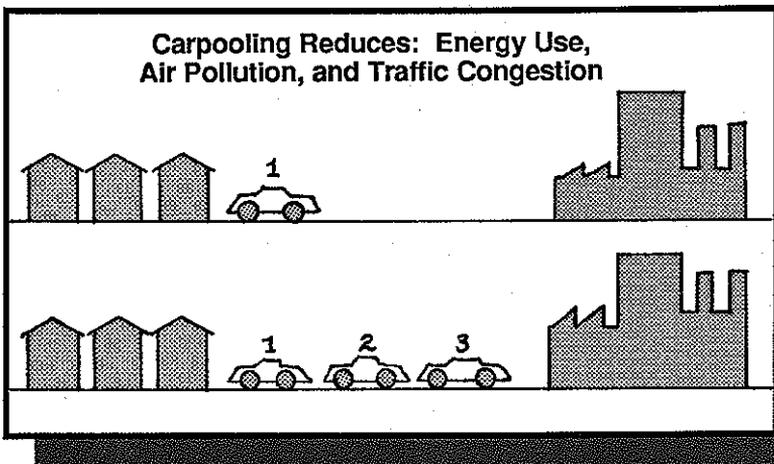
Starting a carpool can be as easy as talking to two or three neighbors who go to work at about the same time and work in the same vicinity. Posting a notice on your company bulletin board is another way to start.

Your company may already have a carpool program, or may participate in a program with several nearby firms. If not, encourage your personnel department to set up a joint carpool program.

A computer isn't necessary to match up riders, though in larger communities it may help. A large locator map -- with grid zones marked off -- will suffice. Index cards for potential riders and potential drivers can be matched up by company personnel.

In any carpool arrangement there are some basic pointers to keep in mind:

- ⊗ Set a schedule of who will drive and when.
- ⊗ If only one person will be driving, have the cost-sharing arrangement firmly settled before starting.
- ⊗ Get your pick-up routes set well in advance, at individual homes or at a central point. Do the same for the return trip from work to home.
- ⊗ Agree on how long the pool will wait for tardy passengers.
- ⊗ Determine whether smoking, radio-playing or eating will be permitted in the car.
- ⊗ If you'll be a driver, check with your insurance company to determine if you will have to change or add insurance provisions. It's even possible that you may qualify for reduced premiums.



You probably will want to try out the carpool for a week to iron out any kinks in the schedule. Be prepared to make any necessary changes after this trial period. Carpooling can be done for work or play. Maybe you can combine shopping trips with a neighbor or carpool your children to school. Carpooling can also be done by people attending the same religious service or organization meeting.

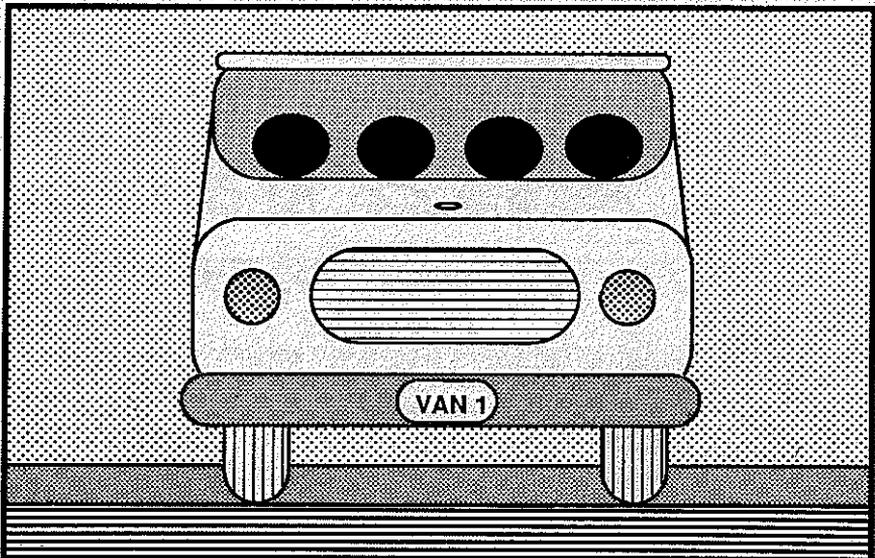
Vanpools

The same spirit of teamwork that brought the pioneers across the plains in covered wagons is again evident in wagons of a different kind. Today, groups of employees are sharing the ride to and from work in van pools.

Some of the most successful van pools in the state are SAC Air Base's pool in the Omaha-Bellevue area, United Fire and Casualty's pool between Seward and Lincoln, the USDA's Meat Animal Research Center pool between Hastings and Clay Center, and Lindsay Manufacturing's pool in the Columbus area.

Here's how it works: Your company provides several vans for qualified groups of up to 12 employees. One member of this "van clan" is chosen to drive and care for the vehicle, while the others split the operating costs through a low monthly fee, which reimburses the company.

Vanpooling can make the daily commute a far more enjoyable experience. Aside from the obvious economic benefits which result from not having to drive your car to work each day, the co-workers who share the van ride get to know each other.



A key ingredient in the making of a successful van clan is finding a worker from your company willing to care for the van, and drive it every day to and from work. He or she is selected because of a good record of safe driving and dependability -- someone who's reliable and conscientious. In exchange, drivers may enjoy a free commute.

Mass Transit

Beyond Lincoln and Omaha, few Nebraska communities need or could support a city wide mass transit system made up of large buses. But, with effective marketing techniques, most communities could utilize and benefit from a van or two to move workers from their homes to their workplace or downtown.

For example, many of the larger Nebraska communities already offer "Handi-Van" services to their elderly citizens. With a good promotional effort, this type of service could be developed for commuting workers of major employers between their work and home, or for shoppers between residential areas and major shopping centers. For smaller communities, the major commutes are most often not within, but between towns. A daily van trip from small to larger towns could be developed to reduce individual driving.

The process required to set up this transportation service may vary from town to town, but here are suggestions on how to get a mini-van service started:

- ④ Survey the community to learn what transportation services are needed:
 - Where do most people drive and how often?
 - When do they travel?
 - Would they be interested in riding public transportation?
 - How much would they be willing to pay for such a service?
- ④ Devise a plan based on what you learned about where and when people drive. Propose routes, schedules, a marketing strategy to convince people to ride instead of drive, a budget, and sources of funding.
- ④ Find funding for the project. Investigate or consider the local tax base, private foundations, state agencies, the Chambers of Commerce of towns involved, or individuals.
Keep in mind when searching for funds that while one source may not be willing to supply the entire funding, it may be possible to spread the costs among several sponsors.

Plus-Ten Cars

If achieving the economic benefits possible through transportation energy efficiency is a priority for your town, a combination of local businesses and taxpayers may be willing to provide financial incentives for people to purchase vehicles which get high gas mileage. Specifically, your community, acting through your city council or village board, may be convinced to provide rebates to local citizens who purchase cars which get ten or more miles per gallon above their present car's gas mileage. Or, the rebate could be for purchasing new cars getting 35 or more miles per gallon. Of course, to do the most good for the community, the rebates should go only to local citizens buying energy efficient vehicles from local car dealers.

Here's an example of how this project would work. Assume a community has 5,000 vehicles in it, 3,000 of which get 25 miles per gallon, and 2,000 which get 20 miles per gallon. If every car is driven 10,000 miles per year, they would consume 2,200,000 gallons of gasoline.

Miles	M.P.G.		gallons consumed in one year
30,000,000 ÷ 25		=	1,200,000
(3,000 cars @ 10,000 mi/yr)			
20,000,000 ÷ 20		=	1,000,000
(2,000 cars @ 10,000 mi/yr)			
50,000,000		=	2,200,000

Now let's say that 10% of both the 25 mpg and 20 mpg car owners trade their cars in for new models which get ten more miles per gallon than their old car -- 10% of the drivers move from a 25 mpg car to a 35 mpg car, and 10% move from 20 mpg to 30 mpg. The cars in your town would then consume at least 67,600 gallons less than before! If the price of gasoline averages \$1.00 per gallon, your community would save \$67,600 in one year. And just think, if everyone traded their old car for a new car getting ten more miles per gallon, the town would save almost \$676,200 in the first year!

You and other citizens will need to convince your local government of the economic "boost" energy efficiency will bring to the community in

order to persuade them to offer a rebate large enough to make people buy a more fuel-efficient car. Given an effective marketing strategy, a rebate as low as \$100 may do it. You should also be prepared to locate sources of funding for the rebate, which may require postponing the purchase of new park playground equipment or convincing the local car dealers to put up part of the money. An important point to remember is to coordinate your rebate offer with the local car dealers to make sure they have enough fuel-efficient cars in stock.

Where can you go for more assistance?

For further assistance, you might want to contact one of the following:

For help starting a Used Oil Recycling Program:

The Nebraska State Recycling Program

P.O. Box 80729

Lincoln, NE 68501

or call toll free 800-248-7328

For planning and financial assistance for mini-van services:

The Nebraska Department of Roads

P.O. Box 94759

Lincoln, NE 68509-4759

(402) 471-4567

For assistance devising scheduling and routes for mini vans:

Dick Rohde

The Lincoln Transportation System

233 South 10th Street

Lincoln, NE 68508

(402) 471-7185

For brochures on carpooling, vanpooling, and car maintenance:

Conservation & Renewable Energy Information Service

P.O. Box 8900

Silver Spring, MD 20907

(800) 523-2929

Nebraska Energy Office

P.O. Box 95085

Lincoln, NE 68509

(402) 471-2867

For information on fuel efficient cars, read the "Gas Mileage Guide for New Car Buyers", available free from any car dealer or by mail; write Fuel Economy, Pueblo, CO 81009. Study the tables carefully. They give the most complete and accurate information available on the

relative fuel economy performance of all current model cars, station wagons, and light trucks. The estimates are in terms of miles per gallon measured on the Environmental Protection Agency's standardized fuel economy test. The actual mileage you get will depend to a large degree on how and where you drive -- and on following the tips on saving gasoline and money found in these pages. But the Guide can be very helpful. Compare specifications and test results. You can save hundreds of dollars a year at no sacrifice -- simply by choosing an economical car from the class in which you are interested.



STATE OF NEBRASKA

NEBRASKA ENERGY OFFICE, BOX 95085, LINCOLN, NEBRASKA 68509 PHONE (402) 471-2867