

# How The University Pollutes

by Stan Starsiak

In a study conducted by this newspaper, the object was to determine to what extent the university as a whole community pollutes the environment beyond what each of its members would do personally. In this investigation, several questions came to mind and must be resolved. What is the amount of wastes dumped into the environment by the university? What, if anything, does the university do to minimize the amount of wastes it does dispose of? What can the university do as a community unto itself to further minimize pollutants? Finally, what alternatives must society as a whole take to minimize pollutants that the university cannot eliminate by itself and how can the university act as an interest group to make these changes.

## Heating Fuel Consumption

The university attempts to minimize pollution as far as its use of fuel oils. Natural gas amounts to about 70 per cent of all heating fuels used by the university in buildings on and off campus. Natural gas is more favorable than other fuels because of its minimal contribution to polluting the environment. Natural gas burns almost completely. Pollutants of the air are made up principally of hydrocarbon compounds and oxides of nitrogen which are produced when fuels are not efficiently combusted.

The university also uses 536,500 gallons of fuel annually (March '69-March '70). The breakdown of the types of fuel oil used is that 40 per cent is number 4 oil while the balance is number 2 oil. The university specifies in its contracts to purchase fuel oils that the oils be of a low sulfur content. Also the university tests the fuel oils to determine whether the specifications are met. The lower the sulfur content of a fuel oil, the lower the contribution of sulfur dioxide, a toxic air pollutant.

## Electricity

The university's use of electricity is quite high. The university's bill of electricity is \$190,650.00 annually (March '69-March '70). Estimating the cost of a kilowatt hour of electricity at 1-1/4 cents per kilowatt sums the total number of kilowatt hours used by the university at 15,252,000 kilowatt hours. Electricity by itself is non-polluting but the methods used in its production are. The electric companies may burn coal or coke, which produces the greatest proportion of pollutants for the amount of energy produced in the production of electricity. The electric companies may use nuclear power but this too pollutes the environment. Nuclear power produces thermal pollution. In nuclear power production a great amount of water becomes heated and then is dumped into the local streams and rivers. Such an act might be thought of as insignificant but it has catastrophic consequences in keeping nature in balance. The excess heat stimulates the growth of algae in the streams. Such over production of algae removes the dissolved oxygen in the water suffocating the fish in the river who depend on this dissolved oxygen to live. Any

tableware and glassware? Couldn't the waste produced be decreased by the use of air hand dryers in the rest rooms instead of paper towels? Fortunately the university has taken the step of preventing incineration of waste on campus. Incineration took place on campus until Mr. Sanderson became Director of Buildings and Grounds in 1966. But this does not solve the problem of pollution of the environment from the incineration of university wastes. The university wastes are taken to the city of Hartford's sanitation facilities where it is then incinerated.

## Custodial Service

The university spends a sizeable amount of money for custodial services. \$413,165 is used for payment of university custodial personnel while \$77,325 is used for supplies and contracted services. The cost to the university is taken up because the pollution settles upon our facilities and must somehow be removed by our custodial services.

## Fertilizers and Herbicides

The university is pollution minded when it comes to the use of fertilizers, but not in the area of herbicides. The university uses

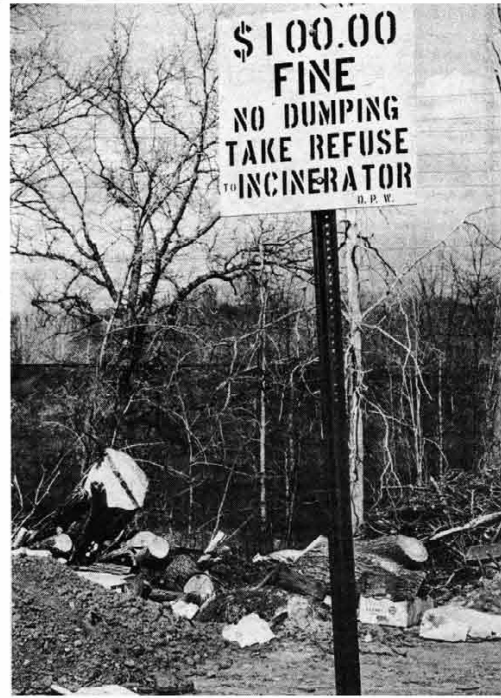
solution to the problem of eliminating pollution caused by production of electricity must come from society as a whole.

## Automobiles

Automobiles in any major city are without a doubt the major cause of pollution of the environment. The university has 15,000 cars (13,000 student, 2,000 staff-faculty) registered for use of parking on campus. The amount of pollution produced by the use of 1,000 gallons of gas is phenomenal.

The university should and could stimulate the use of bus service to the campus to minimize pollution. The automobiles in comparison with buses as a means of transportation produces 4 to 5 times as many pollutants per passenger mile as buses.

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## Trash

The university as a whole produces a huge amount of trash. The estimate of Building and Grounds for the amount of trash produced in the past year (March '69-March '70) to be 3,500 tons. But how much of the trash is really necessary? A great amount of the trash comes from the cafeteria. But the cafeteria uses a large amount of paper plates and cups. Couldn't much of the waste be eliminated by the use of washable



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### Each Mode of Transportation Uses a Larger or Smaller Portion of the Earth's Surface

**AUTO:** A transportation corridor one highway lane (12 feet) wide can carry a maximum of 3,600 passengers per hour. (sixty-five m.p.h., 140-foot spacing, 1.5 people recommended per car, the average number from many studies)

**BUS:** Half-filled buses can carry 60,000 people per hour 17 times as many as a car. (sixty-five m.p.h., 140-foot spacing.)

**TRAIN:** Trains, half-filled will transport 42,000 passengers per hour-12 times the number handled by a car. (One per minute, the right-of-way for a train track is about the same width as a highway lane.)

**BICYCLE:** A highway lane can comfortably hold two bicycle lanes, allowing the passage of 10,600 people per hour-almost 3 times as many as cars. (Fifteen m.p.h., 10-foot spacing.)

**WALKING:** A path the width of a highway lane can accommodate 6,300 walkers per hour-1.7 times as many as automobile passengers. (Three m.p.h., 4 columns of walkers, 10-foot spacing.)

### Pollutants Produced by 1,000 Gallons of Gas Emitted by an Automobile

carbon monoxide	3,200 pounds
organic vapors	200-300 pounds
oxides of nitrogen	20-75 pounds
aldehydes	18 pounds
sulphur compounds	17 pounds
organic acids	2 pounds
ammonia	2 pounds
solids zinc, metallic oxides, carbon	.3 pounds