

Blind Spot

The Big Three's Attack on the Global Warming Treaty



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STPP (www.transact.org) is a nonprofit coalition of over 200 groups devoted to ensuring that transportation policy and investments help conserve energy, protect environmental and aesthetic quality, strengthen the economy, promote social equity, and make communities more livable.

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"I am prepared to see the United States take the lead . . . Every single action the United States has taken since 1970 to clean up our environment has led to more jobs [and] a diversifying economy".

President Clinton
October 21, 1997

American automakers have fought virtually every government mandated improvement in automobile safety, fuel efficiency and pollution control proposed or adopted over the past 30 years. And now they are in the forefront of opposition to a world treaty to curb global warming pollution, a substantial share of which is produced by cars and trucks.

The Big Three opposed many of the features that car buyers have long taken for granted — and certainly desired in their cars — including seat belts and shoulder harnesses, turn signals, collapsible steering columns, enhanced door locks to reduce passenger ejection, catalytic converters, air bags, improved emissions standards and increased fuel economy standards. In every case, auto industry executives claimed that the sky was falling. The new requirements, they said, were economically or technically unfeasible and would

bring an end to the industry, cost thousands of jobs and give unfair advantages to foreign competition.

In every case, they were wrong. And in fact, Detroit automakers now brag about the benefits of safety, fuel efficiency, and pollution control features that they once vehemently opposed.

Now the Chicken Littles running America's car companies oppose international agreements to reduce auto emissions as part of the worldwide effort to slow global warming. As negotiators prepare for a December meeting in Kyoto, Japan, to sign a treaty to reduce emissions of greenhouse gases, automakers are revving up their public relations campaign and recycling the same threadbare propaganda.

The fact is that one simple action by Congress and the Clinton Administration — increas-

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Table 1. Families will save the equivalent of more than two car payments a year when new fuel economy guidelines are fully phased in.

Urban Area	Total Household Savings 1999-2008	Total Savings In The Metro Area 1999-2008 (Dollars)	Average Annual Savings Per Family, With Full CAFE Implementation (Dollars/year)
Atlanta	\$2,533	\$2,338,069,603	\$693
Dallas-Fort Worth	\$2,453	\$3,336,282,500	\$671
Seattle	\$2,394	\$1,779,802,542	\$655
Riverside-San Bernardino, CA	\$2,354	\$952,080,434	\$644
Orlando	\$2,271	\$836,325,052	\$621
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Minneapolis-St. Paul	\$2,257	\$1,917,690,034	\$618
San Jose	\$2,195	\$1,141,585,484	\$601
Kansas City	\$2,185	\$1,199,370,535	\$598
Houston	\$2,157	\$2,588,809,242	\$590

Source: Environmental Working Group. Compiled from Federal Highway Administration data on gasoline prices, gasoline use and vehicle miles traveled.

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In 1975, Congress enacted fuel economy standards that doubled the fuel efficiency of the average car sold from 13.8 mpg to 27.5 mpg. If Congress follows the recommendations of the majority report of President Clinton’s Advisory Committee on greenhouse gas emissions and boosts standards to 45 mpg for cars and 34 mpg for trucks by 2008, here are the benefits¹ that would result:

- Americans would save more than \$200 billion in gasoline costs, or \$2,160 per family, over the next ten years. This would save the average family the equivalent of almost one full car

payment every year, during that time².

- Drivers in 25 urban areas will save more than \$1 billion at the pump in the first ten years that new fuel efficiency standards are in effect. In Dallas-Fort Worth alone, drivers will save \$3.3 billion, and in Atlanta drivers will save \$2.3 billion on gasoline costs just in the first ten years that higher gas mileage standards are phased in (Table 1).
- Greenhouse gas emissions would be reduced by 36 million tons per year, almost half the amount needed to reduce emissions to 1990 levels, as the United States and other nations pledged to do in 1992.

When the standards are fully phased in savings will be even greater:

- Americans will save \$60 billion per year on gasoline compared to what they pay under current mileage standards.
- The average American family will save \$590 each year at the gas pump, the equivalent of more than two full car payments every year. The urban areas where families will save the most are Atlanta (\$693), Dallas Fort-Worth (\$671), and Seattle (\$655)

(Table 1). The states where families will save the most are in the west, — Nevada (\$868), Wyoming (\$822), and Idaho (\$798) — where long distance driving is a fact of life (Table 2).

Recommendations

Congress and the Clinton Administration should take the following steps to protect consumers and the planet:

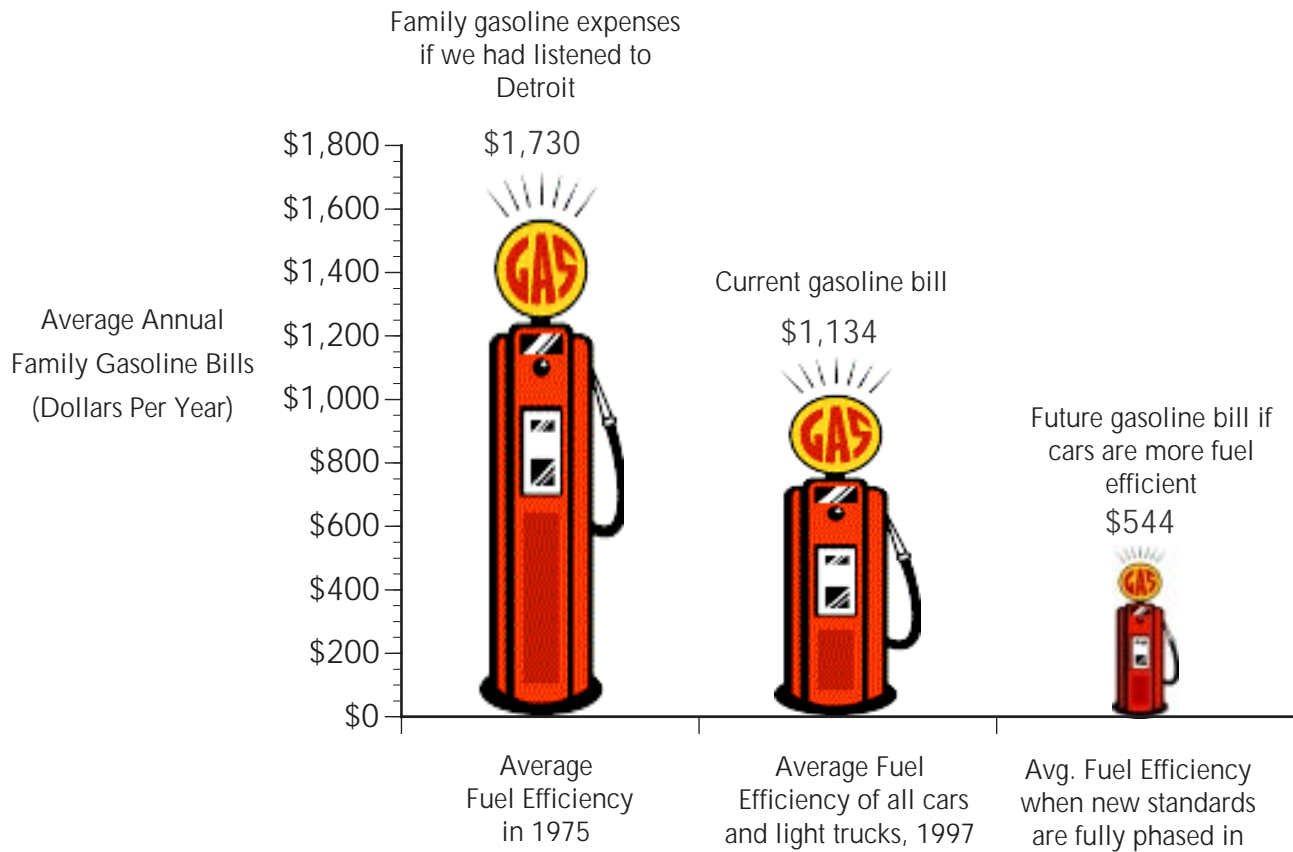
- **Make cars more fuel efficient.** The Clinton Administration and Congress should raise the existing Corporate Average Fuel Economy

Table 2. Families in western states will save the most if cars are made more fuel efficient.

State	Total Gasoline Household Savings 1999-2008 (Dollars/Year)	Total Statewide Savings (1999-2008)	Average Annual Household Savings with Full CAFE Implementation
Nevada	\$3,171	\$1,645,439,219	\$868
Wyoming	\$3,003	\$610,893,387	\$822
Idaho	\$2,916	\$1,205,303,594	\$798
Utah	\$2,886	\$1,726,788,252	\$790
South Dakota	\$2,854	\$834,686,740	\$781
Montana	\$2,822	\$1,019,265,729	\$772
Alaska	\$2,709	\$630,247,751	\$742
North Dakota	\$2,641	\$729,870,338	\$723
New Mexico	\$2,628	\$1,661,116,715	\$719
Mississippi	\$2,609	\$2,635,825,879	\$714
United States	\$2,155	\$220,428,258,099	\$590

Source: Environmental Working Group. Compiled from Federal Highway Administration data on gasoline prices, gasoline use and vehicle miles traveled.

Figure 1. Making cars and trucks more fuel efficient will save consumers hundreds of dollars and help prevent global warming.



Source: Environmental Working Group. Compiled from Federal Highway Administration data on gasoline prices, gasoline use and vehicle miles traveled.

(CAFE) standards from 27.5 miles per gallon to 45 mpg, and 34 mpg for light trucks. Once implemented, these standards will save the average American family \$590 a year while keeping the U.S. car industry from falling further behind in the race to build tomorrow's cars (Figure 1).

- **Speed the introduction of alternative fuel sources for cars** through more funding

for research into batteries, fuel cells and other innovations that will help bring high-efficiency electric and other alternative fuel cars to market.

- **Strengthen the nation's transportation law.** A rewrite of the nation's transportation law, the Intermodal Surface Transportation Efficiency Act (ISTEA), is pending reauthorization in Congress.

Although the broad outline of the new ISTEA bill has already been drawn, meaningful changes to reduce the impacts of transportation on climate change are still possible. Because of budget surpluses from the growing U.S. economy, overall funding for ISTEA may increase in 1998. These additional resources must be used to reduce the large share of greenhouse gas emissions that come from the transportation sector. A reauthorized ISTEA must; provide increased funding for en-

ergy-efficient modes of transportation such as public transit and intercity rail; increase funding for the Congestion Mitigation and Air Quality program, which provide states with money to meet Clean Air Act requirements and encourages them to explore innovative transportation options; and create a new climate change and transportation fund to promote research, demonstration and implementation of projects to reduce greenhouse gas emissions from the transportation sector.

Note

¹ Assumes that gas prices and average miles driven do not change. If either of these increase, savings will be even higher than our calculations indicate.

² According to the Bureau of Labor Statistics, the average car payment is \$260 per month.

Climate Change and Transportation

There is a broad consensus among the world's scientists that rising emissions of carbon dioxide — produced when fossil fuels are burned — are changing the earth's climate. Indeed, with the exception of industry affiliated scientists, there is little doubt among the mainstream scientific community that humans are responsible for changing the earth's climate, and that this change will have dramatic adverse effects on our quality of life.

In 1995, some 2,000 scientists participating in the United Nations Intergovernmental Panel on Climate Change found that “climate change is likely to have wide-ranging and mostly adverse impacts on human health, with significant loss of life.” The majority of the world's living Nobel laureates in science, as well as a plethora of planetary scientists, researchers and economists concur about the impacts of global climate change and the need to take action to reverse these impacts. D. James Baker, the administrator of the National Oceanic and Atmospheric Administration, recently noted in relation to global warming that “{t}here's a better scientific consensus on

this than on any issue I know — except maybe Newton's second law of dynamics” (Warrick 1997).

Cars and trucks are at the center of the problem in the United States. Increasing emissions from automobiles, light trucks and sport utility vehicles have been responsible for much of the increase in total greenhouse gas emissions in the U.S., which are up by eight percent since 1990, and 3.5 percent since 1995. Indeed, emissions increases have outstripped the rate of growth for the economy as a whole³.

On November 13, 1997, the Energy Department forecast that U.S. energy use will rise 27 percent by 2020, which means that without changes in present policy, U.S. carbon dioxide emissions will increase by 45 percent from 1990 levels over the next thirty years (Hamilton and Chandler 1997). In the United States, which accounts for 25 percent of the world's carbon dioxide emissions, transportation accounts for 30 percent of all emissions (Hamilton and Chandler 1997). The cars and trucks that would be made more fuel efficient under new CAFE standards account for 15 percent of the nation's

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emissions of greenhouse gases (Presidential Policy Dialogue Advisory Committee 1996).

The 1973 OPEC oil embargo set off a worldwide energy crisis, prompting measures for energy conservation. Two years later, the CAFE standards were passed, requiring that by 1985 automakers double average new car fleet fuel efficiency, from 13.8 mpg to 27.5 mpg (and to 20.6 mpg for light trucks). These measures were successful, dramatically increasing fuel efficiency of automobiles, and reducing fuel consumption to half of what it would be otherwise. Even so, U.S. car companies were slow to introduce more fuel efficient cars, a major factor in the series of financial setbacks the Big Three suffered during the

1980's, including massive layoffs.

But the fuel economy successes of the 1970s and 1980s are now being overwhelmed by other trends. Due to sprawling development and the shift of jobs and services towards ever-larger suburbs, Americans now own more cars and drive more than ever before. Miles driven have increased every year since 1981, for a total increase of 50 percent between 1981 and 1995 (U.S. DOT 1996). The average length of a trip to work is now 11.6 miles, up from 10.6 miles in 1990 (FHWA 1997). The average number of cars per family is up from one in 1969 to almost two in 1995 (FHWA 1997). As a result, emissions of greenhouse gases from cars and trucks are once again on the increase.

Note

³ The economy expanded by 2.4 percent.

The Big Three: Wrong Then, Wrong Now

The Big Three automakers — Ford, GM, and Chrysler — spew a nonstop stream of apocalyptic hyperbole in response to even modest efforts to improve the safety and environmental performance of their products. Over the past 30 years they opposed seat belts, turn signals, collapsible steering columns, catalytic converters, air bags, and fuel economy standards. In every case auto industry executives claimed that the new requirement would wreak disaster in the industry, cause prices to skyrocket, cost thousands of jobs and give unfair advantages to foreign competition. In every case they were wrong.

Faced with government policy to make cars safer and more environmentally friendly, Detroit's Chicken Littles routinely issue panicked warnings that the economic sky will fall. They dismiss as naive the belief of environmentalists and consumer advocates that American businesses and technological know-how can devise profitable solutions to daunting environmental problems. Detroit's history is replete with examples:

- In 1965, Frederic G. Donner, president of General Motors, opposed seat belts and turn signals as mandatory standard equipment. "From a commercial standpoint in a competitive marketplace," Donner told a congressional committee, safety devices such as the turn signal and the seat belt must be optional "until a very high proportion of the customers select the item or unless there are compelling reasons for standard installation" (Donner 1965).
- In 1966, when the National Highway Traffic Safety Administration (NHTSA) issued its first set of motor vehicle safety standards requiring modest innovations such as laminated windshields, interior padding, and collapsible steering wheels, Henry Ford II argued that "many of the temporary standards are unreasonable, arbitrary and technically unfeasible . . . If we can't meet them when they are published we'll have to close down" (Claybrook and Bollier 1985).

In every case auto industry executives claimed that the new environmental and safety requirement would wreak disaster in the industry, cause prices to skyrocket, cost thousands of jobs and give unfair advantages to foreign competition. In every case they were wrong.

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- In 1971, Ford went on *The Today Show* and called air bags “baloney” (Certo 1994).
- In opposition to the original Clean Air Act of 1970, the American Automobile Manufacturers Association issued statements that sound identical to their warnings today about the Global Climate Treaty. The trade association said that it would not be possible “to achieve the control levels specified in the bill . . . [M]anufacturers . . . would be forced to shut down.” (AAMA 1970). Of course, the U. S. auto industry did meet the emissions requirements.
- In a 1971 Oval Office meeting secretly taped by President Nixon, Iacocca solicited opposition to mandatory air bags arguing that “the Japs are in the wings ready to eat us alive.” As Iacocca sarcastically observed to the President of the United States: “The citizens of the U.S. must be protected from their own idiocy, so we will put in a sophisticated device that will blow up on impact and package him in an air bag and save their lives” (Nixon Project 1971). Despite the delay imposed by Nixon, U.S. automakers were eventually required to install air bags. Nineteen years later, Iacocca — by then, president of Chrysler — declared, “Our cars are every bit as good as the Japanese. Let me tell you why: We got more air bags” (St. Petersburg Times 1990).
- In the same secretly taped meeting with Nixon, Iacocca said referring to pending safety requirements, “the shoulder harnesses and head rests are complete wastes of money” (Nixon Project 1971).
- In 1973, a General Motors vice president, Ernest S. Starkman, told the Environmental Protection Agency that “[I]f GM is forced to introduce catalytic converter systems across-the-board on 1975 models . . . [i]t is conceivable that complete stoppage of the entire production (system) could occur, with the obvious tremendous loss to the company, shareholders, employees, suppliers and communities.” (Ditlow 1975) Only two months after EPA responded to these dire predictions and delayed the requirement for installation of catalytic converters, GM announced that it would install the systems across-the-board in 1975. GM even acknowledged that, contrary to their predictions of industry demise, the catalytic converters would generate fuel economy gains of up to 20 percent (Ditlow 1975).

- In 1975, E.M. Estes, the president of General Motors stated that if Congress were to pass a law mandating corporate fuel economy, “absent a significant technological breakthrough . . . the largest car the industry will be selling in any volume at all will probably be smaller, lighter, and less powerful than today’s compact Chevy Nova . . .” (Oil Daily 1975). At about the same time, a Chrysler vice-president for engineering, Alan Loofburrow, testified before a Senate committee that by 1979 new fuel economy standards would [in effect] “outlaw a number of engine lines and car models including most full-size sedans and station wagons. It would restrict the industry to producing subcompact-size cars — or even smaller ones — within 5 years . . .” (Loofburrow 1974). These predictions were laughably wrong. According to the National Highway Traffic Safety Administration, only 11.4 percent of the 1996 domestic passenger car fleet were subcompacts (or smaller); 48.1 percent of the 1996 fleet were mid-size or large cars. (NHTSA 1997). Trucks and sport utility vehicles are assessed under separate CAFE standards from automobiles, so these numbers actually understate the extent to

which car manufacturers have been able to retain large vehicles in their product lines while meeting CAFE requirements.

- In the debate over the 1990 Clean Air Act, auto industry officials claimed that further decreasing auto emissions “is not feasible or necessary and that congressional dictates to do so would be financially ruinous” (Weisskopf 1990). Ignoring the automakers, Congress enacted a 30 percent reduction in hydrocarbons and 60 percent reductions in nitrogen oxides. The carmakers are complying with the 1990 Clean Air Act Amendments even as the Big Three posted record profits of almost \$40 billion over the last three years.
- In 1994, the auto industry overstated the cost of the low emission California car by 1,500 percent, claiming that such a requirement would add \$1,500 to the price of a car. Today, we know that the industry can produce the low emission vehicles at a cost of only \$60-\$100 more per car (Browner 1997).

Panicky auto executives in Detroit have made fearmongering about safety and environmental rules a standard business practice. They have misled the American public and Congress on the costs and benefits of virtually

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If we had listened to Detroit's claims about what was possible, today's cars would produce 90 percent more pollution; get 40 percent lower gas mileage, which would mean they'd cost \$600 more a year to operate; and only offer safety glass, turn signals and seat belts as options (at best).

every safety and environmental improvement proposed in the past 30 years. And they continue this same Chicken Little strategy today to kill the Global Climate Change treaty.

After meeting with President Clinton earlier this year to discuss global warming, automakers stated that the treaty would "increase gas prices 50 cents a gallon, boost the price of electricity 20 percent and raise the cost of making cars" (Greenwire 1997). Most recently, Andrew Card, president of the American Association of Automobile Manufacturers, said on Oct. 22, 1997, that even the Administration's modest proposal for the Kyoto Conference would cause "soaring production costs and significantly higher driving costs — through rationing schemes, energy taxes or other mechanisms with comparable effect" (Card 1997).

These dire predictions continue a long tradition of doomsday rhetoric from the Big Three and their public relations teams in Washington. After all, if we had listened to Detroit's claims about what was possible, today's cars would produce 90 percent more pollution; get 40 percent lower gas mileage, which would mean they'd cost \$600 more a year to operate; and only offer safety glass, turn signals and seat belts as options (at best). Air bags? Don't bet on it.

Meanwhile, car companies continue to make huge profits — the last three years worth of the

combined profits for the Big Three automakers have been almost \$40 billion.

Findings

Our analysis of federal data on automobile fuel efficiency, fuel costs, and driving patterns leads to the inescapable conclusion that fuel efficient cars save drivers money on gasoline and help prevent global warming to boot. Our analysis found:

- When new CAFE standards are fully implemented, the average American family will save \$590 a year⁴. The average family will reduce gasoline use by 496 gallons per year — almost ten gallons per week.
- In states where gasoline costs are highest, and families drive the most, families will save the most money. When CAFE standards are fully phased in, the average Nevada family will save \$868, followed by families in Wyoming (\$822), Idaho (\$798), Utah (\$790), and South Dakota (\$781) (Table 3).
- Families in sprawling urban areas where drivers put the most mileage on their cars will save the most if cars are made more fuel efficient. Among large urbanized areas, drivers in Atlanta (\$693), Dallas-Fort Worth (\$671), Seattle (\$655) and Las Vegas

(\$652) will save the most when new standards are fully implemented. The average family in Atlanta will reduce its annual gasoline usage by 696 gallons — almost 14 gallons a week (Table 4).

- Overall, Americans will save an annual total of \$60 billion per year on gasoline costs when CAFE is fully implemented. And this assumes that the price of gasoline remains the same. If gas prices were to increase, consumer savings would be even higher.
- In addition to the savings when CAFE is fully phased in, a slow but steady increase in fuel efficiency of the new car fleet will have immediate benefits. In the first ten years of the phase-in — 1999 to 2008 — the average American family will save an average of \$216 per year, or \$2,160 for the ten year period.
- In the first ten years of the CAFE phase-in, Americans will save a total of \$220 billion on gasoline bills. In the Atlanta urban area alone, drivers will save a total of \$2.3 billion in the first ten years of new CAFE standards. In Dallas-Fort Worth, drivers will save \$3.3 billion over this ten year period.

Table 3. Families in western states will save the most if cars are made more fuel efficient.

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Mississippi	\$2,609	\$2,635,825,879	\$714
Oregon	\$2,496	\$2,978,666,634	\$683
Arizona	\$2,492	\$4,134,927,531	\$682
Washington	\$2,491	\$5,062,132,466	\$682
Alabama	\$2,451	\$4,093,454,411	\$671
Minnesota	\$2,445	\$4,519,787,615	\$669
Georgia	\$2,428	\$6,406,438,603	\$665
Iowa	\$2,394	\$2,737,588,376	\$655
Tennessee	\$2,389	\$4,840,879,351	\$654
Texas	\$2,388	\$16,736,266,860	\$654
Colorado	\$2,379	\$3,515,301,181	\$651
Arkansas	\$2,374	\$2,375,241,558	\$650
North Carolina	\$2,362	\$6,657,696,013	\$647
Nebraska	\$2,356	\$1,556,131,714	\$645
Virginia	\$2,347	\$5,857,990,247	\$642
Missouri	\$2,319	\$5,100,693,714	\$635
South Carolina	\$2,308	\$3,287,148,335	\$632
Hawaii	\$2,281	\$889,219,394	\$624
Delaware	\$2,261	\$655,568,903	\$619
Indiana	\$2,257	\$5,069,602,891	\$618
Connecticut	\$2,238	\$2,955,931,286	\$612
Oklahoma	\$2,232	\$3,139,399,486	\$611
Kansas	\$2,231	\$2,329,782,926	\$611
Louisiana	\$2,207	\$3,787,455,642	\$604
Kentucky	\$2,201	\$3,316,726,888	\$602
California	\$2,194	\$24,539,714,746	\$601
Wisconsin	\$2,189	\$4,500,250,384	\$599
Maryland	\$2,184	\$4,132,473,989	\$598
New Hampshire	\$2,160	\$1,088,429,187	\$591
Vermont	\$2,119	\$574,750,224	\$580
Michigan	\$2,062	\$7,934,213,089	\$564
Maine	\$2,051	\$1,204,316,800	\$561
Ohio	\$2,022	\$8,841,540,713	\$553
New Jersey	\$1,975	\$6,072,817,942	\$540
West Virginia	\$1,964	\$1,534,690,776	\$538
Massachusetts	\$1,930	\$4,771,541,145	\$528
Illinois	\$1,908	\$8,596,597,309	\$522
Florida	\$1,881	\$11,477,576,731	\$515
Pennsylvania	\$1,828	\$9,025,835,075	\$500
Rhode Island	\$1,812	\$751,224,551	\$496
New York	\$1,443	\$10,431,721,319	\$395
DC	\$1,095	\$304,877,964	\$300
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Houston	\$2,157	\$2,588,809,242	\$590
St. Louis	\$2,115	\$1,720,976,695	\$579
Los Angeles	\$2,092	\$8,513,857,280	\$573
Portland-Vancouver	\$2,086	\$1,032,111,985	\$571
Oklahoma City	\$2,044	\$724,120,347	\$560
Milwaukee	\$2,005	\$980,485,139	\$549
San Diego	\$1,993	\$1,781,414,842	\$545
Denver	\$1,993	\$1,346,101,871	\$545
Indianapolis	\$1,989	\$783,772,264	\$544
Detroit	\$1,968	\$2,879,901,083	\$539
Phoenix	\$1,965	\$1,786,487,399	\$538
Cincinnati	\$1,902	\$946,014,570	\$521
Sacramento	\$1,889	\$832,832,939	\$517
Columbus, OH	\$1,885	\$752,157,712	\$516
Baltimore	\$1,875	\$1,419,731,496	\$513
Washington, DC	\$1,864	\$2,534,374,652	\$510
Norfolk-VA Beach-Newport News, VA	\$1,843	\$938,061,198	\$504
Boston	\$1,788	\$2,012,084,781	\$489
San Francisco-Oakland	\$1,771	\$2,618,260,610	\$485
Chicago-Northwestern IN	\$1,752	\$4,634,660,181	\$479
Cleveland	\$1,714	\$1,208,837,399	\$469
Pittsburgh	\$1,697	\$1,229,713,866	\$464
Fort Lauderdale-Hollywood-Pompano Beach	\$1,642	\$1,021,218,019	\$449
Buffalo-Niagara Falls	\$1,611	\$651,090,754	\$441
Miami-Hialeah	\$1,569	\$1,199,591,292	\$430
Philadelphia	\$1,554	\$2,608,800,856	\$425
Tampa-St Pete-Clearwater	\$1,463	\$1,255,333,002	\$400
West Palm Beach-Boca Raton-Delray Beach	\$1,408	\$615,170,642	\$385
New York-Northeastern NJ	\$1,290	\$8,065,747,773	\$353
New Orleans	\$1,188	\$527,575,375	\$325

Source: Environmental Working Group. Compiled from Federal Highway Administration data on gasoline prices, gasoline use, and vehicle miles traveled.

And increasing fuel efficiency will not only save families money, it will help prevent global warming. Consider:

- When higher fuel efficiency standards are fully implemented, American drivers will reduce gasoline use by approximately 64 billion gallons annually — preventing 1.3 trillion pounds of carbon dioxide from being released to the atmosphere.
- When standards are fully implemented, the average family will save 496 gallons of gasoline every year. For every gallon of gasoline burned, automobiles produce approximately 20 pounds of carbon dioxide (US EPA 1997) — meaning that carbon emissions will be reduced by five tons

annually for each family in the United States.

- President Clinton’s 1996 “Car Talk” commission found that in the first ten years of the phase-in, an increase in CAFE standards from 27.5 to 45 mpg for cars and 21 to 34 mpg for trucks would account for a reduction in carbon emissions of 36 million tons per year — almost half of the amount necessary to reduce emissions to 1990 levels. And, when standards are fully phased in, the benefits will be even greater. By 2025, the new CAFE standards will result in a decrease of 175 million tons of carbon emissions each year, helping to bring total U.S. emissions below 1990 levels. (Presidential Policy Dialogue Advisory Committee 1996).

President Clinton’s 1996 “Car Talk” commission found that an increase in CAFE standards would account for a reduction in carbon emissions of 36 million tons per year — almost half of the amount necessary to reduce emissions to 1990 levels.

Note

⁴ Assumes that gas prices and average miles driven do not change. If either of these increase, savings will be even higher than our calculations indicate.

WALKABLE, LIVABLE NEIGHBORHOODS REDUCE GREENHOUSE GAS EMISSIONS AND SAVE CONSUMERS MONEY — UP TO \$500 PER MONTH.

Providing more fuel efficient cars will save families money. Providing real transportation choices, and reducing auto-dependence will decrease emissions of greenhouse gases and will also save families money. “Location efficiency” is a new land use planning and economic development concept that focuses on the design of communities so that families have transportation choices and are less car-dependent (Ross and Dunning 1997). Useful indicators of location efficiency are household density, access to public transit, and access to shopping, services, cultural amenities, and schools. Living in areas that are more location efficient saves families money in addition to providing them with convenient, attractive amenities. The reduced need for driving could save an average household anywhere from \$300 to \$500 per month. Compared to a typical suburban neighborhood with no transit access, a more location-efficient neighborhood⁵ could save a family \$318 each month. The more efficient the community, the higher the savings.

The Location-Efficient Mortgage (LEM) is an innovative mortgage plan already being offered in Chicago, and soon to be offered in San Francisco, and Los Angeles⁶. The LEM is available to those who are interested in living in urban areas served by public transportation systems. The LEM recognizes that when families are not dependent on automobiles for goods and services, they rely less on their cars and spend less on transportation. The LEM’s computer software and mapping system can calculate such a family’s annual and monthly transportation savings under a variety of situations and conditions. If a buyer fits the criteria of the LEM, a portion of the transportation savings would go towards borrowing capacity as part of the customary mortgage process. In Chicago, this would be \$20,000 for a 30-year mortgage. This procedure creates significant increases in borrowing capacity while giving families a better indicator of the savings available from living in communities with real transportation choices. Fannie Mae has agreed to participate with several banks in an initial offering of the Location Efficient Mortgage in the Chicago metropolitan area.

Notes

⁵ A neighborhood with 20 households per acre, and 1.5 cars and 1 transit pass per household.

⁶ For more information on LEM’s, see the Center For Neighborhood Technology world wide web site at www.cnt.org

Detroit's Fight Against Fuel Efficiency

Automakers have fought against CAFE standards since their inception in 1975, and they continue to fight efforts to make cars more efficient today, in spite of their history of being on the wrong side of technological change. Car manufacturers' fear of this change has spawned groups like the Coalition for Vehicle Choice (CVC), funded by GM, Chrysler, and Ford, whose lobbyists and spin doctors continue to argue that fuel efficiency simply cannot be increased without major compromises in vehicle safety and amenities. This same PR strategy dismisses the role of CAFE standards in the dramatic improvement in fuel efficiency, safety and other features since 1975. This strategy of deny and delay has cost consumers hundreds of dollars per year (Tables 5 and 6).

The initial CAFE standards doubled fuel efficiency standards for cars from 13.8 mpg in 1975 to 27.5 mpg in 1985. CAFE standards were also slowly increased for light trucks (a class that includes both two-wheel and four-wheel drive trucks, minivans, and sport utility vehicles), reaching the present high of 20.7 mpg in 1991. CAFE standards remain

frozen at the goals set in 1975. In 1990, Congress passed the Clean Air Act, but veto threats from the Bush Administration prevented increases in CAFE standards from being written into law. Other efforts at raising fuel efficiency standards in the 102nd Congress, led by Sen. Richard Bryan (D-NV) also failed.

In 1994, the National Highway Traffic Safety Administration began to explore raising CAFE standards for light trucks. Once again, the effort went nowhere, in large part because of opposition from the automobile industry and their allies in Congress. The Department of Transportation appropriation legislation for 1996 and 1997 — bills passed by the 104th Congress - contained provisions that prohibited the use of authorized funds to increase CAFE standards, effectively freezing the old standards in place. Efforts to prevent increases in fuel efficiency continued in the 105th Congress, as the House of Representatives once again passed an appropriations rider denying DOT the opportunity to increase CAFE standards, and both House (H.R. 880) and Senate (S. 286) legislation has been introduced that would repeal the

CAFE fuel economy standards remain frozen at the goals set in 1975.

Table 5. Families would spend hundreds of dollars more each year on gasoline if we had believed the auto industry in 1975.

State	Average Annual Driving Mileage per Household	Annual Household Fuel Cost	Additional Gas Expenditures Without 1975 CAFE Standards
Alabama	30,309	\$1,290	\$678
Alaska	17,725	\$1,426	\$750
Arizona	23,896	\$1,311	\$689
Arkansas	26,635	\$1,249	\$657
California	24,714	\$1,155	\$607
Colorado	23,730	\$1,252	\$658
Connecticut	21,233	\$1,178	\$619
DC	12,442	\$576	\$303
Delaware	25,921	\$1,190	\$626
Florida	20,950	\$990	\$521
Georgia	32,362	\$1,278	\$672
Hawaii	20,382	\$1,201	\$631
Idaho	29,749	\$1,535	\$807
Illinois	20,902	\$1,004	\$528
Indiana	28,745	\$1,188	\$625
Iowa	22,722	\$1,260	\$662
Kansas	24,090	\$1,174	\$617
Kentucky	27,272	\$1,158	\$609
Louisiana	22,518	\$1,161	\$611
Maine	21,445	\$1,080	\$568
Maryland	23,723	\$1,150	\$604
Massachusetts	19,433	\$1,016	\$534
Michigan	22,273	\$1,085	\$571
Minnesota	23,843	\$1,287	\$677
Mississippi	29,254	\$1,373	\$722
Missouri	26,987	\$1,221	\$642
Montana	26,025	\$1,485	\$781
Nebraska	23,927	\$1,240	\$652
Nevada	26,932	\$1,669	\$877
New Hampshire	21,121	\$1,137	\$598
New Jersey	19,839	\$1,039	\$546
New Mexico	33,457	\$1,383	\$727
New York	15,925	\$760	\$399
North Carolina	26,986	\$1,243	\$654
North Dakota	23,685	\$1,390	\$731
Ohio	23,053	\$1,064	\$560
Oklahoma	27,365	\$1,175	\$618
Oregon	25,163	\$1,313	\$690
Pennsylvania	19,141	\$962	\$506
Rhode Island	16,634	\$954	\$501
South Carolina	27,191	\$1,215	\$639
South Dakota	26,225	\$1,502	\$790
Tennessee	27,745	\$1,258	\$661
Texas	25,838	\$1,257	\$661
Utah	31,386	\$1,519	\$798
Vermont	22,882	\$1,115	\$586
Virginia	27,965	\$1,235	\$649
Washington	24,233	\$1,311	\$689
West Virginia	22,067	\$1,034	\$543
Wisconsin	25,001	\$1,152	\$606
Wyoming	34,629	\$1,581	\$831
United States	23,690	\$1,134	\$596

Source: Environmental Working Group. Compiled from Federal Highway Administration data on gasoline prices, gasoline use and vehicle miles traveled.

Presidents’s authority to raise CAFE standards. And Congress enacted one year moratoriums to freeze the current standards in 1995 and 1996.

The opposition of the car manufacturers to stricter fuel economy standards extended to other areas as well. In 1996, a presidential panel to address greenhouse emissions from personal motor vehicles — known as the Car Talk commission — made three critical recommendations in their majority report: higher fuel economy standards; enhanced research and technology programs to speed the entrance of alternative fuels into the market; and promotion of alternatives to car travel and more efficient land use practices (Presidential Policy Dialogue Advisory Committee 1996). Unfortunately, the adoption of this majority report was blocked by vetoes exercised by the minority of members representing automobile and oil companies.

American Car Companies Are Falling Behind the Technological Curve

Producing more fuel efficient cars is simply a matter of developing and implementing new technologies. Recently, Secretary of Energy Federico Peña remarked that “[a]s the nations of the world focus on slowing global climate change, advanced automotive technology becomes an increasingly important part of

Table 6. Driving costs would be hundreds of dollars higher if we had believed the auto industry in 1974.

Urban Area	Average Annual Vehicle Miles Traveled, Per Family	Annual Gas Expenditures Per Family (Dollars/Year)	Additional Cost Without 1975 CAFE Standards
Atlanta	27,010	\$1,333	\$701
Dallas-Fort Worth	21,170	\$1,291	\$679
Seattle	18,615	\$1,260	\$662
Riverside-San Bernardino, CA	21,170	\$1,239	\$651
Orlando	20,075	\$1,195	\$628
San Antonio	19,345	\$1,189	\$625
Minneapolis-St. Paul	17,520	\$1,188	\$625
San Jose	19,710	\$1,155	\$607
Kansas City	19,710	\$1,150	\$605
Houston	18,615	\$1,135	\$597
St. Louis	18,980	\$1,113	\$585
Los Angeles	18,980	\$1,101	\$579
Portland-Vancouver	16,425	\$1,098	\$577
Oklahoma City	20,075	\$1,076	\$566
Milwaukee	18,250	\$1,055	\$555
San Diego	17,885	\$1,049	\$551
Denver	15,695	\$1,049	\$551
Indianapolis	20,075	\$1,047	\$550
Detroit	16,790	\$1,036	\$545
Phoenix	14,965	\$1,034	\$544
Cincinnati	17,885	\$1,001	\$526
Sacramento	16,790	\$994	\$523
Columbus, OH	17,155	\$992	\$521
Baltimore	16,425	\$987	\$519
Washington, DC	16,790	\$981	\$516
Norfolk-VA Beach-Newport News, VA	17,520	\$970	\$510
Boston	14,235	\$941	\$495
San Francisco-Oakland	16,060	\$932	\$490
Chicago-Northwestern IN	16,425	\$922	\$485
Cleveland	15,695	\$902	\$474
Pittsburgh	14,235	\$893	\$469
Fort Lauderdale-Hollywood-Pompano Beach	14,600	\$864	\$454
Buffalo-Niagara Falls	14,235	\$848	\$446
Miami-Hialeah	13,870	\$826	\$434
Philadelphia	12,775	\$818	\$430
Tampa-St Pete-Clearwater	13,140	\$770	\$405
West Palm Beach-Boca Raton-Delray Beach	12,410	\$741	\$390
New York-Northeastern NJ	10,950	\$679	\$357
New Orleans	9,855	\$625	\$329

Source: Environmental Working Group. Compiled from Federal Highway Administration data on gasoline prices, gasoline use and vehicle miles traveled.

By resisting change, Detroit appears poised to repeat the disastrous decisions in the 1970's that cost American automakers significant market share, and led to hundreds of thousands of layoffs.

the solution” (Peña 1997). The vehicle technology needed to attain higher CAFE standards, however, is not a distant dream. In fact, many of the top automobile companies have the technology available right now.

The U.S. has gone from being the first country to mass produce cars to the last to explore new vehicle technologies. Lost in the sea of auto industry advertising and public relations is the fact that U.S. automakers are losing ground to foreign manufacturers using innovative technologies. By resisting this change, Detroit appears poised to repeat the disastrous decisions in the 1970's

that cost American automakers significant market share, and led to hundreds of thousands of layoffs.

Toyota's hybrid gasoline-electric car, – the Prius – which will be sold in Japan this fall, gets 70 mpg (on the Tokyo engine cycle) and will produce half the emissions of a standard car. When idling at a stop sign or moving at slow speeds, it relies on a quiet, efficient electric motor. When the driver needs a little pickup on the highway, the gas engine kicks in.

Toyota, Honda, and Audi are leading in commercializing cars

READILY AVAILABLE TECHNOLOGIES CAN EASILY INCREASE FUEL EFFICIENCY

The automakers' cries that they are unable to make cars more fuel efficient bely not only their history, but existing technologies that can dramatically improve fuel efficiency without sacrificing safety or performance. These technologies include:

- **Improved engines** including four-valve engines to allow more efficient combustion (improving fuel economy by 5 percent); variable valve timing, which provides optimal air flow at different speeds (improving fuel economy by 12 percent); and lean burn technologies.
- **Improved transmissions and drive trains**, including electronically controlled gear shifting, 5-speed automatic transmissions,

and variable transmissions which enable cars to operate at higher efficiency. Front-wheel drive vehicles — which don't have heavy drive shafts — are 12.5 percent more fuel efficient than comparable rear wheel drive models, and require no new materials to reduce their weight and fuel consumption.

- **Lightweight materials and good design.** New materials such as composite plastics or aluminum weigh less than half as much as steel and are just as strong. Less weight means better fuel efficiency. In addition, better aerodynamic designs — like that of the Ford Taurus — can dramatically improve fuel efficiency.

Source: Sierra Club 1997. The Biggest Single Step To Curbing Global Warming and Saving Oil.

that combine electric and gasoline-powered engines. Hybrids can potentially combine the speed and range of gas-fueled cars with some of the reduced emission benefits of electric vehicles. Hydrogen fuel cells⁷, which emit only water vapor, are also receiving increased attention from automobile manufacturers.

The Big Three have been involved in some cutting edge research, participating in a joint private/federal government research program known as the Partnership for a New Generation of Vehicles, (PNGV). This is conducted largely at taxpayer expense. Moreover, there is no guarantee that technology developed as part of this program will ever be implemented. In fact, the President's Car Talk Majority

Report expressly recognized that the feasibility of realizing any greenhouse gas reductions from the PNGV program "depends upon an increased CAFE . . . , and other direct measures necessary to force auto manufacturers to utilize the technology developed through the program."
(President's Commission 1996)

Automakers have made great progress since the initial CAFE standards were implemented. For example, the Honda Civic — one of America's most popular cars — had a CAFE rating of 35 mpg in 1975. The 1995 model was larger and heavier but had significantly higher fuel efficiency. There is little doubt that automakers can continue to make this kind of progress — unless the industry Chicken Littles win out.

Note

⁷ A fuel cell is an electrochemical device that combines hydrogen and oxygen to produce electricity with zero emissions, no noise, and high energy efficiency.

Recommendations

In 1996, President Clinton appointed a non-partisan group of experts to develop a set of recommendations to reduce greenhouse gas emissions from cars and trucks (Presidential Policy Dialogue Advisory Committee 1996). The majority report from this group — known as the “Car Talk” report (after the public radio show) — made three recommendations:

- Reduce vehicle emissions by increasing the efficiency of the vehicle fleet.
- Reduce emission by introducing more efficient fuels.
- Reduce car dependency by offering new transportation choices, improving the attractiveness of alternatives to driving and sending accurate price signals about the true cost of driving.

These recommendations must form the basis for a sensible climate change policy. Such a policy must include measures both to increase the energy efficiency of travel, and to give Americans more transportation choices. Far from destroying the economy, such measures will

reduce greenhouse gas emissions, save consumers money, create jobs, and cut U.S. reliance on imported oil just as CAFE standards did in the past. Specifically, we recommend that Congress and the Clinton Administration respond to the threat of global warming by:

- **Making our cars more fuel efficient.** The Clinton Administration should raise the existing CAFE standards from 27.5 mpg to 45 mpg, and 34 mpg for light trucks. Once implemented, these standards will save American families \$590 a year at the gas pump, and keep the U.S. car industry from falling further behind in the race to build tomorrow’s cars.
- **Accelerating the introduction of alternative fuel sources for cars,** including more funding for research into batteries, fuel cells and other innovations that will help bring high-efficiency electric cars and other alternative fuel vehicles to market.
- **Strengthening the nation’s transportation law.** Sensible funding policies for our

Far from destroying the economy, increased fuel economy will reduce greenhouse gas emissions, save consumers money, create jobs, and cut U.S. reliance on imported oil just as CAFE standards did in the past.

nation's transportation system must also be part of the solution. The comprehensive transportation bill now making its way through Congress, the Intermodal Surface Transportation Efficiency Act (ISTEA), can provide real resources to help solve the climate change problem by funding specific programs to mitigate air pollution and developing less car-dependent neighborhoods. Although the broad outline of the new ISTEA bill has already been drawn, meaningful changes to reduce the impacts of transportation on climate change are still possible. Because of budget surpluses from the growing U.S. economy, overall funding for ISTEA may increase in 1998. These additional resources must be used to reduce the large share of greenhouse gas emissions that come from the transportation sector. A reauthorized ISTEA must:

- **Provide increased funding for energy-efficient modes of transportation such as public transit and intercity rail.** For 40 years federal funds have been invested in making driving more conve-

nient. A new commitment of resources is needed to reduce car dependency, and create real transportation choices. Doing so will reduce pollution, and make communities more livable.

- **Increase funding for the Congestion Mitigation and Air Quality program,** which provides states with money to meet Clean Air Act requirements and encourages them to explore innovative transportation options, including demand management strategies, incentives for carpooling, and other efforts.
- **Create a new Climate Change and Transportation Fund** to promote research, demonstration, and implementation of projects to reduce greenhouse gas emissions from the transportation sector. Eligible projects could include encouraging telecommuting and other uses of information technology to reduce the need for trips, increasing energy efficiency in the freight transportation sector and innovative programs like Location-Efficient Mortgages that encourage more efficient living patterns.

Methodology

This analysis estimates gasoline savings for drivers based upon an increase in the current CAFE standards, from 27.5 to 45 mpg for cars and from 20 to 34 mpg for light trucks, each over a ten-year period. The analysis is based principally upon three sets of figures: average fuel efficiency for all cars and light trucks on the road, gasoline use, and gasoline prices. This analysis builds upon and reaches the same general conclusions as a 1994 study by the Sierra Club and the U.S. Public Interest Research Group that estimated that an increase in CAFE standards would save the average U.S. driver \$576 annually by 2010 (Sierra Club and U.S. PIRG 1994).

State-level gasoline savings estimates were based upon 1996 gasoline use and 1997 gasoline costs⁸ for each state (FHWA 1997). FHWA data indicate that, nationally, 79 percent of all gasoline sold is used by passenger cars and light trucks (FHWA 1996). Lacking more detailed data, we assumed that this was true at the state and urban area levels as well.

Using these data, we were able to estimate the average an-

nual household fuel bill in each state. The percentage saved with higher CAFE standards was based upon estimated changes in the current average fleet mileage — 22.6 mpg for cars, 15.3 mpg for light trucks. When CAFE is fully implemented, the average automobile driver will save half of current gasoline costs, and the average light truck driver will save 55 percent. We assumed that gasoline costs would not rise appreciably in the future. If gas prices were to rise, the average household savings with a stronger CAFE would be even higher. We also assumed that vehicle miles traveled remained constant. If VMT increases, drivers will save more with higher CAFE standards.

We also calculated the average household savings for the first ten years of the CAFE phase-in — from the years 1999 through 2008. Because every car is not replaced annually, there is a lag between an increase in CAFE standards and an increase in fleet mileage. Based upon analysis of DOT data, we estimate that, on an annual basis, the fleet mileage increases by 10 percent of the difference between the previous year's fleet mileage and the cur-

rent CAFE standard (U.S. DOT 1996). Using this estimate, by 2008 — the first year in which CAFE standards of 45/34 mpg go into effect — the average fleet mileage for cars will increase from 22.6 to 32.6 mpg, and the average fleet mileage for light trucks will increase from 15.3 to 24 mpg. This means that, over the initial ten year period, the average household will save 18 percent annually on gasoline costs.

We also calculated how much higher gas costs would be for the average household if Congress had believed the auto industry's gloom-and-doom claims and failed to increase CAFE standards in 1975. In 1974, the fleet average mpg was 14.5 mpg for cars, and 10.5 mpg for light trucks. By 1996, CAFE had increased fuel economy by more than 50 percent, reducing fuel costs for the average driver by almost \$600 compared to the amount that

would have been spent if Congress had believed the auto industry's dire predictions and failed to enact CAFE standards in 1975.

This report also contains estimates of fuel savings for the average household in all urbanized⁹ areas in the country. Because there are no estimates of fuel use at the urbanized area level, we based our estimates on total vehicle miles traveled. We assumed that the ratio of gasoline used in the urbanized area to gasoline used in the state(s) which contain that urbanized area was equal to the ratio of vehicle miles traveled in the urbanized area to vehicle miles traveled in the state(s) that contain that urban area. Knowing gasoline use by state, and vehicle miles traveled by state and urbanized area, we were able to estimate gas use in the urbanized area.

Notes

⁸ For the six month period of January-June 1997. This is the most recent period for which data are available.

⁹ We used urbanized areas (UAs) defined by the 1990 census. A UA is defined as a "central place" and the surrounding "urban fringe" with a population density of at least 1,000 persons per square mile and a total population of at least 50,000 persons.

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