

# THE BASE CASE

To assist in evaluating these tradeoffs and to serve as a framework for comparing policy alternatives, we have projected a set of reference conditions, called the **Base Case**. The purpose is to indicate one possible set of outcomes if current trends persist and present policies are continued. In effect, the **Base Case** indicates for each issue the potential consequences of the fundamental option of adopting no new policy and continuing on the present course.

## Base Case Assumptions

	1975	1985	2000
<b>Demographic</b>			
Population (millions) . . . . .	214	233	260
Licensed drivers (millions). . . . .	130	151	177
<b>Economic</b>			
Gross national product (\$ trillion). . . . .	\$ 1.52	\$ 2.22	\$ 3.72
Disposable personal income (per capita) (\$ thousand). . .	5.03	6.72	10.07
World oil price (dollars per barrel). . . . .	13.00	16.50	25.60
Gasoline price (dollars per gallon) . . . . .	0.56	0.77	1.21
<b>Policy</b>			
New car fuel-economy standards (mpg). . . . .	—	27.5	27.5
New car emission standards (grams per mile):			
Carbon monoxide. . . . .	28.0	3.4	3.4
Hydrocarbons . . . . .	3.0	0.41	0.41
Oxides of nitrogen . . . . .	3.1	1.0	1.0

NOTE: BASE CASE ASSUMPTIONS are derived from Bureau of Census forecasts and GNP projections. The continuation of present Federal policies regulating fuel economy, safety, and emissions is assumed. Dollar amounts are in constant 1975 dollars. Mpg is according to Government standards; actual road mileage is assumed to be 10 to 20 percent lower. Base Case assumptions are described in detail in chapter 3 of the Technical Report.

## Base Case Projections

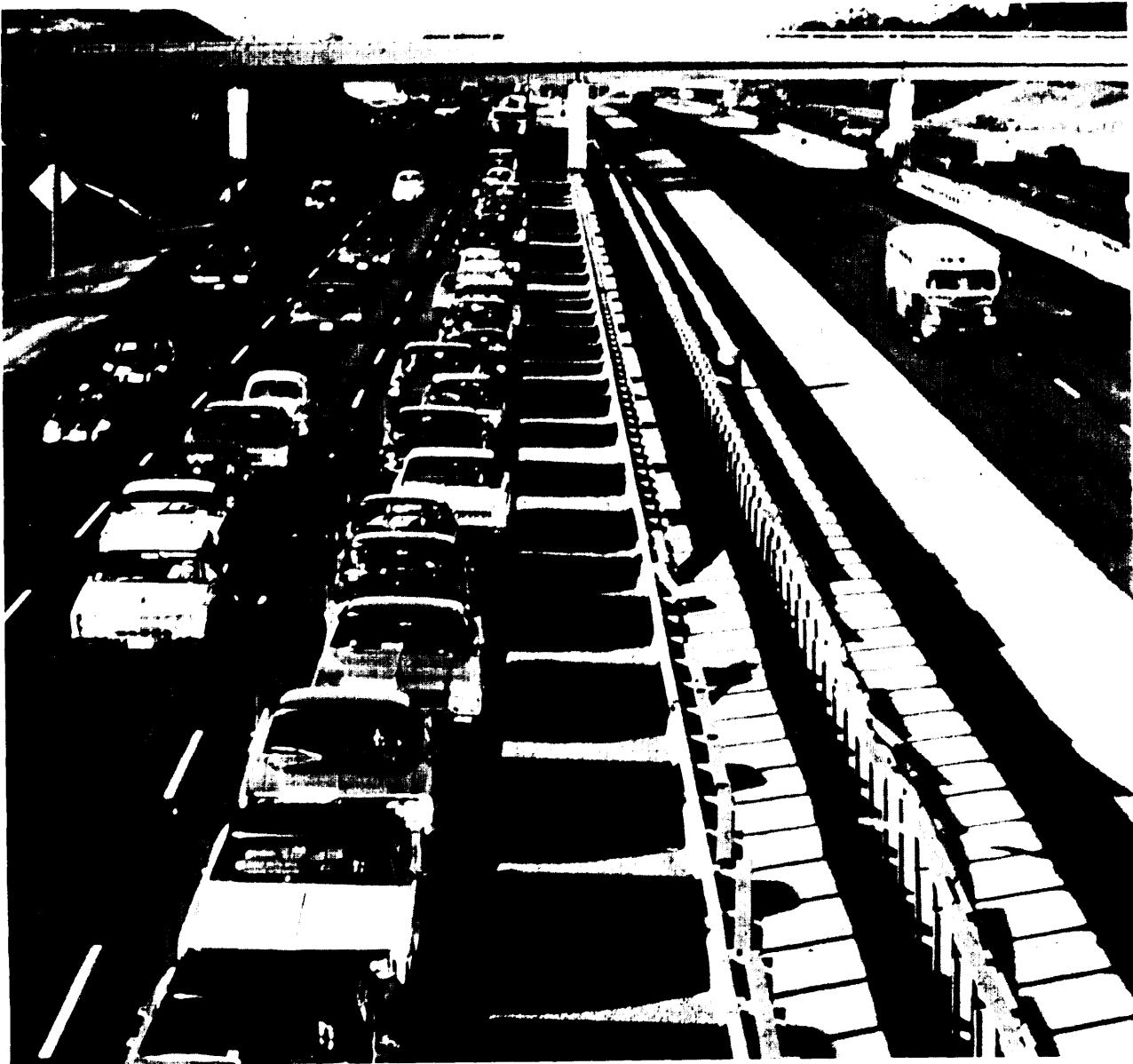
Base Case projections indicate that, unless there is an extreme restriction of petroleum supply, automobiles will continue to be the dominant mode of personal transportation through the year **2000**. The Federal transit assistance programs assumed for the Base Case are expected to result in a 10- to 20-percent increase in ridership, but the effect on automobile travel would be small—less than 5 percent.

Base Case projections also indicate that, even though the number of automobiles and vehicle

miles traveled (VMT) continues to rise, fuel consumption would peak by the early 1980's and then begin to fall as smaller fuel-efficient cars make up an increasingly greater share of the fleet. Between 1985 and 2000, consumption is expected to stay approximately at the 1985 level as progressive gains in fuel efficiency are offset by the continuing rise of VMT.

A factor that has significant influence on Base Case projections regarding fuel consumption is the probability that the free world's production of petroleum could peak sometime after 1985, probably in the 1990's, and that the world supply of petroleum would be constrained by production capability. The implications of this potential supply shortage are profound and pose a

Supporting detail for this section of the Summary and Findings is contained in chapters 2 and 3 of the Technical Report.



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Base Case projections indicate growing traffic congestion on highways and streets. Typical urban drivers in **2000** will encounter congested conditions and reduced travel speeds about one-quarter of the time, or about 2 or 3 times as often as today.

Under the Base Case it is projected that death and injury rates per mile in traffic accidents will decrease as a result of improved occupant protection and vehicle safety improvements. How-

ever, the absolute number of deaths and injuries will keep growing and could reach **64,000** deaths and over 5 million injuries per year by **2000**.

We must remind ourselves that the Base Case is only an analytic device and not a likely future. Actions on the part of Government, industry, and the automobile user can, and most probably will, mitigate or preclude some of the more adverse Base Case projections.

### Base Case Projections

	1975	1985	2000
Automobile miles traveled (trillion) . . . . .	1.03	1.43	1.80
Automobiles in operation (millions) . . . . .	95	118	148
Annual new car sales (millions) . . . . .	8.6	13.1	16.4
Fleet fuel economy (mpg) . . . . .	13.5	19.4	24.6
Automobile fuel demand (MMBD) <sup>a</sup> . . . . .	5.0	4.8	4.8
Gap between demand and domestic petroleum production (MMBD) . . . . .	7.4	10.0	15.4
Automobile emissions (million ton/year):			
Carbon monoxide . . . . .	69.3	32.6	27.3
Hydrocarbons . . . . .	7.9	3.5	2.9
Oxides of nitrogen . . . . .	4.0	2.7	2.9
Regions in violation of National Ambient Air Quality Standards: <sup>b</sup>			
Carbon monoxide . . . . .	68	37	24
Oxidants . . . . .	84	62	54
Annual highway fatalities (thousands) . . . . .	46	58	64
Auto travel under congested conditions (percent) . . . . .	10	14	24

<sup>a</sup>Millions of barrels per day of petroleum equivalent.

<sup>b</sup>There are 247 Air Quality Control Regions in the United States and its territories.

NOTE: BASE CASE PROJECTIONS show the results expected from continuation of current policy in view of evolving demographic, economic, and social trends. The Base Case should not be regarded as a prediction of a most probable future. The projections, which are given here as single values for the sake of simplifying the presentation, are not intended to suggest certainty about the future.

## FINDINGS

From the Base Case we project that:

- The Nation will face a serious petroleum shortage and a continuing problem of urban air pollution, in part attributable to the automobile transportation system, if present policies are continued unchanged and if current trends of increased automobile use persist.

The Base Case also indicates that:

- Highway fatalities and injuries will keep rising to a point where the public, the automobile industry, and the Federal Government may want to set new or more stringent safety goals and impose additional safety requirements for vehicles, highways, and drivers.

In sum, we find that:

- Because of energy, environmental, safety, and economic considerations, further changes in both the characteristics and the use of the automobile transportation system will be necessary to minimize adverse impacts on society and the economy.

As a first step in this assessment, we identified a number of specific issues that may confront Congress in formulating policies relating to the automobile. These issues are grouped into five areas of concern:

- Energy • Environment • Safety • Mobility • Cost and Capital

In the following sections, we discuss each of the areas separately—although we are well aware that they are interrelated. In each area we summarize the major findings of the assessment and review some of the policy alternatives that Congress may wish to consider. In the final section we indicate the major technological developments that may influence the evolution of the automobile transportation system.