

CARL CLARK: NHTSA. I noticed that you do not include safety at all in any of your minimal requirements. If you think about this at all, the small car seems to be less safe at the present time or could be more safe. Why didn't you include any aspect of safety, or do you think that's totally outside consideration?

KENNETH ORSKI: Well, I confess that my personal ... in my personal calculus I put safety rather low, much to the displeasure of my wife. I don't "buckle up." I am probably not your typical consumer or automobile owner. I think most people would probably rank safety much higher and elevate the minimum standards much higher than I would. I've driven a Fiat 500, for years but never felt any less safe than I do now, driving a larger Toyota. But it's a matter of perceptions, and I readily admit that opinions of people will differ on where to place safety in your rank of priorities. I personally would trade off safety for sticker cost, because I don't see how I or a large number of other people can afford \$10,000 cars in the future. If there were a way of producing a \$3,500 car enabling both my wife and I to each have a car, I would be willing to sacrifice quite a bit of built-in safety. Now that may sound radical to my NHTSA friends, but so be it.

UNIDENTIFIED: How close would a car like the Honda City come to meeting all of your requirements?

KENNETH ORSKI: Oh, I think it would meet them and exceed them. I would be willing to compromise much more in terms of interior space, for example. As I understand it, the Honda City Car is a four seater. Now, personally, I don't need a four seater 80 percent of the time, so I would be satisfied with something smaller, lighter, and cheaper.

UNIDENTIFIED: I realize that it would meet your minimum requirements for a mini or a micro, that is, 80 percent of your requirements, but would it, the Honda City Car, perhaps come close to meeting 100 percent of your requirements?

KENNETH ORSKI: Well, never having seen it I really can't answer. I wonder whether the car is comfortable enough to use on a 3,000 mile trip to the Rockies, or whether it is large enough to haul a lot of camping gear. Maybe it would satisfy my needs 90 or 95 percent of the time. I do drive out West, say, once every two years, but I'm perfectly willing to rent a car for that purpose, so we're talking about marginal utility.

FRED REEVES: Berkeley, California. I'm particularly interested in your leasing concept, and I was wondering if someone could act as a central point for rallying people who have found these access points. For example, in my proposals, I found that one of the things that people need to know is that it's happening, that it has a marketing potential, it has experience. I was wondering if you could collect opportunities from people in the audience, so we have some examples.

KENNETH ORSKI: I think that's an excellent idea. There is really no clearing house and no source of information about this, and one finds out about it almost by accident, by talking to people. I would suggest that the MIT project on the Future of the Automobile, and Bob Whitford's project at Purdue are two logical places to which this kind of information could flow, and from which in turn it could

be disseminated to others. I would certainly applaud and second the notion that there should be more communication on that subject.

The question was whether the proposed leasing and renting arrangements might not be more typical of suburban behavior than city behavior. Yes, and no; it seems to me that it was not an accident that Budget Car began to experiment in central city, because that's where you have the concentration of demand and also the highest percentage of noncar owning people. In Manhattan, that kind of life-style is also very prevalent. Now, lots of people don't own cars in Manhattan, and rely on car rental agencies for their automobile travel needs. So, in many ways I think the renting and leasing approach lends itself best to inner city living. On the other hand, the need for cars and for additional cars is probably greater in the suburbs, where there is no public transit alternative, and where one is literally prisoner in one's own home unless you have a car. But I think one would probably have to ask the car rental agencies, all of which are now undertaking market studies, to find out where they feel the market really lies. I suspect you will get different answers from different people.

UNIDENTIFIED: Do you feel that manufacturers give any implied warranty say to sell these small cars even if there are no regulations?

KENNETH ORSKI: Maybe I should invite some of my colleagues to comment on this. I have no opinion on this, but I think Dan does.

DAN ROOS: The only comment I would make is it is ironical if one looks at the Japanese/US situation that the only area where unquestionably US productivity is superior is with respect to safety. And yet, US auto manufacturers have chosen never to utilize that with respect to their advertising and trying to gain greater market share. Certainly we respected their perception to take the issue as not important. Now I suspect the reason for that is an underlying fear that if one raises nasty issues about accident death and safety, it will have an overall negative impact on people's desire to buy an automobile, and therefore that can offset any competitive advantage that they might have with respect to the Japanese car. Although there are some people who will argue that and will say that if one looks back at some of the experiences that have been widely reported, the most significant of which was Ford's attempt during MacNamara's administration at Ford to market safety, but the conclusions were nowhere near as negative as currently perceived.

THE MARKET POTENTIAL FOR MICRO-MINI CARS IN THE UNITED STATES

John Hemphill, Executive Vice President
J.D. Power and Associates

PAT WALLER: Thank you. I believe, Ken, that your views on safety are not at all atypical but rather would be very typical of the average automobile purchaser. And, in regard to your views on sticker price, I grew up with the belief that anything you paid more than \$5,000 for had to have a fireplace.

I have tremendous difficulty adjusting to the changing prices in automobiles. Our last speaker this morning is Dr. John Hemphill. He is the Executive Vice President of J.D. Power and Associates which is a marketing research company that specializes in automotive consumer research. The company was founded in 1968 and is located in West Lake Village in California. Prior to joining J.D. Power, he was Associate Dean of the School of Business and Economics at California State University in Los Angeles and has been a consultant to the U.S. Department of Transportation, Department of Energy and the Environmental Protection Administration. He has authored a number of transportation-related publications and he is going to speak to us today about the next wave of downsizing: The market potential for micro-mini cars in the United States.

JOHN HEMPHILL: I might just quickly add that in our national survey which I will be referring to later on, the average expected price the consumers will pay has risen 21 percent in just the past 12 months to about \$8200.

The objective of my presentation is to describe the marketing research on micro-mini cars that J.D. Power and Associates has conducted during the past two years, and review some pertinent trends in automotive consumer preferences to put into perspective the potential demand for micro-minis in the US market. Unlike Charles who did not venture either a number or a date in his forecast, I will do both towards the end of this presentation.

The U.S. automobile market has been drastically and permanently altered by OPEC 1 and 2 and the resulting increase in the price of gasoline. The fundamental shifts in demand among consumers during the decade of the '70's were abrupt and long lasting and as you well know have affected almost every aspect of the automobile industry. The effects of these market changes I'll present are related to the market potential for micro-minis, as well as findings from significant, I think, original research we have conducted on the receptivity of American consumers to cars smaller than the Honda Civic. Events surrounding the oil embargo of '73/'74 and the Iranian crisis of '79 have left an indelible mark on the buying behavior and preferences of the American automotive consumer. Barely noticeable in the 1970's, but now the most pervasive force in the US market, is the continued growth and demand for smaller, more fuel efficient automobiles.

From sales in 1970 that accounted for 17 percent of all cars sold, domestic sub-compacts and import makes had captured 42 percent of the U.S. new car market by the end of 1980. All indications are that this trend will continue. Fuel economy became and remains the key to automotive marketing and design. As a consequence, domestic manufacturers have engaged in massive programs to downsize their fleets and sales of smaller import models, especially those from Japan which have resulted in an unprecedented penetration in market share. But still the demand is unfulfilled. In the Automotive Consumer Profile (ACP), a national representative survey of 5,000 American drivers, conducted by our company on a tri-annual basis, respondents who plan to buy a car within the next 12 months are asked how that car would compare in size and fuel efficiency to their current primary vehicle. In the latest wave of ACP, more than half of these consumers indicated a desire for a car that's very much or somewhat more fuel efficient than their current primary vehicle. Further, only slightly less than half indicated their next car will be

very much or somewhat smaller than their current vehicle. The picture is clear; the American automotive consumer wants fuel economy and sees downsizing as the means to that end. In rating the importance of various factors in the next vehicle purchase decision, 95 percent of American drivers say that fuel economy will be very or somewhat important in their consideration.

Another important factor in the changing character of the automotive market is the emergence of the multiple-vehicle household referred to by two of our speakers. The traditional family automobile beset with changes in lifestyle and demographics is fast disappearing. More than half of all American households own two or more vehicles and more than one in five have three or more vehicles. The growth of multiple-vehicle households on the one side and declining family size on the other are factors often overlooked when the phenomenon of vehicle downsizing is examined in relation to escalating fuel and operating costs. The trend is toward increasing demand for personal transportation as opposed to family transportation. This situation has seemingly opened the door for smaller more specialized vehicles such as the micro-mini car.

Currently the car market is severely depressed and this condition is likely to last until about mid-this year. However, a look beyond the short term reveals a very healthy automobile market during this decade. We anticipate that average annual unit sales will exceed 11 million but it is important to keep in mind that inflation has and will continue to affect the new car market. A sizeable proportion of the market will be seeking reasonably priced, dependable and economical personal transportation.

By 1985, we anticipate a fundamental restructuring of size class segmentation. Our view is that the current X-body and K-car class will be the standard size passenger car of 1985. Each class below the standard size would be proportionally smaller than the traditional definitions applied during the last two decades. It will become more difficult for the American consumer to perceive the subtle product differences in moving from one class to another. But in time, the American consumer will, much like the European and Japanese consumers already are, become attuned to slight changes in car sizes and nuances in design.

We are certain that a newly defined mini class will emerge in the US automobile market. The class will consist of passenger cars having a wheel base under 90 inches going as small as perhaps 75, and having an overall length of under 140 inches. This important development will evolve more easily than anticipated as the energy situation continues to drive up the cost of personal transportation. Wheel base and overall length alone are not clear arbiters of market class or product class competition. Thus, we expect a great deal of confusion in the industry concerning the issue of appropriate class size definitions. What appears to be a lack of consensus now will surely become more serious as downsized models proliferate and a "mini" class emerges. Actually there are two discernible categories within the micro-mini class, based on such factors as overall length, weight, and engine displacement. There are several vehicles currently being produced for non-US markets that qualify as micro-mini cars with the Japanese leading in the number and variety of models being offered. Each has four-passenger capacity. Specifications for those models that fit our definition of micro-mini cars range from 76 inches to 90 inches in wheel

base, 123 to 139 inches in overall length, and from 1200 to 1650 pounds in curb weight and finally with 550 to 1250 cc in engine displacement.

The central question is the U.S. consumer's receptivity to vehicles with these specifications. As noted, if given a choice, demand exists for vehicles that are smaller and furnish more fuel economy than is now available in the U.S. market. In fact, our Automotive Consumer Profile survey research shows that even in the subcompact car class, 50 percent of the owners say they want a somewhat more fuel-efficient vehicle the next time they purchase. These owners anticipate that further downsizing means not only will they receive improved MPG but also they will have to pay less for the car that delivers it. They should not be interpreted to mean they do not want the options and accessories they have grown accustomed to on larger cars. The potential demand for micro-mini should be considered in the context of downsizing that has occurred particularly during the last two years. For example, the number of passenger vehicles driven by the 4-cylinder engine has increased by nearly 50 percent during this period. This is a dramatic shift in such a short period of time. When new car intenders are examined, comparing engine type currently owned to engine type preferred in the next car, the results are even more striking. Currently 23 percent of the new car intenders have a 4-cylinder engine in their car but almost 40 percent want one in their next car, 1/2 have 8-cylinder engines but only 1/5 want one in their next vehicle. As we've said, fuel efficiency is the key to automobile design and marketability and the demand for improved fuel economy is limited only by available product and technology.

Consumers' demand for fuel efficiency is closely tied to their expectations regarding the price of gasoline. The median price expected by the driving age population 12 months from now is around \$1.60 per gallon, down from the \$2.00 per gallon they expected earlier this year. Although the consumer reacts to current fuel market conditions in their forecasting of fuel prices, they see prices remaining high and continuing to increase modestly. Those surveyed did not expect the days of "fill-'er-up" for \$10.00 to ever return and their car size preferences reflect this.

During the past two years J.D. Power and Associates has been studying the question of consumer receptivity to micro-minis specifically, and on a national scale. One of the questions we posed to consumers representative of the driving age population was as follows: "There's a possibility that in the next few years both import and domestic car makers may introduce micro-mini cars which are smaller than the current Honda Civic and Volkswagen Rabbit. Please indicate how likely you would be to purchase a new micro-mini car if they were available the next time you purchased a car." Note that we did not bias the respondent by indicating, for example, that the micro-minis would be cheaper or give better gas mileage. More than 20 percent of the driving age population say they would consider a micro-mini the next time they buy a car. This percentage represents about 27 million American drivers.

From December 1980 to March 1981, the percentage of those who would consider a micro-mini increased from 20 to 23 percent; a statistically significant change, no doubt influenced by expected increases in fuel prices as deregulation took effect.

The micro-mini car is viewed primarily as a multi-use vehicle and this is seen in the propor-

tion who would buy it to replace their current vehicle. Over half of those considering a micro-mini would use it as a replacement.

The multi-use purposes that consumers perceive are also indicated by their preference for a four passenger configuration over the two passenger design. The margin of preference as we've measured it is about 5 to 1.

Our Automotive Consumer Profile and other syndicated research we have conducted on the market for micro-minis indicates that about 1/3 of the market for them will come from current owners of subcompact or compact domestic models and owners of intermediates or full size models. About 2/3 will come from current owners of economy imports.

A significant proportion of buyers would be those who would have purchased a used car. We expect 1/4 of the buyers to be diversions from the used car market.

While males, Californians and those under 50 years of age are more likely to consider micro-minis, there are few variations in the micro-mini interest level by any other demographic or geographic variable.

When consumers can actually view and drive the micro-minis under test conditions, as we have recently done in Los Angeles and in Cleveland, there are no significant differences in consumer interest levels.

Acceptability of the use of the cars in all normal driving situations was slightly higher in Cleveland than in Los Angeles. Average ratings for the 12 models evaluated showed them to be reasonably acceptable for the more common types of driving, somewhat less acceptable for freeway driving and other special uses such as very long trips. As part of our field tests in Cleveland, and in Los Angeles, we asked respondents at the end of both the static and the test drive evaluations how likely they would be to purchase one of the micro-minis. In both cities, the likelihood of purchasing rose from the static to the test drive phase. For example, the percentage who would definitely/probably purchase any of the models evaluated in Cleveland rose after the static from 86 percent before to 89 percent after the test drive. There were important differences among the various models we tested, according to consumers, but the only car feature that did vary significantly overall between Los Angeles and Cleveland was higher preference among Clevelanders for an automatic transmission. None of the cars we had in the test were so equipped.

We have concluded there are four basic attributes or product capabilities that consumers perceive to be important in their consideration of micro-mini cars. They must have greater fuel economy than existing subcompacts at a somewhat lower price. Second, the in-use feeling that the car is fun to drive or convenient or easy to drive. Third, the performance that matches car size and available options must be there, such as air conditioning and automatic transmission. And, finally, there must be provisions for four seat passenger capacity. We expect the initial market for micro-minis would be for that "sub-mini" classification we saw before with an overall length of from 130 inches to about 140 inches, since the models in this size category will be perceived as only slightly smaller than existing models, and the cars can be equipped with an engine--say one with 1000 to 1200 cc displacement--that can accommodate automatic transmission and air conditioning while furnishing the necessary performance. However, we must add that more model-specific research will be re-

quired to pinpoint initial entry product positioning, market strategy and option packages.

There is a great deal of talk in the industry about consumers' concerns about safety and some believe that this will be a major issue in the acceptance of still smaller vehicles.

Consistently, we find safety to be a relatively unimportant issue to automotive consumers, regardless of the size of car owned. And demographically, safety is an important purchase consideration only to buyers over 55 years of age. In this age group, fuel economy wins out over safety, however. It should also be noted that the over 55 age group that is the most concerned with safety is the same group that is least likely to use seatbelts.

Safety is not a marketable feature to automotive consumers and will not be an important constraint on consumers' acceptance of micro-mini cars. In fact, restrictions of space and related factors in micro-minis are the primary reasons for car owners not considering them, outweighing safety considerations by over a 3 to 1 margin.

The high proportion of prospects for micro-minis that would purchase the car as a replacement vehicle, about 40 percent, suggested it would be used by a principal driver much more than by multiple household members and not for specialized driving applications.

The micro-mini car will be used much like existing compact and subcompacts are used by their respective owner groups. Again, the strong preference for the four seat configuration reinforces this important finding.

All indications are that while commuting and use for errands will be the primary uses for micro-minis, as they are for other cars, they are not perceived as single or specialized use vehicles and must be able to perform or fulfill normal usage expectations of about 250 to 300 miles per tankful of gasoline.

Based upon our national survey research, our product clinic research, and our focus group research, we estimate that by 1985 the micro-mini car market segment could easily account for 6 to 9 percent of passenger car sales. With two or three manufacturers in the market, then, and assuming one of them is a domestic manufacturer, unit sales of micro-minis in a 12 million car year could easily exceed 800,000 units. It is also assumed that gasoline fuel prices will continue to increase by a couple percentage points faster than the Consumer Price Index. We are also assuming that whatever fuel efficient technology that may be incorporated in the subcompact models can also be passed on to the new micro-mini models, so they would have the same relative fuel efficiency advantage they have now. While demographic, geographic and economic conditions vary from region to region, the fundamental nature of the automotive consumer remains fairly common throughout. Sales of micro-mini cars will undoubtedly be greater on the west and east coasts, but viable demand exists in all regions of the country, especially in the more congested urban areas. The prime prospects for micro-mini cars are those whose economic situations require exceptional fuel economy in a low cost package. Compared with the total new car market, they are younger, more likely to be single, and less affluent. Many of these prospects are currently being held out of the new car market by high prices and interest rates.

Some of the implications. There is a great deal of work and research yet to be done on the strategic and tactical aspects of market entry for

micro-minis. It is clear though that the potential market exists and is of sufficient size to meet financial production and distribution criteria. The implications of the next wave of downsizing are many. For the American car makers find themselves, again, playing catch-up with the imports in this new segment of the market. This appears to be a likely contingency should domestic manufacturers choose a wait-and-see posture. I might add that even though there's been the recent tie-up between General Motors and Suzuki, Suzuki which manufactures one of the near state-of-the-art micro-mini cars, there is some doubt whether that car will be brought into the country by GM within the next few years. Will electric vehicles find a niche soon? We think not. Unless there is a major fuel supply interruption or technological breakthrough that significantly increases the range of EV's and reduces their price in battery replacement cost, we do not see a market potential in the consumer market until well after 1990. Will micro-minis help reduce U.S. dependence on foreign oil? Already the average vehicle fleet fuel economy is improving as more downsized vehicles are replacing the larger vehicle. Micro-minis will contribute to further fleet fuel economy during the decade, and as fuel prices escalate beyond conservative projections, penetration and resulting fuel savings will be significantly higher. Can the micro-minis meet safety standards? Will fuel economy standards be necessary? It will no doubt require some engineering and product adaptation, but it appears that already existing micro-minis can be equipped with the features and the protection requirements to meet existing safety standards at a cost that will allow them a competitive price advantage. But whether fuel economy standards will be necessary after 1985 depends on fuel prices, supply, available product and the fuel efficient technologies they incorporate and their effects on consumer preferences and perceptions. The level at which the standards may be set, of course, depends on political, economic and other considerations at the national level. J.D. Power and Associates is currently examining these issues from the consumer's viewpoint in relation to the automotive market of the future. It certainly appears that current consumer interest is strong enough so that if effective marketing is accomplished with micro-minis, probably by the Japanese first, fuel economy standards could be set at higher levels than would otherwise be the case. This would force domestic car makers to produce and market cars in the micro-mini class. In conclusion, consumers, reacting to existing conditions and their expectations, will certainly reveal their transportation preferences. And the demand for low cost, fuel efficient, personal transportation that the micro-mini furnishes will certainly stimulate their availability in the very near future.

DISCUSSION:

QUESTION: Have you considered the light truck, micro light truck, that comes out of these same places? In Japan, we have these vehicles starting at prices of about \$2000 rather than \$2700 that the micro cars are. It works in the same way to save fuel economy while it seeks to serve a different sphere of marketing than the four passenger car. It seems like a very attractive possibility for a lot of our needs including Mr. Orski's fertilizer . . .

HEMPHILL: Henry was asking about whether we'd looked at the consumer receptivity to the small,

very small two passenger trucks on the market. We have not specifically looked at that except in the same way that we have looked at the micro-mini cars. We've presented micro-minis to consumers in both static and drive evaluations, as well as had consumers indicate their receptivity to them in two national surveys. The small fuel-efficient trucks you refer to we have not looked at except in our mail surveys. Receptivity is quite high; the niche in the market is for the younger age group as you might imagine and for some rural uses, but there could well be a market for that in the nature of the micro-mini down the line as well.

ROBERT CONNELLEY: Your view of the industry is that 11 million cars would be bought each year this decade. What if that doesn't turn out to be the case and it's only 7 million considering the type of people who would buy those vehicles and their characteristics? How does that affect the market for minis?

HEMPHILL: It's a good question. And the question was what happens if our projections for an average annual, it'll be up and down, but an average annual of about 11 million units doesn't transpire and it's somewhere around 7, perhaps 8 million unit level? In answer to that, I think one has to weave in a number of things and I am not going to take a long time to do it, but someone asked about the demographics. Well, there are some demographics at work here that are important. The health of the US automobile industry, market I should say, perhaps not industry, will be very much tied to the increase of the number of licensed drivers coming into the population during the decade. And we will see about a 14 percent increase in licensed drivers. This is about half of the increase we saw in the 1970's but still a fairly healthy growth in that segment. The ratio of cars in this country to licensed drivers is nearly 1 to 1. It seems that when a licensed driver comes into the market they certainly want access to a vehicle, a primary vehicle for their almost exclusive use. The micro-mini fits that bill. Someone referred earlier to the Volkswagen experience. The Volkswagen success was built upon parents turning away from the used car market to purchase a car for a son or daughter, and buying a VW. This will be the case with the micro-mini cars. I was told by the president of one of the major Japanese manufacturers not two weeks ago, he said, "I could bring in our micro-mini car for a third under the lowest priced car that I now have on the US market out the door at retail, with fuel economy that may be 10 to 15 percent greater than the best fuel economy that I achieve on my product line." Our projections would certainly be lower if demand is down. But not that much lower, because the demand for these will be at the younger age groups coming in as first time buyers.

QUESTION: I noticed that we don't discuss and you apparently don't see a market for essentially an enclosed motorcycle. Something on the order of a Morgan/Bright, the freeway or commuter type or would you say two passenger vehicle. As a related point, it sure bothers me that everybody thinks that they are assuming the fuel consumption and fuel costs approximate the ownership costs. My own case with a teenage son, I find my insurance costs are higher than my gas costs and that's driving a fullsize station wagon. There are penalties associated with high accident level vehicles and high accident level vehicles tend to be the smallest

vehicles. If these vehicles cannot meet present insurance or present safety standards they may well have very much higher insurance costs as well as threats to my life.

HEMPHILL: Let me rephrase, as there were a lot of statements in that question. The question might be, are we overemphasizing the role of fuel economy in the purchase decision at the expense of other considerations that the consumer has to weigh? I would offer this, and our survey data came in a little bit too late in order to incorporate it into the paper, but consumer preferences have clearly shifted in just a year. We regularly take a look at the top 12 factors considered as important in the purchase decision. In some cases we aid the respondents, in some cases we don't. Now a year ago, fuel economy led the list in purchase considerations by a wide margin. Second came low purchase price, third came dependability, minimal repairs. Just a month and a half ago, the top rated factor was dependability, maintainability of the car, dependability and quality, I should say. Second was low purchase price, and third was fuel economy. So we've seen a rapid turnabout in purchase considerations. At the same time, in that same year, the interest level in the micro-mini car has changed not one bit, in fact it's edged up somewhat. So I think that consumers are looking at the package that the micro-mini offers rather than just its fuel economy and certainly, as Charles pointed out, the first-time cost of the vehicle is as important to consumers as is the fuel economy that it furnishes.

We don't see very much of a market for an enclosed motorcycle. There's a niche in the market somewhere on a low volume basis for that kind of a vehicle. The overwhelming preference for four passenger configuration of the car suggests the people, if they have a choice, will prefer one that has multi-use capabilities. That's what four passenger seating does.

QUESTION: What were the first-time prices you used in today's surveys for your 1985 projections and did you have the basis for the ratio of personal incomes to inflation?

HEMPHILL: No to the second, the first I can comment on. In terms of the prices that we presented to consumers for these cars, we had, as I say, 12 presented to them. The prices for them ranged from \$3600 to about \$4900 in today's, this year's dollars. We expect that the prices for these will go up no faster by 1985 than for any of the other car models that the Japanese are producing. I think one of the things that is overlooked as far as the Japanese strategy is concerned, is certainly that they have no incentive to bring the cars in now and probably not next year. At the same time the Japanese are very much geared to becoming full-line car manufacturers from low-priced cars to very expensive cars; in today's dollars, cars in price from \$16,000 down to \$3800/\$3900. The micro-mini is coming in at the bottom. They will be very shortly introducing cars in the sporty car class priced from \$14,000 to \$16,000. We currently have a test underway for those kinds of vehicles and I can tell you the interest level is very high.

QUESTION: I'm interested in pursuing the insurance thing a little further. The insurance industry has recently said that smaller cars were unsafe and, based on studies of fatalities and insurance claims, I expect there will be a lot more of this

close rate adjustment, so that a two-part force exists. You have a higher insurance cost plus greater information on difficulties with safety. Is this factored into your projections?

HEMPHILL: It is to the extent that we still believe it to be important.

QUESTION: To what extent do you see the importance of it?

HEMPHILL: The question is to what extent will safety over the next few years play a role in the purchase decision. And more information being supplied to the public on the safety of vehicles. I am not sure more will, by the way. I'm not sure we are going to get better information to the consumer about safety issues. I think that the publicity certainly does raise the sensitivity of consumers to this sort of thing. But if you look at where their preferences are and the margin of preference, safety rates down that list of 12 factors between 8 to 11. And, never above 8th place in their mind. The first time cost, the expected fuel economy of the vehicle, the expected durability, dependability of the car, the seating capacity, its range—a number of other things are very important as well, much more important than the safety issue. We still don't see safety becoming a marketable feature to consumers, meaning one they will respond to in their car purchase decision. If the insurance costs are significantly higher over the next few years, this is not presented to consumers in the focus group work. They are certainly aware of it, but they are apparently willing to amortize the cost of the vehicle and insurance premiums over the life of the vehicle as opposed to the trade-off with the first-time cost of the vehicle itself. After all, you are talking about a car that may be \$2000 to \$3000 lower in price than what a comparable but upscale larger model might cost them. That's what turns them off.

QUESTION: Yes, along these lines the loss of life is expensive.

HEMPHILL: Oh, absolutely. But the single individual consumer believes (a) it's not going to happen to me; and (b) if it is about to happen, I can avoid it and well, it's a very difficult thing, it's first a very difficult thing to measure. We try to do it directly and indirectly. The direct way I refer to is by asking a question. A few months back, we said large trucks are becoming an increasing hazard on streets and highways. Strongly agree to strongly disagree in the response. We were expecting that larger car owners would feel safer on streets and highways than smaller car owners—at least that. It did not vary one bit by car size owned. It only varied by the over 55 group feeling that they were less safe on streets and highways because of the trucks.

QUESTION: Mine's not a question, but is a hypothesis. I think that the small micro-minis will be driven less miles specifically in terms of the vehicle miles per year than will this car we have today. Particularly in terms of what Ken has to say about 20 percent of the drivers will get some other kind of car. I think that that cuts down the potential of accidents with smaller vehicles.

HEMPHILL: It increases the calendar life of the car, too.

QUESTION: I note that it is possible to build a 1100-pound car which I call a hack. I will be showing films of that in the session this afternoon. I have an instinctive response to this sociology of our lack of concern for safety. The city was disrupted by an airplane crash last week and a number of people were killed similar to those killed on the highways every day. We just ignore it. My question to you is should we go on ignoring as we are or what should be done about it? How can we get legislation on safety features even if the people don't want them? Don't want to pay for them, don't want to pay attention to it? Should we just ignore it, or should we do something?

HEMPHILL: Well the question is, I'm asked for a judgment call about whether we should or should not be giving attention to safety, whether consumers desire it or not. I can respond on a personal level and say we certainly should, in terms of the social costs involved with the injury and death that occurs. The professional side of me says the consumer really doesn't care and would rather have a cheaper car that's sporty and fun to drive and can carry four people.

PAT WALLER: Well actually this is just getting to a question I just wanted to ask the whole group here. I think all of you have made it very clear that safety is not a big issue in the decision making of the car purchaser. Furthermore, we have the information that you presented, Dr. Hemphill, that these smaller cars are going to be purchased particularly for younger drivers, their first car just starting out. We have a much higher crash rate and much higher death rate in that age group already. Since it is fairly clear, and I think there have been some serious efforts made to inform the public and get them concerned about safety and safety just does not sell for a lot of reasons that I am sure we're familiar with. Given that that's the case, where should the responsibility lie for safety standards or some insurance that safety measures are addressed? Where should that responsibility lie? How should that be handled or should we indeed ignore it?

DAN ROOS: I am going to use your question as an opportunity to raise some and maybe play the part of the devil's advocate. I suppose I am a little bit concerned with the session this morning. I won't quite say it sounds like advocacy, but everybody comes across so strongly in terms of the mini-micro that it seems worthwhile to raise maybe the other side and in doing so I will touch some on that safety issue as well. As I listen to the discussion there are two arguments for the mini-micro. One is fuel economy and one is cost. And it seems to me that when we talk about something that could be conceived as fundamentally new, there it's important we recognize whether we are talking about incremental change or dramatic change and it strikes me, based on everything that we have heard this morning, we are talking about incremental change and I would argue, small incremental change. Let me be more specific on that. With respect to the questions of cost, the only figure that has been thrown out was Charlie's figure which he would be the first to agree is a speculative figure and as I recall, Charlie, that was about \$3500. I happen to be looking for a new car, so I have been looking over the pages of the automotive section. In Boston there was an ad this weekend for a Renault car, which certainly comes pretty close to being a micro-mini, that was down to about \$4500.

Granted that's \$1000 more but still they were considerably less than \$10,000 that's being bandied about and there were several other cars in the \$4000 to \$5000 range. There were also several ads for 1980 Citations, and other reasonably fuel efficient cars with a one year guarantee selling for about \$3500. I must say I'm not sure if a consumer was given a choice of having a fairly nice, larger, reasonably new Citation as opposed to buying a very very small micro-mini car as to what that decision would be. As I said in my talk, if one looks at current figures, the subcompacts are doing very, very badly right now. And, if the subcompacts are doing badly, it is unclear whether a sub-subcompact is going to do much better.

From a fuel economy point of view, I think we all recognize the fact that we have gone from a situation in the 1970's of an average fuel economy on the order of 12 or 13 miles per gallon and we will have gone at least to 27.5 by '85, a hundred percent improvement. The figures being thrown around today are 40, 50 miles per gallon. You can go out and buy a VW Rabbit right now and get 40, 50 miles per gallon. I mean, one is not talking about huge differences, quite unclear as to whether the American consumer is going to pay for small incremental improvements of fuel economy. One other point in that regard which hasn't been mentioned at all: Clearly if cost of operation is important, an obvious tradeoff is ridesharing. To what extent does it make more sense for two, three people to carpool, or to enter into a vanpool with respect to the commutation trip as opposed to going out and buying a micro-mini car. Also, with respect to the cost issue, everybody talks about \$10,000 and how awful that is. I would simply point out that if one looks at data, the car payment as a percent of disposable income, this year is exactly the same as it was in 1976 and 77, which was a boom year in car sales and in fact, if one tracks the cost of buying a car over the last 10 or 20 years, it certainly has not been out of line with inflation.

I think the gentleman in the back raised a very interesting point which hasn't really been addressed at all and it gets back to my point on incremental versus dramatic change, because if one does not look so much at the downsized car but looks at an upgraded Moped from the point of view of enclosing it, making it far more comfortable, then one potentially is talking about dramatic change. One is talking about a significant increase, with respect to fuel economy, a significant decrease with respect to cost. But, that does raise many of the questions with respect to guideway, with respect to safety, because you are talking about such a fundamentally different vehicle. But it is quite conceivable if, in fact, cost is such an important consideration and if fuel economy is such an important consideration, then that ought to be far more of a focus than the class of vehicles we're talking about. I am not sure we should necessarily take as a given what everybody has. That the consumer will not pay attention to safety. I say that from a couple of points of view. Because certainly four or five years ago, we could have said that the American consumer and the U.S. auto manufacturers would have said that the U.S. consumer would not pay attention to fuel economy. And, to cost considerations in terms of buying a vehicle, that it was much more a possession, that it had images to it, and I think it's fairly clear that in the last several years the consumers' viewpoint towards the vehicle has changed rather dramatically. Not that it is a particular issue being addressed, but I've been fascinated the last three or four weeks by the

focus that the media has directed toward drunk driving. A focus that I have never seen in the last decade and highlighting what several states have been doing which is clearly related to the safety problem. If one looks at European experiences, certainly there are countries where safety is far more of an important characteristic and one could argue that Europe to a large extent leads the United States with respect to concern over overall economy of automobiles. The small cars, I think by and large, are less safe cars. It strikes me we are now entering a period where we are yet once again above the 50,000 deaths per year. If that figure starts to increase significantly, my sense is that there will be a response and safety will emerge. Safety will either emerge in a new way with respect to increased consumerism and increased concern or once again the government will be playing the more significant role in terms of requiring certain characteristics in terms of the design of vehicles. I'm sorry that was a long response but I really felt it important that we not just take for granted the fact that this micro-mini is going to descend on us and it's going to be terrific and everybody is going to buy them. It is not at all clear to me that's going to happen.

PAT WALLER: Thank you. Could I ask our speakers if there are any final comments that you would like to present? I know better than to ask a professor.

CHARLES LAVE: No, it'll even be quick. Two people in here have been sort of expecting the insurance industry to ride to the rescue of the American car industry because somehow we all know small cars are less safe, therefore, they'd be charged higher premiums. So we'll add the premium cost to the gasoline cost and all of a sudden we can sell big cars. I must admit to thinking about this for just about 10, 15 seconds, the last insurance bill I have on my automobile has three quarters of the cost in two components. Collision payments, and liability for what I do to other people. If the small car costs less, collision has got to be less, and obviously the small car is going to do less damage when it hits other people. So in fact, in a properly adjusted insurance market the damn things may even have a cost advantage on you and you're not going to get rescued.

PAT WALLER: I think the main concern was the potential for injury where you would have the medical problems that cost.

KEN ORSKI: I have just one quick final thought and that is I think the whole session could be summarized in one question. Can, will we be able to afford in the future an all-purpose car? If the answer is yes, then I see no future for mini cars because almost by definition, an all-purpose car for city and highway driving cannot be a micro car. The question is can we afford both in terms of fuel efficiency and sticker price of that kind of a car in the future.

PAT WALLER: How about the question can we afford two all-purpose cars? I think of this much more as a second vehicle, you know, if indeed it has a use.