

**TESTIMONY OF**

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**of the**

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**COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE**

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Mr. Chairman, Distinguished members of the Sub-Committee, my name is Alan E. Pisarski, and I am honored to be invited to speak before you once again to address the outlook for the Nation's Highways and Transit Systems, with this very able panel.

**MAKING THE CASE FOR MOBILITY**

I have spent my professional life as an unabashed advocate for transportation. I have always argued for its immense value to the nation -- to the economy -- and to the society. One of the things that seems to have gotten lost in recent years is the recognition of that value.

Too often today, we tend to see transportation only in terms of its negatives – the delays, the resources consumed, the lives lost, the pollution generated – often to the point where our current goals for transportation can be met best by everyone's just staying home.

We have highly articulated goals and explicit measures for what transportation should stop doing – none for what we want it to achieve!

Transportation's goals are all about speed, cost and reliability and those are the three things we are just terrible at measuring in transportation!

In years past those of us who plan and build and operate the nation's transportation system were able to depend on the implicit recognition of the value of transportation among the general public. That recognition of the value of transportation's product – mobility – was and is very real but its also kind of vague – kind of soft. The recognition of the need for new services and facilities had a comfortable, almost automatic, consensus, years ago. Today that consensus has almost evaporated as a social force.

In general, we have done a very poor job of making the case for the value of transportation in our society, depending on the public's own very sound sense of their needs to make that case for us. That may not be enough in a future that seems filled with litigiousness and advocacy.

We must begin today to re-establish recognition in the new Administration and the new Congress of the value of mobility as one of the great goals of our society. That recognition – that appreciation is there – we need to reinforce it and support it. We must make the value of mobility tangible and real to all our institutions and to all Americans.

To me transportation is about society building – not just economy building – society building ! It ties people together across distances – especially today when families are dispersed over the entire nation.

The strength of our economy is the nationwide mobility of workers in a highly specialized division of labor. Transportation knits families back together. The planners still think in terms of “community” as the people physically next door – our communities today are a product of multiple voluntary links across vast distances supported by two pillars –communications and transportation.

We need studies of mobility to clarify its function and its value – and to make the case – to turn the soft, implicit recognition that every American has for its value into something – tangible and real – that can engender action.

**ONE WAY OF MAKING THE CASE FOR MOBILITY IS LOOK AT THE LACK OF IT -- AND ITS EFFECTS.**

- Remember the Russian food shortages of a few decades ago – not from lack of ability to grow food but lack of ability to move the crops from the field to the city. The produce rotted

in the fields! When our prodigious American grain-handling system shipped them thousands of tons of grain – it rotted on the docks.

- 100 YEARS AGO Sears Roebuck was built on the fact that from Chicago all America had become a single mass market accessible rapidly by train with mass produced products – Europe and Asia are still catching up to that stage.
- Nothing teaches us more about mobility than its loss – think of the earthquakes in California and the devastating hurricanes of the Atlantic Coast, the floods of the Mississippi, and think of how fast we put back the bridges, the freeways and other transportation services that were disrupted.
- Think of what lack of mobility does to those in our center cities and rural areas (where 17% of rural African Americans households are without a vehicle) in lack of access to social services and to opportunities – and the price of a quart of milk or a head of lettuce.

Of course the primary topic these days when we speak of highways in the press and elsewhere is congestion. It is a subject of so much advocacy-driven hyperbole that objective observation is often difficult to find.

#### HOW BIG IS THE CONGESTION PROBLEM

First of all let me respond to the question:

- “Do we have congestion problems in commuting in America?” – yes, of course we do. Very often these problems are the effect, even the symbol, of a thriving economy and prosperous metropolitan areas – most areas with no traffic problems would be happy to have them along with the economic activity they imply. We are already seeing declines in traffic volumes as a result of economic slowdowns and rising fuel prices – something we would prefer not to see.
- “Are the problems terrible?” – At the very least, the answer is not clear, but probably its best to say that the problems are limited to very acute situations in some of our major and fast-growing metropolitan areas, whereas most of our workers enjoy relatively painless work travel.

But our reservoir of road capacity is about used up. Of course, we should not design our systems for free flow in the peak of the peak, just as we do not design shopping mall parking lots to handle the demand on the Saturday before Christmas. **BUT TODAY WE ARE SEEING CLEAR SIGNS OF SYSTEM FAILURE:**

- When workers in Washington DC drive up I-395 at five am and then sleep in their cars in parking lots or metro lots the system is failing;
- When roads like I-66 are congested in the reverse direction – outbound in the morning; inbound in the evening – the system is failing;
- When the peak period spreads over so many hours that truckers cannot afford to get off the road and wait out the rush “hour” and so must just plow thru—adding to the congestion, the system is failing;
- When a trucker or businessman arrives 40 minutes early because they had to safety-factor for expected delays, the system is failing.
- When small incidents cause monumental tie-ups; and a fender-bender becomes a 100 car pile-up, the system is failing.

The California energy crises and the looming crises in our air system teaches us again that capacity is useful —Just as in aviation, in highways the supporting capacity bequeathed to us from previous generations is being worn out and used up. A lot of our major older capacity in transit in the East and Midwest is in the same category.

*A standard catch phrase of transportation speech writers that we hear often is that “AMERICA’S TRANSPORTATION SYSTEM IS PRETTY MUCH COMPLETE!”*

The first Secretary of Transportation to say that was probably the first Secretary! But, I do notice that Secretary Mineta has avoided saying it. Mr. Mineta is a wise man!

- A nation that adds more than 25 million people every decade;
- whose economy adds 4 trillion \$ per decade:
- That is still a beacon to immigrants from all over the world –
- can never say that its transportation job is done!!

For part of the solution we are turning to approaches that seek to operate the system better. Using in-vehicle and road-side information to alert drivers to problems, and other ITS techniques to manage traffic better. These are very valuable additions to using our infrastructure better, but we cannot simply manage our way out of the problems, in the air or on the ground, we will still need to consider capacity increases.

Better information about travel and better operations to squeeze all that we can out of existing capacity will be an essential prelude to building any new capacity. Only when we have demonstrated that we have done all that we can do with the existing infrastructure can we in good faith make the case for expanded capacity.

One thing we must recognize is that our engineering has incorporated changes in public behavior as part of their measurement of congestion – more people are driving faster closer together – so the engineers have expanded the definition of highway capacity to fit present behavior instead of pointing out this alarming behavior – the day of the 100 car collision is upon us. This is similar to assuming that people have gotten accustomed to overcrowded buses so we can raise our standard estimate of average bus capacity to 80 from 60, only with more deadly risks. One could call it designing-in failure.

For this reason and others the fragility of the system has increased – weather, major events, road construction, an aging vehicle fleet are now major factors in travel. Two bad things happen as facilities carry more vehicles: the probability of incidents increases, and the probability that large numbers will be affected by the incident increases as well. We must measure and understand incident-driven delay better. We must recognize that driving on a freeway at 70 miles an hour bumper to bumper implies a compact with other drivers that your vehicle and you are fit for the task. In some cases on-call tow trucks may be more useful than another lane.

It is ironic that in this period of just-in-time freight transportation, where the highway is an extension of the factory that the system has become so fragile. Reliability has taken on major importance in this volatile road system – because of the uncertainties generated by potential congestion. Reliability and redundancy were key concerns when the road system was seen as a significant part of our military preparedness. Should it be less so today when our economy and society depends on the road system so completely? Redundancy has been reduced because of nimby or regulatory strictures so we have tended to expand existing routes rather than adding new facilities – so instead of two 6 lane facilities appropriately spaced we have one intrusive, less-effective 12 lane facility, that with one trailer-truck of chickens turned over can stall thousands.

#### A NEW MEASUREMENT PERSPECTIVE

Our concern must shift from focusing on the facility, and measuring how it is doing, to a focus on the traveler or trucker and monitoring their success or failure. It is entirely possible for the measures to

be going in opposite directions. If we focus on the facility, then just “filling up again” is a damning catch-phrase when a facility has been expanded; but if we focus on the travelers and the goods delivery, and recognize that more people are being served, more people are diverted away from driving through local neighborhood streets, more people are able to travel when they prefer, and goods arrive as scheduled, we will discover that system investment has real value.

Would we use the “it just fills up again” argument against any other public facility? – we added classroom space because of more kids, but the class rooms just filled up anyway! We added more hospital beds but they just filled up with sick people – guess that didn’t work! If they didn’t fill up again we would wonder why the planners were wasting public funds, wouldn’t we? Highways are the only public investment where using it is called failure.

With this focus in mind we can recognize what seems to be an anomaly – road measures are getting worse but people measures are not! TTI and others correctly measure congestion indexes on the nation’s roads as worsening – about a 40% penalty in the peak period versus other times in our biggest metro areas. But our travel surveys often show average speeds of drivers improving and average travel times for trips remaining stable or even declining. As travelers divert to faster modes, and shift their destinations and origins to more free-flow areas in the outer edges of our metro regions their travel times will improve even as facility speeds decline.

The new census journey-to-work information, when it becomes available soon, will be our benchmark at least for work trips. I recall that from 1980 to 1990 we added almost 22 million new workers traveling to work by private single occupant vehicle and travel times to work inched up an average of 40 seconds – from 21.7 to 22.4 minutes. The new census is likely to show that we added fewer new workers and travel times again crept up only a bit – I would guess – again less than a minute. Of course we must recognize that averages hide a ton of diversity always and especially in such measures as travel times.

For example the population in nearby Loudoun county, Virginia, just about doubled in 10 years – we should not be shocked if our public facilities were not able to keep up and travel times suffered. But all public facilities – schools, hospitals, libraries and other social services – not just highways would be strained in that situation. Public services are rarely so nimble.

There are two measures that I use to better understand what is happening in a global sense re commuting travel times. The first key measure will be the share of commuters who commuted over 60 minutes one way and how that has changed. It comprised only just about 6% of commuters in 1990 [the envy of the world, I might add] and only three metropolitan areas in the country had more than 10% of commuters commuting more than 60 minutes. It certainly will have grown when we finally see the year 2000 data. [We must recognize that many if not most of those are commuters who have made a conscious decision to live in outer-reaches of the region and who willingly accept their commute time as a tradeoff to living a rural life-style.]

The other measure that I like to look at is: “What will a half hour get you in commuting?” The 1990 census indicated that 70% of workers made it to work in under half an hour. The 1995 NPTS<sup>1</sup> showed about the same, maybe even a few more. But we all would expect that number to be down when the 2000 data arrive. Both of these statistical measures are true barometers of pain in commuting.

But maybe the real impact of commuting congestion is in the trade off with housing –as travel times worsen the trade off to obtain lower-cost housing on the region’s edge becomes more onerous. The point has been argued that suburbanites and rural populations spend more on transportation – and so they do. But there are two key points to be made in that regard:

- Transportation is both a necessity and a discretionary purchase. People buy more transportation as their incomes rise in both dollars and as a percentage of their incomes.

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<sup>1</sup> NPTS; Nationwide Personal Transportation Survey performed by FHWA for US DOT

There is no greater measure of the value that American's place on mobility than the fact that they buy more of it as their incomes permit. So we should not be surprised that suburban populations, which tend to be wealthier, also spend more on travel.

- The second point is broader. Transportation, especially commuting, is often taken as a joint expenditure with housing in defining the household budget. Particularly, among younger people a longer work trip is a substitute for a higher mortgage. If the decision process is seen as a joint one between housing and commute costs then the influence of increased costs of commuting serves to reduce the range of choices on housing and housing location, either less house or a less desirable location. This may be the real cost of congestion!

As we have just seen, in some cases the work trip is a financial issue, but in our society today time is the great driver of decisions. We are now a very time pressured society, which dominates our commuting and other travel choices. The recent increases in fuel costs and the economic down-turn have certainly had some effect and have reminded us of the impact of travel costs, but by and large the measure of commuting success today is all about time—and perhaps we should add reliability.

### THE OUTLOOK FOR TRAVEL AND THE SYSTEM

Looking ahead, what is the outlook for travel and for our systems to serve it? When the results from the 2000 census are tabulated we may well find that the 1990 census documented the peak of some extremes in the character of travel with the late nineties and the early years of the new century playing out a somewhat more normal growth pattern and exhibiting some newfound stability, with new areas of concern. [FIGURE]

Among the trends that sharply affected commuting and other local travel patterns in the past and are now more manageable are these:

- The boom in workers as the baby boomers came of working age is well behind us
- The surge of women into the labor force has lessened
- The boom in automobile ownership based on affordability, low operating costs and vehicle durability has almost run its course.
- The shift outward in, first, homes and then jobs as the circumferential commute came to dominate the geographic patterns of commuting.

There are a number of determining demographic forces in the years ahead including rising affluence, the democratization of mobility, and the challenges of a changing demographic structure. I have discussed aspects of them two years ago with the Committee but it is useful to review how they have changed.[FIGURE]

### THE ROLE OF AMERICAN AFFLUENCE

We all assume that rising incomes are good! In transportation rising incomes permit people to act on their needs and desires in ways they prefer. Rising incomes: increase auto availability and use; increase the number of trips made per household; and increase the average trip lengths of trips made. [FIGURE] There is obviously something in travel that people value because as the means to do so increases people consume more transportation.

Along with increasing incomes comes an increasing value of time. The pressures of time will dominate commuting and other local travel purposes, pushing trip-chaining and faster modes, i.e. the single occupant vehicle.

Growing American affluence and commuting behavior are more interrelated than may be expected. The obvious link is that growing employment typically means increasing wealth and increasing commuting. America in recent decades has reached levels of employment that are extraordinary by historical standards and world standards This has obviously affected commuting volumes, but the rising affluence of households affects commuting in more ways than simply the number of

workers/commuters. A large part of American affluence today is a product of the fact that many households have multiple workers. The 1990 census established that more than 70% of the workers in our society lived in households with two or more workers. [FIGURE] The key point for this consideration is that when workers reside with other workers the opportunities for each to live near work is sharply diminished and sharply reduced in its value. This is particularly true today because, unlike the past, often the second worker does not have a secondary job. Particularly, as women's jobs have grown to be more like men's their commute patterns have also – trips are longer, more auto oriented and more likely to occur in the peak-oriented time periods.

Just as I am sure that 10% national unemployment would go a long way toward solving our congestion problems – I am equally sure that we would rather solve those problems in a more humane and economically rational way.

### **DEMOCRATIZATION OF MOBILITY – AND INDUCED TRAVEL**

Strong personal mobility has been largely attained for the white non-Hispanic population. [FIGURE] But, in 1995 African-American, Hispanic and Asian rates of households without vehicles dramatically exceeded white rates. African-American rates reach 24% as a national average while the White non-Hispanic rates are close to 5%. In center cities the African-American rates are often in the 40% and even 50% ranges. [FIGURE] The thought that the more effective transit service in large metros, where much of the African-American population resides, helps overcome the need for a vehicle is certainly valid, but we need to recognize that zero-vehicle rates in rural areas exceeds 17% among African-American households. Such levels of lack of access to vehicles must have significant bearing on these household's abilities to access jobs, health care, community services and other opportunities.

In that regard, the greatest transportation change in the last 20 years has been the increased longevity and quality of the average vehicle – the average vehicle in the fleet today is more than eight years old – comprised of many more very serviceable older vehicles than in the past, providing affordable transportation to lower income households. My vehicle is 12 years old and my wife's is older.

This obviously has a good news - bad news quality – to the extent that they are participating in the mobility society and gaining social and economic access we should applaud it. If the price of that new-found mobility for those on the lower rungs of the economy is a little congestion - We should celebrate it not condemn it.

We can, in this new Congress and new Administration, dedicate ourselves to the final democratization of mobility. We can focus on the carless; make sure that they have the means to access opportunity. If compassionate conservatism is about anything it must be about creating access to better opportunity – economic and social – and better transportation is the way to achieve it.

### **A WORD ABOUT INDUCED TRAVEL**

Most trips we make have economic transactions at their ends, and if not they have social interactions of great value to those making the trips. Given that, “induced travel” which seems to be so reviled today seems like a very attractive concept to me. Think of all the “induced travel” we will produce from getting personal vehicles into the hands of minority populations! We should celebrate it not condemn it.

Let me tell you where induced demand is going to come from in the future – from the mobility impaired – rural populations and minorities gaining access to a greater range of jobs and opportunities; gaining greater participation in the economy and the society; from the majority of the population gaining the affluence to act on their social and economic goals. All of this leads to congestion.

*MY DEFINITION OF CONGESTION: Congestion is people with the means to act on their social and economic aspirations getting in the way of other people with the means to act on theirs.*

### IMMIGRATION AND THE ROLE OF TRANSIT

Our immigrant populations will be a critical factor in future commuting patterns and issues. They represent approximately more than a third of present population increase but even larger shares of labor force increase – about a half. [FIGURE] How many immigrants arrive, where they locate, and their labor force characteristics, will all impact future commuting and travel. It must be noted that additions to the population by natural increase generate a new worker in 18 or so years; whereas immigrants, heavily distributed in the working age years, are often instantaneous additions to the work force.

The chart shown is all pre-2000 census. Indications are that they have found 6 or 7 million more population than expected, most of them immigrants – so either the 1990 estimates here are wrong or most of the numbers for the last 30 years have been wrong!

Immigrants tend to locate where the jobs are. Only around 10% went to rural areas in the late 90's. Although they have been a significant factor in replacing residents who have been leaving center cities, the current immigrant wave is more likely to arrive directly at suburban locations. In 1998 close to 60% of arrivals from abroad went directly to metropolitan suburbs.

Many of the aspects of the questions regarding immigrant commuting behavior are interrelated with the previous discussion of racial and ethnic minorities. For example, their arrivals in the many large metro areas of the south and west actually had the effect of reversing declining trends in the number of zero vehicle households. I would not be surprised to see increases in the percentages of households with no vehicle in California, and other high-immigration states, in the new census.

Part of this is reflected in the welcome increases in transit ridership being observed. Not surprisingly there are indications that new immigrants use transit more than current residents and are a major factor in increased transit use. It may very well be that an important benefit of investment in transit service is in the acculturation and mainstreaming of new immigrant populations—a very valuable social function.

### CHANGING DEMOGRAPHY - AN AGING WORK FORCE

There are two aspects of our changing demographic structure force that are critical to our considerations here. The first concerns safety and the second the declining availability of a labor force.

- Road safety is going to be a serious threat to our travel future. The future is very likely to bring serious increases in both the number of accidents and fatalities, and also the rates, because of the changing demography of the driver population. Not just the older drivers that we expect to see but also the shift of the young driver age groups from ages 18 to 25 from a declining age group to a growth sector. The growing cultural diversity of our driver population may well be a factor also. The interaction of pedestrians with the vehicle fleet will bear critical concern as well. We will have to redouble our efforts to assure response to a growing threat. Retrofitting parts of the road system to be more effectively responsive to the driver population may be a major investment need.
- If the last decade was one of too many commuters the next will be the decade of too few. There will be a severe lack of skilled workers in the future – apparent already. [FIGURE] We will have to employ everyone who is employable. Transportation will have to help. Connecting rural populations and inner city residents to suburban job centers will be one need. The great demand for workers means that workers will be more free to choose where they wish to live and employers will follow. Jobs in the future will be flexible in a more

humanized work place – women have seen to that. The jobs of the future will look to us from this vantage point like part-time jobs.

### **THE SYSTEM'S CONDITION AND PERFORMANCE**

What about the state of the surface transportation system in terms of its ability to serve future needs? There is real cause for continued concern both with respect to physical condition and service capacity.

It is clear that the new levels of funding of TEA-21 will prove very effective in making much needed improvements in the physical condition in both the transit and highway systems and perhaps in capacity as well. We do need to examine carefully where we are and where we need to go.

We are benefited by the existence of the Condition and Performance Report produced jointly by FHWA and FTA. I have observed this document's evolution from its beginnings almost 30 years ago and it has improved and evolved in every cycle. No other federal process has anything comparable. It could be the operator's manual of this sub-committee. I am engaged with AASHTO, working with APTA, FHWA, FTA and TRB in a review of this process to make the document even more responsive and effective. Some of the points made in this testimony today are being considered in the review:

- Recognition of incident delay
- The role of operations improvements
- Recognition of the importance of reliability
- The impacts of an aging population on safety

The present document provides a complex, sometimes unclear picture of the conditions and performance in both highways and transit.

There are plans to expand capacity in transit systems where warranted. For the first time the report begins to exhibit the ability to see the interactions between transit and highways. One measure of that is that if we made a national commitment to double transit users over the next 20 years that would be a massive undertaking and yet would leave 95% of travel growth and freight growth to be dealt with by highways and so we must develop these systems in concert and with understanding of their potential.

The data used in the current report are for 1997, pre-TEA-21, data to be sure. At least two points need discussion here:

1. The report indicates that by 2003, with TEA-21, both highway and transit spending will have reached the levels historically identified as the Cost to Maintain Conditions scenario. [FIGURE] We need to examine that further to assure that it does not mislead us.

- The first point to be made about this characterization is that "Cost to Maintain Conditions" means Cost to Maintain Physical Conditions only.
- At this level the system conditions reporting show that there remain critical needs in bridges, roads and transit condition in terms of quality and efficiency.
- The C&P estimates for project costs are too low and do not include important cost elements encountered in actual operations such as mandated regulatory review costs.
- We must remember that the C&P provides a declining target. Each year as conditions decline it gets easier to maintain that new lower level. We should establish goals of where we want to be rather than to aspire to remain where we have arrived.
- If we do approach some sort of comparability in a one year period the backlog of accrued spending needs of a quarter of a trillion dollars still loom as a critical issue.
- The entire range beyond that of physically maintaining the system to improving its service performance and actually "maintaining" current user costs or current travel times with immense economic benefits lies still ahead.

**2. The 1999 C&P contained a special report [Appendix A] requested in TEA-21 to address the prospects of the Interstate System over the next 10 years. The picture painted in that report was a generally positive one. While it would be inappropriate for me to argue with the report, we do need to take steps as part of the review process to assure that the needs that we know are out there are being properly reflected in the process that produced the report and that the assumptions made are supportable. Among some of these are:**

- the special aging distribution of our interstate bridges, many are 40 years old.
- The aging of the roadways, which have a similar age distribution.
- The needs of major interchange reconstruction all over the system
- The special needs of truck-oriented routes and corridors
- The growing capacity needs of the system
- Assumptions about the future availability of state and local funds.

**All of this leads to the conclusion that there is substantial work ahead of us to meet the needs of a growing, thriving society. We have to make things better – improve transit, improve walking, improve highways –meeting appropriate economic justification criteria! It is certainly safe to say that in America our work in transportation will never be done. I would be delighted to respond to questions.**