TALKING POINTS
DEPUTY SECRETARY OF TRANSPORTATION MORTIMER DOWNEY
ITS OHIO ANNUAL MEETING RECEPTION
COLUMBUS, OHIO
SEPTEMBER 18, 1995

* I'm happy to be with you tonight as you begin your annual meeting, because the work that ITS Ohio is doing is of tremendous importance to this state and to the nation.

* Imagine what ITS could do to cut congestion into Ohio Stadium when Notre Dame visits next Saturday... or to speed traffic between Cleveland and Cincinnati next month. I'm sorry if my prediction jinxes Ohio's baseball teams, but, as a New Yorker who waited years for a modern-day "Subway Series," I have my own cheering interest!

* Well, we can't have an "I-71 Series" every year, but ITS *can* make travel safer and more efficient every day. That's why this Administration -- from President Clinton and Secretary Peña on down -- so strongly supports the development and -- most importantly -- deployment of ITS technologies.

* We also recognize ITS's potential to generate high-tech, high-wage jobs -- to produce products and services for export -- and to enhance America's competitiveness. ITS -- like our other investments in science and technology -- will yield benefits far exceeding its costs.

* I've sometimes used the analogy of seed corn to describe these investments in technology -- portraying them as the seeds that will produce an abundant harvest in the years to come. That's a powerful metaphor -- but it isn't complete unless we remember that someone has to sow the seeds and nurture them as they grow.

* That's what you're doing in your daily work -- cultivating the seeds that will grow to transform our world. And make no mistake -- the work that you're doing *will* revolutionize transportation, much as the locomotive or the airplane or the automobile itself did in generations past.

* You should take pride in that -- and let it sustain you through the hard work of making ITS a reality in Americans' daily lives. That effort to open up new frontiers for the benefit of all is in the best American tradition.

* "Although the other frontiers have been mastered, the frontier of science and technology remains. *It* can never truly be conquered -- but in seeking to do so, we bring benefits that will enrich *all* of our lives."

* Vannevar Bush, the noted scientist and inventor, wrote those words 50 years ago as he plotted the course for post-war government policy, and they remain our best guide as we work to make the promise of ITS a reality for all Americans. Thank you.

# # # # #

AMERICAN TRANSPORTATION TECHNOLOGY AT RISK

by Mortimer L. Downey

Some of the most promising solutions to highway gridlock revolve around the technologies called Intelligent Transportation Systems (ITS). Cities around the country, including Columbus, are taking steps to deploy these systems, and Battelle is developing a network to help Atlanta manage traffic during next year's Olympics.

However, these systems are old news elsewhere in the world. Japan already has invested $2 billion in 160 cutting-edge traffic operating centers. Such leadership by other nations is not unusual. While the U.S. has the finest transportation system in the world, we lag behind international leaders in one critical area: the use of advanced technology to make travel safer and more efficient.

It seems inconceivable that a nation which dominates in so many areas of technology can be behind in one of such importance, but it is a situation that is likely to worsen. Budget cuts now being considered by Congress would slash federal transportation research.

That would be a terrible mistake, because these technologies are absolutely essential to traffic management in the 21st century. They aren't science fiction: they are in operation *today*, saving lives and money. Automatic vehicle locators on buses in Baltimore have improved on-time performance by 23 percent, and a freeway

control system in Minneapolis has increased average rush hour speeds by 35 percent.

They add this transportation capacity at a cost as low as one-twentieth that of new highway construction. In an era of limited funding, ITS is a terrific bargain, one that will only increase in value as the technology matures. In just a few years, we will look back at today's first-generation systems the way the Apollo astronauts looked back at the Wright Brothers.

Over the next two decades, ITS will fully integrate advanced information and communications technologies to make collision-avoidance systems, intelligent cruise controls, and perhaps even automated highways a reality.

The risk is that federal budget cuts will strangle this technology in its cradle. The President proposed $345 million in ITS research and development for 1996, even as overall transportation spending is being reduced to end the deficit.

However, the budget passed by the House calls for only about $200 million, and the Senate budget includes approximately $250 million. The long-term prospects are even worse, because Congress's plan to balance the budget in just seven years would virtually eliminate ITS investment. In fact, the House specifically proposed ending this initiative in its balanced-budget plan.

Some in Congress believe that state and local governments or private industry will make up the difference. That is wishful thinking, because ITS is at a critical stage of development that demands federal leadership and seed money.

State and local governments do not have the resources for the intensive research and development that ITS demands. Moreover, entrepreneurs are reluctant to make huge financial commitments without a national consensus on the technological standards that reduce risk and produce stable markets.

That is why we at the federal level are promoting public-private partnerships with business and with state and local governments. We are providing seed money and expertise and helping to create uniform standards to ensure the compatibility of ITS technologies. *This federal commitment is vital, but it is not an unlimited federal commitment: it is the critical investment that will bring out private dollars.*

Imagine where we would be as a nation if our government had not invested in lasers, or polymers, or the Internet. We have recognized these national priorities before: in 1836 Congress gave Samuel Morse $30,000 to develop an experimental telegraph.

For us to scale back or end this role in transportation would cost hundreds of preventable highway deaths annually and billions of dollars in congestion and delays.

It also would cede lucrative ITS markets here and abroad to the Japanese and European companies which, aided by their governments, have leap-frogged us. *They* understand the opportunities for secure, high-wage jobs that this technology presents, and that is why Japan and Germany each invest *30 percent more* per capita on research than the U.S.

We in the Clinton Administration understand the importance of such technological leadership, and have supported this new generation of American transportation technology. It would be a tragedy of historic dimensions if we were to let this opportunity slip through our fingers.

Fortunately, it is not too late: the full Congress has not yet acted on the 1996 budget. We are now beginning a great national debate over our priorities. The Clinton Administration's position is clear: we stand for the federal investment that has given us the world's most efficient, most productive economy.

Now that Congress is preparing to vote on the federal budget, let's hope that they make the strategic investments that will make safer, faster commutes a reality in Columbus and around the country.

(Mortimer L. Downey is U.S. Deputy Secretary of Transportation)

U.S. Department of Transportation

TRANSPORTATION TRENDS

REMARKS PREPARED FOR DELIVERY
DEPUTY SECRETARY OF TRANSPORTATION MORTIMER DOWNEY
ITS OHIO ANNUAL MEETING
COLUMBUS, OHIO
SEPTEMBER 19, 1995

I'd like to bring you greetings from Secretary Peña, who has made ITS a cornerstone of his program to give America the transportation systems it needs for the 21st century. Technology and its application to our transportation problems is one of our key strategies in managing DOT.

I'm especially happy to join you because Ohio has one of the most ambitious ITS agendas in the nation -- with an enthusiastic ITS America chapter to help make it a reality. Programs from ARTIMIS to Advantage I-75 to the Ohio Turnpike's electronic toll collection project will yield benefits far exceeding costs in the coming years.

Ohio's ITS community will have an impact far beyond the state's borders -- as we'll see next year at Atlanta's centennial Olympics, where Battelle is managing an ITS project that will showcase American transportation technology to the world.

I mention that because Batelle's Jerry Pittenger is doing an outstanding job directing the Atlanta ITS effort, and I know that he'll do an excellent job as the 1996 President of ITS Ohio.

The Olympics will show that there's no question America has the talent to match our athletic leadership with world leadership in ITS. Whether we'll actually do so is another matter, and that's what I'd like to talk about this morning -- because our long-term success in this field is by no means a slam-dunk.

Let me give you one example. A couple of weeks ago Secretary Peña and I participated in the opening of Maryland's Statewide Transportation Operations Center. This is the first statewide

(More)

highway management center in the U.S., but it's old news elsewhere in the world. Japan has *160* state-of-the-art traffic operating centers, representing a $2 billion investment.

That's not unusual. While the U.S. has the finest transportation system in the world, we lag behind international leaders in the critical area of actual deployment of advanced technology to make travel safer and more efficient. It's hard to imagine that a nation which dominates in so many areas of technology can be behind in one of such importance, but it's a situation that could worsen.

Budget cuts now being considered by Congress would devastate federal transportation research, especially for ITS. In fact, the non-partisan American Association for the Advancement of Science projected that Congressional budget proposals would lower overall federal research funding by a *third* over the next seven years. The biggest cuts would come in applied research, which is focused on developing new technologies such as ITS.

That would be a mistake, because ITS is absolutely essential to preserving mobility in the 21st century. These technologies are *not* science fiction: you all know that ITS is in operation *today*, saving lives and money. Advanced traffic signal control systems in California have cut travel times by 15 percent and vehicle stops by 35 percent... freeway management in Minneapolis has increased rush hour speeds by 35 percent and capacity by 22 percent... and Oklahoma has cut toll lane operation costs by 91 percent using automated toll collection.

These systems do this at a cost as low as one-twentieth that of new highway construction to achieve the same results. In an era of limited funding, ITS is a terrific bargain, one that will only increase in value as the technology matures. Even the most dedicated budget-cutter ought to recognize this kind of a bargain. Indeed, in just a few years we'll look back at today's first-generation systems the way the Apollo astronauts looked back at the Wright Brothers.

Over the next two decades, ITS will fully integrate advanced information and communications technologies to revolutionize traffic management and safety. The benefits aren't limited to highways, either. Even in their earliest stages, transit management systems have shown huge promise. Baltimore has increased its transit productivity by 23 percent using these systems.

That's why we now call these Intelligent *Transportation* Systems. We see benefits for other modes -- transit, rail, and -- through related technologies such as Global Positioning Systems -- aviation and maritime. Nor will the benefits be felt only by passengers. These systems are going to be equally applicable -- if not more so -- to freight movement, accelerating the shift to efficient intermodal transportation, with constant monitoring of the progress of goods towards their just-in-time destinations.

ITS, in short, offers us a broad range of solutions to transportation problems if we can think across traditional barriers between modes and between functions. The risk is that federal

budget cuts will strangle this technology in its cradle. The President's budget proposed $345 million in ITS research and development for 1996, even as overall transportation spending is being reduced to end the deficit.

However, the budget passed by the House calls for only about $200 million, and the Senate budget includes approximately $250 million. The long-term prospects are even worse, because Congress's plan to balance the budget in just seven years would virtually eliminate ITS investment. In fact, the House *specifically* proposed ending this initiative in its balanced-budget plan.

Some in Congress believe that state and local governments or private industry will make up the difference. That's wishful thinking, because ITS is at a critical stage of development that *demands* federal partnership. Even though, over time, most of the money to be spent will come from those other partners, the federal funding is critical -- especially at this stage of the process.

Many of you are state and local officials. You know that your governments don't have the resources for the intensive research and development that ITS demands, even if you are ready to finance deployment once the research and development is done.

Moreover, the private sector -- facing pressure for quarterly profits -- often can't sustain extended commitments to research -- especially without a national consensus on the technological standards that reduce risk and produce stable markets. That's why we at DOT are promoting public-private partnerships with business and with state and local governments. We're providing seed money and expertise and helping to create uniform standards to ensure the compatibility of ITS technologies.

By forging consensus on national, and even international, technological standards, entrepreneurs will be encouraged to invest in these new technologies. At the same time, the "open architectures" we do support will allow these new technologies to stay flexible and accommodate further progress. We've already made substantial progress towards this, and expect to provide our initial guidance on these standards next year -- the result of a three-year, $30 million effort.

Our efforts focus on creating what we call the core infrastructure for ITS -- integrated communications and information systems that can work separately or work together -- much like the components of a stereo system, or the computer software packages now sold by Microsoft or Lotus.

That core infrastructure will provide direct public benefits today, and will also enable a number of private products and services to come on to the market. And, although this core infrastructure for the most part is deployable *now*, it also lays the foundation for the next generation of ITS.

(More)

I do want to say that we're tremendously excited about this approach, because we believe that it will give the U.S. international leadership on ITS by providing the first fully-integrated systems. Yet this core infrastructure won't take place without federal support. *This commitment is vital.* Imagine where we would be as a nation if our government hadn't invested in lasers, or polymers, or the Internet.

Nor is this commitment to vital national scientific priorities new: in 1836 Congress gave Samuel F. B. Morse $30,000 to develop an experimental telegraph from Baltimore to Washington. For us to scale back or end the federal role in transportation technology would cost hundreds of preventable highway deaths annually -- thousands of preventable injuries -- and billions of dollars in congestion and delays.

It also would cede lucrative ITS markets here and abroad to the Japanese and European companies which, aided by their governments, have leap-frogged us in deployment. *They* understand the opportunities for secure, high-wage jobs that this technology presents, and that's why Japan and Germany each invest *30 percent more* per capita on research than the U.S.

We in the Clinton Administration understand the importance of such technological leadership, and that's why we've supported this new generation of American transportation technology. It would be a tragedy of historic dimensions if we were to let this opportunity slip through our fingers. Fortunately, it's not too late: the full Congress hasn't yet acted on the final 1996 budget.

We're now beginning a great national debate over our priorities. The Clinton Administration's position is clear: we stand for the federal investment that has given us the world's most efficient, most productive economy. I hope that all Americans will make their voices heard in this debate. Congress may yet change course and not sacrifice our nation's future prosperity for short-term savings. I also hope that you -- as leaders in transportation -- will take up the challenge to make the most of the research that's being done throughout the country.

It's vital that we begin deploying these systems *now* -- without waiting for some future "perfect" system. As with personal computers, we're always going to see improvements -- but that doesn't mean we can't start benefiting today from these technologies -- offering our citizens better services, increasing safety and productivity, and cutting costs.

We can do this *now* -- and still take advantage of coming technological advances -- by focusing on the type of interoperable systems and open architectures that DOT is fostering. I want to commit to you our support at the federal level. We look forward to strengthening our partnerships with ITS Ohio and its members. Let me close today by thanking you for your attentiveness, and by wishing you the best of luck in your own efforts to build transportation systems for the new American century.

#####

REMARKS PREPARED FOR DELIVERY
DEPUTY SECRETARY OF TRANSPORTATION MORTIMER DOWNEY
DESIGN FOR TRANSPORTATION NATIONAL AWARDS PROGRAM
WASHINGTON, D.C.
SEPTEMBER 19, 1995

Good evening. I'm pleased to join you at tonight's reception of the Design for Transportation National Awards Program. Pleased -- because I've been a New Yorker for most of my life, and each day saw the relationship between transportation design and quality of life.

I'm proud of my city's great transportation facilities -- the Brooklyn Bridge, Grand Central Station, the Eero Saarinen terminal at Kennedy Airport. I know how much they contribute to New York's specialness and sense of place.

I also know how a poorly-designed road or bridge or subway station can detract from everything around it, and depress the spirit.

And I understand the sense of loss that is felt when an architectural landmark that touches people is destroyed -- as Pennsylvania Station was a generation ago.

Although New Yorkers may feel a special affinity for transportation design because they see it in so many varied forms every day, it's something that pervades all of our lives no matter where we live.

The San Franciscan driving over the Golden Gate Bridge... the Chicagoan passing through the United Terminal at O'Hare...

the native of this city riding Metro and walking through Union Station... each is touched by the architectural magnificence around her.

Great design has tremendous potential to improve our quality of life, and few aspects of life provide a better opportunity for this than transportation.

It's absolutely essential that we have a means of recognizing outstanding design in transportation -- to celebrate the best that this nation's architects and designers have produced, and to inspire others in their work.

These awards are long overdue. That's why Secretary Peña and I are so pleased that Chairman Alexander and the National Endowment for the Arts have agreed to cooperate with us in creating them.

We also deeply appreciate the efforts of the jurors. By your involvement, you're helping to foster the type of facilities that will add beauty to our communities. I look forward to seeing the results of your deliberations, and to the many outstanding projects they will encourage in the years to come.

Thank you -- everyone -- for your contributions to a program that honors America -- that enriches the lives of her people -- and that ennobles us as a nation.

# # # # #

REMARKS PREPARED FOR DELIVERY
DEPUTY SECRETARY OF TRANSPORTATION MORTIMER DOWNEY
WILLIAM M. BENKERT AWARD CEREMONY
WASHINGTON, D.C.
SEPTEMBER 20, 1995

(Introduction to be made by Admiral James C. Card, Chief, Coast Guard Office of Marine Safety, Security, and Environmental Protection)

Thank you, Admiral Card. You know, when I was walking in with you, Admiral Kramek, and Admiral Henn, I thought to myself that it wasn't bad company for a former Lieutenant Commander in the Coast Guard Reserve.

Well, this is a memorable day, made all the more so by the presence of so many eminent guests.

Senator Stevens, Congressman Coble, Congressman de la Garza, Congressman Green, Congressman Longley: thank you for attending this ceremony and for your continuing support of the Coast Guard.

Mrs. Benkert, Admiral Kramek, and distinguished guests: I'm honored to be here to help present the first Benkert Awards, honoring the memory of an illustrious pioneer in marine environmental protection.

When I came to this Department as an Assistant Secretary, I had the privilege of working with Mike Benkert, and learned first-hand of his commitment to the marine environment.

He was the very model of a seafarer -- a man who both loved and respected the sea. In his long career he was a leader in carrying out the Coast Guard's primary missions: protecting man from the sea, and protecting the sea from man.

In successive assignments, he fought for stronger safety standards -- and today's safer vessels are a tribute to his tenacity and his unwillingness to accept any compromises on safety.

At the same time, his close partnerships with the maritime industry a generation ago foreshadowed the philosophy of customer service that the Vice President's National Performance Review is introducing throughout government today.

Today's awards are given for excellence in environmental protection -- and that was where Mike Benkert was a genuine trailblazer. In a day when ecology was just an obscure academic term, he embraced the fundamental principles of what has become the American mainstream.

His commitment to environmental protection came from his vision of the proper role of man to the seas and waterways: not as master, but as steward.

That is a role which enriches our lives and ennobles us a nation, and Mike understood it as few others did. He sought every opportunity to preserve and protect our natural resources.

That's why the purpose of these awards is so fitting -- not only to recognize excellence in environmental quality, but to ensure continued progress by providing a way to exchange ideas and innovations, and to give vessel and facility operators an unthreatening way of assessing and improving themselves.

Mike's approach of forceful commitment to principle and a willingness to cooperate in the interests of marine protection is now the order of the day. That was evident only yesterday when the Coast Guard and the American Waterways Operators established a new partnership to promote maritime safety and environmental protection.

That partnership -- and these awards -- are a tribute to Mike Benkert. He showed us how to set a course by the star of age-old values, and how to bequeath a legacy to our successors which keeps faith with those who left the world to us.

So today I salute those who sustain our traditions of commitment to the environment -- the recipients of the first Benkert Awards.

Now, I'd like to return the platform to Admiral Card, so we can move on to the presentation of the awards.

# # # # #

REMARKS PREPARED FOR DELIVERY
DEPUTY SECRETARY OF TRANSPORTATION MORTIMER DOWNEY
BUS INDUSTRY SUMMIT
WASHINGTON, D.C.
SEPTEMBER 22, 1995

Good morning. I'd like to welcome you all to the Department of Transportation's Bus Industry Summit, which I hope will be the first step into a prosperous future for America's bus manufacturers, in partnership with the nation's transit operators.

Before I begin, I'd like to thank all of you for coming -- your participation shows that there's a willingness to come together to solve the problems that this industry faces.

I especially want to thank today's speakers -- Ed Kravitz, Ray Ellis, Michael Bolton, and Shirley DeLibero. Their presentations are bound to be provocative, and lead to the frank discussions we need.

And I'd like to thank Gordon Linton and Janette Sadik-Khan for having worked so hard to organize this meeting.

I don't think that I'll be stepping on my own punchline if I tell you at the outset that the Clinton Administration is committed to doing everything it can to ensure a stable, profitable domestic bus industry, serving healthy transit systems.

This Administration has made economic progress the central focus of its agenda -- with remarkable -- if sometimes unrecognized -- success. The deficit has been cut nearly in half, more than seven million new jobs have been created, and unemployment and inflation are both down sharply.

This success is due in great measure to this Administration's willingness to work with -- *not against* -- business. Government does not view industry as an adversary, but as a partner in the effort to improve the quality of life for all Americans.

In transportation, we've already seen the results of this cooperative approach.

Administration initiatives in shipbuilding have saved that industry and thousands of American jobs.

Our commitment to aerospace and to healthy airlines has bolstered the major jet makers and begun to revitalize general aviation manufacturers.

The airline industry, which was on the brink of collapse two years ago, is back to across-the-board profitability.

That's largely because of more than 50 specific initiatives taken as the result of a bipartisan airline industry commission, and their growth will also spell new opportunities for the aircraft industry.

In each case we assessed the situation, defined an appropriate set of policies, and took concerted action, with results that preserve businesses and jobs.

Let me say today that we want to do the same for America's bus manufacturers.

We want to do this for two reasons. First, to stabilize an industry that generates thousands of good jobs.

And second, to ensure that U.S. transit operators have continued access to first-rate equipment that meets their needs and those of their customers. That's vital if transit is going to help us solve the mobility and air quality problems we face.

The question is: how can the federal government best help this industry, especially in the face of limited funding?

I want to make it clear at the outset that we have no intention of trying to manage the transit bus industry.

We all remember Transbus and the White Book *(or at least I do!)* -- and if anyone doesn't, I'm sure that some of today's speakers will remind them. Our role shouldn't be to dictate things best left to a competitive market.

As I see it, we instead should act in several areas.

First, we should support the market by investing in technology research and development to define the breakthroughs we need to make transportation more efficient and environmentally-sound. Given the pressure to turn a profit, it's hard for manufacturers to invest enough to meet these needs.

We're doing across the board in transportation -- for example, working with Detroit's Big Three in the Partnership for a New Generation Vehicle, which will produce a clean, energy-efficient car. Efforts like these help us to overcome market imperfections and achieve important national goals -- without seeking to manage the market.

Second, we at the federal level can help bring the industry together, much as we're doing today. In fact, we see today as only the beginning of a continuing effort to reach a common ground among transit operators, manufacturers, suppliers, and -- in our role as the industry's biggest banker -- the federal government.

Third, we at the federal level can examine our policies and procedures -- including financing, procurement, and other areas -- to identify ways to remove roadblocks to recovery.

I have no doubt about our eventual success in sustaining this industry. We've seen it happen elsewhere -- just a decade ago the auto industry was devastated by foreign competition.

It made a better product at a better price, and has met foreign competition without new government intervention -- but with government support in seeking a level playing field.

We can do the same thing here. We've worked hard together as partners over the years. Over the coming weeks and months, I look forward to working with you in an expanded and revitalized partnership as we try to restore this industry.

I ask *your* commitment in this effort -- *and I pledge you mine.*

Today we're taking the first steps -- this summit, and more: this morning Gordon Linton will describe a series of planned procurement reforms that will go far towards reducing the regulatory burden on both operators and manufacturers to create the real market that will function to the benefit of buyer and seller alike.

These reforms are being generated in the spirit of Vice President Gore's National Performance Review, and they'll help to revitalize this industry. We're excited about them, and I hope you will be, too.

I'd like to give Gordon Linton, who's worked so hard on procurement reform, the pleasure of discussing these proposals. Gordon?

# # # # #

U.S. Department of Transportation

TRANSPORTATION TRENDS

REMARKS AS PREPARED FOR DELIVERY
DEPUTY SECRETARY OF TRANSPORTATION MORTIMER DOWNEY
MINISTERS' FORUM ON INFRASTRUCTURE DEVELOPMENT
IN THE ASIA-PACIFIC REGION
OSAKA, JAPAN
SEPTEMBER 27, 1995

On behalf of President Clinton and Secretary of Transportation Peña, I would like to bring you greetings from the United States. I welcome participating in this conference because we in the U.S. see infrastructure development as a key to economic growth and an opportunity for an improved quality of life.

This conference is a chance for us to share ideas and strategies about how to meet the transportation problems we face today or, because of current trends, are likely to face in the future.

I want to add that these problems are not limited to each nation's borders. Ineffective or congested transportation can affect other nations by limiting the opportunities for efficient trade. Moreover, the environmental problems stemming from inefficient transportation, such as global warming, can affect all nations.

This session, however, focuses on traffic congestion, and that is appropriate because congestion is not only the single greatest transportation challenge we face in the United States, but the cause of so many other problems in nations around the world.

There are transportation problems other than congestion, such as aging infrastructure, inadequate capacity, and changing patterns of goods movement that must now be served by systems not designed for them. However, although these are problems in their own right, they also often directly contribute to congestion.

(More)

U.S. Department of Transportation
Office of the Secretary, Public Affairs
(202) 366-4570

Congestion itself is relative: factors such as severity, geographic extent, and duration all come in to play. However, congestion is hardly an illusion: it *can* be measured. Over the decade ending in 1993, the daily vehicle miles of travel in each lane of the highways in America's cities grew by nearly 30 percent.

That means traffic has been increasing at a far faster rate than the capacity of the roads available to carry it. Those roads now carry about a third more traffic than they did a decade ago, and that has led directly to greater congestion.

In fact, our latest numbers show that, in the 50 largest U.S. metropolitan areas, traffic congestion costs about $43 billion annually. That loss comes from several sources: the time lost by commuters sitting in traffic, delays in delivering goods, and wasted fuel.

Like most other public policy problems, congestion results from a combination of causes, and I would like to speak about how it became a problem in the U.S. The starting point of any discussion of 1990s-style congestion in the U.S. is our changing patterns of development, starting with tremendous population growth.

It is hard for me to believe that, when I was a child, there were about 130 million Americans, mostly living in our central cities, completing the transition from rural areas that began during the nineteenth century. Today there are twice as many: 260 million.

Most of these new Americans did not end up in the cities, but rather in a cross between city and country that took off in the post-war era: the suburbs. The suburbs came about for a variety of reasons, among them a desire to leave crowded cities behind and seek cheaper land and housing. What enabled them to become such a powerful demographic force was technology.

Now, as the urbanologist Witold Rybczynski has written, technology has always influenced where people live and work. The need to be able to move goods meant that cities grew up where there could be good seaports, and the technology of factories in the Industrial Revolution concentrated people in large cities, rather than in small villages.

However, technology has had the opposite effect over the past half-century, promoting decentralization. Everything from cheap automobiles and gasoline to federally-sponsored highways to today's communications and information revolution has enabled people to live increasingly apart from where they work, and that has made the suburbs a possibility for the average American, rather than just a small elite.

(More)

Inevitably, as people moved to the suburbs, jobs followed. At first these were jobs related to the services people need wherever they live, but then the types of jobs that were traditionally located in cities followed, everything from finance to law to high-technology manufacturers.

Because of the easy ability to communicate and exchange information, those jobs no longer needed to be in the cities. In many cases, they simply went where the workers were.

Technology, in the form of air conditioning, also created what we call the Sun Belt phenomenon. Whole states whose heat and humidity made them uninhabitable except for a hardy few now became home to millions. Florida, Texas, California, and other states saw tremendous growth from the 1950s onward, and the highway-oriented cities that grew up in those states had no need for the radial patterns of development that were common in older American cities.

Other changes, in the form of demographics, affected how Americans lived and traveled. The increasing number of women who worked outside of the home and the large number of single-person households meant that more people were taking more trips. Because they now lived in suburbs where it was virtually impossible to walk or take the bus, they were making those trips alone in their cars.

We can see the evidence of this in transportation trends. In the two decades up to 1990, the number of licensed drivers grew almost 60 percent, the number of household vehicles increased by 128 percent, and vehicle miles traveled more than doubled. All of these increases were far greater than the population growth over those years.

Overall, the number of trips per person and the miles per trip have increased at about three times the rate of population growth during the past 15 years. The trend is towards continued growth: vehicle miles traveled in urban areas have been growing at about 4 percent annually.

At the same time use of public transit has stagnated and, in the case of bus travel, actually decreased as travel changed from the old radial patterns to ones in which people move from one suburb to another, and to dispersed destinations within those suburbs. So while people are traveling more, nine people out of ten are traveling in cars, and they usually are alone in those cars.

In the face of this explosive travel growth, the capacity of our transportation system has not kept pace. In many cases, roads, bridges, and transit systems suffer from underinvestment that slows traffic.

(More)

Indeed, our latest study estimates that we need to invest about $57 billion a year just to maintain existing conditions on our roads, bridges, and transit systems, and about $80 billion a year to upgrade them to fully acceptable standards. In contrast, all levels of government in the U.S. -- federal state, and local -- invested slightly over $40 billion in 1993.

That underinvestment comes from a shortage of money for transportation that has been driven by concerns about the tax burden Americans face. Gasoline tax revenues, which provide the bulk of transportation funding, have been relatively stagnant in spite of travel growth because of the relatively low levels of taxation and because of increasing fuel efficiency in American cars.

Moreover, the general tax revenues that make up most of the rest of American transportation funding are the object of intense competition by other vital demands, everything from schools to law enforcement to health care.

What have been the consequences of these trends?

One is a new form of congestion. In the past, congestion simply meant backed-up traffic on the arterials leading into central cities. Today, we see congestion moving towards region-wide gridlock because of changing trip patterns.

We also are seeing the environmental consequences of congestion: poor air quality. Although there has been a lot of progress on air pollution since the federal government began requiring cleaner fuels and cleaner cars in the early 1970s, there still are scores of cities that fail to meet the standards for healthful air quality.

This problem remains even though technical solutions, such as catalytic converters, have cut automobile pollution by upwards of 90 percent. Much of that reduction has been cancelled out by the rapid growth in traffic and congestion.

Indeed, there is legitimate concern that future trends in the growth of travel will swamp the effects of vehicle emissions control technology. Moreover, the biggest problems are in the areas that are leading these trends, such as Los Angeles.

These problems are not insoluble, but we have learned one thing: we cannot build our way out of congestion. Although we need to maintain our highway system, and even expand it in a limited way, we have found that new roads inevitably fill up as people take advantage of the faster travel they allow.

(More)

That is why ISTEA, the Intermodal Surface Transportation Efficiency Act, which is the federal highway and transit funding legislation, and the federal Clean Air Act both have requirements for congestion management strategies.

There is a broad range of strategies, starting with some road construction, but in a very limited fashion, especially in areas that fail to attain air quality standards.

We also see mass transit as a solution, and that is why the federal government has been so committed to supporting it. We have been providing as much as $4 billion annually in operating and capital funding to upgrade existing systems and start new ones, especially using such technologies as light rail.

We are also encouraging ridesharing through a wide range of strategies: employer-based programs, high-occupancy lanes to reward carpoolers with faster travel times, and trip reduction ordinances.

Finally, we are supporting technology-based solutions, and that is appropriate, since technology enabled the travel behavior that has led to congestion.

The technological solution with the greatest potential is ITS: intelligent transportation systems. Now, ITS means different things to different people, so let me lay out our view of what ITS is.

At its most basic, ITS is a group of communications and information technologies that, working together, make traffic safer or more efficient.

There are three major categories: traffic management and travel information systems, tracking and transaction systems, and enhanced vehicles.

Travel information and management systems include existing traveler information programs which provides real-time information on travel conditions. They also include "smart" traffic signals, which automatically give drivers a green light at intersections when there are no oncoming vehicles.

The second category includes tracking and transaction systems, such as commercial vehicle tracking through sensors and Global Positioning Systems, so that shippers know where their goods are at all times. This also includes electronic collection of road tolls and the automatic clearance of trucks at state borders.

(More)

Finally, there are enhanced vehicles. These include cars with collision avoidance systems and other safety features, advanced steering and braking systems, and, a generation from now, possibly all-automated highway systems.

I would like to spend the remainder of my time today concentrating on ITS, and especially on the traffic management and travel information elements, which are being used as part of our congestion strategy.

Widespread implementation of ITS in the U.S. is a recent phenomenon that was jump-started by the ISTEA legislation. ISTEA not only promoted ITS, but also authorized up to $1.3 billion over six years for its research and deployment. Since then, the federal Department of Transportation has acted aggressively to support state and local governments and private businesses as they develop these technologies.

However, although we can provide seed money, coordination in standard-setting, and leadership at the federal level, ITS's ultimate success as a congestion strategy will only work if it is accepted and implemented at the state and local level. Success here will require action on two fronts: the technological and the institutional. We are acting on both.

In technology, we are actively supporting ITS research and development. We have proposed $345 million in federal research and development funds for the coming year, although Congress has proposed far less in the appropriations bills now making their way through the House and Senate. Although there are questions about the future federal support for ITS, we have already had tremendous successes.

Incident management systems clear the traffic backups caused by crashes and breakdowns. Local traffic management centers throughout the U.S. are providing real-time information to system operators and to travelers. For example, a new center recently opened in San Antonio handles comparable amounts of traffic 20 times more efficient than adding new highway capacity.

In California, advanced traffic control systems can reduce travel time by 15 percent. Emergency vehicles throughout the country are equipped with automatic locators to speed dispatching to crashes. Minneapolis has reduced response times to accidents by 20 minutes, saving lives. Businesses are able to track shipments from origin to destination, integrating transportation into "just-in-time" production lines. And highway toll systems are being designed, or retrofitted, with electronic collection options to speed traffic flows. In Oklahoma, that has already cut the annual cost of a toll lane's operation by 91 percent.

I should add that, although many of the ITS technologies are focused on trucks and automobiles, most of these have applications for all forms of surface transportation, including

(More)

mass transit. Indeed, transit management systems in Baltimore, including automatic vehicle locators, have increased transit productivity by 23 percent.

Future progress will depend not only upon federal funding but also federal leadership in creating coherent national, and even international, ITS architectures. These architectures will establish standards and protocols, and foster compatibility. They will promote rapid deployment of ITS by reducing risk for customer and vendor alike, and will allow products from different vendors to work together.

We are well on the way to establishing an architecture which will be open and responsive to new developments, but focused on integrated, interoperable systems. That architecture will also support a core infrastructure of communications and information technologies that will enable both the public and private sectors to deploy the particular services needed in an area.

The second area where we need to place a special emphasis is the institutional. Today's governmental institutions were created to solve yesterday's problems, and are often unsuited for solving problems that transcend their boundaries.

Institutions are fragmented vertically between different levels of government, horizontally among different local units of government, and functionally between transportation, air quality, land use, and other responsibilities. The question of "who's in charge?" is often answered both by "no one" and "every one."

Let me take a moment to examine those relationships as they exist today in the U.S. In transportation, the federal government serves as a funding partner and a technology developer. The states traditionally have responsibility for such major infrastructure components as highways. Cities are responsible for the construction and maintenance of local streets and for traffic controls. Transit agencies operate bus and rail services and are usually independent of states and cities, and linked only through the financial support that these other entities provide.

Finally, metropolitan planning organizations, or MPOs, are regional administrative bodies that consist of a major city and its surrounding suburbs. They are a new creature and are not yet well-established, but are critical to the solution of regional problems that leap traditional governmental borders.

Quite simply, putting the relationships between these institutions into a more cooperative order is the key to success, not only for implementing ITS, but for solving the whole range of transportation problems.

(More)

These institutions, with their diverse interests and overlapping responsibilities, *must* work together. The reasons are numerous. To take just one example, ITS works only if information is shared from entity to entity. A travel information system is useless if all local communities do not participate.

The institutional links also must extend to the private sector, which ultimately will fund many of the ITS products and services. We see a clear linkage to the information highway and the communications revolution that Vice President Gore's National Information Infrastructure would promote. Indeed, many of the same fiber optic cable channels which will carry interactive television and cellular telephone calls also can carry information about our transportation system.

We are working to forge these new institutional arrangements through a variety of efforts, requiring joint transportation planning programs among states, MPOs, and transit agencies, bringing together various levels of government in congestion management efforts, and supporting increased communication and cooperation.

There are other factors that encourage cooperation. For example, the federal Clean Air Act raises the stakes of a failure to meet its standards, including highway funding sanctions, and forces a degree of cooperation that we have not seen before.

Full cooperation will not happen overnight. That is why we are following an incremental improvement strategy that will build the linkages we need among these systems. Those linkages cannot come too soon.

In the future, we see ITS as playing a key role in a safer and more efficient transportation system, enabling more effective movement of goods and passengers, reducing accidents, and providing the support mechanisms for road pricing strategies that often are ineffective today.

Moreover, there are opportunities for international cooperation as well. As I said earlier, we have a definite interest in supporting the development of ITS and other congestion management strategies in other nations.

We see ITS as providing the basis for more efficient trade between our nations, to everyone's benefit. We also see it as a way of mitigating the environmental impacts of the travel growth confronting expanding economies, without limiting that growth.

Ultimately, we want to capture the imagination of our people with a vision of how transportation technology can improve their lives. We have started to define that vision, and to make it a reality. In the coming years we look forward to working with you to change our world's transportation future. Thank you.

# # # # #