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Collection/Record Group: Clinton Presidential Records

Subgroup/Office of Origin: National Economic Council

Series/Staff Member: Dorothy Robyn

Subseries:

OA/ID Number: 17407

FolderID:

Folder Title:

ISTEA [Intermodal Surface Transportation Efficiency Act]: ISTEA: R & D [Research and Development] / Sustainable Transportation

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Section:

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Position:

3

Diane R. Montgomery 03/07/97 09:44:56
AM

Record Type: Non-Record

To: Dorothy Robyn/OPD/EOP

cc:

Subject: EPA/DOT ISTEA Resolution Meeting

At yesterday's meeting, EPA asked that I write a synopsis of the proposed research program. The following is what I propose to send them. Does this look O.K. to you?

Also, I haven't forgotten about your CMAQ question. I'm still working on it.

----- Forwarded by Diane R. Montgomery/OMB/EOP on 03/07/97 09:46 AM -----

Diane R. Montgomery 03/06/97 04:48:51
PM

Record Type: Non-Record

To: adler.ken @ epamail.epa.gov @ inet

cc: anderson.geoffrey @ epamail.epa.gov @ inet

bcc:

Subject: EPA/DOT ISTEA Resolution Meeting

The purpose of yesterday's meeting was to resolve outstanding NEXTEA environmental issues between the Environmental Protection Agency (EPA) and the Department of Transportation (DOT). The proposal set forth by Office of Management and Budget (OMB), National Economic Council (NEC), White House Legislative Affairs (WH/LA), and Office of Science and Technology Policy (OSTP) staff was to fund a \$30 million (total over NEXTEA) Sustainable Transportation research program focusing on land use issues relating to both global climate change Brownfields re-development. The following table illustrates the proposed funding level:

Proposed Sustainable Transportation Funding
(\$ in millions)

		FY98	FY99	FY00	FY01	FY02	FY03	TOTAL
Sustainable Transportation	\$4.2	\$5.2	\$5.2	\$5.2	\$5.2	\$5.2	\$30.2	

The goal of the program would be to assess current analytical tools (e.g., LUTRAC) and further develop additional land use and transportation modeling tools to support MPOs, State DOTs, and local governments in their transportation analysis and economic development decisions. This initiative will fund pilot projects to demonstrate the effectiveness of these tools and to determine alternative strategies for fostering sustainable transportation and development, including the reinvestment in abandoned or underutilized industrial and commercial areas in the urban core (e.g., Brownfields). OMB and WH staff encourage EPA and DOT to work together to design a research program that best addresses sustainable transportation issues.

DOT also reiterated its prior commitment to EPA to make Sustainable Transportation a National Science and Technology Council (NSTC) priority. Through this process, Sustainable Transportation will be a priority in the decision-making process that prioritizes spending for DOT's \$900 million annual research budget in addition to the National Aeronautics and Space Administration (NASA),

Department of Energy (DOE), and Department of Defense's (DOD) \$136 billion annual research budgets.

James J. Jukes

03/06/97 06:37:15 PM

Record Type: Record

To: Diane R. Montgomery/OMB/EOP
cc: See the distribution list at the bottom of this message
bcc:
Subject: Re: Resolution of EPA/DOT Global Climate Change Issue 

Lieber just called to say that the Department rejects the 100% match for clean fuel. He was going to inform EPA directly.

He also said that the Secretary, at hearings today, twice repeated his pledge to have the bill up there this week.

I mentioned to Jano that I understaood there might be a need for a final White House chop on this (per the Sperling memo to the President). This was news to him. He was pressing me hard to close the bill tomorrow and I said the best case was Monday. (I think he'd be happy with Monday.)
Diane R. Montgomery

Diane R. Montgomery  03/06/97 04:04:27
PM

Record Type: Record

To: Michael Deich/OMB/EOP
cc: See the distribution list at the bottom of this message
Subject: Resolution of EPA/DOT Global Climate Change Issue

At Noon today, we met with EPA/DOT officials to discuss the resolution of the global climate change issue. EPA initially requested a \$500 million incentive fund to reward States for reducing vehicle-miles-traveled. As a compromise, TCJS, CEQ, NEC, DPC, and OSTP staff proposed a \$25 million (over 6 years) research program to study both global climate change and brownsfields issues. Per agreement with the WH offices, the funds would come from FHWA's administrative account (through which a large portion of their research is financed) to avoid a specific authorization in NEXTEA, which would call unnecessary attention to the initiative. This compromise proposal was passed-back to EPA and DOT yesterday.

At today's meeting, EPA proposed \$90 million (over 6 years) for environmental research, \$150 million for acquisition of clean fuel buses, and \$150 million tax-based incentive fund to reward States for reduced vehicle-miles-traveled. In response, DOT/OMB/WH staff agreed to increase environmental research funding by \$5 million in the outyears (1999-2003) to a total funding level of \$30 million. In addition, OMB and WH staff proposed that CMAQ/FTA matching share for the incremental cost for acquisition of clean fuel buses in areas with air quality problems be changed from 90% to 100%. (DOT has not yet agreed to this proposal, but did agree to investigate feasibility.) DOT also noted that 10% (\$291 million) of its total CMAQ funds from 1992-1995 was spent for alternative fuel buses and, therefore, felt they were meeting EPA's goal. DOT also

reiterated a previous agreement with EPA to make environmental research a priority in the National Science and Technology Council (NSTC) process, which would provide access to significant research and development funds across the government.

DOT believes that the current bill sufficiently addresses environmental issues. NEXTEA, for example, includes a 26% increase in funding for the CMAQ program and a 29% increase for the Environmental Enhancements (e.g., bike-ped paths, trails, water pollution mitigation) program. The bill also includes parking-cash out, congestion pricing, and Interstate tolling proposals which could have a significant impact on reducing vehicle-miles-travelled.

EPA did not seem satisfied with a \$30 million research program and was unhappy that total CMAQ/FTA funds would not increase to provide additional funds for clean fuel buses.

Jim Jukes called the meeting to a close, indicating to EPA that they should appeal directly to you if the proposal was not adequate. The deadline for such an appeal is COB today.

Message Copied To:

Kenneth L. Schwartz/OMB/EOP
David E. Tornquist/OMB/EOP
David J. Worzala/OMB/EOP
Jonathan C. Ball/OMB/EOP
James J. Jukes/OMB/EOP
James A. Brown/OMB/EOP
Dorothy Robyn/OPD/EOP
Ananias Blocker III/WHO/EOP

Message Copied To:

Michael Deich/OMB/EOP
Kenneth L. Schwartz/OMB/EOP
David E. Tornquist/OMB/EOP
David J. Worzala/OMB/EOP
Jonathan C. Ball/OMB/EOP
James A. Brown/OMB/EOP
Dorothy Robyn/OPD/EOP
Ananias Blocker III/WHO/EOP
James C. Murr/OMB/EOP
Ronald M. Cogswell/OMB/EOP
Robert J. Tuccillo/OMB/EOP
Robert S. Fairweather/OMB/EOP

NSVC

Description***Environmental Sustainability of Transportation Systems***

Transportation systems have been recognized as having major impacts on environmental sustainability. The transportation sector contributes about one-third of domestic contributions to greenhouse gas emissions and is the fastest growing contributor both domestically and internationally. Transportation sector impacts upon the health of soils and aquatic resources, as well as habitat disruption are often irreversible with unknown long term ecological consequences. The land use decisions made by governments and individuals are long lasting and to a large extent determined by the availability of inexpensive transportation choices.

These issues are not easy to address and command substantial challenges to the research community. Finding solutions that enhance the sustainability of transportation systems requires technical solutions as well as an understanding of the behavioral and social sciences. Research is needed to determine the technology necessary to design transportation systems and development patterns that provide access to economic, social and recreational opportunities such that permanent (i.e., unsustainable) environmental degradation is minimized or avoided.

Examples of potential research areas under this initiative include:

Human factors research associated with development patterns.

Technical solutions for devising development patterns that produce environmentally cleaner and safer environments are a means of reducing vehicle miles of travel both to reduce environmental problems and increase the safety of communities. Research is needed to determine how human factors are affected by development scale, the scale of hierarchical transportation infrastructures, and their interaction.

Impacts of transportation infrastructure on climate change

Building additional transportation infrastructure "induces" or attracts new trips, as acknowledged by the recent Transportation Research Board special report, *Expanding Metropolitan Highways*. Both short-term and long-term effects tend to reduce any initial travel time benefits associated with increases in capacity. Additional research is needed to clearly document both short and long term effects and especially the implications for greenhouse gas emissions. Research is also needed to determine whether transportation infrastructure can be designed in concert with development patterns such that accessibility is maximized.

Information technologies and sustainable development.

Many information technologies can offer solutions that can increase the sustainability of transport systems, especially when combined with development patterns that are more sustainable. For example, telecommuting offers the promise of accessibility without mobility and may be particularly beneficial for promoting development of sustainable communities. Research into the behavioral implications of telecommuting and other information technologies can identify the implications for sustainability, such as whether they result in major changes in travel behavior.

SENIOR OFFICIALS OF TRANS. 2 20 07 4:30 PM 1101pe/Strategic Plan 202 000 00111# 07 14/003

Infrastructure needs associated with revitalizing urban areas and cleaning up brownfield sites.

Brownfields typically are abandoned and mildly contaminated sites that require minimal clean-up efforts. Redevelopment of these and other urban sites can promote sustainability by avoiding development of ex-urban greenfields. These areas often have unmet infrastructure requirements that need to be addressed. Technological solutions, such as information technologies, may be able to identify and facilitate clean-up requirements while providing a transportation solution for abandoned urban areas.

Sustainable Freight Movement

Efforts to reduce traffic congestion and emissions in urban areas has often taken the form of restrictions on freight movement in favor of facilitating (primarily SOV) personal travel. Additional research is needed on the long-term regional economic and environmental impacts of current freight policies and opportunities provided by new information technologies, inter-modal facilities, and market-based measures for improving the energy efficiency of freight movement in urbanized areas.

Overall this Partnership Initiative will address the sustainability of building and operating the inter-related and complex systems of transportation and development that drive economic activities. The focus will be on behavioral sciences and interactions with technology in determining how people react to different systems to achieve sustainability.

Initiative:	Environmental Sustainability of Transportation Systems
Goal:	Investigate the interaction between human factors and technological options, as well as development and infrastructure requirements that can produce environmentally sustainable transportation systems.
Participants:	DOT, EPA, DOE, HUD, IHS, the private sector, academia, non-governmental organizations, state and local environmental agencies.
Benefits:	Improved ability to understand the linkages between transportation and the environment, and how more sustainable transportation systems benefit society.

Paul Diamond

Potholes are huge pol. issue

2 Camps:

- no more taxes
- or
- do it faster, better, ...

Best of answer must be a leap forward
in Technology

Talked to Dick 2 yrs. ago

Isn't there some way

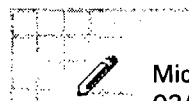
AID's prize - guaranteed purchase
order for 1st who comes across the
line

ISTEA bill.

EPA had requested \$500 million over 6 years. A counteroffer developed at Deich's request with NEC, CEQ, OSTP, and DPC, is described in the last attachment below.

Invitations will be issued to David Gardiner of EPA, Jano Lieber and Jane Garvey of DOT, Dorothy Robyn, Henry Kelly of OSTP, Linda Lance of CEQ, Andy Blocker of WHLA, Diane Regas of DPC, and the addressees of this e-mail. Darlene Gaymon of my office will be in touch in the morning concerning scheduling.

----- Forwarded by James J. Jukes/OMB/EOP on 03/05/97 09:12 PM -----



Michael Deich
03/05/97 06:48:03 PM

Record Type: Record

To: James J. Jukes/OMB/EOP
cc: See the distribution list at the bottom of this message
Subject: david gardner, epa, istea

had an interesting conversation with rob wolcott (sp?) who spoke for the absent david gardiner. gardiner called not to appeal but to complain about a lack of due process. i told him that we wanted above all to have due process, that we would call a meeting on global warming/ istea, for first this tomorrow, and that the issue had to be resolved tomorrow. he seemed amenable to all of that.

gardner sees the glass 3/4 empty. i look at how far he's moved a transportation bill and think about how shocked the transport committees will be, and realize that epa already has won a great victory. in the meeting, i think we ought to emphasize the magnitude of what the environs have done so far.

Message Copied To:

David E. Tornquist/OMB/EOP
Kenneth L. Schwartz/OMB/EOP
Dorothy Robyn/OPD/EOP
Daniel M. Tangherlini/OMB/EOP
Patricia E. Romani/OMB/EOP

Diane R. Montgomery 03/04/97 05:46:00
PM

Record Type: Non-Record

To: James J. Jukes/OMB/EOP
cc: David E. Tornquist/OMB/EOP, David J. Worzala/OMB/EOP, James A. Brown/OMB/EOP
Subject: Sustainable Transportation Initiative

Per your request, I confirmed with Dorothy that CEQ, DPC, and NEC have signed off on the following proposal. Dorothy thought it was best for OMB to articulate the decision to EPA/DOT. Dorothy also suggested that we allow DOT/EPA the maximum flexibility in designing the content of

the research and development program.

----- Forwarded by Diane R. Montgomery/OMB/EOP on 03/04/97 05:45 PM -----

Diane R. Montgomery

02/28/97 07:21:18

PM

Record Type: Record

To: Dorothy Robyn/OPD/EOP

cc: Henry C. Kelly/OSTP/EOP

Subject: Sustainable Transportation Initiative

To resolve the Global Climate Change issue, I propose that DOT increase research spending to fund a Sustainable Transportation Initiative. This initiative would incorporate both global climate change research and Brownfields research at a total of \$25 million over the life of NEXTEA. The purpose of the initiative would be to collect the data regarding land use design, urban sprawl, modeling, sustainable development, Brownfields revitalization, LUTRAC pilots, etc., to better understand the relationship between these issues and transportation.

The program would be funded through FHWA's administrative funds, through which FHWA funds a large portion of their research program, via an existing environmental research and development program. We would instruct DOT to increase their research funds in this administrative account by reducing other administrative costs.

There would not be any specific authorization language referring to this new initiative in NEXTEA; there would simply be an agreement between EPA, OMB, and DOT that DOT will fund approximately \$4.2 million annually in research for these projects over the life of NEXTEA. Because this administrative account is authorized in permanent law, we do not need additional language. I believe we are in agreement that we do not want to call any more attention to this project than necessary. Each budget submission to the appropriations committee, however, would include a brief write-up of this initiative in the environmental research section of FHWA's budget.

Message Sent To:

Kenneth L. Schwartz/OMB/EOP
David E. Tornquist/OMB/EOP
Diane R. Montgomery/OMB/EOP
Ronald M. Cogswell/OMB/EOP
Robert S. Fairweather/OMB/EOP
Pamela S. Barr/OMB/EOP
Robert J. Tuccillo/OMB/EOP
Kevin F. Neyland/OMB/EOP

N	Fundamental Science
S	
T	Emerging Infectious Diseases
C	
	U.S. Global Change Research Program
C	
R	Environment and Natural Resources
O	
S	High Performance Computing & Comm
S	
C	Information Infrastructure for Transportation
U	
T	Construction and Building
S	
	Partnership: New Gen. of Vehicles
	Tech. Learning Challenge

RESEARCH AND TECHNOLOGY
DEPARTMENT OF TRANSPORTATION
FY 1998 PRESIDENT'S BUDGET SUBMISSION
BUDGET AUTHORITY
(In thousands of dollars)

Mode/ Program Area/ Program	FY 1996 Actual	FY 1997 Enacted	FY 1998 Request
DEPARTMENT OF TRANSPORTATION			
FHWA			
1. Highway Research & Development	54,989	67,124	73,903
a. Safety	8,335	8,650	9,000
b. Materials	0	0	0
c. Pavements	8,791	19,731	12,775
d.1 Structures	9,558	14,362	16,881
d.2 Structures (F)	3,000	0	0
e. Environment	5,317	5,443	5,566
f. Right - Of - Way	408	322	365
g. Policy	5,401	5,328	8,000
h. Planning	6,769	5,889	12,775
i. Motor Carrier	7,390	7,399	8,541
j. NSTC Priority Projects	0	0	0
2. Intelligent Transportation Systems (ITS)	203,829	233,358	250,000
a. Research and Development	36,166	28,605	45,500
b. Automated Highway Systems	14,000	22,000	26,000
c. Architecture and Standards (T)	0	5,000	13,000
d. Operational Test (T)	31,052	54,992	24,500
e. Evaluation (T)	0	2,000	9,000
f. Mainstreaming (T)	0	0	22,000
g. Modal Deployment (Trailblazers) (T)	0	0	100,000
h. Commercial Vehicle Operations (T)	13,750	0	0
i. ITS Program & System Support (T)	10,034	7,761	10,000
j. Advanced Technology Applications	0	0	0
k. ISTEA Section 6058 Funds	9,620	4,300	0
l. ISTEA Section 6058 Funds (T)	89,207	108,700	0
3. Long - Term Pavement Performance (LGPE)	8,308	0	0
4. Technical Assessment and Deployment (T)	12,499	13,811	14,800
5. National Advanced Driver Simulator	0	0	12,250
6. Local Tech. Assistance Program (LGPE & ISTEA) (T)	8,866	8,827	12,000
a. LGPE Contract Program (T)	2,866	2,827	0
b. ISTEA, Section 6004 (T)	6,000	6,000	0
c. Contract Authority (Reauthorization)(T)	0	0	12,000
7. Rehabilitation of Turner Fairbank (Facilities R&D)	0	500	2,000
8. Truck Dynamic Test Facility (F)	713	0	0
9. National Highway Institute (T)	4,827	4,269	8,000
10. University Transportation Centers	5,247	6,000	6,000
a. University Transportation Centers	2,781	3,180	3,180
b. University Transportation Centers (T)	2,466	2,820	2,820
11. University Research Institutes	5,466	6,250	6,000
12. State Planning & Research	62,983	80,367	80,367
13. Strategic Highway Research Program Implementation	20,000	20,000	0
a. Strategic Highway Research Program Implementation	6,000	6,000	0
b. Strategic Highway Research Prog. Implementation (T)	14,000	14,000	0
14. Technology Partnership Fellowship Program (T)	0	0	11,000
15. Long-Term and Advanced Research	0	0	25,000
a. LTPP	0	0	15,000
b. Advanced Research - <i>Intermodal</i>	0	0	10,000
16. Eisenhower Transportation Fellowship Program	2,000	2,000	2,000
17. Applied Research & Technology	41,000	41,000	0
a. Applied Research & Technology	39,000	40,600	0
b. Applied Research & Technology (F)	2,000	400	0

1 -- The majority of this program is funded under this theme.

x -- A portion of this program is funded under this theme but the funding is being displayed under "1".

F - Classified as Facilities

T - Classified as technology.

**RESEARCH AND TECHNOLOGY
DEPARTMENT OF TRANSPORTATION
FY 1998 PRESIDENT'S BUDGET SUBMISSION
BUDGET AUTHORITY
(In thousands of dollars)**

		FY 1996 Actual	FY 1997 Enacted	FY 1998 Request
Mode/ Program Area/ Program				
FHWA - Continued				
18.	National Technology Deployment Initiatives	0	0	56,000
a.	National Technology Deployment Initiatives	0	0	55,750
b.	National Technology Deployment Initiatives (F)	0	0	250
19.	Seismic Research & Development Program	2,000	2,000	0
20.	Fundamental Properties of Asphalts	3,000	0	0
21.	Timber Bridge Research	1,000	1,000	0
22.	GPS Support	0	0	2,100
23.	R & T Technical Support	0	0	10,000
25.	Administration	9,476	10,026	10,327
	Subtotal, FHWA	446,183	496,532	581,747
	Subtotal, Research & Development	263,769	273,462	352,377
	Subtotal, Facilities	5,713	900	2,250
	Subtotal, Technology	186,701	222,180	227,120
NHTSA				
1.	Crashworthiness	11,800	16,422	21,422
a.	Safety Systems	5,910	6,488	8,338
b.	Biomechanics	5,890	7,437	10,587
c.	Partnership for a New Generation of Vehicles	0	2,497	2,497
2.	Crash Avoidance	2,517	1,595	1,695
a.	Driver / Vehicle Performance	0	1,000	1,000
b.	IVHS, hum. factors, driver performance	0	0	0
c.	Transfer from FHWA (non-add)	0	0	0
d.	National Advanced Driver Simulator	2,000	0	0
e.	Heavy Vehicles	517	595	595
3.	Data programs (T)	17,065	20,207	21,207
a.	Fatal accident reporting system (FARS) (T)	4,585	5,242	5,242
b.	National Accident Sampling System (NASS)(T)	9,200	9,658	9,658
c.	Data Analysis Program (T)	1,415	1,635	1,935
d.	State Data Program (T)	1,550	3,041	3,041
e.	Occupant Protection Survey (T)	0	300	300
f.	Special Crash Investigations (T)	315	331	1,031
4.	Technology Transfer Programs (T)	40	40	40
5.	Vehicle Research and Test Center (VRTC)	777	799	799
6.	Highway Safety Research	5,069	5,123	5,123
7.	Administrative Expenses	13,000	12,600	13,082
	Subtotal, NHTSA	50,268	56,786	63,268
	Subtotal, Research & Development	33,163	36,539	42,021
	Subtotal, Technology	17,105	20,247	21,247
FRA				
1.	Equipment, Operations & Hazmat	5,535	5,545	5,509
2.	Track, Structures, and Train Control	7,078	7,346	7,746
3.	Safety of High Speed Ground Transportation	9,373	4,600	5,250
a.	Safety of High Speed Ground Transportation	7,645	4,600	5,250
b.	Safety of High Speed Ground Transportation (T)	1,728	0	0
4.	R&D Facilities (Facilities R&D)	400	420	850
5.	R&D Administration	1,695	2,181	2,283
6.	High Speed Rail / Next Generation	24,127	25,176	19,595
a.	High Speed Rail / Next Generation	4,750	0	0
b.	High Speed Rail / Next Generation (F)	3,000	3,000	0
c.	High Speed Rail / Next Generation (T)	16,377	23,176	19,595
	Subtotal, FRA	48,208	46,268	41,233
	Subtotal, Research & Development	26,703	19,672	20,788
	Subtotal, Facilities	3,400	3,420	850
	Subtotal, Technology	18,105	23,176	19,595

- 1 -- The majority of this program is funded under this theme.
- x -- A portion of this program is funded under this theme but the funding is being displayed under "1".
- F - Classified as Facilities
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Field	Relative Funding Level (approximate)
Fundamental Science	100
Emerging Infectious Diseases	85
U.S. Global Change Research Program	75
Environment and Natural Resources	65
High Performance Computing & Comm.	55
Information Infrastructure for Transportation	45
Construction and Building	35
Partnership for New Gen. of Vehicles	25
Tech. Learning Challenge	15

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Field	Relative Funding Level (approximate)
Fundamental Science	100%
Emerging/Infectious Diseases	95%
U.S. Global Change Research Program	90%
Environment and Natural Resources	85%
High Performance Computing & Comm.	80%
Information Infrastructure for Transportation	75%
Construction and Building	70%
Partnership: New Gen. of Vehicles	65%
Tech. Learning Challenge	60%

1 -- The majority of this program is funded under this theme.
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System Assessment
Behavioral Science
Phys. Infrastructure
Info. Infrastructure
Vehicles
Aviation

RESEARCH AND TECHNOLOGY
DEPARTMENT OF TRANSPORTATION
FY 1998 PRESIDENT'S BUDGET SUBMISSION
BUDGET AUTHORITY
(In thousands of dollars)

Model/ Program Area/ Program	FY 1996 Actual	FY 1997 Enacted	FY 1998 Request
MARAD			
1. Industry Competitiveness	0	0	0
2. Intermodal Development	0	0	0
3. Maritime Safety	0	0	0
4. Environmental Protection	0	0	0
5. Shipyard Revitalization	0	0	0
6. National Security	0	0	0
7. Administration	0	0	0
Subtotal, MARAD	0	0	0
RSPA			
1. Hazardous Materials Research	1,542	1,161	1,167
2. Pipeline Safety Research	2,142	1,644	1,487
3. Research Management and Applications	[3,257]	6,580	5,296
a. Technology Application (Deployment)	600		
b. Technology Development	2,657		
c. Technology Dissemination (Promotion)	0		
4. Emergency Transportation	67	68	69
Subtotal, RSPA	7,008	9,463	8,019
USCG			
1. Improved Search & Rescue Capability	932	1,872	1,875
2. Waterways Safety and Management	2,189	1,385	1,225
3. Marine Safety	2,700	3,825	2,955
4. Ship Structure Committee	0	223	437
5. Marine Environmental Protection	1,354	1,791	1,525
6. Marine Law Enforcement	1,229	791	1,250
7. Safety & Environmental Compliance	2,318	2,452	3,125
8. Human Resources Management	100	147	0
9. Comm., Contr., Commun., Comp., & Intel. Integ.	928	928	1,050
10. Technology Advancement	500	1,000	1,463
11. Oil Spill Recovery, Prince William Sound - Recov. Institute	0	2,410	1,200
12. R&D Personnel, Program Support & Operations (F)	525	525	525
13. R&D Personnel, Program Support & Operations	5,225	4,261	3,570
Total, USCG	18,000	21,610	20,200
Total, Research & Development	17,476	21,086	19,675
Total, Facilities	525	525	525
OST			
1. Transportation Policy and Planning	2,808	2,718	4,268
2. Commercial Space Transportation	0	0	0
Total, OST	2,808	2,718	4,268
TOTAL, DOT	861,697	932,856	1,013,012
Total, Research & Development	570,977	616,157	691,571
Total, Facilities	30,238	22,046	17,916
Total, Technology	260,482	294,653	303,526

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N	Fundamental Science
S	Emerging Infectious Diseases
T	U.S. Global Change Research Program
C	Environment and Natural Resources
R	High Performance Computing & Comm.
O	Information Infrastructure for Transportation
S	Construction and Building
S	Partnership New Gen. of Vehicles
U	Tech. Learning Challenge

RESEARCH AND TECHNOLOGY
DEPARTMENT OF TRANSPORTATION
BUDGET AUTHORITY
(In thousands of dollars)

<u>TRANSPORTATION SUBCOMMITTEE</u>	<u>FY 1996 Actual</u>	<u>FY 1997 Enacted</u>	<u>FY 1998 Request</u>
System Assessment	<u>98,930</u>	<u>101,453</u>	<u>126,132</u>
Federal Highway Administration	22,883	23,467	45,025
National Highway Traffic Safety Administration	32,105	32,847	34,329
Federal Railroad Administration	0	0	0
Federal Transit Administration	28,770	26,750	27,614
Maritime Administration	0	0	0
Research and Special Programs Administration	3,257	6,580	5,296
Federal Aviation Administration	1,085	800	600
United States Coast Guard	8,022	8,291	9,000
Office of the Secretary	2,808	2,718	4,268
 Behavioral Science	 <u>8,598</u>	 <u>8,293</u>	 <u>8,993</u>
Federal Highway Administration	0	0	0
National Highway Traffic Safety Administration	5,069	5,123	5,123
Federal Railroad Administration	0	0	0
Federal Transit Administration	3,429	3,023	3,870
Maritime Administration	0	0	0
Research and Special Programs Administration	0	0	0
Federal Aviation Administration	0	0	0
United States Coast Guard	100	147	0
Office of the Secretary	0	0	0
 Phys. Infrastructure	 <u>234,109</u>	 <u>247,328</u>	 <u>290,264</u>
Federal Highway Administration	212,081	232,308	278,181
National Highway Traffic Safety Administration	0	0	0
Federal Railroad Administration	16,956	10,766	8,596
Federal Transit Administration	2,930	200	800
Maritime Administration	0	0	0
Research and Special Programs Administration	2,142	1,644	1,487
Federal Aviation Administration	0	0	0
United States Coast Guard	0	2,410	1,200
Office of the Secretary	0	0	0
 Info. Infrastructure	 <u>206,866</u>	 <u>237,515</u>	 <u>254,749</u>
Federal Highway Administration	203,829	233,358	250,000
National Highway Traffic Safety Administration	0	1,000	1,000
Federal Railroad Administration	0	0	0
Federal Transit Administration	0	0	0
Maritime Administration	0	0	0
Research and Special Programs Administration	1,609	1,229	1,236
Federal Aviation Administration	0	0	0
United States Coast Guard	1,428	1,928	2,513
Office of the Secretary	0	0	0

RESEARCH AND TECHNOLOGY
DEPARTMENT OF TRANSPORTATION
BUDGET AUTHORITY
(In thousands of dollars)

<u>TRANSPORTATION SUBCOMMITTEE - CONT.</u>	<u>FY 1996</u> <u>Actual</u>	<u>FY 1997</u> <u>Enacted</u>	<u>FY 1998</u> <u>Request</u>
Vehicles	<u>70,981</u>	<u>85,551</u>	<u>90,481</u>
Federal Highway Administration	7,390	7,399	8,541
National Highway Traffic Safety Administration	13,094	17,816	22,816
Federal Railroad Administration	31,252	35,502	32,637
Federal Transit Administration	10,795	16,000	19,000
Maritime Administration	0	0	0
Research and Special Programs Administration	0	0	0
Federal Aviation Administration	0	0	0
United States Coast Guard	8,450	8,834	7,487
Office of the Secretary	0	0	0
Aviation	<u>232,213</u>	<u>252,715</u>	<u>242,393</u>
Federal Highway Administration	0	0	0
National Highway Traffic Safety Administration	0	0	0
Federal Railroad Administration	0	0	0
Federal Transit Administration	0	0	0
Maritime Administration	0	0	0
Research and Special Programs Administration	0	0	0
Federal Aviation Administration	232,213	252,715	242,393
United States Coast Guard	0	0	0
Office of the Secretary	0	0	0
TOTAL RESEARCH AND TECHNOLOGY	<u>851,697</u>	<u>932,855</u>	<u>1,013,012</u>
Federal Highway Administration	446,183	496,532	581,747
National Highway Traffic Safety Administration	50,268	56,786	63,268
Federal Railroad Administration	48,208	46,268	41,233
Federal Transit Administration	45,924	45,973	51,284
Maritime Administration	0	0	0
Research and Special Programs Administration	7,008	9,453	8,019
Federal Aviation Administration	233,298	253,515	242,993
United States Coast Guard	18,000	21,610	20,200
Office of the Secretary	2,808	2,718	4,268

RESEARCH AND TECHNOLOGY
DEPARTMENT OF TRANSPORTATION
BUDGET AUTHORITY
(In thousands of dollars)

<u>NSTC CROSSCUT</u>	<u>FY 1996 Actual</u>	<u>FY 1997 Enacted</u>	<u>FY 1998 Request</u>
Technology Learning Challenge	<u>0</u>	<u>0</u>	<u>0</u>
Federal Highway Administration	0	0	0
Federal Highway Administration (F)	0	0	0
Federal Highway Administration (T)	0	0	0
National Highway Traffic Safety Administration	0	0	0
National Highway Traffic Safety Administration (T)	0	0	0
Federal Railroad Administration	0	0	0
Federal Railroad Administration (F)	0	0	0
Federal Railroad Administration (T)	0	0	0
Federal Transit Administration	0	0	0
Federal Transit Administration (T)	0	0	0
Maritime Administration	0	0	0
Research and Special Programs Administration	0	0	0
Federal Aviation Administration	0	0	0
Federal Aviation Administration (F)	0	0	0
United States Coast Guard	0	0	0
United States Coast Guard (F)	0	0	0
Office of the Secretary	0	0	0
 Partner for a New Generation of Vehicles	 <u>24,795</u>	 <u>40,497</u>	 <u>47,497</u>
Federal Highway Administration	14,000	22,000	26,000
Federal Highway Administration (F)	0	0	0
Federal Highway Administration (T)	0	0	0
National Highway Traffic Safety Administration	0	2,497	2,497
National Highway Traffic Safety Administration (T)	0	0	0
Federal Railroad Administration	0	0	0
Federal Railroad Administration (F)	0	0	0
Federal Railroad Administration (T)	0	0	0
Federal Transit Administration	5,425	9,500	8,000
Federal Transit Administration (T)	5,370	6,500	11,000
Maritime Administration	0	0	0
Research and Special Programs Administration	0	0	0
Federal Aviation Administration	0	0	0
Federal Aviation Administration (F)	0	0	0
United States Coast Guard	0	0	0
United States Coast Guard (F)	0	0	0
Office of the Secretary	0	0	0
 Construction and Building	 <u>207,593</u>	 <u>228,767</u>	 <u>205,823</u>
Federal Highway Administration	168,088	192,967	167,203
Federal Highway Administration (F)	5,713	900	2,000
Federal Highway Administration (T)	33,792	34,900	36,620
National Highway Traffic Safety Administration	0	0	0
National Highway Traffic Safety Administration (T)	0	0	0
Federal Railroad Administration	0	0	0
Federal Railroad Administration (F)	0	0	0
Federal Railroad Administration (T)	0	0	0
Federal Transit Administration	0	0	0
Federal Transit Administration (T)	0	0	0
Maritime Administration	0	0	0
Research and Special Programs Administration	0	0	0
Federal Aviation Administration	0	0	0
Federal Aviation Administration (F)	0	0	0
United States Coast Guard	0	0	0
United States Coast Guard (F)	0	0	0
Office of the Secretary	0	0	0

RESEARCH AND TECHNOLOGY
DEPARTMENT OF TRANSPORTATION
BUDGET AUTHORITY
(In thousands of dollars)

<u>NSTC CROSSCUT - CONTINUED</u>	<u>FY 1996 Actual</u>	<u>FY 1997 Enacted</u>	<u>FY 1998 Request</u>
Information Infrastructure for Transportation	<u>216,201</u>	<u>232,952</u>	<u>270,787</u>
Federal Highway Administration	45,786	32,905	69,850
Federal Highway Administration (F)	0	0	0
Federal Highway Administration (T)	144,043	178,453	178,500
National Highway Traffic Safety Administration	0	0	0
National Highway Traffic Safety Administration (T)	0	0	0
Federal Railroad Administration	0	0	0
Federal Railroad Administration (F)	0	0	0
Federal Railroad Administration (T)	0	0	0
Federal Transit Administration	9,754	5,200	5,450
Federal Transit Administration (T)	14,476	14,750	15,500
Maritime Administration	0	0	0
Research and Special Programs Administration	2,142	1,644	1,487
Federal Aviation Administration	0	0	0
Federal Aviation Administration (F)	0	0	0
United States Coast Guard	0	0	0
United States Coast Guard (F)	0	0	0
Office of the Secretary	0	0	0
High Performance Computing & Communications	<u>2,000</u>	<u>0</u>	<u>0</u>
Federal Highway Administration	0	0	0
Federal Highway Administration (F)	0	0	0
Federal Highway Administration (T)	0	0	0
National Highway Traffic Safety Administration	2,000	0	0
National Highway Traffic Safety Administration (T)	0	0	0
Federal Railroad Administration	0	0	0
Federal Railroad Administration (F)	0	0	0
Federal Railroad Administration (T)	0	0	0
Federal Transit Administration	0	0	0
Federal Transit Administration (T)	0	0	0
Maritime Administration	0	0	0
Research and Special Programs Administration	0	0	0
Federal Aviation Administration	0	0	0
Federal Aviation Administration (F)	0	0	0
United States Coast Guard	0	0	0
United States Coast Guard (F)	0	0	0
Office of the Secretary	0	0	0
Environment and Natural Resources	<u>34,735</u>	<u>33,842</u>	<u>46,665</u>
Federal Highway Administration	25,285	24,381	35,247
Federal Highway Administration (F)	0	0	0
Federal Highway Administration (T)	0	0	0
National Highway Traffic Safety Administration	0	0	0
National Highway Traffic Safety Administration (T)	0	0	0
Federal Railroad Administration	0	0	0
Federal Railroad Administration (F)	0	0	0
Federal Railroad Administration (T)	0	0	0
Federal Transit Administration	0	0	0
Federal Transit Administration (T)	2,970	2,500	2,500
Maritime Administration	0	0	0
Research and Special Programs Administration	0	0	0
Federal Aviation Administration	0	0	0
Federal Aviation Administration (F)	0	0	0
United States Coast Guard	3,672	4,243	4,650
United States Coast Guard (F)	0	0	0
Office of the Secretary	2,808	2,718	4,268

RESEARCH AND TECHNOLOGY
DEPARTMENT OF TRANSPORTATION
BUDGET AUTHORITY
(In thousands of dollars)

<u>NSTC CROSSCUT - CONTINUED</u>	<u>FY 1996</u> <u>Actual</u>	<u>FY 1997</u> <u>Enacted</u>	<u>FY 1998</u> <u>Request</u>
U.S. Global Change Research Program	<u>5,890</u>	<u>7,437</u>	<u>10,587</u>
Federal Highway Administration	0	0	0
Federal Highway Administration (F)	0	0	0
Federal Highway Administration (T)	0	0	0
National Highway Traffic Safety Administration	5,890	7,437	10,587
National Highway Traffic Safety Administration (T)	0	0	0
Federal Railroad Administration	0	0	0
Federal Railroad Administration (F)	0	0	0
Federal Railroad Administration (T)	0	0	0
Federal Transit Administration	0	0	0
Federal Transit Administration (T)	0	0	0
Maritime Administration	0	0	0
Research and Special Programs Administration	0	0	0
Federal Aviation Administration	0	0	0
Federal Aviation Administration (F)	0	0	0
United States Coast Guard	0	0	0
United States Coast Guard (F)	0	0	0
Office of the Secretary	0	0	0
Emerging Infectious Diseases	<u>0</u>	<u>0</u>	<u>0</u>
Federal Highway Administration	0	0	0
Federal Highway Administration (F)	0	0	0
Federal Highway Administration (T)	0	0	0
National Highway Traffic Safety Administration	0	0	0
National Highway Traffic Safety Administration (T)	0	0	0
Federal Railroad Administration	0	0	0
Federal Railroad Administration (F)	0	0	0
Federal Railroad Administration (T)	0	0	0
Federal Transit Administration	0	0	0
Federal Transit Administration (T)	0	0	0
Maritime Administration	0	0	0
Research and Special Programs Administration	0	0	0
Federal Aviation Administration	0	0	0
Federal Aviation Administration (F)	0	0	0
United States Coast Guard	0	0	0
United States Coast Guard (F)	0	0	0
Office of the Secretary	0	0	0
Fundamental Science	<u>0</u>	<u>0</u>	<u>0</u>
Federal Highway Administration	0	0	0
Federal Highway Administration (F)	0	0	0
Federal Highway Administration (T)	0	0	0
National Highway Traffic Safety Administration	0	0	0
National Highway Traffic Safety Administration (T)	0	0	0
Federal Railroad Administration	0	0	0
Federal Railroad Administration (F)	0	0	0
Federal Railroad Administration (T)	0	0	0
Federal Transit Administration	0	0	0
Federal Transit Administration (T)	0	0	0
Maritime Administration	0	0	0
Research and Special Programs Administration	0	0	0
Federal Aviation Administration	0	0	0
Federal Aviation Administration (F)	0	0	0
United States Coast Guard	0	0	0
United States Coast Guard (F)	0	0	0
Office of the Secretary	0	0	0

RESEARCH AND TECHNOLOGY
DEPARTMENT OF TRANSPORTATION
BUDGET AUTHORITY
(In thousands of dollars)

<u>NSTC CROSSCUT - CONTINUED</u>	<u>FY 1996 Actual</u>	<u>FY 1997 Enacted</u>	<u>FY 1998 Request</u>
TOTAL DOT NSTC CROSSCUT	<u>491,214</u>	<u>543,495</u>	<u>581,359</u>
TOTAL RESEARCH AND DEVELOPMENT	<u>284,850</u>	<u>305,492</u>	<u>335,239</u>
Federal Highway Administration	253,159	272,253	298,300
National Highway Traffic Safety Administration	7,890	9,934	13,084
Federal Railroad Administration	0	0	0
Federal Transit Administration	15,179	14,700	13,450
Maritime Administration	0	0	0
Research and Special Programs Administration	2,142	1,644	1,487
Federal Aviation Administration	0	0	0
United States Coast Guard	3,672	4,243	4,650
Office of the Secretary	2,808	2,718	4,268
TOTAL FACILITIES	<u>5,713</u>	<u>900</u>	<u>2,000</u>
Federal Highway Administration	5,713	900	2,000
Federal Railroad Administration	0	0	0
Federal Aviation Administration	0	0	0
United States Coast Guard	0	0	0
TOTAL TECHNOLOGY	<u>200,651</u>	<u>237,103</u>	<u>244,120</u>
Federal Highway Administration	177,835	213,353	215,120
National Highway Traffic Safety Administration	0	0	0
Federal Railroad Administration	0	0	0
Federal Transit Administration	22,816	23,750	29,000

DEPARTMENT OF TRANSPORTATION
RESEARCH AND DEVELOPMENT
FY 1998 PRESIDENT'S BUDGET SUBMISSION
CORRECTED DATA SET IN MAX

MODE	ACCOUNT	TYPE	BUDGET AUTHORITY			OUTLAYS		
			FY 1996	FY 1997	FY 1998	FY 1996	FY 1997	FY 1998
USCG	OIL SPILL RECOVERY	APPLIED	0	1	0	0	1	0
		DEVELOPMENT	0	2	1	0	2	1
	TF SHARE	APPLIED	1	1	1	1	1	1
		DEVELOPMENT	2	4	3	2	4	3
	RDT&E	FACILITIES	1	1	1	1	1	1
		APPLIED	4	3	4	5	5	4
		DEVELOPMENT	11	10	11	15	14	12
	TOTAL USCG	APPLIED	5	5	5	6	7	5
		DEVELOPMENT	13	16	15	17	20	16
		FACILITIES	1	1	1	1	1	1
NHTSA	O&R TRUST O & R	APPLIED	5	5	42	5	5	30
		APPLIED	28	32	0	10	40	12
	TOTAL NHTSA	APPLIED	33	37	42	15	45	42
FTA	TPR	APPLIED	4	2	0	4	5	4
		DEVELOPMENT	9	10	0	9	12	10
	UNIVERSITY PROGRAMS	APPLIED	2	2	0	3	3	3
		ADMINISTRATIVE EXPENSES	1	1	0	1	1	0
	TPR TRUST	DEVELOPMENT	1	1	0	1	1	0
		APPLIED	0	0	13	0	0	3
	MAJOR CAP INVEST	DEVELOPMENT	0	0	0	4	2	0
		ADMIN EXPEN TRUST	0	0	2	0	0	2
	TOTAL FTA	APPLIED	7	5	15	8	9	12
		DEVELOPMENT	10	11	0	14	15	10
FRA	R & D	APPLIED	21	19	20	17	32	22
		DEVELOPMENT	1	1	1	0	1	1
	NEXT GEN HSRP	FACILITIES	0	0	1	0	0	1
		DEVELOPMENT	5	0	0	2	2	1
		FACILITIES	3	3	0	1	2	2
	TOTAL FRA	APPLIED	21	19	20	17	32	22
	DEVELOPMENT	6	1	1	2	3	2	
	FACILITIES	3	3	1	1	2	3	
RSPA	PIPELINE SAFETY	APPLIED	1	1	1	1	2	1
		DEVELOPMENT	2	1	1	1	1	1
	RSPA	APPLIED	4	7	5	3	7	6
		DEVELOPMENT	1	1	1	1	1	1
TOTAL RSPA	APPLIED	5	8	6	4	9	7	
	DEVELOPMENT	3	2	2	2	2	2	
FAA	MISC EXPIRED ACCOUNTS RE&D	DEVELOPMENT	0	0	0	0	2	0
		APPLIED	134	163	151	165	172	172
	F&E	DEVELOPMENT	51	45	49	68	59	53
		FACILITIES	20	17	14	6	18	15
	OPERATIONS	DEVELOPMENT	27	28	29	27	28	29
TOTAL FAA	APPLIED	134	163	151	165	172	172	
	DEVELOPMENT	78	73	78	95	89	82	
	FACILITIES	20	17	14	6	18	15	
FHWA	FED AID (04)	FACILITIES	0	0	0	0	0	0
		BASIC	39	30	52	30	15	52
		APPLIED	144	161	200	133	71	243
		DEVELOPMENT	71	82	100	67	37	125
	MOTOR CAR. SAFETY R&D	FACILITIES	5	1	2	6	1	2
		APPLIED	0	0	0	0	0	0
		UNIVERSITY TRANSP. CTRS	0	0	0	0	0	0
		APPLIED	0	0	0	0	0	0
	HWY SAFETY R&D FUNDS	DEVELOPMENT	0	0	0	0	0	1
		DEVELOPMENT	0	0	0	0	0	1
	SIBS	BASIC	0	0	0	0	0	0
	TOTAL FHWA	BASIC	39	30	52	30	15	52
		APPLIED	144	161	200	133	71	244
	DEVELOPMENT	71	82	100	67	37	126	
	FACILITIES	5	1	2	6	1	2	
MARAD	OPERATIONS AND RESEARCH	APPLIED	0	0	0	0	0	0
OST	TPR & D	DEVELOPMENT	3	3	4	3	3	2
DOT TOTALS		BASIC	39	30	52	30	15	52
		APPLIED	349	398	439	348	345	504
		DEVELOPMENT	184	188	200	200	169	240
TOTAL CONDUCT OF R&D			572	616	691	578	529	796
		FACILITIES	29	22	18	14	22	21

**DEPARTMENT OF TRANSPORTATION
CONDUCT OF RESEARCH AND DEVELOPMENT
(\$ in Thousands)**

ADMINISTRATION / APPROPRIATION	BUDGET AUTHORITY			OUTLAYS		
	FY 1996	FY 1997	FY 1998	FY 1996	FY 1997	FY 1998
FEDERAL HIGHWAY ADMINISTRATION	253,769	273,452	352,377	230,356	122,913	423,107
Federal - Aid Highways:	253,769	273,452	352,377	229,971	122,147	420,711
Highway Planning and Research (CA)	62,983	80,367	80,367	55,208	37,075	131,097
Applied Research, and Development (LGOE)	51,969	67,124	73,903	47,555	22,849	84,011
National Advanced Driver Simulator (LGOE)	0	0	12,250	0	0	2,056
Strategic Highway Research Program	0	0	0	280	271	848
Applied Research & Technology (CA)	39,000	40,600	0	40,222	16,166	50,832
Long - Term Pavement Performance (LGOE)	8,308	0	0	2,814	1,951	6,108
Intelligent Transportation System - (LGOE)	50,166	50,605	33,000	44,294	20,902	70,986
Intelligent Transportation System - (CA)	9,620	4,300	38,500	7,705	2,332	13,805
University Transportation Centers	0	0	0	0	0	0
University Transportation Centers (CA)	2,781	3,180	3,180	3,803	1,615	5,580
University Research Institutes (CA)	5,466	6,250	6,000	5,507	3,180	10,946
Long-Term and Advanced Research	0	0	25,000	0	0	4,195
National Technology Deployment Initiatives	0	0	55,750	0	0	9,355
Seismic Research	2,000	2,000	0	1,596	1,134	3,545
Fundamental Properties of Asphalts	3,000	0	0	2,877	923	2,968
Timber Bridge Research	1,000	1,000	0	578	740	2,335
GPS Support	0	0	2,100	0	0	352
R & T Technical Support	0	0	10,000	0	0	1,678
Strategic Highway Research Prog. Implementation	6,000	6,000	0	6,589	2,594	8,110
Eisenhower Fellowship Program	2,000	2,000	2,000	1,467	389	1,577
Administration	9,476	10,026	10,327	9,476	10,026	10,327
Highway Safety Research and Development	0	0	0	353	569	1,779
Motor Carrier Safety	0	0	0	0	4	12
University transportation Centers	0	0	0	32	193	605
NATL HIGHWAY TRAFFIC SAFETY ADMINISTRATION	33,163	36,539	42,021	15,000	44,500	42,300
Operations and Research	28,094	31,416	0	10,500	39,800	12,000
Operations and Research (TF)	5,069	5,123	42,021	4,500	4,700	30,300
FEDERAL RAILROAD ADMINISTRATION	26,703	19,672	20,788	18,476	34,520	24,218
Railroad Research & Development	21,953	19,672	20,788	16,576	32,620	23,268
Next Generation High Speed Rail Program	4,750	0	0	1,900	1,900	950
FEDERAL TRANSIT ADMINISTRATION	17,353	16,923	15,720	22,438	23,522	22,082
Administrative Expenses	2,174	2,223	2,270	2,133	2,163	2,259
Research, Training and Human Resources	0	0	0	24	35	24
Transit Planning and Research	12,779	12,300	11,050	13,455	16,558	17,246
Discretionary Grants	0	0	0	3,609	1,760	48
University Transportation Centers	2,400	2,400	2,400	3,217	3,006	2,505
FEDERAL AVIATION ADMINISTRATION	212,698	236,315	228,703	259,444	260,596	253,607
Research, Engineering and Development	185,698	208,412	200,000	232,612	231,000	225,000
Operations	27,000	27,903	28,703	26,832	27,995	28,607
Miscellaneous Expired accounts	0	0	0	0	1,601	0
U.S. COAST GUARD	17,475	21,085	19,675	23,045	26,131	20,331
Research, Development, Test and Evaluation	14,325	13,655	14,975	19,895	18,701	15,631
Oil Spill Recovery	0	2,410	1,200	0	2,410	1,200
Trust Fund Share	3,150	5,020	3,500	3,150	5,020	3,500
MARITIME ADMINISTRATION - Operations & Training	0	0	0	0	0	0
RESEARCH AND SPEC PROGRAMS ADMINISTRATION	7,008	9,453	8,019	6,609	10,962	9,863
Research and Special Programs	4,866	7,809	6,532	4,268	7,811	7,377
Pipeline Safety	2,142	1,644	1,487	2,341	3,151	2,486
OFFICE OF THE SECRETARY	2,808	2,718	4,268	2,775	2,757	2,796
Trans, Planning, Research and Dev.	2,808	2,718	4,268	2,775	2,757	2,796
Operations and Research - OCST	0	0	0	0	0	0
TOTAL CONDUCT OF RESEARCH AND DEVELOPMENT, DOT	570,977	616,157	691,571	578,143	525,901	798,304

RESEARCH AND DEVELOPMENT FACILITIES
(\$ in Thousands)

ADMINISTRATION / APPROPRIATION	BUDGET AUTHORITY			OUTLAYS		
	FY 1996	FY 1997	FY 1998	FY 1996	FY 1997	FY 1998
FEDERAL HIGHWAY ADMINISTRATION						
Federal - Aid Highways:	5,713	900	2,250	6,126	658	2,445
Highway Research and Development	3,000	0	0	2,843	9	36
University Research Institutes (CA)	0	0	0	0	0	0
National Ctr for Advanced Trans. Technology	0	0	0	940	6	20
Truck Dynamic Test Facility (LGOE)	713	0	0	35	111	349
Applied Research and Technology (CA)	2,000	400	0	2,000	67	210
National Technology Deployment Initiatives	0	0	250	0	0	42
Rehabilitation of Turner Fairbank Bldg (LGOE)	0	500	2,000	308	465	1,788
FEDERAL RAILROAD ADMINISTRATION	3,400	3,420	850	1,560	2,772	2,454
Railroad Research and Development	400	420	850	360	372	654
Next Generation High Speed Rail	3,000	3,000	0	1,200	2,400	1,800
FEDERAL AVIATION ADMINISTRATION						
Facilities and Equipment	20,600	17,200	14,290	6,000	18,000	15,000
U.S. COAST GUARD						
Research, Development, Test and Evaluation	525	525	525	525	525	525
TOTAL RESEARCH AND DEV. FACILITIES, DOT	30,238	22,045	17,915	13,011	19,555	18,624

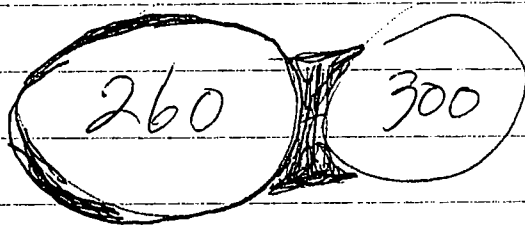
DEPARTMENT OF TRANSPORTATION
EXTRAMURAL RESEARCH AND DEVELOPMENT
FY 1996, 1997 & 1998 OBLIGATIONS
(Dollars in Thousands)

02/26/97
08:29 AM

AGENCY	FY 1996 ACTUAL			FY 1997 ESTIMATE			FY 1998 REQUEST		
	EXTRAMURAL	INTRAMURAL	TOTAL	EXTRAMURAL	INTRAMURAL	TOTAL	EXTRAMURAL	INTRAMURAL	TOTAL
Federal Highway Administration	207,140	32,177	239,317	242,191	46,719	288,910	315,859	51,976	367,835
National Highway Traffic Safety Administration..	16,868	16,295	33,163	18,318	18,221	36,539	20,621	21,400	42,021
Federal Railroad Administration.....	10,913	13,756	24,669	16,042	11,399	27,441	12,161	8,627	20,788
Federal Transit Administration.....	10,479	3,231	13,710	17,386	2,523	19,909	13,150	2,570	15,720
Federal Aviation Administration.....	154,999	64,472	219,471	178,900	66,678	245,578	159,102	69,601	228,703
U.S. Coast Guard	5,804	14,208	20,012	7,238	17,722	24,960	5,706	13,969	19,675
Maritime Administration.....	0	0	0	0	0	0	0	0	0
Research and Special Programs Administration	3,846	3,886	7,732	6,768	6,156	12,924	3,364	4,655	8,019
Office of the Secretary.....	0	3,004	3,004	0	3,601	3,601	0	4,268	4,268
Total.....	<u>410,049</u>	<u>151,029</u>	<u>561,078</u>	<u>486,843</u>	<u>173,019</u>	<u>659,862</u>	<u>529,963</u>	<u>177,066</u>	<u>707,029</u>
Less: FAA Not subject to the SBIR Assessment	-154,999	-64,472	-219,471	-178,900	-66,678	-245,578	-159,102	-69,601	-228,703
Total Conduct of R&D Subject to SBIR Assessment	<u>255,050</u>	<u>86,557</u>	<u>341,607</u>	<u>307,943</u>	<u>106,341</u>	<u>414,284</u>	<u>370,861</u>	<u>107,465</u>	<u>478,326</u>

NOTE: This information was consolidated from data provided from the modal budget offices.

Total R&D for each agency is consistent with the FY 1998 President's Budget Submission.



(1)

300M

- conversion
- fixed $\rightarrow$

(2)

\$2M

- pilots

(3)

RID \$15M/yr

- cool communities
- reg. hand - land use
- freight

LRM ID: JAB59

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
Washington, D.C. 20503-0001

Wednesday, February 19, 1997

LEGISLATIVE REFERRAL MEMORANDUM

TO: Legislative Liaison Officer - See Distribution below

FROM: James C. Murr (for) Assistant Director for Legislative Reference *Jim Murr for JM*

OMB CONTACT: James A. Brown 395-3473

~~PHONE: (202) ERROR: Server error: Entry not found in index~~ FAX: (202) 395-3109

~~ERROR: Server error: Entry not found in index~~

SUBJECT: Environmental Protection Agency; JUSTICE; TRANSPORTATION Views on
TRANSPORTATION Proposed Draft Bill on ISTE A Reauthorization

DEADLINE: 5:00 Thursday, February 20, 1997

In accordance with OMB Circular A-19, OMB requests the views of your agency on the above subject before advising on its relationship to the program of the President. **Please advise us if this item will affect direct spending or receipts for purposes of the "Pay-As-You-Go" provisions of Title XIII of the Omnibus Budget Reconciliation Act of 1990.**

COMMENTS: These are the papers on Climate Change/ISTEA which Transportation and EPA agreed to supply. The Department of Justice has also submitted a paper.

DISTRIBUTION LIST

AGENCIES:

61-JUSTICE - Andrew Fois - (202) 514-2141
117 and 340-TRANSPORTATION - Tom Herlihy - (202) 366-4687
19-Council on Environmental Quality - Michelle Denton - (202) 39/5-5750
33-Environmental Protection Agency - Chris Hoff - (202) 260-5414
76-National Economic Council - Sonyia Matthews - (202) 45/6-2174

EOP:

David B Sandalow/CEQ/EOP, Rosina M. Bierbaum/OSTP/EOP, Elwood J. Holstein/OPD/EOP, Diane C. Regas/OPD/EOP, SEIDEL_SA @ A1 @ CD @ LNGTWY, Robert J. Tuccillo/OMB/EOP, David J. Worzala/OMB/EOP, Jonathan C. Ball/OMB/EOP, Diane R. Montgomery/OMB/EOP, David E. Tornquist/OMB/EOP, Kenneth L. Schwartz/OMB/EOP, Edward H. Clarke/OMB/EOP, Victoria Wassmer/OMB/EOP, Pamela S. Barr/OMB/EOP, Cheree D. Desimone/OMB/EOP, MAZUR_M @ A1 @ CD @ LNGTWY, Ananias Blocker III/WHO/EOP, Barbara Chow/WHO/EOP, Zach Church/OMB/EOP, Dorothy Robyn/OPD/EOP, Kevin F. Neyland/OMB/EOP, Michael A. Fitzpatrick/OMB/EOP, Christopher D. Wolz/OMB/EOP, Jim Murr

David B Sandalow
Rosina M. Bierbaum
Elwood J. Holstein
Diane C. Regas
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Robert J. Tuccillo
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MAZUR_M
Ananias Blocker III
Barbara Chow
Zach Church
Dorothy Robyn
Kevin F. Neyland
Michael A. Fitzpatrick
Christopher D. Wolz
Jim Murr

SUBJECT: Environmental Protection Agency; JUSTICE; TRANSPORTATION
TATION Proposed Draft Bill on ISTEPA Reauthorization

If your response to this request for views is short (e.g., concur/no comment), we prefer that you respond by e-mail or by faxing us this response sheet. If the response is short and you prefer to call, please call the branch-wide line shown below (NOT the analyst's line) to leave a message with a legislative assistant.

(2) sending us a memo or letter

Please include the LRM number shown above, and the subject shown below.

FROM: _____ **(Date)**
 _____ **(Name)**
 _____ **(Agency)**
 _____ **(Telephone)**

_____ Concur

_____ No Objection

_____ No Comment

_____ See proposed edits on pages _____

_____ Other: _____

_____ FAX RETURN of _____ pages, attached to this response sheet

EPA

February 18, 1997

ENERGY EFFICIENCY PROPOSALS

Recommendations:

ISTEA reauthorization provides a mechanism to help the transportation sector achieve reductions in emissions of greenhouse gases to enable the U.S. to meet its international commitments. The following recommendations are proposed:

INCENTIVES TO INCREASE ENERGY EFFICIENCY:

1. **Establish a \$500 million incentive fund** to reward the 10 states that most reduce their per capita energy consumption in the surface transportation sector over the duration of the next ISTEA. These states would receive cash rewards during the last year of the next ISTEA.

Legislative language:

Add to Sec. 1003 Authorization of Appropriations: add (a)(9) Fuel Efficiency Incentive Fund.

A Fuel Efficiency Incentive Fund of \$500 million shall be established. This will be rewarded to the 10 states who have improved per-capita fuel efficiency in the surface transportation sector during the first five years since passage of this legislation. The Secretary of Transportation will develop guidance on how the incentive fund will be allocated amongst the 10 states. This will be developed in coordination with the Secretary of Energy and the Administrator of the Environmental Protection Agency.

2. **Fuel Efficient Fleets and Transit.** State and local governments and transit agencies will receive an incentive to purchase fuel-efficient and low emitting transit and heavy-duty vehicles. \$50 million will be provided over 6 years to fund the incremental cost of purchasing clean and fuel-efficient vehicles (in addition to any other funds provided for purchasing transit vehicles).
3. **Tax Credits for PNGV Vehicles.** Tax credits of up to \$200 million will be made available for purchase of PNGV or similar highly fuel efficient vehicles. This program will enable these vehicles to develop market share to reduce costs associated with production.
4. **Incentives for Reducing Fixed Costs of Automobile Ownership.** This option would reward states that adopt measures that would transform into variable costs some of the fixed costs of auto ownership and use. Transforming some of the fixed costs of owning and operating a vehicle into costs that vary with the amount the vehicle is driven allows the driver the opportunity to lower the overall costs of auto ownership and use by driving less. These costs could include, for example state

vehicle registration fees and/or state vehicle property taxes which could be pro-rated to vehicle-miles driven. A \$100 million reward fund would be established for distribution (divided on a per-capita basis) to the first 5 states that implement policies such as this.

RESEARCH TO INCREASE ENERGY EFFICIENCY:

5. **Establish an Energy Efficiency/Security Research Fund** within the Department of Transportation. This would consist of the following three topic areas:
 - a. Develop a new generation of Land Use models (\$2 million/year)
 - b. Research health and safety impacts of alternative-fuel vehicles (\$1 million/year)
 - c. General technical and policy research in energy efficiency issues (\$2 million/year)
 - d. Energy consumption assessment of transportation projects (\$2 million/year)
 - e. Direct the National Academy of Sciences to prepare a report on the full social-cost pricing of energy including a detailed analyses of full social-cost pricing of energy in the transportation sector.

Legislative language:

Add to Title VI, Research, Part A-Programs, Studies, and Activities.

Add Sec. 6025-Energy Efficiency Research Program

(a) **ESTABLISHMENT OF PROGRAM** -The Secretary of Transportation shall establish a Energy Efficiency/Security Research Program to aid in the understanding of and planning for transportation sector impacts on energy efficiency and security, including renewable fuels, transportation/land use models, and health and safety impacts of renewable fuels and the fuel delivery infrastructure. These activities will receive \$25 million annually.

6. **Cool Communities.** A Cool Communities pilot will examine the efficacy of targeted tree planting and surface color control as strategies for decreasing energy consumption and alleviating transportation related air quality problems. Simulations have estimated that peak power generation in Los Angeles would be reduced by .6 to 1.2 GW resulting in cost savings of 1 to 2 hundred thousand dollars per hour. Funding of \$5 million over 7 years will be made available to implement a pilot project and evaluate the actual energy savings and air quality benefits.

Legislative language:

Cool Communities- The Secretary shall make grants available to States and MPOs for the purpose of researching and demonstrating the effectiveness of changing road and other surfaces to lighter colors and increasing vegetative cover as strategies for mitigating smog and reducing energy consumption.

The Secretary shall take such action as may be necessary to ensure that the

information and findings resulting from these analyses and planning efforts is made available to State and local transportation departments and other interested persons. A State or MPO interested in receiving a grant under this subsection must submit an application therefore to the Secretary. Such application shall be in such form and contain such information as the Secretary may require by regulation. The Secretary shall select and approve applications for grants under this subsection based on the following criteria:

- The location's climate is suitable for demonstration.
- The demonstration project has a high likelihood of demonstrating the effectiveness and transferability of this strategy of smog and energy use reduction.

The federal share for the research shall be eighty percent. Funding shall be in the amount of 5 million over the 7 years.

PLANNING, PROGRAM MANAGEMENT AND PILOT PROJECTS

7. **State Energy Efficiency Transportation Plans.** Each state should develop an Energy Efficiency Transportation Plan that details energy efficiency goals and how the transportation sector in their state will reach their goals. A discussion of how the Federal government can assist the state meet its energy efficiency goals should be included. States that actually implement projects based upon their plan will be eligible for an additional \$100 million for implementation of these projects in years 4 through 6 after reauthorization. Funds could also be provided to help states write their energy efficiency plans.
8. **Demonstration Projects.** \$50 million will be set-aside to fund up to 50 demonstration projects for increasing energy efficiency from the transportation sector. These will be awarded in the third year after reauthorization and will be available to states, local governments, and non-governmental organizations. These projects will focus on implementation of actual measures to increase energy efficiency and/or reduce vehicle-miles of travel in the transportation sector. For example, eligible activities could include:
 - planning and construction activities related to converting areas to mixed-use developments
 - funding of activities and infrastructure that increase non-motorized transportation
 - infrastructure construction to support new fuel technologies
9. **Trade Corridor and Border Crossing Programs.** All programs and pilots must also consider inter-modal planning. Grant eligibility will for Border Crossing pilots will also consider inter-modal connections and facilities to encourage greater reliance on train and ship transport.

DOT

02/18/97

NEXTEA & GLOBAL CLIMATE CHANGE

DOT's ISTEA reauthorization proposal contains many elements supportive of the Administration's Global Climate Change policies:

- I. Emphasis on supporting transit, railroads, bicycle/pedestrian travel, intermodal facilities, etc.**
 - \$5 billion/year in transit authorizations--an increase over ISTEA
 - \$565-767 million/year to fund Amtrak out of the HTF/Highway Account
 - Broadening the purpose of the Surface Transportation Program (STP) to now encompass all surface modes, including passenger and freight rail, transit, intermodal facilities, and bike/pedestrian facilities; and an increase in funding, to over \$6 billion/year
 - Expanded eligibilities in the NHS program, to include intermodal freight transfer facilities, bus and rail passenger terminals, and (under certain conditions) Amtrak capital as well as transit capital. (NHS funded at \$4.4 billion/year -- less than transit, less than STP.)
- II. Increased funding for environmental programs:**
 - CMAQ to be funded at \$1.3 billion/year, a 26% increase over ISTEA
 - Transportation Enhancements (TE) to be funded at \$580 million/year, a 29% increase (TE includes vegetation planting, bicycle/pedestrian enhancements, and other provisions that help reduce Global Climate Change)
- III. Pricing policies:**
 - Parking cash-out provisions, to encourage employers to replace parking-only subsidies with mode-neutral travel subsidies
 - Enhanced congestion pricing program (under new "Value Pricing" label) with 100% Federal share, more program slots, greater freedom to use pricing revenues, and other inducements
 - Elimination of statutory prohibition on tolling Interstate highways

IV. Enhancement of Planning Process:

- Retains all major planning requirements and provisions:
 - Fiscal constraint
 - Public involvement
 - Role of MPOs
 - Linkages to Clean Air Act
 - Environment goals
- Reinforces MPO structure, with added emphasis on central city role and "fair and equitable" funding for central cities over 200,000 population

In response to EPA's desire for greater emphasis on Global Climate Change goals, DOT has offered to pursue two additional initiatives:

1. New pilot program to foster growth management planning and policy development (DOT believes it would be wiser to use administrative research discretion to implement this, rather than propose it statutorily):

- *\$15M over 6 yrs.*
\$5 million/year to fund 10 or more areas
- Studies would be like LUTRAQ project in Portland, OR
- Projects would model and evaluate policies that foster growth management, metropolitan in-fill, and other strategies that reduce environmental and other costs linked to transportation

2. Formula adjustment factor (this would have to be statutory):

- Add a provision to the highway program formulas that would compensate states which experience a reduction in their contributions to the Highway Trust Fund as a result of reduced fuel consumption and reduced travel.
- This provision would take effect in the last two years of the reauthorization period (FY2002 and FY2003), and it would be based on a rolling three-year average of HTF contributions.
- For states which meet the criteria, their apportionments would be adjusted so they would not experience reduced funding as a result of lower HTF contributions.

Justice

For Discussion Purposes Only

Global Climate Change / ISTEA

As identified in our earlier comments, after several negotiating sessions throughout 1997, the Ad Hoc Group on the Berlin Mandate ("AGBM"), of which the US is a party, will present their final results at the Third Conference of Parties this December in Kyoto, Japan. At this Conference of Parties, the Parties are expected to conclude negotiations and sign a new legally binding instrument, which will include, among other things, a target for emission reductions and strategies for a reduction in global concentrations of greenhouse gases ("GHG").

The Administration's ISTEA reauthorization proposal should be consistent with the position of the United States as it negotiates a new international agreement to respond to the threat of global climate change. Successful domestic implementation of any international agreement will require the transportation sector to address the rapid rise in GHG emissions projected to increase into the 21st Century. To reiterate, the transportation sector is a very significant contributor of greenhouse gas emissions (approximately thirty-two percent), and moreover, its rate of increase is growing substantially faster than all other sectors of the economy.

If this level of increase continues, even dramatic energy efficiency measures in all the other sectors would be overshadowed by the transportation sector's rate of growth. Hence, failure to address transportation's contribution during this ISTEA reauthorization will very likely require greater reductions by all other sectors in the future.

We suggest the following as possible mechanisms to begin to slow and ultimately reverse transportation's rapid emissions growth rate. These include: MPO and state collection of current and projected GHG emission rates during their planning processes, adjusting CMAQ and Enhancement project selection criteria to prioritize projects that produce the greatest reduction in GHG emissions, establishing GHG emissions reductions as a goal for transportation research and pilot projects, and finally, establishing a fund specifically to reward states that make the most progress in energy efficiency over the next five years. We also note that an additional benefit of redeveloping brownfields within urban centers may be reduced automobile use, and consequently reduced GHG emissions.

- a. First, to begin to focus state and MPO attention on the role of how transportation decisions affect GHG emissions, we suggest that MPO and state planning requirements, sections 134 and 135, be amended to specifically require they collect, and include in their long range transportation plans, current GHG emission rates and how their proposed transportation investments will affect their existing emissions rates. Given the direct correlation between energy consumed and carbon dioxide emissions, and that carbon dioxide is the major GHG for the transportation sector, it may only be necessary to collect data for total energy consumption. This will begin the process of data collection and public disclosure of how states and MPOs are performing and allow better assessment of possible actions once emission targets and compliance dates are adopted in Kyoto.

In collaboration with states and MPOs the Bureau of Transportation Statistics could take the lead to establish methods for measuring each state's and MPO's GHG emission rates and also methods to project future emission rates dependant on the projected transportation investments identified in an area's long range transportation plan.

- b. Second, target the existing ISTEA environmental programs, CMAQ and Enhancements, to give priority to those projects that are consistent with existing CMAQ or Enhancement requirements but also produce the greatest GHG reductions. It is our understanding that the present selection processes for these two programs do not specifically assess how eligible projects affect GHG emissions.
- c. Third, ensure that all transportation research initiatives and pilot programs consider and seek to mitigate transportation's existing rate of GHG emissions. For example, the approximately \$200 million annual authorization for the Intelligent Transportation System Program could be targeted to projects that may reduce GHG emissions, and the \$45 million authorization for the Border Gateway Pilot Program could promote rail and shipping, when appropriate, over the more energy intensive truck traffic.
- d. Finally, establish a \$XX million incentive fund, based on the transportation sector's energy consumption, or GHG emissions, to reward the ten states that make the most progress in reducing total per capita energy consumption in this sector. Awards from such an incentive fund should obviously be restricted to projects that would further produce additional energy savings. We may wish to consider including a mechanism to address states that are the very worst actors, such as restricting the type of projects to which highway funds can be allocated. For example, a state that increases per capita energy consumption x-times greater than the national average may not spend x-percentage of NHS/STP funds on projects that would further yield dramatic increases in GHG emissions.

DOT ENVIRONMENTAL PROGRAMS
Appropriations & Oblig. Limitations 1/
(\$M)

*(excluding R&D, except
for FRA)*

	1996 Enacted	1997 Enacted	1998 Request
- Hazardous Materials Cleanup / Compliance at DOT Facilities			
FAA	34.0	57.8	58.8
USCG	21.0	22.0	21.0
MARAD	0.0	0.1	0.1
Hazmat Total	55.0	79.9	79.9
- Marine Environmental Protection (USCG)	322.7	304.5	325.6
- Emergency Fund -- Oil Spill Cleanup (USCG) (permanent indefinite BA)	50.0	50.0	50.0
- Noise (FAA)			
AIP Grants	181.0	144.0	21.0
RE&D	4.0	4.0	3.0
Noise Total	185.0	148.0	24.0
CMAQ	939.0	878.0	1,046.8
OTHER DOT ENVIRONMENTAL PROG.	612.7	582.3	479.5
TOTAL	1,551.7	1,460.3	1,526.3

1/ CG oil spill cleanup funds are permanent indefinite authority

L:\crosscut\enviro\98press
26-Feb-97

Part of Function funded under
Environment and Natural Resources
FY 1998

FHWA	Highway Research & Development	64,903
	Technical Assessment and Deployment (T)	14,800
	Local tech. Assistance Program (LGOE & ISTEA) (	12,000
	Rehabilitation of Turner Fairbank (Facilities R&D)	2,000
	National Highway Institute (T)	8,000
	University Transportation Centers	6,000
	University Research Institutes	6,000
	Technology Partnership Fellowship Program (T)	11,000
	Long-Term and Advanced Research	25,000
	Eisenhower Transportation Fellowship Program	2,000
	R & T Technical Support	10,000
FRA	Equipment, Operations & Hazmat	5,509
	Safety of High Speed Ground Transportation	5,250
FTA	Transit Service Management Innovation	700
	Rural and Specialized Transportation	2,500
	Metropolitan / Rural Policy Development	1,000
RSPA	Pipeline Safety Research	1,487
	Research Management and Applications	5,296
USCG	Waterways Safety and Management	1,225
	Marine Environmental Protection	1,525
	Safety & Envirmental Compliance	3,125
	Technology Advancement	1,463
	Oil Spill Recovery, Prince William Sound - Recov. In	1,200
	R&D Personnel, Program Support & Operations	3,570
OST	Transportation Policy and Planning	4,268
	TOTAL	199,821

Diane R. Montgomery

02/28/97 07:21:18

PM

Record Type: Record

To: Dorothy Robyn/OPD/EOP

cc: Henry C. Kelly/OSTP/EOP

Subject: Sustainable Transportation Initiative

To resolve the Global Climate Change issue, I propose that DOT increase research spending to fund a Sustainable Transportation Initiative. This initiative would incorporate both global climate change research and Brownfields research at a total of \$25 million over the life of NEXTEA. The purpose of the initiative would be to collect the data regarding land use design, urban sprawl, modeling, sustainable development, Brownfields revitalization, LUTRAC pilots, etc., to better understand the relationship between these issues and transportation.

The program would be funded through FHWA's administrative funds, through which FHWA funds a large portion of their research program, via an existing environmental research and development program. We would instruct DOT to increase their research funds in this administrative account by reducing other administrative costs.

There would not be any specific authorization language referring to this new initiative in NEXTEA; there would simply be an agreement between EPA, OMB, and DOT that DOT will fund approximately \$4.2 million annually in research for these projects over the life of NEXTEA. Because this administrative account is authorized in permanent law, we do not need additional language. I believe we are in agreement that we do not want to call any more attention to this project than necessary. Each budget submission to the appropriations committee, however, would include a brief write-up of this initiative in the environmental research section of FHWA's budget.

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Environmental Sustainability of Transportation Systems

NSVC

Description

Transportation systems have been recognized as having major impacts on environmental sustainability. The transportation sector contributes about one-third of domestic contributions to greenhouse gas emissions and is the fastest growing contributor both domestically and internationally. Transportation sector impacts upon the health of soils and aquatic resources, as well as habitat disruption are often irreversible with unknown long term ecological consequences. The land use decisions made by governments and individuals are long lasting and to a large extent determined by the availability of inexpensive transportation choices.

These issues are not easy to address and command substantial challenges to the research community. Finding solutions that enhance the sustainability of transportation systems requires technical solutions as well as an understanding of the behavioral and social sciences. Research is needed to determine the technology necessary to design transportation systems and development patterns that provide access to economic, social and recreational opportunities such that permanent (i.e., unsustainable) environmental degradation is minimized or avoided.

Examples of potential research areas under this initiative include:

Human factors research associated with development patterns.

Technical solutions for devising development patterns that produce environmentally cleaner and safer environments are a means of reducing vehicle miles of travel both to reduce environmental problems and increase the safety of communities. Research is needed to determine how human factors are affected by development scale, the scale of hierarchical transportation infrastructures, and their interaction.

Impacts of transportation infrastructure on climate change

Building additional transportation infrastructure "induces" or attracts new trips, as acknowledged by the recent Transportation Research Board special report, *Expanding Metropolitan Highways*. Both short-term and long-term effects tend to reduce any initial travel time benefits associated with increases in capacity. Additional research is needed to clearly document both short and long term effects and especially the implications for greenhouse gas emissions. Research is also needed to determine whether transportation infrastructure can be designed in concert with development patterns such that accessibility is maximized?

Information technologies and sustainable development.

Many information technologies can offer solutions that can increase the sustainability of transport systems, especially when combined with development patterns that are more sustainable. For example, telecommuting offers the promise of accessibility without mobility and may be particularly beneficial for promoting development of sustainable communities. Research into the behavioral implications of telecommuting and other information technologies can identify the implications for sustainability, such as whether they result in major changes in travel behavior.

Infrastructure needs associated with revitalizing urban areas and cleaning up brownfield sites.

Brownfields typically are abandoned and mildly contaminated sites that require minimal clean-up efforts. Redevelopment of these and other urban sites can promote sustainability by avoiding development of ex-urban greenfields. These areas often have unmet infrastructure requirements that need to be addressed. Technological solutions, such as information technologies, may be able to identify and facilitate clean-up requirements while providing a transportation solution for abandoned urban areas.

Sustainable Freight Movement

Efforts to reduce traffic congestion and emissions in urban areas has often taken the form of restrictions on freight movement in favor of facilitating (primarily SOV) personal travel. Additional research is needed on the long-term regional economic and environmental impacts of current freight policies and opportunities provided by new information technologies, inter-modal facilities, and market-based measures for improving the energy efficiency of freight movement in urbanized areas.

Overall this Partnership Initiative will address the sustainability of building and operating the inter-related and complex systems of transportation and development that drive economic activities. The focus will be on behavioral sciences and interactions with technology in determining how people react to different systems to achieve sustainability.

Initiative:	Environmental Sustainability of Transportation Systems
Goal:	Investigate the interaction between human factors and technological options, as well as development and infrastructure requirements that can produce environmentally sustainable transportation systems.
Participants:	DOT, EPA, DOE, HUD, IHS, the private sector, academia, non-governmental organizations, state and local environmental agencies.
Benefits:	Improved ability to understand the linkages between transportation and the environment, and how more sustainable transportation systems benefit society.

February 25, 1997

MEMORANDUM TO DRAFT DRAFT
FROM: DRAFT
SUBJECT: NEXTEA and Energy Efficiency

We have been working to resolve the question of whether additional provisions on energy efficiency need to be included in the Administration's proposed reauthorization of ISTEA (called NEXTEA). The reason for concern is the coincidence between the debate on ISTEA and the development of the United States' position on targets and timetables to reduce the emission of greenhouse gases. Our goal is to ensure that the two sets of policies are not inconsistent, and are complementary to the extent possible.

To achieve this goal, EPA has suggested that we include in ISTEA a \$500 million fund to reward states that most reduce their per capita energy consumption in the transportation sector. The Department of Transportation has responded that the key determinant of per capita energy consumption is likely to be the states' economic health, not state policies designed to encourage transportation energy efficiency. Thus, an incentive system will not generate significant innovation because states do not have the information and tools to choose policies that have a reasonable likelihood of substantially affecting energy efficiency in the transportation sector. Given this lack of information, NEXTEA should propose investments in developing the tools states and localities need to increase energy efficiency in the transportation sector. These investments would be in addition to investments already reflected in DOT's draft NEXTEA, and would build a foundation for more expansive approaches in coming years.

In addition, the Administration's NEXTEA proposal should not include DOT's preliminary concept of a formula adjustment factor designed to hold states harmless for any reductions in their contributions to the Highway Trust Fund. While this is a constructive idea, it will be subject to the same criticism as EPA's proposed incentive system--namely the adjustment factor will be too indirect to affect state policies, and therefore will not help to achieve the goal of improving energy efficiency.

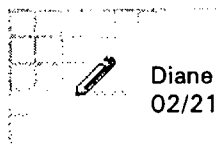
We suggest the following additional Administration investments in improving energy efficiency in transportation:

1. Research for Energy Efficiency: Dedicate an additional \$ 20 million per year to support research in improving energy efficiency in transportation, including projects from the following list:

- a) Research health and safety impacts of alternative fuel vehicles (including biomass and renewables), new technology batteries (including lithium-ion batteries) including transport, storage, disposal and issues related to the PNGV fuels program and alternate power sources. (\$10 million/yr.)
- c) Smart highways including smart cars to reduce the recurrence of accidents in all modes of transportation through an enhanced understanding of human performance and behavior. (\$5 million/yr.)
- d) Electric and hybrid electric vehicle research and development support. This will include true technical research and development, implementation strategies, and studies pertaining to true electric vehicle total efficiencies and emissions. (\$5 million/yr.)

2. Fuel Efficient Fleets - In addition to the 90% match available for clean-fueled buses, invest an additional \$8 million per year in fuel efficient heavy-duty vehicles. As EPA proposed, subsidize the difference in purchase price between fuel-efficient and other vehicles. The authorization should be written broadly to give DOT flexibility to use loans and grants and to vary the percentage and timing of the subsidy.

3. Demonstration of Energy Efficiency in Transportation: Set aside fund for energy efficiency demonstration projects. State and local governments would be eligible to demonstrate policies that can increase energy efficiency in transportation. Focus on implementation of on-the-ground measures to increase energy efficiency of transportation including inter-modal planning, an emphasis on minimized cost and environmental impact of the total transportation system. This investment would build a foundation for exploring broader incentives for energy efficient transportation in the next reauthorization cycle. (\$20 million per year.) (This is in addition to the \$10 authorization for intermodal strategic transportation research.)



Diane C. Regas
02/21/97 05:45:18 PM

Record Type: Record

To: Rosina M. Bierbaum/OSTP/EOP
cc: David B Sandalow/CEQ/EOP, Elwood J. Holstein/OPD/EOP, Ananias Blocker III/WHO/EOP, Dorothy Robyn/OPD/EOP
Subject: Re: Draft text to consider as Compromise for ISTEAs

Thank you Rosina for putting an alternative on the table. I think it is very close to something that we could reasonably ask DOT to support if the climate change policy folks believe we need additional items in the bill. EPA proposed close to a billion dollars of ideas for us to consider, I think the scale of 50 million/yr in research and demonstration is much more realistic.

Whatever we do, I would very much like to settle it on Monday to make it possible for Secretary Slater to take a bill with him when he testifies on Weds/Th.

If we want a proposal, I would suggest that we agree to run the following by DOT and then EPA:

1. Research for Energy Efficiency: Establish a fund to support research in improving energy efficiency in transportation, to include projects from the following list: technical issues; health and safety impacts of alternative fuels and technologies; smart cars; alternative vehicles. Authorize this research at \$20 million per year.
2. Fuel Efficient Fleets - As in EPA proposal, subsidize the difference in purchase price between fuel-efficient and other mass transit vehicles. Write the authorization broadly to give DOT flexibility in loans vs. grants and in % subsidy. Authorize at \$8 million per year.
3. Demonstration of Energy Efficiency in Transportation: (as in Rosina's paper) Authorize this at \$20 million per year.

Record Type: Record

To: See the distribution list at the bottom of this message

cc:

Subject: Draft text to consider as Compromise for ISTE A

These are OSTP's suggestions for R&D and some programs that could help with climate emissions within the political constraints of ISTE A. This is an attempt to come up with a compromise between the EPA and DOT proposals. In order, our priorities would be numbers 1,2,4,3. Please let me know your thoughts! If you think it's a reasonable start, we could share with EPA and DOT tomorrow. Rosina

Suggested priorities for **Global Climate Change Portion Of NEX TEA**: (\$50 million total)

1. **R & D fund to increase energy efficiency:**

Establish energy efficiency fund of \$21 million within the department of transportation to address the following topic areas

- a) Environmental research for in general technical and energy efficiency issues. (2\$million/year)
- b) Alternate fuels Research health and safety impacts of alternative fuel vehicles (including biomass and renewables), new technology batteries (such as lithium-ion batteries) including transport, storage, disposal and issues related to the PNGV fuels program and alternate power sources. (\$9 million/yr.)
- c) Smart highways including smart cars to reduce the recurrence of accidents in all modes of transportation through an enhanced understanding of human performance and behavior. (\$5 million/yr.)
- d) Electric and Hybrid electric vehicle Research and Development support. This will include true technical research and development and can additionally include implementation strategy studies, and studies pertaining to true electric vehicle total efficiencies, emissions, and whole cycle advantages. (\$5 million/yr.)

2. **Fuel Efficient fleets and Transit** -keep as is in EPA proposal (\$8 million/yr)

3. **Highways for Cool Communities.** A project focused on determining what would be required to apply lighter colors to the surfaces of highways. This should look at the projected energy savings, the effects of the coloring on the surrounding areas, color running, leakage, ice formation and safety issues, and should all concentrate on the highway portion of this issue. This could include determining the effects of vegetative cover for mitigating smog and reducing energy consumption, coupled with looking at the safety issues of trees along highways. Funding of 5 million over 7 years will be made available to implement and more money could be considered in terms of actual application or incentive. (\$1 million/yr.)

4. **Energy Efficiency Demonstration.** Set aside fund for energy efficiency demonstration projects. Should include state and local governments, but should not include NGOs. Focus on implementation and actual measures to increase energy efficiency of transportation and/or reduce vehicle emissions/mile traveled in the transportation sector. (should not just address vehicle miles because pending efficiency programs may make private transportation competitive with rail transportation in the next several years.) All programs should include inter-modal planning. Include border crossing pilots and address intermodal connections and facilities to encourage greater overall efficiency of transport. No specific technology such as rails, ships or trucks should be preselected, instead an emphasis should be placed on the desired outcomes of minimized cost and environmental impact as a total system. (including carbon emissions, down time, efficiencies, pollutants, and an emphasis on implementing renewable energy sources.) (\$20 million)

Comments: In concept we disagree with "Formula adjustment" because it runs counter to the purpose of ISTEA and NEXTEA and doesn't consider enough environmental factors. The bill was justified to provide infrastructure money for states to rebuild their roads. Because of the various factors that affect mileage traveled, we may wish to more specifically detail what we wish to reward and how it is measured. To reward increased efficiency and to apply incentives for minimizing environmental impacts is preferred. Environmental impacts should include the total system and should consider weather factors such as snow removal (salt and chemicals), infrastructure costs and impacts (asphalt production, paving wastes, road run-off) and should consider infrastructure age and per capita mileage changes. Our environmental objective is to create the minimum impact from the maximum mile-tonnage and should not be biased to any secondary variable

Message Sent To:

David B Sandalow/CEQ/EOP
Diane C. Regas/OPD/EOP
Elwood J. Holstein/OPD/EOP
Ananias Blocker III/WHO/EOP
Dorothy Robyn/OPD/EOP

Diane R. Montgomery

02/28/97 01:56:51

PM

Record Type: Non-Record

To: Dorothy Robyn/OPD/EOP

cc: Henry C. Kelly/OSTP/EOP

Subject: Sustainable Transportation Initiative

To resolve the Global Climate Change issue, I propose that DOT increase research spending to fund a Sustainable Transportation Initiative. This initiative would incorporate both global climate change research and Brownfields research, at \$5 million per year or \$30 million over the life of NEXTEA. The purpose of the initiative would be to collect the data regarding land use design, sprawl, modeling, sustainable development, Brownfields revitalization, LUTRAC pilot, etc. to better understand the relationship between these issues and transportation.

The program would be funded through FHWA's administrative funds, through which FHWA funds a large portion of their research program, via an existing environmental research and development program. We would instruct DOT to increase their research funds in this administrative account by reducing other administrative costs.

There would not be any specific authorization language referring to this new initiative in NEXTEA; there would simply be an agreement between EPA, OMB, and DOT that DOT will fund \$5 million annually in research for these projects over the life of NEXTEA. Because this administrative account is authorized in permanent law, we do not need any additional language. I believe we are in agreement that we do not want to call any more attention to this project than necessary. Each budget submission to the appropriations committee, however, would include a brief write-up of this initiative in the environmental research section of FHWA's budget.

I will be in a meeting until 4:30 pm or so. I will give one or both of you a call then to discuss.

Qs:

What is a set of indicators to look at?
- describes sth we

- ~~Carbon~~ Carbon's & NTF
- Total Energy consumed
- set of VMT
- set of greenhouse gas emissions
- Climate Index

shld. it be per/cap?

In terms of
GDP ...?

Are you measuring sth?

Is it imp.

Can you affect it?

pick 6-7 ways of looking at this?

Do long-term longitudinal anal

Which are ^{the best} better than others?

~~Frans~~ Frans: Creates a system that gets right data
but effect is so long-term ...
that people don't have incentives ...

Total Pages: _____

LRM ID: JAB65

**EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
Washington, D.C. 20503-0001**

Tuesday, February 25, 1997

LEGISLATIVE REFERRAL MEMORANDUM

TO: Legislative Liaison Officer - See Distribution below

FROM: James J. Jukes (for) Assistant Director for Legislative Reference *Ji-*
OMB CONTACT: James A. Brown
PHONE: (202)395-3473 **FAX:** (202)395-3109
SUBJECT: TRANSPORTATION Oversight Testimony on Department of Transportation
Research and Development Activities
DEADLINE: 10:00 A.M. Wednesday, February 26, 1997

In accordance with OMB Circular A-19, OMB requests the views of your agency on the above subject before advising on its relationship to the program of the President. Please advise us if this item will affect direct spending or receipts for purposes of the "Pay-As-You-Go" provisions of Title XIII of the Omnibus Budget Reconciliation Act of 1990.

COMMENTS: This testimony must be delivered on Thursday. If we do not hear from you by the deadline, we will therefore assume that you have no comment.

DISTRIBUTION LIST**AGENCIES:**

52-HHS - Sondra S. Wallace - (202) 690-7760
54-HUD - Jeff Lischer - (202) 708-1793
85-National Transportation Safety Board - Peter Goelz - (202) 314-6120
32-ENERGY - Bob Rabben - (202) 586-6718
33-Environmental Protection Agency - Chris Hoff - (202) 260-5414
95-Office of Science and Technology Policy - Rebecca Dittmar - (202) 456-6020

EOP:

Sharon A. Barkeloo
Diane R. Montgomery
David J. Worzala
Daniel M. Tangherlini
Victoria Wassmer
Dorothy Robyn
James C. Murr

LRM ID: JAB65 SUBJECT: TRANSPORTATION Oversight Testimony on Department of Transportation Research and Development Activities

**RESPONSE TO
LEGISLATIVE REFERRAL
MEMORANDUM**

If your response to this request for views is short (e.g., concur/no comment), we prefer that you respond by e-mail or by faxing us this response sheet. If the response is short and you prefer to call, please call the branch-wide line shown below (NOT the analyst's line) to leave a message with a legislative assistant.

You may also respond by:

(1) calling the analyst/attorney's direct line (you will be connected to voice mail if the analyst does not answer); or

(2) sending us a memo or letter

Please include the LRM number shown above, and the subject shown below.

TO: James A. Brown Phone: 396-3473 Fax: 395-3109
Office of Management and Budget
Branch-Wide Line (to reach legislative assistant): 395-3454

FROM: _____ (Date)
 _____ (Name)
 _____ (Agency)
 _____ (Telephone)

The following is the reponse of our agency to your request for views on the above-captioned subject:

Concur

 No Objection

 No Comment

See proposed edits on pages

Other: _____

____ FAX RETURN of ____ pages, attached to this reponse sheet

**STATEMENT FOR THE RECORD OF MORTIMER DOWNEY
DEPUTY SECRETARY OF TRANSPORTATION**

Before the Committee on Science, US House of Representatives

February 27, 1997

Introduction

I welcome the opportunity to testify on the Department's technology, research and education activities and its surface transportation research and development, in particular. Transportation is undergoing a technology revolution, and the Department has taken on the challenge of "riding" this technology wave. This is a key hearing for the Department in two ways.

- First, it acknowledges the Department's important and growing role in Federal R&D. The Department received approximately \$940 million in fiscal year 1997 for all modes of transportation--highways, rail, transit, aviation, maritime, and highway traffic safety.
- Second, it recognizes that both the President and the Congress see transportation technology, research and education as important to the long-term economic, security, ecological and social well being of the nation. This has been reflected by a 60 percent increase in funding for transportation research and development over the last four years, with the bulk of that increase in the surface modes.

The priorities we have in the technology area reflect the Secretary's three major priorities for the Department as a whole:

1. Safety

Secretary Slater has established safety as the number one priority of the Department. The physical presence and operation of our large and varied transportation system carries with it the potential for loss of life, property, and significant adverse societal impacts which pose a continuing challenge to the entire transportation community. While the US transportation system remains the safest in the world, and has shown steady improvement in this regard during the last several decades. Even with our efforts, it still accounts for almost half of all accidental deaths in this country—more than 43,000 last year, about 95 percent of which arise in motor vehicle mishaps. The societal cost of these transportation deaths, injuries and property damage has been estimated at \$150 billion per year. Secretary Slater views this as a clearly unacceptable situation, and our attempts to remedy it will drive how DOT makes its policy and program choices.

2. A Transportation System for the 21st Century

Secretary Slater's second priority for the Department is to "ensure that America's transportation system meets the needs and desires of the American people in the 21st century." Overall, Americans enjoy a level of personal mobility unequaled around the world. However, this achievement must not overshadow the substantial number of transportation-disadvantaged individuals in our society—people limited in their ability to travel to work and leisure activities as a result of poverty, disability or age.

In many urban areas road congestion extracts a high cost in delay, irritation, safety, energy use, and adverse environmental impacts. Yet, demand for transportation services continues to increase. The days when we can respond by simply building more physical infrastructure are clearly gone. The answer necessarily lies in innovations that permit us to use the existing system more effectively, efficiently and with greater intermodalism and seamlessness among the systems and organizations in place.

Now and in the coming century, the public must have confidence in the security of the global transportation system. In the last few decades the threat of aircraft hijacking and deliberate sabotage has become real and highly visible worldwide. Similarly, attacks have been planned or actually made against rail, subway, bus, and highway targets, both domestically and internationally. As the transportation system becomes more integrated and dependent on information technologies for improved efficiency, it also becomes more susceptible to intentional or unintentional disruption.

In the past, transportation, economic, social, energy and environmental issues were all viewed separately. These issues are inextricably linked and need to be addressed together, if the nation and the world are to have a transportation system that works effectively in the 21st century. The sustainability of the system is critical.

Transportation is responsible for about one-quarter of U.S. energy consumption, including two-thirds of our petroleum use. It is the only sector in which petroleum consumption is increasing, due to a leveling off of fuel efficiency in

most modes and steadily rising travel and goods shipment. Transportation is thus at the heart of national concerns over US dependence on imported oil, and is especially vulnerable to any future price shocks or constraints on availability. Petroleum use is also closely related to release of greenhouse gases, with approximately 20 pounds of carbon dioxide is produced for every gallon of fuel burned. Energy use is of particular relevance to surface transportation: 78 percent of total transportation energy is consumed by highway vehicles, with 62 percent associated with passenger cars and light trucks.

Common Sense Government

Proposals for welfare reform, improved health care, job training and placement, rural development, and elder services all assume that there are adequate transportation alternatives to enable personal access to employment, education, health care, and other activity centers. Practical realization of these assumptions requires a vigorous program of public and private R&D activities to address emerging needs and challenges, and the necessary resources to exploit and deploy new technological and operational opportunities.

In the last four years, we have adopted an increasingly strategic perspective within the Department as we have broadened and reinvigorated our R&D activities. We have done this by building partnerships with other government agencies, the private sector and academia, to stimulate innovation across the transportation enterprise. Development of advanced transportation technology and improved operations is largely the responsibility of the private sector. However, focused federal investment in research, development, test, evaluation, and technology dissemination can have great impact in the many areas in which

market-driven R&D efforts are impeded by technological and other uncertainties as well as strong institutional impediments.

Opportunities in Surface Transportation Research and Development

The transportation enterprise faces an enormous challenge in meeting the nation's mobility needs in a world characterized by financial constraints, growing demand, changing demographics, environmental concerns, and decentralization and devolution of transportation responsibilities.

Transportation research and education, and the innovation that they enable, will be a critical component in the national response to this challenge. The stimulation and fostering of innovative technologies and methods in transportation will thus be central to meeting national needs in the next century.

Research and development enables and stimulates needed innovation in three ways: accelerated introduction of existing technologies into transportation, development of new transportation technologies, and increased knowledge on which to base major decisions, investments and other actions. As Secretary Slater recently noted, "we can look to information and communication technologies, intelligent transportation systems, and other new or improved technologies that promise to transform the safety, efficiency and environmental soundness of travel."

DOT Surface Transportation R&D Successes

Over the last four years, the Department has made major strides in bringing technological innovation to the transportation enterprise. The Department's

funding for research and development and, in particular, for surface research and development have increased considerably. This is due to the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, the President's commitment to transportation research and development, and his confidence in the Department's ability to manage the resources in an efficient and effective manner. DOT has taken a leadership role in identifying, promoting, sponsoring, and developing partnerships to perform research and development.

The Department has also played an expanded role in technology policy formulation at the highest levels within the Executive Branch. A key element in implementation of the President's Technology Policy was formation of the cabinet-level National Science and Technology Council (NSTC) under the White House Office of Science and Technology Policy. The NSTC Transportation R&D Committee (TRDC), which I chair, includes NASA, EPA and the Departments of Defense, Commerce, and Energy, among others.

Over the last three years, the TRDC has been effective in shaping the direction of transportation research and development as well as forging partnerships among the Department, federal agencies, academia and private sector. At the present time, the TRDC is cooperatively finalizing the first comprehensive Transportation Science and Technology Strategy. We are proud of this evolving document, and we will forward it to you once it is published. One of the major partnership initiatives that the Strategy highlights is the recent joint FAA and NASA initiative on the next-generation global air transportation system. Recently announced by the Vice-President, this application of new information and communications technologies to over-ocean flight will revolutionize global air transportation.

(Congress →
added
"Defense"
to title
in 1995)

DOT has also been a full partner in other high-technology multi-agency research and development programs, such as the Technology Reinvestment Project led by the ^{Defense} Advanced Research Projects Agency of the Department of Defense. This collaboration has proved highly productive, ^{for DOT and DoD,} with approximately one-third of the winning TRP proposals in FY 1993 being transportation-related. The net result was an infusion of \$400 million of public and private funding into ^{"dual-use"} transportation research, with the Department serving as project manager on nine of those initial TRP activities.

Intelligent Transportation Systems (ITS)

New information and other technologies now entering application are transforming transportation from a system that requires people to adapt to a system that adapts to people. For years we have had a vision of a user-friendly, reliable, easy to use system that brings mobility to all our citizens, and moves freight swiftly and reliably on a global basis. That vision comes closer to reality every day, and is nowhere more apparent than with Intelligent Transportation Systems (ITS).

ISTEA launched a program of ITS research, testing, and technology transfer aimed at solving congestion and safety problems, eliminating operating inefficiencies in transit and commercial vehicles, and reducing the environmental impact of growing travel demand. Since 1991, the Department has conducted a long-term basic research program, tested numerous technology applications, defined costs and benefits, developed a national architecture and set into motion an unprecedented standards development program. Today we are poised to

begin deployment of a national intelligent transportation infrastructure, and the development of a fully integrated intelligent vehicle.

Last year Secretary Peña, accompanied by then-FHWA Administrator Slater and FTA Administrator Linton, established a national goal to deploy this intelligent transportation infrastructure across the United States within the decade. It is a challenging goal. We have already taken the first steps with model deployments of integrated travel management systems in four metropolitan areas, and commercial vehicle intelligent systems in 8 states. We have established a baseline of deployment to date and will report progress in reaching this goal on an annual basis. We believe ITS infrastructure will provide for our surface modes, in many respects, what air traffic control has provided for aviation -- an ability to manage operations -- for greater efficiency within the same infrastructure, less environmental impact, and greater predictability for the customer.

At the longer range of our ITS research spectrum, I am pleased to say we will meet Congress's mandate to demonstrate the technical feasibility of the Automated Highway System by 1997. That demonstration will occur on a 7 mile stretch of I- 15 the first week in August in San Diego, California. I hope you will join us there.

Highway Research

Given the predominance of highway transportation in the U.S., advancing the technologies that underlie the operation, maintenance and construction of our road system is of great importance. The Federal Highway Administration has

achieved considerable success in this area, often working in partnership with the states and relevant industries. For example, high performance concrete technologies have the potential to produce significant savings in the initial construction and long-term maintenance of the nation's bridges. Two-and-a-half years ago, the first high performance concrete bridge--the Louetta Road Overpass--was built in the Houston, Texas area and serves as a showcase for the technology. Another innovation, high performance steel, offers improved corrosion resistance, easier repair, and eliminates the need for repainting.

High-tech composite materials offer physical properties that may change the way bridges are built. On going efforts to develop and put these composite materials into use offer great promise, and include column wrappings used to strengthen existing bridges against earthquakes and composite fabrics used to repair damaged bridges. Similarly, recent breakthroughs in the Department's "Superpave" asphalt materials research are expected to yield overlays with a service life of 10 to 14 years, doubling the performance of conventional materials.

More than 90 percent of paved roads and streets in the United States have asphalt concrete surfaces, requiring the placement of approximately 500 million tons of asphalt concrete mixtures annually. Thus, the potential exists for hundreds of millions of dollars in cost savings annual for the Federal, state and metropolitan governments and municipalities.

Rail Research

The Department's rail research has focused on railroad safety and technology to advance high-speed rail. Human factors and track account for a majority of

railroad accidents and are a focus of the program to improve intercity and commuter passenger protection. To address these problems, the Federal Railroad Administration is using a modern locomotive simulator to gain a better understanding of the safety issues associated with locomotive operator stress and fatigue, and is pointing to effective mitigation methods to enhance safety of operations. They have instrumented an Amtrak test car with force-measuring sensors to provide critical data necessary to revise track safety standards for both conventional and high speed trains.

FRA is also testing the application of Global Positioning System, digital data radios, and onboard supervisory computers to control train movements. This will enhance the safety of operations, and permit States and their partners to implement incremental high-speed passenger rail upgrades, as well as improve the efficiency and productivity of freight, intercity passenger, and commuter rail operations.

Transit Research

The Department's Advanced Public Transportation Systems program managed by the Federal Transit Administration is yielding greatly improved customer information, seamless multi-modal service and increased transit management within metropolitan areas. Using modern computers and communications technologies, the program is providing automatic vehicle location, on-board and wayside passenger information, electronic fare collection systems, traffic signal pre-emption for emergency services, and automated demand-response dispatch systems.

The Federal Transit Administration is also actively involved in developing and testing alternative fuel vehicle technologies, including electric-hybrid drive systems, advanced suspension components and advanced vehicle control networks for transit bus applications. These technologies offer ultra-low emissions along with improved vehicle handling and interfaces with intelligent transportation systems. The Department is also partnering with the Department of Energy and the Defense Advanced Research Projects Agency on highly efficient and environmentally acceptable fuel cell propulsion systems for transit buses.

Intermodal Terminals and Connections

The terminals that serve as the intermodal link between the oceangoing ships or air systems and the inland surface modes must operate with increased efficiency to handle the growing volumes of passengers and cargo in both our domestic and international trades. Advanced technology will play a significant role in improving the movement of people, resources and cargo through domestic and international gateways.

Highway and rail access to these airports and marine intermodal terminals is crucial to the performance of the freight transportation system of the nation, particularly for the high-valued container movements which have become part of our just-in-time manufacturing and distribution networks. Improvements in both physical and information infrastructure are urgently needed in this regard. Improvements of the type developed for the surface modes, such as improved pavements and inspection machines, and applied at interfaces will contribute significantly to these improvements.

A variety of aviation and space research programs have strong relevance to surface transportation issues and innovation, such as work involving security, human factors, and non-destructive inspection of vehicle structures. For example, to handle the pavement thickness and durability requirements for the next generation of aircraft, which will weigh more than one million pounds, new pavement standards are needed. The Federal Aviation Administration and Boeing Company have combined resources to build a National Airport Pavement test Facility that will provide the needed full-scale testing information and will help to validate new design technologies. The resulting design and criteria will have wide applicability to the surface transportation modes.

Future Directions

As noted earlier, the NSTC Transportation R&D Committee has just developed the first comprehensive Transportation Science and Technology Strategy. It will be a key guide to assist Congress, the White House, and Federal agency heads in establishing national transportation R&D priorities and coordinated research activities. The Strategy has four components: (1) strategic planning and assessment; (2) strategic partnership initiatives on topics offering particularly attractive opportunities; (3) enabling research in areas of long-term continuing importance to transportation; and (4) transportation education and training. These elements all include an emphasis on partnering in collaborative efforts with other federal agencies, state and local governments, academia and industry. Another theme common to each is explicit attention to deployment—working to foster and facilitate the integration of promising concepts and prototypes into operating transportation systems.

We have been working each year to increase the degree to which a strategic perspective is incorporated in our research and technology planning. To that end, this year's edition of the Surface Transportation R&D Plan, now nearly complete, will draw substantially on the work of the NSTC Transportation Committee process and the Transportation Science and Technology Strategy that has resulted from it. We would welcome the opportunity to brief you on both the Strategy and the fourth edition of the Surface Transportation R&D Plan when they are completed. We look forward to working with you to shape and advance the performance of the nation's transportation system through prudent government investments in technology, research and education.

Automated Highway System Coalition (AHS)

- tech. stupid
- 9:1 cost share
- govt. getting ripp
- BMW, Toyota, Daimler are participating, but GM & Chrysler hate it

We've cut deal w/ GM - if we can get them thru the demo in Aug., they'll renege; put their \$ into sth else

Advanced Vehicle Control: Information

They want \$26M for FY98

demo; evaluation of