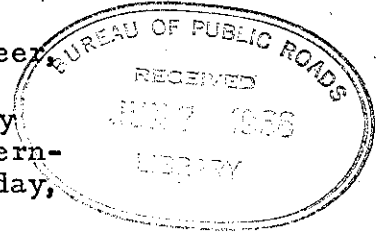




U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
WASHINGTON, D.C. 20235

STATUS OF THE INTERSTATE SYSTEM, AND FUTURE HIGHWAY PLANS

Remarks by Francis C. Turner, Chief Engineer,
U. S. Bureau of Public Roads, prepared for
delivery before the Southern Regional Highway
Policy Committee of the Council of State Govern-
ments in the Hilton Inn, Atlanta, Ga., Thursday,
May 26, 1966 at noon.



I feel privileged to be here at the first meeting of your Regional Highway Policy Committee, and I welcome the opportunity to discuss with you the status of the Interstate Highway System, and what the future may bring.

The year 1966 holds special significance for those associated with the highway program because it marks the anniversaries of two momentous steps in the development of the nation's highway transportation system.

It was 50 years ago that Congress enacted the Federal-Aid Highway Act of 1916 which established the current pattern of Federal financial aid to States to help them build highways, and also launched the Federal-State partnership which has proved enormously successful.

This year also marks the tenth anniversary of the historic Federal-Aid Highway Act of 1956 that accelerated the construction of the Interstate Highway System; extended at an increasing rate the traditional Federal aid for primary, secondary and urban highway improvements; and set up the Federal Highway Trust Fund to assure adequate financing for the Federal share of the highway program.

In the half-century since the Federal-aid program began, the highway program has paid a multitude of economic and social benefits to the American people, and has played an important role in our country's well-being. However, I am thoroughly convinced this would not have been possible without the cooperative Federal-State partnership which recognizes that each

level of government has a vital stake in providing our country with the highway transportation it must have.

Not only has this partnership endured through the years but it has grown stronger because it is based on mutual respect and trust. It is a classic illustration of how States and the Federal Government can work together harmoniously without one encroaching on the prerogatives of the other.

The partnership, which has helped the United States develop the world's finest highway system, has been successful largely because it acknowledges the paramount rights of the States to choose the system of routes for development, select and plan projects, acquire the necessary right-of-way, and award and supervise construction contracts, all subject to review of the Bureau of Public Roads acting for the Federal Government.

We at the Bureau of Public Roads are proud of the working relationship we have with the States, and if there are any doubts as to its efficacy, one has only to look at the record.

Construction of the 41,000-mile Interstate System is forging ahead steadily and improvement of the Federal-aid primary and secondary systems and their urban extensions is proceeding well.

As of March 31, 1966, 21,452 miles of the Interstate were in use. Work was underway on 17,106 miles, including 5,903 miles under construction contract, and 11,203 miles on which engineering or right-of-way acquisition was underway. Thus some form of work has been completed or was underway on 38,558 miles, or 94 percent of the system.

Interstate projects totaling \$16 billion have been completed since July 1, 1956, while projects underway or authorized on April 30, 1966, total \$9.6 billion. Project authorizations for completion of the system have passed

the half-way mark. Preliminary engineering has been authorized for 81 percent of the total program, right-of-way acquisition for about 69 percent, and contracts have been awarded on 53 percent of the construction work. In total, the work authorized to date represents 57 percent of the estimated cost of completing the system as developed in the 1965 Cost Estimate.

For the primary and secondary systems and their urban extensions which we call the ABC program, projects costing a total of \$16.4 billion have been completed since July 1, 1956. They include nearly 198,000 miles of construction contracts. ABC projects costing an estimated \$3.8 billion were underway or authorized on April 30 for nearly 20,000 miles of construction work.

I have attached to the printed text of my speech a status report as of March 31, 1966 on progress made by the States toward completion of the Interstate System.

The past decade unquestionably has been one of satisfactory achievement in the Federal-aid highway program. Interstate mileage in use is saving lives and paying benefits to users and non-users.

Because of its built-in safety features, the Interstate is two to two and one-half times safer than conventional highways. The mileage in use last year saved the lives of 3,800 persons who would have died on older roads, and this year is expected to save over 4,000 lives. When it is completed, the system will be responsible for saving 8,000 lives a year. For every five miles of Interstate opened to traffic, a life is saved.

Direct economic benefits to highway users are expected to total \$11 billion a year after the Interstate is completed in lower operation, time, accident, and strain-of-driving costs. Last year alone, the benefits were about \$3.5 billion. On all Federal-aid systems, the economic benefits are expected to reach \$21 billion in 1973.

But in addition to the direct economic benefits, there are many other dividends the Interstate is returning and will return in greater bounty when completed. Much-needed highway capacity is being provided to meet the constantly growing demand. Distances are being shrunk, thereby expanding employment and recreational opportunities for the American people. Land use is being improved, and new industry and commercial business are being attracted to the Interstate areas.

Obviously, the completion of the system as swiftly as possible is not only desirable but imperative. However, a cloud is discernible over the horizon, and it now appears that our original target date for completion of the system in 1972 may not be met. I know this will be a disappointment to the many people in the highway field who are proud of the highway network that is unfolding, and to the public which is looking forward to the day when coast-to-coast and border-to-border driving without encountering a traffic light will be a reality.

The reason for the delay is entirely financial. The most recent Cost Estimate submitted to Congress indicated that \$5.8 billion would be needed above the previously estimated \$41 billion. The increased cost is accounted for by the general rise in prices experienced throughout the entire economy (since no such factor was permitted to be included in the original estimates) and to the upgrading of the design standards to which the system is being constructed - changes dictated by experience with finished portions or by demands of the traveling public - such for example as in the following illustrations:

-- System additions and adjustments made during the period between the two estimates.

-- Change in the applicable design year from 1975 to standards adequate to handle the traffic forecast for 20 years from the date of project approval.

-- Additional interchanges and grade separation structures to provide improved service to highway users, largely because of increased traffic demands associated with the availability of large portions of the system.

-- Added traffic lanes required to meet the demands of increased traffic volumes, other than lanes added as result of the change in the design year.

-- Wider shoulders on bridges in the interest of safety operations.

-- Heavier design of highway pavement to lengthen the serviceable life of the pavement.

-- Changes and additions in a variety of highway elements based on information and knowledge developed since the previous estimate in 1961. These include changes in excavation, embankment, drainage structures, utility adjustments, roadside improvements and signs.

Illustrative of how changes in design can affect costs is the recent introduction in Congress of legislation to establish a minimum of four lanes for all Interstate mileage. If this legislation is enacted, 1,426 miles of two-lane Interstate highways will be improved to four lanes at an additional cost of \$264.8 million.

Nearly \$2 billion of the overall increase is due to higher right-of-way, preliminary engineering and construction costs due to change in unit prices since the last estimate.

The increase in cost means that the Federal-share will rise from \$37 billion to \$42 billion, *requiring* authorizations of \$5.0 billion more from the Highway Trust Fund.

Legislation is under construction in Congress at the present time to solve the problem. Among other things it provides for the increased authorizations and for the increase of revenues to the Trust Fund. It provides for extending to February 28, 1973, the life of the Highway Trust Fund and the taxes assigned to it to provide an additional \$2 billion.

Trust Fund revenues would be augmented by raising the tax on diesel fuel used in highway vehicles from 4 to 6 cents a gallon, and a graduated tax for buses and tractor-trailer trucks would be set up to bring their contributions closer to their share of highway costs. This would provide an additional \$1.6 billion. In addition, 1 percent of the excise tax on automobiles would be transferred from the General fund of the U.S. Treasury to the Highway Trust Fund to finance the Highway Beautification Act passed last year, and the Highway Safety Bill now before Congress, supplemented by such additional General Fund revenues as are needed to finance these two purposes.

But what happens after the Interstate is completed? Demand for new and improved highways is not going to disappear but will be on the increase. As long as our country continues its dynamic growth, there will be a need for better and more efficient roads.

The 90 million motor vehicles now traveling 880 billion vehicle miles annually will climb to 120 million by 1975 when it is estimated they will travel close to 1.2 trillion vehicle miles. This anticipated increase in vehicles surely is a clear indication that the mobility the American people want shows no signs of abating, and that more highway facilities will be needed to accommodate the rise in vehicles.

To determine what the future highway requirements will be, the Bureau of Public Roads in cooperation with State highway departments is making a study of continuing highway needs which will be reported to Congress in January 1968.

President Johnson has indicated that Federal aid to States probably would be continued. In a letter to Secretary of Commerce John T. Connor. The President wrote:

"It seems probable that substantial Federal aid to the States for highway construction after 1972 will be desirable and that reasonable continuity and stability in the Federal-aid program should be assured."

He also said, "But I want it to be absolutely clear that proposals for a post-1972 program must be carefully evaluated in the light of overall national transportation needs and objectives, balancing national benefits against costs.

"Consistent with my fixed determination to require a searching re-evaluation of all continuing programs, I intend that the Federal-aid highway program be reviewed in depth. It will not be enough to estimate how many miles of additional highway can or should be built or how much Federal money will be required to provide this mileage.

"Every element of the existing program should be reviewed in terms of finding the most appropriate ways of meeting current and emerging conditions. Most important is a full and fair appraisal of the urban transportation problem and of the relative capability of various Federal programs such as the highway program and the urban mass transit assistance program to meet various urban transport requirements. The effectiveness of executive branch arrangements to solve such complex problems should also be evaluated, and recommendations for any needed improvement should be made to me."

For the purpose of the continuing highway needs study, State highway departments have already supplied the Bureau of Public Roads with information on present and anticipated future use of all roads and streets, and their estimates of the cost of correcting the present inadequacies and providing for future traffic growth.

These estimates will be carefully reviewed, and consideration given to the effect on them of the potential impact of improvement in other modes of transport technology. An essential next step in the Bureau's study is a careful review of the functional use, that is, arterial, collector or land service, of all roads and streets to serve as a basis of appraisal of how well the present Federal-aid systems- Interstate, primary and secondary - conform to the functions they should perform.

Permit me to elaborate somewhat on the study which will be the most elaborate ever made of transportation and public policy on transportation, and from which will evolve plans and programs. The final programs, both as to policy and finance, will be written by legislators - Federal, State and local. But it is the responsibility of administrators, engineers, economists and planners in government at all levels to define the problems, analyze the relevant collected data and recommend proposed solutions. This means they must work closely together.

The basic problem, of course, is to project growth of transportation; and to do this we must first project growth and shifts of the population and the economy -- nationally, regionally, and locally.

We must consider possible changes in the motor vehicle itself, and in its use -- trip distribution, purpose, frequency, and length. We must consider the possible future division of travel among automobiles, buses, rail transit, and possibly new forms of transportation.

Once we have forecast future highway travel, we must measure the needs against the capabilities of existing roads and streets. And in planning to overcome deficiencies, we must seek the best possible balance among the three choices of new construction, upgrading of existing facilities, and traffic engineering improvements.

In all of these considerations, it must be remembered that all roads and streets form a single, integrated network -- certainly insofar as the flow of traffic is concerned. Yet there must be a division into systems, for purposes of administrative, operational, and financial responsibility. So a comprehensive study must include a thorough examination of road and street systems, with functional classification as the key feature.

An important aspect of system study is the question of sharing of responsibility among the Federal, State, and local governments. The Federal Government has assumed 90 percent of the cost of the Interstate System, because it is the concentrated core of our highway network. Should the system's 41,000-mile limit be increased after 1972? And how much? What additional proportion of our total mileage, or what class of routes, are of such vital national interest as to warrant 90 percent Federal cost participation?

In our broad study, presumably we will want to examine the systems to which Federal aid is extended on a 50-50 matching basis, under our current ABC program.

The Federal-aid primary system now totals 227,000 miles, of which 9 percent are in urban areas. Among its routes is a tremendous range of service, from the Interstate level down to barely above the secondary.

Perhaps we need to assign part of the primary mileage to a new Federal-aid category, lying next to the Interstate in importance. To some people the gap has seemed large, between the 90-percent Federal share of the Interstate System costs and the 50-percent sharing for primary system projects. But in the minds of many people the concepts of Interstate System, full controlled access, and 90-10 sharing ratio are inseparable -- that you can't have one without the others.

The concept of an intermediate Federal-aid category raises the companion idea of an intermediate Federal cost-sharing ratio, of perhaps two-thirds or three-fourths. One of the incidental virtues of such an arrangement would be to lessen the pressures for wholesale expansion of the Interstate System.

In considering the existing Federal-aid system, we will also probably want to review the relatively large and steadily growing secondary system. A study and perhaps a restatement of the purposes of this system may be warranted, especially since, under the Federal-Aid Highway Act of 1962, the secondary system may now be located in both rural and urban areas.

As our population continues to shift toward larger urban proportions, any comprehensive study must give appropriate attention to urban highway needs and the role of Federal aid in taking care of them.

The question of relative emphasis, in the Federal-aid programs, should also be given study for the years beyond 1972. Since 1944, the ABC funds have been divided three ways: 45 percent for the primary system; 30 percent for the secondary system; and 25 percent for urban portions of these two systems. Each State may deviate as much as 20 percent from this by shifting its allotments. In addition, the 45-percent primary money can be spent in urban areas; and under the 1962 Act so can the 30-percent secondary money.

Whether the 45-30-25 percent division, and the 20-percent deviation allowance, are appropriated for the future, is a question deserving of close study.

Methods of apportionment of Federal aid among the States are formally prescribed in the law, but any broad study of highways and Federal aid should review this aspect, too.

Finally, there are the actual dollars and cents questions: What should be the proportion of Federal responsibility for highways in the future? In other words, how much total Federal aid? Should the Federal authorization be long-range -- and how long? How shall the Federal funds be raised and managed?

None of these questions about Federal-aid programs and systems can be considered independently of similar questions about State and local programs and systems -- and vice versa. As a consequence, Federal-State-local cooperation in seeking the answers is essential.

This, then, is the next great responsibility of highway administrators and planners -- planning for the years and decades beyond 1972.

And what is this to you? It is your Nation, your State, your communities whose wealth and welfare, prosperity and pleasure, depend so much on transportation. The planning that can greatly affect your personal and business affairs in the future -- and those of your children -- is now underway. It behooves you to have a close and keen interest in it.

U. S. DEPARTMENT OF COMMERCE
Bureau of Public Roads

PROGRAM PROGRESS FACTORS - INTERSTATE SYSTEM

As of March 31, 1966

Region	Division	COST FACTORS						
		Total program			Fiscal year apportioned funds obligated 2/			
		Estimated total cost, 1965 estimate (Million dollars)	Total State and Federal funds obligated 1/		1964 (Percent)	1965 (Percent)	1966 (Percent)	1967 (Percent)
			Amount (Million dollars)	Percent of estimated total cost				
1	Connecticut	\$755	\$503	67	100	100	100	52
	Maine	233	147	63	100	100	100	43
	Massachusetts	1,061	599	56	100	100	100	21
	New Hampshire	232	130	56	100	100	88	-
	New Jersey	1,221	631	52	100	100	50	-
	New York	2,462	1,506	61	100	100	100	49
	Rhode Island	231	159	73	100	100	100	46
	Vermont	334	184	55	100	100	84	-
	Total	6,529	3,869	59	100	100	100	21
	2	Delaware	146	103	71	100	100	48
Maryland		792	336	42	82	-	-	-
Ohio		2,817	1,672	59	100	100	100	36
Pennsylvania		2,160	1,173	54	100	100	100	21
Virginia		1,423	829	58	100	100	100	49
West Virginia		836	361	43	100	100	100	31
Dist. of Col.		554	200	36	100	22	-	-
Total		8,728	4,674	54	100	100	94	-
3	Alabama	954	490	51	100	100	80	-
	Florida	998	576	58	100	100	100	58
	Georgia	860	565	66	100	100	100	77
	Mississippi	544	331	61	100	100	100	46
	North Carolina	486	297	61	100	100	100	37
	South Carolina	373	252	68	100	100	100	59
	Tennessee	1,114	663	60	100	100	100	41
	Total	5,329	3,174	60	100	100	100	37
	4	Illinois	2,572	1,403	55	100	100	100
Indiana		1,097	597	54	100	100	41	-
Kentucky		925	487	53	100	100	100	11
Michigan		1,584	1,029	65	100	100	100	56
Wisconsin		494	348	70	100	100	100	84
Total		6,672	3,864	58	100	100	100	23
5	Iowa	588	359	61	100	100	100	57
	Kansas	432	273	63	100	100	100	46
	Minnesota	1,070	596	56	100	100	100	37
	Missouri	1,197	707	59	100	100	100	64
	Nebraska	315	208	66	100	100	100	54
	North Dakota	243	155	64	100	100	100	55
	South Dakota	360	191	53	100	100	100	57
	Total	4,205	2,489	59	100	100	100	51
6	Arkansas	444	284	64	100	100	100	11
	Louisiana	1,182	662	56	100	100	100	40
	Oklahoma	533	313	59	100	100	93	-
	Texas	2,251	1,300	58	100	100	100	65
	Total	4,410	2,559	58	100	100	100	44
7	Arizona	620	333	54	100	100	100	38
	California	4,229	2,363	56	100	100	100	31
	Nevada	273	159	58	100	100	100	48
	Hawaii	284	71	25	100	52	-	-
	Total	5,406	2,926	54	100	100	100	21
8	Idaho	281	164	58	100	100	100	11
	Montana	480	261	54	100	100	63	-
	Oregon	770	443	58	100	100	100	48
	Washington	979	571	58	100	100	100	29
	Total	2,510	1,439	57	100	100	100	21
9	Colorado	539	287	53	100	100	89	-
	New Mexico	506	289	57	100	100	100	64
	Utah	579	299	52	100	100	100	44
	Wyoming	436	246	56	100	100	100	26
	Total	2,060	1,121	54	100	100	100	30
	Undistributed	951	191	20	-	-	-	-
	GRAND TOTAL	46,800	26,302	56	100	100	100	24

1/ Includes all authorized advance construction Interstate (ACI) projects and Interstate bond projects, although Federal funds will not be obligated for such work until the State requests conversion of these projects to regular funded status, and estimated Interstate Highway Planning and Research (IHR) funds obligated.

2/ Regional and U. S. totals are averages which include later fiscal year fund obligations.

NOTE: Columns may not add to totals due to rounding.

U. S. DEPARTMENT OF COMMERCE
Bureau of Public Roads

PROGRAM PROGRESS FACTORS - INTERSTATE SYSTEM

As of March 31, 1966

Region	Division	MILEAGE FACTORS												Preliminary status or not yet in progress	Total system mileage
		Miles open to traffic				Work in progress									
		Toll facilities	Completed to full or acceptable standards	Improved to standards adequate for present traffic	Total open to traffic		Under construction		Engineering or ROW		Total underway				
					Miles	Percent	Miles	Percent	Miles	Percent	Miles	Percent			
1	Connecticut	14	192	47	253	85	9	3	30	10	39	13	4	296	
	Maine	59	126	4	189	60	71	23	51	16	122	39	2	312	
	Massachusetts	134	151	27	312	69	56	13	78	17	134	30	4	451	
	New Hampshire	22	105	9	136	63	17	8	20	9	37	17	41	215	
	New Jersey	46	56	49	151	40	44	12	108	29	152	41	70	373	
	New York	493	365	70	928	76	157	13	106	8	263	21	34	1,225	
	Rhode Island	-	23	9	32	45	11	15	29	40	40	55	-	71	
	Vermont	-	109	-	109	34	37	12	175	54	212	66	-	321	
	Total	768	1,127	215	2,110	65	402	13	597	18	999	31	155	3,254	
2	Delaware	12	2	1	15	37	15	36	11	27	26	63	-	41	
	Maryland	53	105	94	252	71	28	8	55	15	83	23	19	354	
	Ohio	206	688	50	944	62	219	14	343	23	562	37	21	1,528	
	Pennsylvania	360	562	2	924	58	258	16	356	23	614	39	42	1,586	
	Virginia	44	402	60	506	48	163	15	369	35	532	50	23	1,059	
	West Virginia	86	100	-	186	36	68	13	82	16	150	29	181	518	
	Dist. of Col.	-	7	3	10	33	1	3	5	17	6	20	14	30	
	Total	761	1,866	210	2,837	56	752	15	1,221	24	1,973	39	300	5,110	
3	Alabama	-	262	91	353	40	241	27	225	26	466	53	62	880	
	Florida	47	429	-	476	41	206	18	200	17	406	35	270	1,151	
	Georgia	-	413	9	422	62	262	24	419	38	681	62	3	1,106	
	Mississippi	-	278	32	310	46	229	34	139	20	368	54	-	678	
	North Carolina	-	356	36	392	51	101	13	259	34	360	47	19	770	
	South Carolina	-	333	13	346	51	176	26	159	23	335	49	-	681	
	Tennessee	-	298	127	425	40	247	23	364	35	611	58	15	1,051	
	Total	47	2,369	308	2,724	43	1,462	23	1,765	28	3,227	51	369	6,317	
4	Illinois	156	581	146	833	54	110	7	584	36	694	43	52	1,629	
	Indiana	157	359	41	557	50	177	16	361	34	558	50	-	1,115	
	Kentucky	39	261	11	311	42	130	18	287	39	417	57	5	733	
	Michigan	5	738	46	789	73	78	7	202	19	280	26	12	1,082	
	Wisconsin	-	281	24	305	66	52	11	100	22	152	33	1	459	
	Total	357	2,220	268	2,845	57	547	11	1,554	31	2,101	42	70	5,018	
5	Iowa	1	368	5	374	53	77	11	177	25	254	36	82	709	
	Kansas	187	372	9	568	71	70	9	162	20	232	29	1	799	
	Minnesota	-	221	48	269	30	195	21	440	49	635	70	-	904	
	Missouri	-	541	168	709	63	33	7	314	28	397	35	13	1,119	
	Nebraska	-	228	13	241	50	58	12	179	38	237	50	-	478	
	North Dakota	-	305	21	326	57	68	12	97	17	165	29	79	571	
	South Dakota	-	276	59	335	49	97	14	248	37	345	51	-	679	
	Total	188	2,311	323	2,822	54	648	12	1,617	31	2,265	43	175	5,259	
6	Arkansas	-	217	3	220	42	177	34	110	21	287	55	14	520	
	Louisiana	-	212	6	218	32	168	25	262	39	430	64	21	671	
	Oklahoma	174	340	54	568	71	24	3	206	26	230	29	-	798	
	Texas	-	1,360	287	1,647	54	415	14	751	25	1,166	39	210	3,024	
	Total	174	2,129	350	2,653	53	784	16	1,329	26	2,113	42	245	5,013	
7	Arizona	-	362	316	678	58	184	16	269	23	453	39	37	1,166	
	California	10	647	355	1,012	47	342	16	811	37	1,153	53	-	2,165	
	Nevada	-	258	5	263	49	94	18	178	33	272	51	-	535	
	Hawaii	-	4	2	6	11	6	11	28	54	34	65	11	52	
	Total	10	1,271	678	1,959	50	626	16	1,286	33	1,912	49	48	3,918	
8	Idaho	-	273	54	327	54	66	11	186	30	252	41	29	608	
	Montana	-	373	36	409	35	128	11	516	43	644	54	132	1,185	
	Oregon	-	445	186	631	86	2	1	48	6	50	7	49	731	
	Washington	-	196	205	401	55	71	10	173	24	244	34	81	726	
	Total	-	1,287	481	1,768	54	267	8	923	29	1,190	37	291	3,250	
9	Colorado	-	361	156	517	55	102	11	165	17	267	28	162	946	
	New Mexico	-	435	88	523	52	64	6	322	32	386	36	93	1,003	
	Utah	-	150	43	193	21	158	17	342	36	500	53	241	935	
	Wyoming	-	469	36	505	55	92	10	61	9	173	19	234	912	
	Total	-	1,415	323	1,738	46	416	11	910	24	1,326	35	730	3,796	
	Undistributed	-	-	-	-	-	-	-	-	-	-	-	59	59	
	GRAND TOTAL	2,305	15,995	3,152	21,452	53	5,903	14	11,203	27	17,106	41	2,442	41,000	

NOTE: Columns may not add to totals due to rounding.