

MINUTES OF THE
MEETING OF THE SENATE COMMITTEE
ON TAXATION

SIXTY-FIRST SESSION
NEVADA STATE LEGISLATURE
March 26, 1981

The Senate Committee on Taxation was called to order by Chairman Keith Ashworth, at 2:11 p.m., Thursday, March 26, 1981, in Room 213 of the Legislative Building, Carson City, Nevada. Exhibit A is the Meeting Agenda. Exhibit B is the Attendance Roster.

COMMITTEE MEMBERS PRESENT:

Senator Keith Ashworth, Chairman
Senator Norman D. Glaser, Vice Chairman
Senator Don Ashworth
Senator Virgil M. Getto
Senator James N. Kosinski
Senator William J. Raggio

COMMITTEE MEMBER ABSENT:

Senator Floyd R. Lamb

STAFF MEMBERS PRESENT:

Ed Shorr, Deputy Fiscal Analyst
Colleen Crum, Committee Secretary

The chairman asked the committee to study the gas rate chart for the 50 states. (See Exhibit C.)

Mr. Al Stone, Director of the Department of Transportation, presented prepared remarks on Senate Bill No. 154 and Senate Bill No. 162. (See Exhibit D.) Mr. Stone suggested amendments to both bills. (See Exhibits E and F.)

Mr. Pete Predere, Assistant Director of Operations for the Department of Transportation, presented a slide program on the Pavement Management System. (See Exhibit G.)

Mr. Ivan Laird, Program Engineer for the Department of Transportation, presented a slide program on the highway surfacing needs. (See Exhibit H.)

Senate Committee on Taxation
March 26, 1981

The Department of Transportation submitted staff reports entitled, "Preservation of Our Existing Highway Surfaces" and "Nevada's 1981-2001 State Transportation Needs Study." (See Exhibits I and J.) A report by a Washington, D.C. group entitled, "The Effect of Substandard Roads on Vehicle Operating Costs in Nevada," was also submitted. (See Exhibit K.)

The chairman asked for an explanation of the difference in distribution in columns C and D in Senate Bill No. 154. Mr. Laird explained column C goes directly to the county while column D is split between the cities and the counties.

Senator Kosinski asked what criteria was used in fixing the scales in Senate Bill No. 154. Mr. Stone explained the tables begin with a 7.5 percent tax. The table increases as the gas price increases. Historically, as gas prices increase, the price of asphalt increases higher than the price of gas. The tax in the scales does not exceed 10 percent.

Senator Kosinski asked whether the tax on special fuel was different than the tax on motor fuel. Mr. Stone stated both taxes are the same.

Senator Glaser asked what was the advantage of a sliding scale opposed to a fixed tax. Mr. Stone said there would be a five-month lag on the tax under the sliding scale. The collection method remains the same under the sliding scale. The straight percentage method requires a special method of collection. Ninety-five percent of the diesel fuel tax is collected from a mileage-option bookkeeping procedure.

Senator Don Ashworth asked why the spread on motor vehicle fees was not maintained in Senate Bill No. 262. Mr. Stone said Nevada hadn't changed its rates on motor vehicle fees for eight years. Nevada presently charges the lowest fee in the United States for passenger cars.

Senator Raggio asked for an explanation of the rationale behind increasing the registration rate by \$6.50 on passenger cars and motorcycles while increasing the fee by only \$3.00 on small trucks and buses. Mr. Stone stated buses were the key. Fuel conservation is being encouraged.

Senate Committee on Taxation
March 26, 1981

Senator Getto asked for an explanation of the rationale for the different increases in weight groups for trailers on page 1, section 4. He noted some weights increased by \$3.50 while others increased by only \$2.50. Mr. Hale Bennett, Chief of Registration for the Department of Motor Vehicles, stated the fees charged for weight classifications have been criticized. In order to make the basic weights on page 1 fit within the weight schedule on page 2 without becoming astronomical increases, those weights had to be given a less than normal percentage increase than the other weights. He said the same rationale applies for the registration fees on small trucks. Many small trucks are used as passenger vehicles. There has been criticism over charging small trucks used as passenger vehicles higher registration fees than cars. Senate Bill No. 262 attempts to make the fees for small trucks and passenger vehicles coincide.

Senator Glaser asked what is accomplished by changing the mileage rate on common carriers from a sliding rate to a flat rate of 2.25 cents per mile in Senate Bill No. 262. Mr. Stone said, under the sliding rate, the more miles a motor carrier travels over Nevada's road and tears up those roads in the process, the cheaper the tax. A flat tax corrects that situation.

Senator Raggio asked if the flat rate would impose an unfair burden on interstate commerce. Mr. Stone said an unfair burden would not be imposed in his opinion.

Mr. Stone was requested to supply the committee with the following information:

1. Graphs showing the relationship between gas and asphalt prices;
2. Comparisons of Nevada registration fees with fees charged in the other 50 states;
3. Projections of how much revenue will be produced by increasing the registration fees; and
4. Projections of the amount of time required to satisfy highway improvement needs using 2-cent, 3-cent, and 4-cent tax rates.

Senate Committee on Taxation
March 26, 1981

The chairman left the meeting and Vice Chairman Glaser took over the chairman's duties.

Vice Chairman Glaser asked whether the independent truckers were covered under Senate Bill No. 262. Mr. Winston Richards, Chief of the Motor Carrier Division of the Department of Motor Vehicles, stated Bill Draft Request 58-790, dealing with this subject, will be introduced by Senator Lawrence Jacobsen on March 27, 1981. The fee proposed in BDR 58-790 would increase from 5 percent to 10 percent.

Mr. John Sande, representing the major oil companies, opposed Senate Bill No. 154 and Senate Bill No. 373. He presented a position paper outlining the major oil companies' views. (See Exhibit L.)

Vice Chairman Glaser asked why the sliding tax was opposed when the major oil companies know that asphalt prices increase when gas prices increase. Mr. Sande did not feel there was a one-to-one correlation between the prices of gas and asphalt. He said the sliding tax has no relationship to the Department of Transportation's needs. He felt there would be administrative problems with the sliding tax.

The chairman returned to the meeting.

Senator Raggio stated the sliding rate would prevent fighting this issue during every legislative session. He said the sliding tax is the only method which would keep up with the rising asphalt costs. Mr. Sande stated the tax should be reviewed each session.

The chairman stated he would agree to the legislature studying the issue every two years if the oil companies would put a two-year ceiling on the price of asphalt.

Mr. John Fults, owner-operator of the Forty-Niner Truck Stop Plaza in Winnemucca, stated a fixed tax is easier to administer than a sliding tax. Nevada fuel vendors would be at a competitive disadvantage with other states when the tax reached two cents under the sliding scale. He said the sliding tax doesn't allow for expression of opinion during each legislative session.

Senate Committee on Taxation
March 26, 1981

The chairman stated the issue had been reviewed during every legislative session. A bill proposing to increase the tax was defeated last session. He said a sliding tax must be passed to prevent highways from deteriorating faster than they could be repaired. He said if the sliding tax is opposed, the fixed tax rate advanced in Senate Bill No. 373 should be amended in anticipation of the gas and asphalt price increases which will occur over the next two years. That tax rate should be between 13-14 cents. Under the sliding scale proposal, the 13-cent tax would not be imposed until the gas price reached \$1.80 per gallon. He stated the sliding scale would allow businessmen to wait until the price reached \$1.80 per gallon before having to pay the 13-cent tax.

Senator Glaser noted the past two Governors refused to approve fuel tax increases and this is the reason for the present highway conditions.

Senator Raggio asked why the single exception should be made to allow motor vehicle fuel to be the only tax not charged on a percentage basis. Mr. Fults stated that the cents-per-gallon taxation method related to highway use and maintenance needs when the tax was originally imposed. He said this original concept is valid today. Senator Raggio stated Mr. Fults' response suggests that the concept is to make the tax relate directly to the maintenance of roads. He felt Mr. Fults' comment supports the contention that the tax should vary because the cost of maintaining roads varies.

Mr. Grant Bastion, representing the Highway Users Conference, opposed Senate Joint Resolution No. 15. The resolution proposed to allow the highway trust fund to be used for other means than originally designated. He said the Nevada Highway Users Conference was divided over the issues being addressed today. He advanced the minority position that Senate Bill No. 374 does not provide relief to the counties. He stated the legislature must consider how much tax the Nevada highway user can withstand. The highway user needs a predictable tax to reflect in his rates. It presently requires between 9-14 months for the highway user to receive rate increase approvals from the Public Service Commission.

Senate Committee on Taxation
March 26, 1981

Senator Getto stated the highway user presently has the same problem in predicting the price of fuel.

Senator Don Ashworth stated he feared that Nevada would never be able to maintain its roads unless a sliding tax was instituted.

Senator Getto asked whether the sliding tax would be opposed if the upward rate of the scale was reduced. Mr. Bastion stated that a predictable tax was needed.

Mr. Bastion felt legislative review every two years was needed. Senator Raggio stated the legislature meets every two years and has the ability to review the issue during each session regardless of the tax method.

Mr. Bastion stated large gasoline users must be made to pay the same gasoline tax as the smaller users. He questioned the costs of collection and making the survey under the sliding tax method in Senate Bill No. 154. Mr. Bastion suggested using revenues from other types of motor vehicle fees for highway improvements, such as registration fees and sales tax on cars and automotive-related parts and accessories. He stated the method of setting the tax under the sliding scale would be open to court challenge.

Mr. Bastion presented a paper by the North American Gasoline Tax Conference (Exhibit M) and a report by the Federation of Tax Administrators (Exhibit N).

The chairman asked if the Nevada Highway Users Conference would approve of setting a flat 13-14 cent tax in anticipation that the gas price would be \$2.00 per gallon by 1983. He noted the gas tax would presently be 10 cents per gallon under the sliding scale. Mr. Bastion questioned whether the consumer could withstand such a high tax.

Senator Glaser asked whether Mr. Bastion felt the legislative finance committees had proper control in reviewing the Department of Transportation budget and adjusting the budget appropriately if excessive revenue was generated by the gasoline tax. Mr. Bastion said there is a tendency to spend whatever funds are generated.

Senate Committee on Taxation
March 26, 1981

Mr. Daryl E. Capurro, Managing Director for the Nevada Motor Transport Association, acknowledged that the highway needs must be met. He expressed concern that a tremendous burden would be put on highway users to finance improvements strictly from the highway funds. He suggested using the sales tax from highway-related products to help fund highway improvement projects. He felt there should be legislative review of the highway tax next session. He opposed diverting much-needed highway funds to other uses as proposed in Senate Joint Resolution No. 15. He supported Senate Bill No. 262 as it relates to commercial and registration fees for trucks and trailers. He also agreed with Mr. Stone's proposed amendments to the bill.

Senator Raggio asked how the 2.25-cent tax would compare with taxes levied in other states. Mr. Capurro stated that taxes levied by western states are approximately 2 cents higher than the taxes levied by eastern states. The present tax puts Nevada in the middle range in comparison with other states.

Mr. Capurro opposed Senate Bill No. 154. He felt the survey for setting the tax would be costly and would be challenged everytime it was taken. He suggested using an index rather than a survey if the sliding tax was adopted. He also preferred that the tax be set annually or semi-annually. He stated the tax should be reviewed every legislative session. He supported the fixed fuel tax provision in Senate Bill No. 374. He felt a 3-cent tax this year and a 1-cent tax next year was sufficient.

Mr. Ron Lurie, Chairman of the Clark County Regional Transportation Commission, asked in prepared remarks that Senate Bill No. 154 be amended to include an additional 2-cent tax for funding regional projects. (See Exhibit O.) He presented an overview of the regional transportation needs. (See Exhibit P.)

Mr. William Buxton, Acting Director of the Clark County Regional Transportation Commission, requested that Senate Bill No. 154 and Senate Bill No. 374 be amended to include an additional 2-cent tax for funding regional projects. A 2-cent tax increase would provide an additional bonding capacity of \$21.5 million.

Senate Committee on Taxation
March 26, 1981

Senator Raggio noted that a 2-cent increase for funding regional projects was authorized to be submitted to a vote of the people. He asked whether Clark County had taken the issue to the people. Mr. Lurie stated Clark County was reluctant to ask the people for an increase after the issue was defeated in Washoe County and Carson City. Senator Raggio stated it troubled him to be asked to levy a 2-cent tax for the very purpose that was turned down by the voters. Mr. Lurie stated he felt the voters would approve the issue if it was sold properly.

Ms. Leslie Peterson, representing Clark County, clarified that the county was requesting the legislature to permit local governments to levy the tax by ordinance. She submitted a proposed amendment to Senate Bill No. 154 dealing with this subject. (See Exhibit Q.)

The chairman stated he would not object to authorizing the county commissioners to levy the tax by ordinance. He said any tax increase on the Regional Transportation level must be locally induced either with or without voter approval.

Mr. Berlin Miller, Chairman of the Greater Las Vegas Chamber of Commerce Legislative Committee, supported increasing the gas tax at both the state and local levels.

Ms. Irene Porter, representing the Nevada Homebuilders Association, supported increasing the gas tax at both the state and local levels.

Mr. Granville M. Bowman, Director of Clark County Public Works, presented a prepared statement explaining why a tax increase is needed to properly maintain the roads in Clark County. (See Exhibit R.)

Senator Kosinski asked how much revenue would be generated from a 1-cent tax. Mr. Bowman stated \$2.7 million would be generated.

Senator Kosinski asked whether any local maintenance needs were met by Regional Transportation Commission funding.

Senate Committee on Taxation
March 26, 1981

Mr. Bowman replied that Regional Transportation Commission funds are not allowed to be used for maintenance of roads.

Mr. Leo Thomas, President and General Manager of the Las Vegas-Tonopah-Reno Stage Line, stated a gas tax increase would put a great burden on bus companies and would necessitate raising bus fares. Historically, passengers reduce their riding when bus fares are increased. He stated the sliding tax method would create difficulties in receiving prompt rate increase approval from the Public Service Commission.

Mr. Vernon Frehner, owner of the Frehner Construction Company in Las Vegas, stated a tax increase is needed to improve the road system. He requested that the trucking industry be given the ability to receive compensating tariff increase approval from the Public Service Commission.

Senator Getto asked which tax plan Mr. Frehner preferred. Mr. Frehner stated he preferred an annual review of the tax.

Mr. Gus Bengal, representing Garrett Freightlines, agreed with the pitfalls of the sliding tax advanced in prior testimony. He recommended increasing the gas tax by a flat 2 cents, as has been done in Utah and Idaho.

The chairman asked what was the gas tax rate in Utah and Idaho before the increase. Mr. Bengal stated it was 9 cents and 9.5 cents, respectively.

Senator Raggio suggested raising the gas tax to 11 cents to be compatible with the Utah and Idaho rates.

Mr. Virgil Anderson, representing the California-Nevada Automobile Association (AAA), supported the fixed tax proposed in Senate Bill No. 374. He felt this proposal was a practical and viable approach to solving the highway problems. He submitted a news release containing AAA's monthly gas price survey. (See Exhibit S.) He stated a 5-cent tax would be levied if the sliding tax was in effect today, according to the survey. The tax would double by July 1, 1981 under the sliding system. He opposed the more than 100-percent increase in registration fees proposed in Senate Bill No. 262.

Senate Committee on Taxation
March 26, 1981

The chairman asked the amount of California's registration fee. Mr. Anderson stated California charges \$11.00. He said there was no question that the present \$5.50 fee charged by Nevada is inadequate, but urged moderation.

Mr. Anderson opposed Senate Joint Resolution No. 15. He stated it was ludicrous to divert money from a fund which is already broke.

Mr. Rowland Oakes, representing the Associated General Contractors, spoke in favor of Senate Bill No. 154. He noted Reno, Sparks, and Washoe County are considering a proposal to add \$2,000 to the cost of a house to fund road construction. He opposed this proposal because he felt roads should be funded by gas taxes.

Mr. Pete Woolley, a Nevada gas retailer, opposed Senate Bill No. 154. He questioned the legality of a sliding tax system. He acknowledged a higher gas tax was necessary, but opposed relinquishing the right for proper representation on tax increases to a bureaucracy.

Mr. Jerry L. Hall, Executive Director of the Washoe County Regional Transportation Commission, supported Senate Bill No. 154 and asked that the bill be amended to include a tax for funding regional transportation needs. He said the Regional Transportation Commission funding ability is presently exhausted. He supported allowing local governments to levy a 2-cent tax by ordinance.

Mr. Dave Young, a private citizen from Washoe County, spoke in support of Senate Bill No. 154. He favored adding 2 cents for Regional Transportation Commission funding.

Mr. Mike Bailey, a private citizen from Washoe County, spoke in support of Senate Bill No. 154.

Mr. James Wells, Vice President of Wells Cargo, recognized the need for an increased fuel tax. He recommended that the legislature mandate the Public Service Commission to allow automatic flow through of increased costs.

Senate Committee on Taxation
March 26, 1981

The chairman asked if Mr. Wells supported the sliding scale method. Mr. Wells stated he could support the sliding scale if his recommendation regarding the Public Service Commission was instituted.

Mr. Bud Wolf, representing the Nevada Gas Dealers Association, opposed the sliding tax and supported a fixed tax.

The chairman stated Senate Bill No. 373 would be rescheduled for April 2, 1981.

There being no further business, the meeting adjourned at 6:01 p.m.

Respectfully submitted by:


Colleen Crum, Secretary

APPROVED BY:


Senator Keith Ashworth, Chairman

DATE: April 2, 1981

SENATE AGENDA

EXHIBIT A

COMMITTEE MEETINGS

AMENDED DATE: 3/17/81

Committee on TAXATION, Room 213.

Day Thursday, Date March 26, Time 2:00 p.m.

AMENDED AGENDA

S. B. No. 154--Increases and changes measure of tax on motor vehicle fuel and special fuel.

S. B. No. 374--Increases registration fees and taxes on fuel for motor vehicles.

S. J. R. No. 15--Proposes to amend Nevada constitution to broaden permissible uses of state highway fund.

S. B. No. 262--Increases certain fees for registering and licensing motor vehicles.

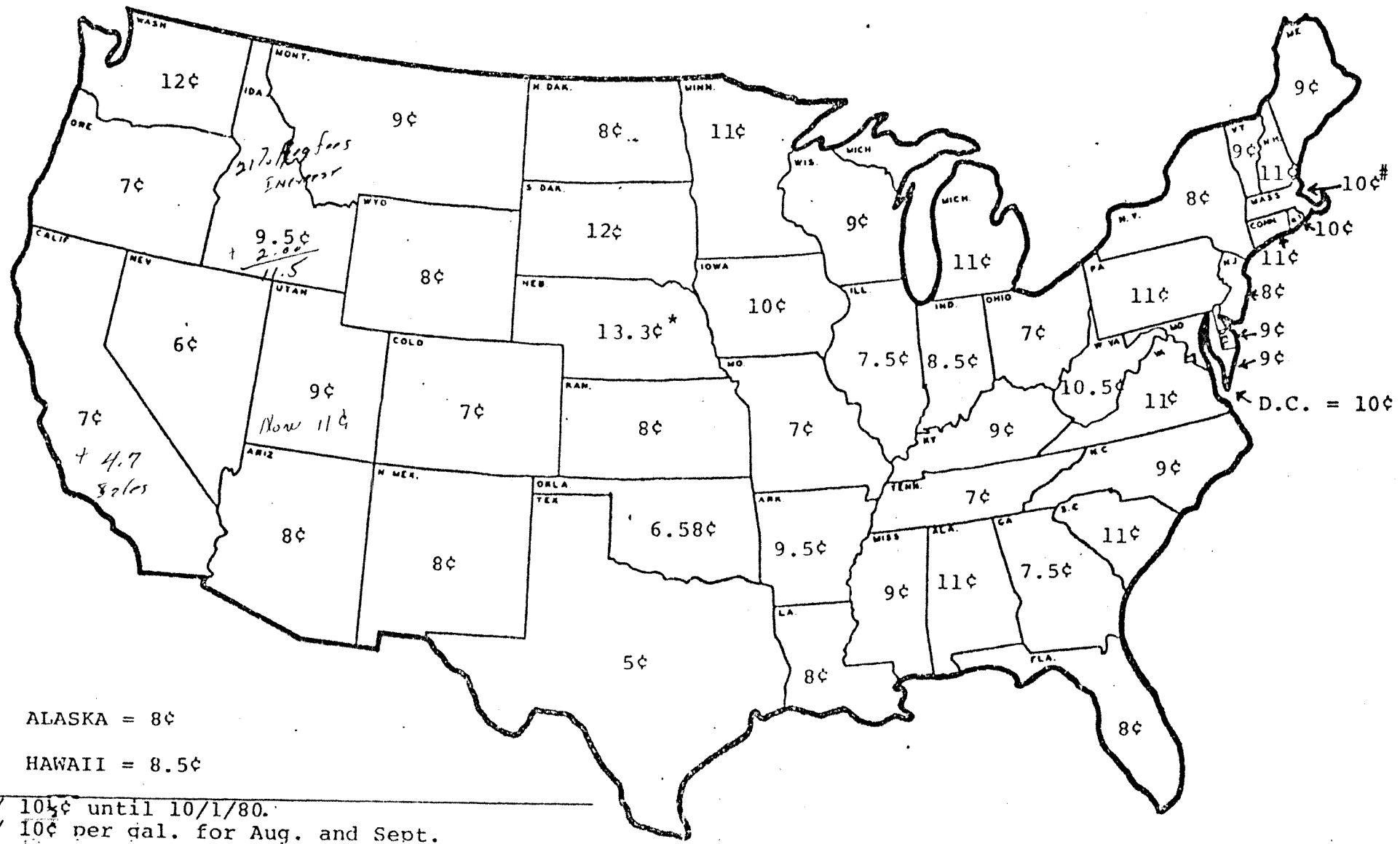
S. B. No. 373--Extends county motor vehicle fuel tax to diesel fuel and liquefied petroleum gas and establishes percentage of sale price as measure of tax.

SENATE COMMITTEE ON TAXATIONEXHIBIT BDATE: March 26, 1981

PLEASE PRINT	PLEASE PRINT	PLEASE PRINT	PLEASE PRINT
NAME	ORGANIZATION & ADDRESS	TELEPHONE	
<i>Richard Hall</i>	<i>Tedford, Inc.</i>	<i>423-3249</i>	
<i>Sam Wiskyer</i>	<i>Tedford Inc.</i>	<i>423-3249</i>	
<i>Tom Rann</i>	<i>NLP Gas</i>	<i>882-3228</i>	
<i>A.C. Wall</i>	<i>New Gas Dealers Assn</i>	<i>883-8383</i>	
<i>Eric Anger</i>	<i>New J.P. Gas Dealers Assn</i>	<i>972-0244</i>	
<i>D.B. Tedball</i>	<i>New Gas Dealers Assn</i>	<i>853-3795</i>	
<i>Bob Santos</i>	<i>New York Dealers Assn</i>	<i>358-5551</i>	
<i>DON TIPPIN</i>	<i>TIPPIN GAS & APPL. HAWTHORNE</i>	<i>945-2449</i>	
<i>DARYL E. CAPURRO</i>	<i>NEVADA MOTOR TRANSPORT ASSN</i>	<i>331-6884</i>	
<i>JIM WELLS</i>	<i>WELLS CARGO INC. RENO</i>	<i>329-0061</i>	
<i>John Sande</i>	<i>Major Oil Companies</i>	<i>786-5000</i>	
<i>John Fults</i>	<i>49er Corp.</i>		
<i>LEO THOMAS</i>	<i>LTR Bus Co</i>	<i>384-1230</i>	
<i>Tony Fiorini</i>	<i>LTR Bus Co</i>	<i>358-9666</i>	
<i>Gus Bengel</i>	<i>Gorsett Freightlines Inc. ^{Goatells Rd}</i>	<i>801-222-8831</i>	
<i>Wes Zukow</i>	<i>Zukow Coast. Wash. Reg. Div.</i>	<i>702-649-1397</i>	
<i>AMES TATUMEN</i>	<i>Open Eng's Local 3</i>	<i>673-3284</i>	
<i>C. J. Belding</i>	<i>Open Eng Local 3</i>	<i>331-2178</i>	
<i>Lowell Porter</i>	<i>Open Eng Local #3</i>	<i>323-4938</i>	
<i>Louis G. Battaglia</i>	<i>Local #3 OPENG</i>	<i>883-0474</i>	
<i>Ed Orr</i>	<i>Local #3 OPENG</i>	<i>329-0236</i>	
<i>Father Laffan</i>	<i>Local #3 OPENG</i>	<i>857-4563</i>	
<i>Mike Bailey</i>	<i>Operating Eng Local 3</i>	<i>826-3900</i>	
<i>Wm Burton</i>	<i>RTC Clark County</i>	<i>386-4491</i>	

STATE GASOLINE TAX RATES AS OF AUGUST 1, 1980

3748.8



ALASKA = 8¢
 HAWAII = 8.5¢

* / 10¢ until 10/1/80.
 # / 10¢ per gal. for Aug. and Sept.

NOTE Rates listed are per-gallon;
 4¢ Federal tax is not included.

552

COMPARISON CHART: CURRENT MOTOR FUEL TAX RATES, GASOLINE TAX EXEMPTIONS,
/STATES WHERE MOTOR FUEL IS SUBJECT TO SALES TAX/

STATE	MFT (¢/gal.)	GASOLINE MOTOR FUEL TAX EXEMPTIONS	SALES
Alabama	11¢	3¢ exemption (11¢ to 8¢)	
Alaska	8¢	Total exemption of 8¢/gal. (on 1/1/81)	
Arizona	8¢		
Arkansas	9.5¢	Total exemption of 9.5¢/gal.	
California	7¢		4.75%
Colorado	7¢	5¢ exemption (7¢ to 2¢)	
Connecticut	11¢	1¢ exemption (11¢ to 10¢)	
Delaware	9¢		
1- Dist. of Col.	10¢		6%
Florida	8¢	5¢ exemption (8¢ to 3¢)	
2- Georgia	7.5¢		3%
Hawaii	8.5¢		4%
Idaho	9.5¢	4¢ refund/gal. after 9.5¢ tax is paid	
Illinois	7.5¢		4%
3- Indiana	8.5¢		4%
Iowa	10¢	Total exemption 10¢/gal.	
Kansas	8¢	5¢ exemption (8¢ to 3¢)	
4- Kentucky	9¢		
Louisiana	8¢	Total exemption of 8¢/gal.	
Maine	9¢		
Maryland	9¢	4¢ exemption (9¢ to 5¢, 1980 only)	
5- Massachusetts	10¢		
Michigan	11¢		4%
Minnesota	11¢	4¢ exemption (11¢ to 7¢)	
Mississippi	9¢		5%
Missouri	7¢		
Montana	9¢	7¢ exemption (9¢ to 2¢)	
6- Nebraska	13.3¢	5¢ exemption (13.3¢ to 8.3¢, approx.)	
Nevada	6¢		
New Hampshire	11¢	5¢ exemption (11¢ to 6¢)	
New Jersey	8¢		
New Mexico	8¢	Total exemption of 8¢/gal.	
New York	8¢		4%
North Carolina	9¢	4¢ exemption (9¢ to 5¢) 1/1/81-6/30/81	
North Dakota	8¢	4¢ exemption (8¢ to 4¢)	
Ohio	7¢		
Oklahoma	6.58¢	6.5¢ exemption (6.58¢ to 0.08¢)	
Oregon	7¢		
Pennsylvania	11¢		
Rhode Island	10¢		
South Carolina	11¢	5¢ exemption (11¢ to 6¢)	
South Dakota	12¢	4¢ exemption (12¢ to 8¢)	
Tennessee	7¢		
Texas	5¢		
Utah	9¢	5¢ exemption (9¢ to 4¢)	
Vermont	9¢		
Virginia	11¢		
Washington	12¢		
West Virginia	10.5¢		
Wisconsin	9¢		
Wyoming	8¢	4¢ exemption (8¢ to 4¢)	
TOTAL			

(FOOTNOTES ON REVERSE)

FOOTNOTES

- 1/ The current exemption for motor fuel was removed in the District of Columbia at the same time that the D.C. Council increased the retail sales tax rate from 5% to 6%. The 6% retail sales tax, as applied to motor fuel, is in addition to the 10¢ per gallon D.C. motor fuel tax and the 4¢ per gallon federal excise tax.
- 2/ In addition to the 7½¢ per gallon tax imposed on motor fuels, a second tax in Georgia is levied at the rate of 3% of the retail sales price, less the 7½¢ tax.
- 3/ Effective 7/1/80, the Indiana gasoline tax will be figured at a rate of 8% of average statewide retail price.
- 4/ The present 9¢ per gallon rate will stay in effect in Kentucky until the average dealer tankwagon (DTW) price exceeds \$1.00 per gallon; then the rate will be 9% of average DTW price.
- 5/ Effective 8/1/80, the Massachusetts motor fuel tax rate will be the equivalent of 10% of wholesale price, replacing the current 8½¢ per gallon rate. The State Department of Revenue has established the tax rate at 10¢ per gallon for the months of August and September.
- 6/ Effective 10/1/80, in Nebraska, a 1¢ increase in the per gallon rate, plus 2% of wholesale price paid by the state for its own motor fuel (or 90¢ per gallon = 1.8¢) for a total increase of 2.8¢ (from 10.5¢ to 13.3¢ per gallon).

STATE MOTOR FUEL TAX INCREASES: 1975-1980

1975	1976	1977	1978	1979	1980
DC=8¢-10¢	CT=10¢-11¢	MT=7.75¢-8¢	MI=9¢-11¢	AR=8½¢-9½¢	AL=7¢-11¢
HI=5¢-8½¢	ID=8½¢-9½¢	NH=9¢-10¢	IA=7¢-8½¢	GA=7½¢ (1)	IN=8¢-8½¢ (2)
MA=7½¢-8½¢	KS=7¢-8¢	ND=7¢-8¢	UT=7¢-9¢	IA=8½¢-10¢	KY=9¢-9¢ (3)
MN=7¢-9¢		NE=8½¢-9½¢	WV=8½¢-10½¢	MT=8¢-9¢	MA=8½¢-10¢ (4)
RI=8¢-10¢		SC=8¢-9¢		NE=9½¢-10½¢	MN=9¢-11¢
SD=7¢-8¢		DE=9¢-11¢		NH=10¢-11¢	NE=10½¢-13.3¢ (5)
WY=7¢-8¢		WA=9¢-11¢		PA=9¢-11¢	NM=7¢-8¢
				SC=9¢-10¢	SC=10¢-11¢
				SD=8¢-9¢	SD=9¢-12¢
				WA=11¢-12¢	VA=9¢-11¢
					WI=7¢-9¢

FOOTNOTES

1/ In addition to the 7½¢ per gallon tax imposed on motor fuels, a second tax in Georgia is levied at the rate of 3% of the retail sales price, less the 7½¢ tax.

2/ Effective 7/1/80, the Indiana gasoline tax will be figured at a rate of 8% of average statewide retail price.

3/ The present 9¢ per gallon rate will stay in effect in Kentucky until the average dealer tankwagon (DTW) price exceeds \$1.00 per gallon; then the rate will be 9% of average DTW price.

4/ Effective 8/1/80, the Massachusetts motor fuel tax rate will be the equivalent of 10% of wholesale price, replacing the current 8½¢ per gallon rate. The State Department of Revenue has established the tax rate at 10¢ per gallon for the months of August and September.

5/ Effective 10/1/80 in Nebraska, a 1¢ increase in the per gallon rate, plus 2% of wholesale price paid by the state for its own motor fuel (or 90¢ per gallon = 1.8¢) for a total increase of 2.8¢ (from 10½¢ to 13.3¢ per gallon).

NOTE: ALL TAX PAID
In Cents Per Gallon

STATE	PREVIOUS RATE		DATE OF LAST CHANGE			
	<u>Gasoline</u>	<u>Diesel</u>	<u>Gasoline</u>	<u>Diesel</u>		
Alabama	.10	.11	.07	.08	1980	1980
Alaska	.08	.08	.07	.07	1961	1961
Arizona	.08	.08	.07	.07	9-74	9-74
Arkansas <u>1</u>(	.095	.105	.085	.095	7-1-79	7-1-79
California <u>2</u>(	.07	.07	.06	.045	10-1-63	7-1-53
Colorado	.07	.07	.06	.06	7-69	7-69
Connecticut	.11	.11	.10	.10	1976	1976
Delaware	.09	.09	.11	.11	9-78	9-78
Florida	.08	.08	.07	.07	7-1-71	7-1-71
Georgia <u>2</u>(	.075	.075	.065	.065	6-1-71	6-1-71
Hawaii <u>2</u>(	.085	.085	.05	.05	5-75	5-75
Idaho	.095	.095	.085	.085	1976	1976
Illinois <u>2</u>(	.075	.075	.06	.06	8-1-69	8-1-69
Indiana <u>2</u> (<u>11</u>(	8%	8%	.08	.08	7-1-80	7-1-80
Iowa <u>3</u>(	.10	.115	.085	.10	7-1-79	7-1-79
Kansas	.08	.10	.07	.08	1976	1976
Kentucky <u>4</u> (<u>12</u>(	9%	9%	.09	.09	7-1-80	7-1-80
Louisiana	.08	.08	.07	.07	1-6-69	1-6-69
Maine	.09	.09	.08	.08	6-71	6-71
Maryland <u>13</u>(	.09	.09	.07	.07	7-1-72	7-1-72
Massachusetts	.085	.085	.075	.075	7-75	7-75
Michigan <u>2</u>(	.11	.09	.09	.07	1-1-79	1-1-79
Minnesota	.11	.11	.09	.09	5-1-80	5-1-80
Mississippi <u>2</u>(	.09	.10	.08	.08	7-73	1966
Missouri	.07	.07	.05	.05	8-13-72	8-13-72
Montana	.09	.11	.08	.10	1979	1979

Nebraska <u>9</u>(	.10	.10	.07	.095	1977	1977
Nevada	.06	.06	.055	.055	1955	1955
New Hampshire	.11	.11	.10	.10	1979	1979
New Jersey	.08	.08	.07	.07	8-13-72	8-13-72
New Mexico <u>10</u>(	.08	.08	.07	.07	7-1-80	7-1-80
New York <u>2</u>(	.08	.10	.07	.09	2-72	2-72
North Carolina	.09	.09	.07	.07	7-69	7-69
North Dakota <u>9</u>(	.08	.08	.07	.07	1977	1977
Ohio	.07	.07	.05	.05	5-59	5-59
Oklahoma	.0658	.065	.0558	.055	1949	1949
Oregon	.07	.07	.06	.06	10-1-67	10-1-67
Pennsylvania	.11	.09	.06	.08	1979	9-74
Rhode Island	.10	.10	.08	.08	6-75	6-75
South Carolina	.11	.09	.10	.08	10-1-80	1977
South Dakota	.12	.12	.09	.09	4-1-80	4-1-80
Tennessee	.07	.08	.05	.07	1932	1963
Texas	.05	.065	.04	.06	9-55	9-55
Utah <u>14</u>(	.09	.09	.07	.07	7-1-78	7-1-78
Vermont	.09	<u>6</u>(	.08	.00	5-71	1955
Virginia <u>4</u>(	.11	.11	.09	.09	7-1-80	7-1-80
Washington <u>7</u>(	.12	.12	.09	.09	1977	1977
West Virginia	.105	.105	.085	.085	7-1-78	7-1-78
Wisconsin	.07	.07	.06	.06	1965	1965
Wyoming <u>15</u>(	.08	<u>8</u>(	.07	1.0 mil. per ton mile	3-76	1977
Puerto Rico	.16	.08	.11	.04	5-10-74	6-20-70
Washington, D.C.	.10	.10	.08	.08	1976	1976

1(Bordering state rates apply if lower at areas adjacent to that state.

2(In addition to regular tax rate, a 3% to 8% state and city sales tax is levied on the retail price of fuel in these states.

EXHIBIT D

Senator Ashworth, members of the committee, I'm Al Stone, Director of the Nevada Department of Transportation.

This afternoon we would like to give a short presentation on why tax revenue increases are needed, how much is needed, how it will be spent, and when it will be spent.

Then I would like to briefly go over the fairness of the proposed increases and the mechanics of SB 154 and SB 262, along with some suggested corrections in the two Bills.

And last, I will attempt to answer any additional questions you may have on the two Bills.

With your permission I'll turn our presentation over to Mr. Pete Pradere, the Department's Assistant Director of Operations.

Pradere's presentation

I would now like to present Mr. Ivan Laird, our Program/Project Management/Budget Engineer.

Laird's presentation

The Department of Transportation has the responsibility for maintaining the 5,000 miles of the State's highway system. To replace this 5,000 miles of highway network at today's prices would cost \$10 billion. The base and surfacing only for this system at today's prices would cost approximately \$2 billion. The highway surface deteriorates at an annual rate somewhere between 11-16%. Highway construction and maintenance costs over the last 7-8 years have increased at a rate of 15-20%. For the last two years we have been attempting to keep the system together with a band-aid approach. This approach is not cost effective.

In order to be cost effective, it leaves us with two alternatives, either reduce service or find additional revenue in order to preserve the system in a cost effective manner.

The graph you now see before you sums up our dilemma. (See attached). The increase costs of oil and oil products coupled with no growth in revenues, no increase in the gas tax in 26 years, no increase in registration and license fees for an even longer period, adds further to our dilemma.

The total annual registration costs for a passenger car ranges from \$15 per year for a 10-year old vehicle to slightly over \$113.50 per year for a new \$10,000 vehicle. The mean of this range is \$64.25. The increase of \$6.50 in SB 262 is approximately 10%. The inflation rate nationally last year alone was over 12%. With the proposed increases in SB 262, registration and license fees in Nevada will still be a bargain when compared to the other 50 states.

SB 154 is designed to be responsive to inflation and to give the counties and incorporated cities the same percent increase that the State receives. The cities and counties are in just as much trouble for maintenance funds as DOT is. SB 154, if passed, would be less disruptive to the Department of Taxation than other inflation responsive proposals.

If SB 154 passes, the Department will make it's quarterly survey based on the lowest pump price for gasoline on the premises and according to today's survey, which would be 9 1/2¢.

If the 9 1/2¢ were applicable today, the price of gasoline in Nevada would be lower than 27 other states and a large number of these (lower than 9 1/2¢) receive money from the State's general fund.

This year there are 40 states going to their Legislature for an inflation responsive gasoline tax.

Since 1977, 13 states have invoked an inflation responsive tax. (See attached).

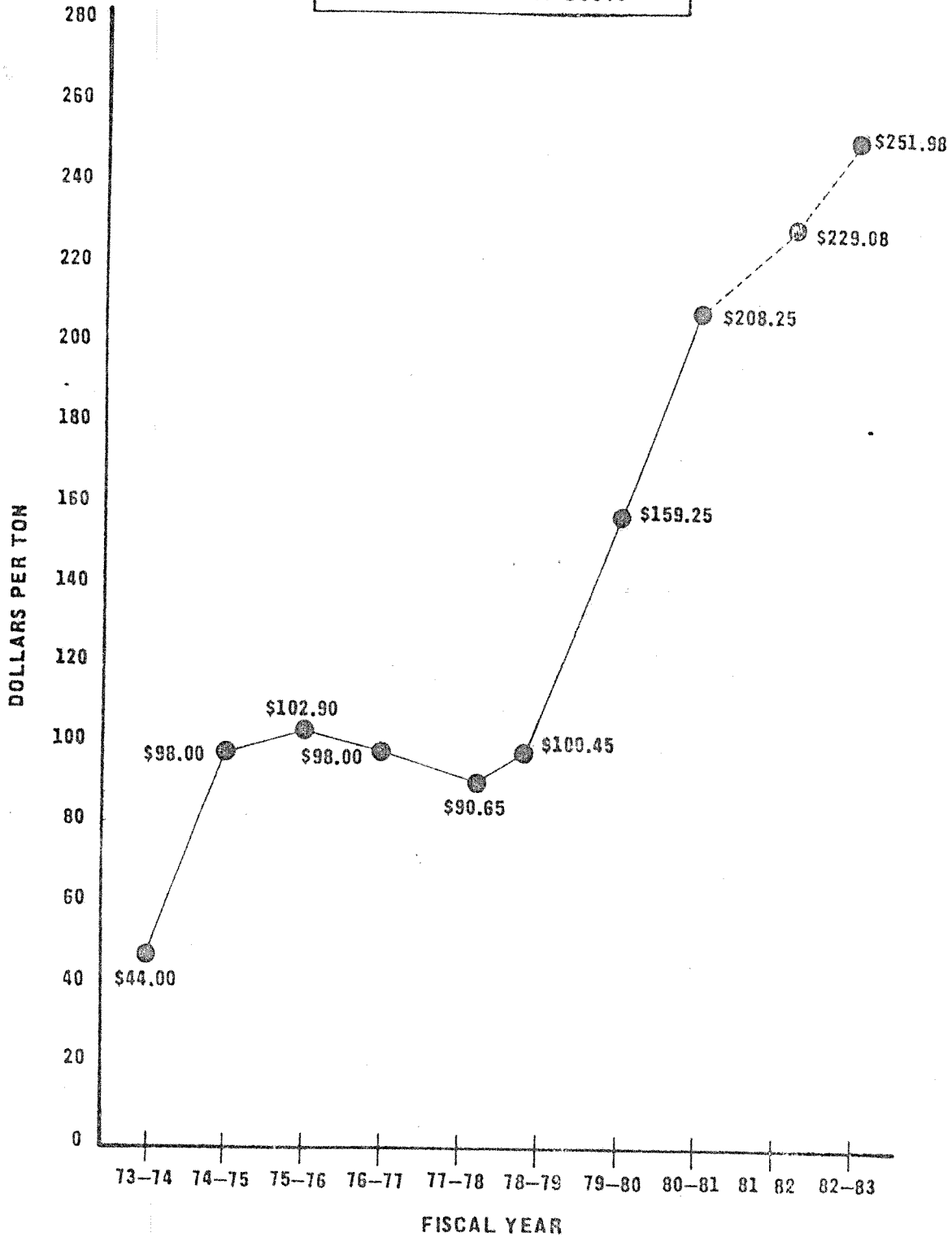
A good state highway system is vital to our economy as a tourist state, for the mining industry, the gaming industry, agriculture, trucking, and to each and every citizen. The average automobile owner in Nevada spends \$175 per year in wasted fuel, excessive tire wear and extra vehicle repairs. Goods will equate to a savings of \$140 per year.

If I may I would like to suggest the following corrections to SB 262 and SB 154.

(END OF WRITTEN TESTIMONY)

MAINTENANCE

LIQUID ASPHALT COSTS



----- DASHED LINE IS PROJECTION -----

N.C. Gas Tax Survey List States' Acts to Provide Highway Funding

The North Carolina Department of Transportation has released a study of the gasoline tax program throughout the United States on a state-by-state basis which is one of the most comprehensive that has come to the attention of the editors of BETTER ROADS.

Accordingly, with the permission of Cy K. Lynn, Special Assistant for Public Affairs for NCDOT, we are printing sections of the study for the general interest it has.

Lynn pointed out that his state has the largest state-maintained highway system in the nation with more than 75,000 miles; yet twenty-five of the states and the District of Columbia have higher gas taxes.

The survey was made by the state Transportation Department in conjunction with Governor Jim Hunt's Blue ribbon Study Commission on Transportation Needs and Financing, headed by former Governor Dan. K. Moore. It was based on an average national retail price of \$1.068 per gallon of leaded regular gas, exclusive of taxes, as of December 15, 1980.

Michigan has the highest effective state gas tax — 15.3 cents per gallon — followed by Mississippi, 14.3 cents; Nebraska, 13.6 cents; Hawaii and Indiana; 12.8 cents, New York, 12.3 cents; California, 12.1 cents; South Dakota and Washington, 12 cents; Illinois, 11.8 cents; Minnesota, Virginia, Pennsylvania, New Hampshire, Connecticut, South Carolina and Alabama, 11 cents; Georgia, 10.7 cents; West Virginia, 10.5 cents; Iowa, Rhode Island and the District of Columbia, 10 cents; Massachusetts, 9.8 cents; Kentucky, 9.6 cents; Idaho and Arkansas, 9.5 cents.

North Carolina's tax is 9.25 cents a gallon, including a quarter of a cent fee that finances an inspection program by the state Department of Agriculture.

The number of states which peg or "index" their gas tax and/or their sales tax on gas in whole or in part to the wholesale or retail price of gasoline has increased to 13 in recent years, the survey also shows.

A report on the survey said that a "variable tax rate policy bases the tax per gallon . . . on a percent of the average wholesale or retail sales price, which may be adjusted monthly, quarterly, semi-annually or annually." It

said that "a variation of this policy is a cents-per-gallon tax plus a percent of the average wholesale or retail sales price."

State Gasoline Tax Rates Based on Nat'l. Avg. Price Of \$1.068 (Mjr. Brand Regular, Exclusive of Tax)

Rank / State	Tax Rates Per Gallon
1. Michigan	15.3
2. Mississippi	14.3
3. Nebraska	13.6
4. Hawaii	12.8
" Indiana	12.8
5. New York	12.3
6. California	12.1
7. Washington	12.0
" South Dakota	12.0
8. Illinois	11.8
9. Minnesota	11.0
" Virginia	11.0
" Pennsylvania	11.0
" New Hampshire	11.0
" Connecticut	11.0
" South Carolina	11.0
" Alabama	11.0
10. Georgia	10.7
11. West Virginia	10.5
12. District of Columbia	10.0
" Iowa	10.0
" Rhode Island	10.0
13. Massachusetts	9.8
14. Kentucky	9.6
15. Idaho	9.5
" Arkansas	9.5
16. North Carolina	9.25
17. Montana	9.0
" Utah	9.0
" Wisconsin	9.0
" Maine	9.0
" Vermont	9.0
" Delaware	9.0
" Maryland	9.0
18. Wyoming	8.0
" Arizona	8.0
" New Mexico	8.0
" Louisiana	8.0
" Florida	8.0
" New Jersey	8.0
" Kansas	8.0
" North Dakota	8.0
" Alaska	8.0
19. Colorado	7.0
" Tennessee	7.0
" Missouri	7.0
" Oregon	7.0
" Ohio	7.0
20. Oklahoma	6.58
21. Nevada	6.0
22. Texas	5.0

Taxes pegged or "indexed" in whole or in part to wholesale or retail prices were calculated in terms of cents-per-gallon to determine the relative standing of the states.

The survey shows that six states levy a percentage tax on the average wholesale or retail price of gas and that eight states combine a percentage sales tax on the retail price with a cents-per-gallon tax. North Carolina is one of the remaining 37 states which levy only a cents-per-gallon tax. (Indiana applies both the variable rate and retail sales taxes to motor fuel sales, so it is counted with both groups.)

The six states are:

- Washington, 21 percent of the average retail price with a maximum tax of 12 cents a gallon and a minimum tax of 9 cents;
- New Mexico, relates the per gallon tax, currently 8 cents, to the wholesale price of gas, with a maximum tax of 11 cents a gallon in 1983; North Carolina is 27th Nationally in Gas Tax Rankings - Add 2-2-2-2 REPORT FOR BLUE RIBBON STUDY COMMISSION SHOWS NORTH CAROLINA IN BOTTOM HALF OF THE COUNTRY
- Massachusetts, 10 percent of the average wholesale prices;
- Kentucky, 9 percent of the average wholesale price with a maximum tax of 13.5 cents per gallon;
- Indiana, 8 percent of the average retail price with a maximum tax of 12 cents a gallon in 1980, 14 cents in 1981 and 16 cents in subsequent years;
- Nebraska, 2 percent of the average retail price plus 11.5 cents a gallon.

The eight states with a combination tax, all of which apply the percentage sales tax figure to the retail price, are; Mississippi, 5 percent and 9 cents a gallon; California, 4.75 percent and 7 cents a gallon; Hawaii, 4 percent and 8.5 cents a gallon; Illinois, 4 percent and 7.5 cents a gallon; Michigan, 4 percent and 11 cents a gallon; Georgia, 3 percent and 7.5 cents a gallon; New York, 4 percent and 8 cents a gallon; and Indiana, 4 percent plus 8 percent of the average retail price (variable tax rate cannot exceed 12 cents a gallon in 1980, 14 cents in 1981 and 16 cents in subsequent years).

Continued on next page

Reagan Task Force Report Called Reassuring to Hiway Departments

The report of the Reagan Task Force relating to transportation and released in January prior to the incoming president's inauguration, contained recommendations generally considered "reassuring" to the money-plagued highway industry.

This was the consensus of observers, although it was felt that certain aspects of the report failed to recognize reality, particularly in connection with the national 55 mph speed limit, which the task force suggested should be eliminated and speed limits established within individual states.

The report noted that the major issues currently before the Department of Transportation consisted of the extent of federal regulation in the rail, motor carrier and airlines industries; the issues that warrant federal financial programs in transportation; and the principles of guidance for safety, environmental protection and energy use.

Other recommendations, directed to the Secretary of Transportation, stated that all transportation should, as much as possible, be provided by the private sector, and if that should prove inadequate, by state and local governments. The federal government should enter into the picture to cases where a clear need is evident and private sector or state and local governments cannot meet the need. It also was pointed out that when federal funds are used for transportation, the

money spent should be recovered from the beneficiaries in a manner that is appropriate to the costs incurred. Benefit/cost tests should be applied to all federal programs to insure that they benefit the nation as a whole.

In dealing with the nation's highways certain areas of the report were of interest. It stated that the Highway Trust Fund should be examined by Congress in 1981 and that although it does not expire until 1984 it is running in the red. The report endorsed the use of the Trust Fund as a method of supporting the highway system, and recommended that the present tax of 4¢ a gallon be revised so that Fund will remain solvent and each class of beneficiaries pay the costs incurred in its behalf.

The Task Force called for a method of completing the Interstate program soon, with most of the remaining 5 percent uncompleted to be abandoned. It also agreed that there is a federal responsibility to see that the Interstate system is maintained, calling for a new direct funding program.

It was also stated that the current off-system federal aid program be simplified by reducing the present more than twenty categories to a fewer number. Uniform truck sizes and weights should be established, but states allowing larger trucks could do so by paying for the added capital and maintenance costs.

The Urban Mass Transit Adminis-

tration's (UMTA) grant program will be a major legislative issue in 1981 and should result in major revisions in the past procedures. The report called for discouraging new rail starts, eliminating operating subsidies for rail systems, continuation of modest support for established rail systems' upgrading, continuation of the transit bus purchase program, reduction of demonstration grants, formula funds based on transit ridership, attention to restrictive labor provisions on UMTA fund recipients, solving the problem of access by handicapped to public transportation.

In the area of highway and traffic safety the task force felt that the National Highway and Traffic Safety Administration (NHTSA) has pretty much exhausted its ability to increase automobile safety and that future action by the agency should be closely examined. Careful study was suggested for occupant restraints, automobile recalls, and more stringent automobile fuel-efficiency standard beyond 1985.

The recommendation that the authority to set speed limits be returned to the states was based on the reasoning that despite the fact that safety associations and the motor carrier industry "largely favor it"; the emergency oil shortage that brought it about no longer exists and the "speed limit is impossible to enforce by federal means because the threat of withholding federal funds is recognized as 'hollow'."

Early reports on the content of the Task Force recommendations indicated that transportation was in for a "rough time" from the Reagan administration, but if the actual report is followed, the highway departments, at all levels, should find the allocation reductions and budget balancing threats of the Carter program no longer a continuing worry.

Members of the Task Force headed by former Transportation Secretary Claude S. Brinegar, included DOT Secretary Drew Lewis and several former key officials in DOT including John Snow, Norbert Tiemann and Frank Heringer.

The American Road & Transportation Builders Association (ARTBA) News letter noted that "The recommendations (of the Task Force) are relatively favorable to the highway program and suggest very substantial reductions in Federal assistance for other modes of transportation."

cont. from previous page **Variable Rate Tax Policies**

Washington

The first variable fuel tax was instituted in 1977. The tax was based on 21.5 percent of the weighted average retail sales price of motor vehicle fuel. The minimum rate is 9 cents per gallon. Since February 1979, the 12 cents per gallon ceiling has been in effect. The tax rate is computed each 6 months and rounded to the nearest 1/2 cent.

New Mexico

The second variable fuel tax was adopted in 1979, effective July 1, 1980. New Mexico relates the cents per gallon tax, currently 8 cents, to the wholesale price of gas, with a maximum tax of 11 cents a gallon in 1983.

Indiana

The former 8 cents per gallon tax was converted to a variable fuel tax in 1980. The tax is now set at 8 percent of the retail price of gasoline. The tax was effective July 1, 1980 and cannot exceed 12 cents in 1980, 14 cents in 1981 and 16

cents in later years. Tax rates are determined every 6 months and are rounded to the nearest one-tenth of a cent.

Kentucky

In 1980, the 9 cents per gallon tax was converted to a 9 percent tax, based on the average tank wagon price of gasoline to dealers. The new tax cannot be less than 9 cents per gallon nor exceed 13.5 cents until June 30, 1982. The variable tax is adjustable each quarter.

Nebraska

Nebraska adopted a combination fixed and variable tax plan in 1980. The fixed rate was increased from 10.5 to 11.5 cents per gallon. The variable component is calculated at 2 percent of what the State of Nebraska pays for its gasoline. The variable tax is adjustable on a monthly basis.

Massachusetts

The variable fuel tax adopted by Massachusetts in 1980 is set at 10 percent of the wholesale price of gasoline.

EXHIBIT E

AMENDMENTS TO SENATE BILL NO. 154

Recommended by the Department of Transportation

1. Page 1, section 2, after line 26:
add language to indicate, "the above table caps the excise taxes at the bottom and top of each column."
2. Page 2, section 2:
delete lines 1, 2, and 3.
3. Page 2, section 3, line 5:
delete "periodic survey" and replace with "quarterly surveys."
4. Page 2, section 3, line 13:
delete "each month" and replace with "each quarter".
5. Page 6, section 11, line 6:
delete "the month" and replace with "the quarter".

EXHIBIT F

AMENDMENTS TO SENATE BILL NO. 262

Recommended by the Department of Transportation

1. Page 4, section 7, line 15:
delete "3 cents" and replace with "2.25 cents".
2. Page 5, section 8, line 15:
delete "\$40" and replace with "\$30".
3. Page 5, section 8, line 17:
delete "77,000 pounds" and replace with "80,000 pounds".

FLEXIBLE PAVEMENT MANAGEMENT SYSTEM DOES:

- A.) Addresses Existing Pavement Conditions**
- B.) Compares All Mileage Statewide By Standardized Rating System**
- C.) Physically Measures Pavement Surface Distresses**
 - 1. Cracking ie: longitudinal, alligator, block, extent, severity (repaired or not)
 - 2. Rutting: depth in inches
 - 3. Bleeding: severity
 - 4. Raveling: severity
 - 5. Pot Holing: extent (repaired or not)
 - 6. Ridability: degree of roughness
 - 7. Shoulder Conditions
- D.) Identifies & Categorizes Distresses**
- E.) Assigns Relative Values To Distresses**
- F.) Identifies Repair Strategies In Mile Segments**
- G.) Assigns Most Cost Effective Repair Strategies**
- H.) Assigns Average Costs on a Per Mile Basis To Determine Budget Requirements**
- I.) Addresses Existing Traffic Volumes**

PAVEMENT MANAGEMENT SYSTEM DOES NOT:

- A.) Address Traffic Capacity Needs
(present or future)
- B.) Geometric Deficiencies ie:
Paved Widths,
Horizontal-vertical Curvature, etc.
- C.) Roadside Safety Features

REPAIR CATEGORIES

<u>CATEGORY</u>	<u>POINTS</u>
Do Nothing	0 to 49
Maintenance	50 to 399
Overlay	400 to 699
Reconstruct	700 and Over

The general repair strategy category is determined by the total aggregate point score of the mile.

**Preservation of
Our Existing
Highway Surfaces**

#2

REVISED GOALS

- 1 - PRESERVE EXISTING SYSTEM
 - A. NORMAL MAINTENANCE
 - B. RESURFACE, RESTORE OR REHABILITATE EXISTING SURFACE

- 2 - COMPLETE INTERSTATE SYSTEM & RECONSTRUCT SECTIONS ON OTHER F.A. SYSTEMS WHICH HAVE REACHED FAILURE POINT FOR TRAFFIC SERVICEABILITY

- 3 - CONSTRUCT SELECTED HIGH PRIORITY VOLUME ROADS ON PRIMARY & URBAN SYSTEMS.

#3

PRESENT MAINTENANCE RESPONSIBILITIES

<u>SYSTEM</u>	<u>MAINTAINED MILEAGE</u>	<u>NON-MAINT. MILEAGE</u>	<u>LOCAL ROADS MILEAGE</u>
INTERSTATE	481.9	62.7*	_____
PRIMARY	1,842.8	30.3*	_____
SECONDARY	2,105.0	350.9	_____
URBAN	122.9	246.1	_____
STATE AID & LOCAL ROADS	413.5	_____	44,505.7
TOTAL	4,966.1	690.0	44,505.7
AVM %	66.1%	19.0%	14.9%

* NEW ROADWAYS NOT YET CONSTRUCTED

4

" PMS " WORK CLASSIFICATION
(1980 STUDY)

<u>TYPE OF WORK REQUIRED</u>	<u>LENGTH</u>	<u>TOTAL ESTIMATED COSTS (MILLIONS)</u>
1. NO WORK REQUIRED AT THIS TIME	1,271	\$ 0
2. MAINTENANCE	2,529	5.1
3. RESURFACE, RESTORE OR REHABILITATE (3R)	1,166	222.0
TOTAL	4,966	\$ 227.1

574

#5

PMS NEEDS BY SYSTEM

(1980 STUDY)

<u>SYSTEM</u>	<u>LENGTH</u>	<u>MAINTENANCE</u>		<u>3R</u>	
		<u>COSTS (MIL.)</u>	<u>LENGTH</u>	<u>COSTS (MIL.)</u>	<u>COSTS (MIL.)</u>
INTERSTATE	190.0	0.5	33.6	17.9	
PRIMARY	850.0	1.7	510.1	105.4	
SECONDARY	1,249.0	2.3	462.9	73.7	
URBAN	72.0	0.2	10.2	5.0	
<u>STATE ROUTES</u>	<u>168.0</u>	<u>0.4</u>	<u>149.2</u>	<u>20.0</u>	
TOTAL	2,529.0	5.1	1,166.0	222.0	

L. 575

#6

EXISTING SURFACE EXPENDITURES F.Y. 1980-81

	<u>FEDERAL AID FUNDS</u>	<u>100% STATE FUNDS</u>
1. NORMAL OR HEAVY MAINTENANCE	0	\$ 8.6
2. 3R TYPE WORK	\$ 6.5	0

I 576

#9

PROPOSED SOLUTION

1. COMMIT ADDITIONAL STATE FUNDS TO
HEAVY MAINTENANCE UNTIL 3R BACKLOG NEEDS
CAN BE ELIMINATED (STOP-GAP MEASURE)

2. ELIMINATE BACKLOG 3R NEEDS IN 12 YEARS

A. EXPAND COMMITMENT OF FEDERAL FUNDS
FROM \$6.5 MILLION IN F.Y. 1981 TO \$25 MILLION IN F.Y. 1990

B. CREATE ADDITIONAL STATE REVENUE
TO ELIMINATE RESIDUE OF 3R NEEDS,
(INCLUDING MINIMUM 12% INFLATION RATE, 11%
SURFACE DETERIORATION RATE, & RELATED
ADMINISTRATION COSTS)

1. BASE AMOUNT NEEDED EACH YEAR

1. ADD. MAINT. _____	\$ 5.3 MILLION
2. 3R BACKLOG _____	21.3 MILLION
3. RELATED ADMIN. _____	2.9 MILLION
TOTAL	<u>\$ 29.5 MILLION</u>

577

MAINTENANCE COSTS NECESSARY TO PRESERVE EXISTING SYSTEM
 (BASED ON 1980 PAVEMENT MANAGEMENT REPORT)
 COSTS SHOWN IN MILLIONS OF DOLLARS

F.Y.	NORMAL-HEAVY MAINTENANCE WORK						
	ANTICIPATED COSTS					PROPOSED REVENUE	ACCUM. DEFICIT
	NORMAL MAINT. COSTS BASED ON PMS	BACKLOG 3R MAINT. COSTS	3R DETERIORATION MAINT. COSTS	DEFICIT + 12% INFLATION	TOTAL		
1981	5.14	12.79	0	0	17.93	8.60	9.33
1982	5.75	0	1.58	10.45	17.78	11.93	5.85
1983	6.45	0	1.77	6.55	14.77	13.36	1.41
1984	7.22	0	1.98	1.58	10.78	10.78	0
1985	8.08	2.60	2.21	0	12.89	12.89	0
1986	9.05	0	4.96	0	14.01	14.01	0
1987	10.14	0	5.56	0	15.70	15.70	0
1988	11.36	0	6.22	0	17.58	17.58	0
1989	12.72	0	6.96	0	19.68	19.68	0
1990	14.25	0	7.80	0	22.05	22.05	0
1991	15.96	0	8.74	0	24.70	24.70	0
1992	17.87	0	9.78	0	27.65	27.65	0
1993	22.22	0	5.48	0	27.70	27.70	0
1994	24.89	0	0	0	24.89	24.89	0

#7

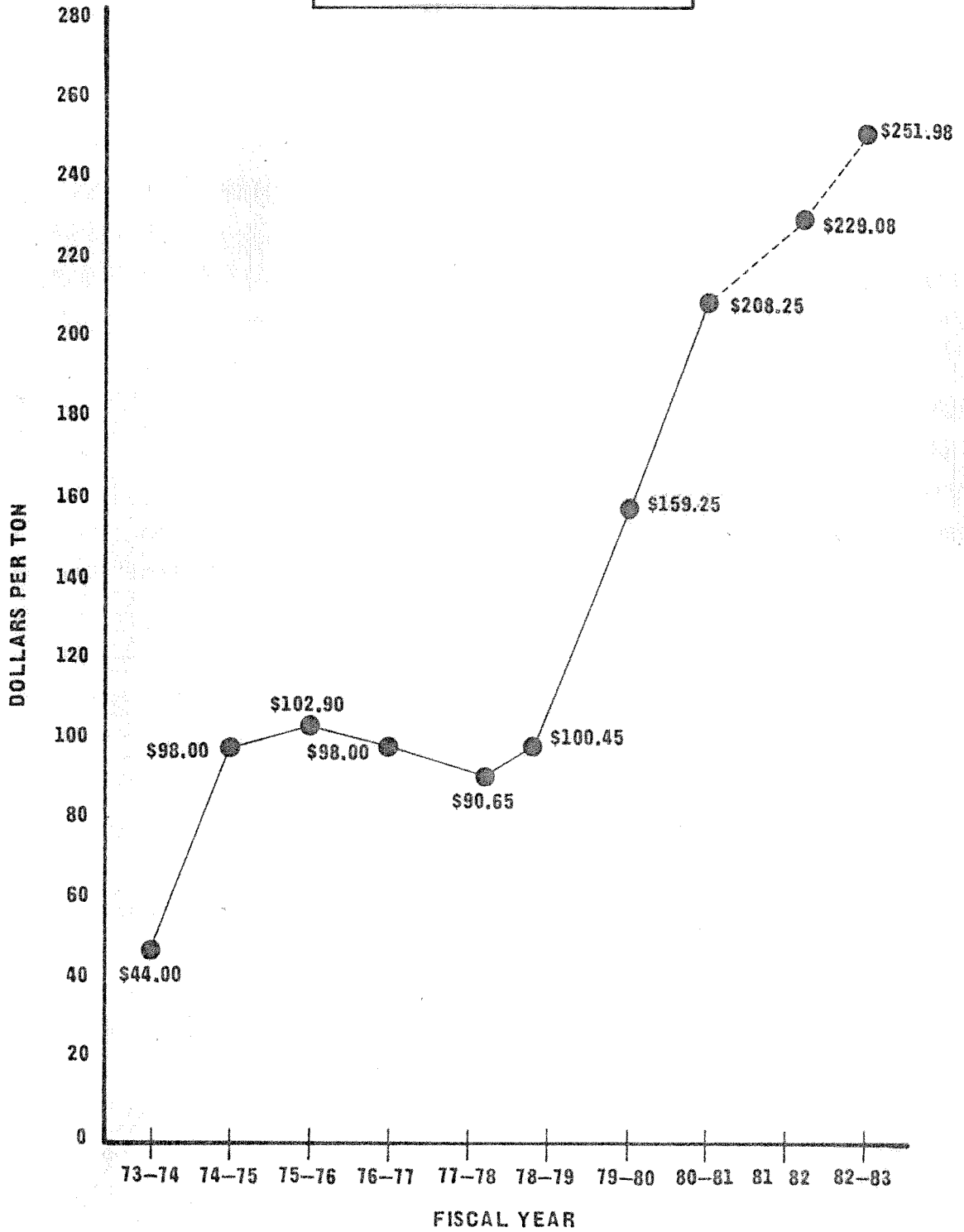
RESURFACING - REHABILITATION - RESTORATION COSTS NECESSARY TO PRESERVE EXISTING SYSTEM
 (BASED ON 1980 PAVEMENT MANAGEMENT REPORT)
 COSTS SHOWN IN MILLIONS OF DOLLARS

F.Y.	CONTRACTED OVERLAY & REHABILITATION WORK						
	PROPOSED REVENUE			ANTICIPATED COSTS			ACCUM. DEFICIT
	STATE FUNDS	FED. FUNDS	TOTAL	DEFICIT + 12% INFLATION	COSTS TO COVER DETERIOR ATION OF EXIST. SYS.	TOTAL	
1981	0.00	6.50	6.50				221.98
1982	23.40	6.50	29.90	241.34	25.52	266.86	215.48
1983	28.60	6.50	35.10	265.39	25.65	291.04	236.96
1984	32.03	9.14	41.17	286.65	25.80	312.45	255.94
1985	35.88	11.78	47.66	303.83	25.96	329.79	271.28
1986	40.18	14.43	54.61	315.98	26.15	342.13	282.13
1987	45.00	17.07	62.07	322.03	26.36	348.39	287.52
1988	50.40	19.71	70.11	320.68	26.59	347.27	286.32
1989	56.45	22.36	78.81	310.42	26.85	337.27	277.16
1990	63.22	25.00	88.22	289.47	27.14	316.61	258.46
1991	70.81	25.00	95.81	255.80	27.47	283.27	228.39
1992	79.31	25.00	104.31	209.95	27.84	237.79	187.46
1993	88.83	25.00	113.83	149.50	28.25	149.50	133.48
1994	99.49	10.00	109.49	71.59	28.70	100.29	63.92
							(9.20)

579

MAINTENANCE

LIQUID ASPHALT COSTS



----- DASHED LINE IS PROJECTION -----

EXHIBIT I

NEVADA DEPARTMENT OF TRANSPORTATION

STAFF REPORT

PRESERVATION OF OUR
EXISTING HIGHWAY SURFACES

December 15, 1980

Prepared by Program/Project Management
Division

I. Policy Goals

- A. The Department of Transportation has accepted the reality that it cannot finance the total needs of the State's streets and highways. The costs necessary to bring the State's highway system to twenty year geometric, safety and surfacing standards are so excessive (approaching \$3.0 billion) that the total needs can no longer be considered as a viable alternative.
- B. Therefore, the Department must revise it's goals to the following priorities:
1. Preserve the existing systems by normal maintenance and resurfacing, restoring or rehabilitating (3R) the existing surface; ignoring geometrics, drainage, and safety needs except in extreme cases.
 2. Complete the construction of the Interstate System and reconstruct those sections on the other federal-aid systems which have reached their point of failure for traffic serviceability. This would include high hazard location and transportation system management type improvements (signals, turn-lanes, high-occupancy-vehicle lanes, etc.).
 3. Construct selected new high priority volume roads on the primary and urban systems. The present policy of allocating 50% of our Federal-Aid Secondary Funds for county selected priority projects would be cancelled.

II. Additional Revenue Required

- A. Additional revenue will be required to accomplish the new priority goals. Presently, financing for the maintenance, 3R, reconstruction and new construction programs is inadequate.

1. The Department is presently responsible for the maintenance of 5,000 miles of roads. These roads carry 66% of the vehicle miles traveled on all streets and roads in the State. There are an additional 690 miles of Federal-Aid System roads which could be added to the Department's maintenance responsibility if the roads are constructed or reconstructed (i.e: US 93 truck route in Boulder City; Ring Road in Reno/Sparks; US 95 Freeway in Las Vegas and Henderson; Flamingo Road in Las Vegas; Hawthorne Truck Route).

a. Refer to Tables A-1 through A-3 for maintenance and vehicle mileage.

2. The recently completed "Pavement Management System" has classified the type of work required to preserve the existing surface on the 5,000 miles of state maintained roads. The classification only reflects the condition of the surface at this point in time. The following table shows the "PMS" work classification, length and the 1981 cost estimate necessary to correct the pavement deficiencies:

<u>Type of Work Required</u>	<u>Length</u>	<u>Total Estimated Costs</u>
No work required at this time	1,305	\$ 0
Normal or heavy maintenance	2,529	5.1 million
Resurfacing restoration or rehabilitation	1,166	222.0 million
Total	5,000	\$227.1 million

Note: The maintenance costs do not indicate the amount presently being spent or the amount required in the future for additional maintenance work on the 3R backlog section. Please refer to Tables B-1 and B-2 for 3R for maintenance work required in each county and system.

STATUS OF MAINTAINED MILEAGE - 1979

<u>SYSTEM</u>	<u>STATE SYSTEM</u>		<u>Local Rds & Sts.</u>	<u>Total</u>
	<u>Maintained</u>	<u>Not Maintained</u>		
Federal-Aid				
Interstate	481.9	62.7*	-	544.6
Federal-Aid Primary	1,842.8	30.3*	-	1,873.1
Federal-Aid				
Secondary	2,105.0	350.9	-	2,455.9
Federal-Aid Urban	122.9	246.1	-	369.0
State-Aid Routes	413.5	-	-	413.5
Local Roads & Streets	-	-	44,505.7	44,505.7
TOTAL	4,966.1	690.0	44,505.7	50,161.8
% of Grand Total	9.9%	1.4%	88.7%	100.0%

*represents new roadways not yet constructed

MAINTAINED MILEAGE BY COUNTY AND SYSTEM

AS OF JANUARY 1, 1980

COUNTY	FAI	FAP	FAS	FAU	SAR	TOTAL
CARSON CITY	-	24.307	2.369	6.442	8.898	42.016
CHURCHILL	29.305	174.885	71.578	-	58.161	333.929
CLARK	124.774	157.490	243.152	69.540	21.894	616.850
DOUGLAS	-	58.113	28.768	-	14.909	101.790
ELKO	99.750	195.444	316.147	5.819	8.900	626.060
ESMERALDA	-	115.924	103.860	-	17.941	237.725
EUREKA	25.773	47.385	103.090	-	6.615	182.863
HUMBOLDT	55.747	73.757	156.579	-	37.312	323.395
LANDER	21.146	56.898	118.160	-	49.866	246.070
LINCOLN	-	172.400	171.758	-	2.313	346.471
LYON	14.275	106.753	79.654	-	30.535	231.217
MINERAL	-	118.442	81.135	-	4.154	203.731
NYE	-	240.461	299.551	-	12.319	552.331
PERSHING	64.770	-	56.636	-	39.235	160.641
STOREY	0.775	-	13.790	-	-	14.565
WASHOE	45.574	33.941	196.869	41.094	6.677	324.155
WHITE PINE	-	266.592	61.891	-	93.771	422.254
TOTAL	481.889	1,842.792	2,104.987	122.895	413.500	4,966.063

STATUS OF ANNUAL VEHICLE MILES (AVM)

Note: AVM Reflects 1979 Traffic

County	NDOT Maintained	%	Non-Maintained System	%	Local Streets & Roads	%	Total AVM
Carson City	138,516,448	77.2	5,631,422	3.2	35,217,759	19.6	179,365,629
Churchill	147,000,568	86.4	1,207,665	0.7	21,969,722	12.9	170,177,955
Clark	1,456,133,646	52.3	859,775,074	30.9	466,289,627	16.8	2,782,198,347
Douglas	162,598,425	84.4	19,845,123	10.3	10,112,596	5.3	192,556,144
Elko	258,396,308	89.2	6,044,717	2.1	25,208,114	8.7	289,649,139
Esmeralda	42,987,128	94.3	135,973	0.3	2,471,701	5.4	45,594,802
Eureka	49,481,365	93.2	457,214	0.9	3,122,542	5.9	53,061,121
Humboldt	138,125,706	90.1	971,895	0.6	14,173,058	9.3	153,270,659
Lander	58,873,371	89.9	1,005,538	1.5	5,626,838	8.6	65,505,747
Lincoln	47,520,855	87.6	324,910	0.6	6,421,102	11.8	54,266,867
Lyon	138,007,451	90.4	2,013,435	1.3	12,712,510	8.3	152,733,396
Mineral	67,405,290	85.7	1,166,140	1.5	10,115,970	12.8	78,687,400
Nye	92,830,562	83.9	2,872,010	2.6	14,919,186	13.5	110,621,758
Pershing	130,092,201	95.2	1,550,991	1.2	4,962,241	3.6	136,605,433
Storey	10,815,653	86.0	320,141	2.5	1,440,330	11.5	12,576,124
Washoe	892,215,158	67.0	214,275,209	16.1	224,291,698	16.9	1,330,782,065
White Pine	66,753,508	77.5	642,855	0.8	18,716,853	21.7	86,113,216
Total	3,897,753,643	66.1	1,118,240,312	19.0	877,771,847	14.9	5,893,765,802

TABLE A-3

586

NORMAL MAINTENANCE
COST ESTIMATE
FISCAL YEAR 1981

COUNTY	INTERSTATE		PRIMARY		SECONDARY		URBAN		STATE-AID		TOTALS	
	No. of Miles	Estimated Cost	No. of Miles	Estimated Cost	No. of Miles	Estimated Cost	No. of Miles	Estimated Cost	No. of Miles	Estimated Cost	No. of Miles	Estimated Cost
Carson City	0	0	8.0	21,504	2.0	7,549	9.0	7,885	4.0	12,074	23.0	49,012
Churchill	5.0	16,442	109.0	256,413	36.0	68,723	0	0	20.0	66,976	170.0	408,554
Clark	41.0	181,037	54.0	98,918	148.0	240,128	36.0	105,594	10.0	17,629	289.0	643,306
Douglas	0	0	20.0	48,989	23.0	47,757	0	0	8.0	13,306	51.0	110,052
Elko	48.0	115,629	108.0	218,960	198.0	440,922	3.0	4,883	4.0	14,784	361.0	795,178
Esmeralda	0	0	62.0	129,472	57.0	97,149	0	0	3.0	2,061	122.0	228,682
Eureka	19.0	46,413	28.0	61,555	65.0	167,328	0	0	3.0	7,034	115.0	282,330
Humboldt	29.0	31,472	36.0	82,342	100.0	176,042	0	0	12.0	23,789	177.0	313,645
Lander	11.0	8,198	18.0	55,082	65.0	112,269	0	0	10.0	28,134	104.0	203,683
Lincoln	0	0	97.0	158,032	78.0	118,294	0	0	1.0	3,920	176.0	280,246
Lyon	1.0	269	52.0	75,533	71.0	138,656	0	0	20.0	36,669	144.0	251,127
Mineral	0	0	45.0	87,674	48.0	81,200	0	0	0	0	93.0	168,874
Nye	0	0	64.0	99,882	134.0	279,910	0	0	0	0	198.0	379,792
Pershing	260.0	21,907	0	0	59.0	121,766	0	0	33.0	93,341	118.0	237,014
Storey	0	0	0	0	10.0	12,365	0	0	0	0	10.0	12,365
Washoe	10.0	40,365	26.0	68,365	132.0	192,998	24.0	58,643	6.0	14,291	198.0	374,662
White Pine	0	0	123.0	245,011	23.0	53,760	0	0	34.0	101,002	180.0	399,773
TOTALS	190.0	461,732	850.0	1,707,732	1249.0	2,356,816	72.0	177,005	168.0	435,010	2529.0	5,138,295

TABLE B-1

OVERLAY & REHABILITATION
 COST ESTIMATE
 FISCAL YEAR 1981

COUNTY	INTERSTATE		PRIMARY		SECONDARY		URBAN		STATE-AID		TOTALS	
	No. of Miles	Estimated Cost	No. of Miles	Estimated Cost	No. of Miles	Estimated Cost	No. of Miles	Estimated Cost	No. of Miles	Estimated Cost	No. of Miles	Estimated Cost
Carson City			1.40	389,677							1.40	389,677
Churchill	9.63	5,502,800	62.19	10,771,632	18.39	2,544,807			23.30	2,692,839	113.51	21,512,078
Clark			15.615	3,888,501	57.40	11,709,174	10.17	5,017,688	14.00	2,736,814	97.185	23,352,177
Douglas			12.56	5,096,168	8.00	1,497,051			1.25	225,562	21.81	6,818,781
Elko	16.00	8,251,601	56.35	11,331,447	83.32	11,391,335			1.92	221,210	157.59	31,195,593
Esmeralda			18.02	3,522,671	29.34	5,206,007					47.36	8,728,678
Eureka			24.00	5,211,537	16.34	1,972,269			2.26	339,846	42.60	7,523,652
Humboldt					10.06	1,159,051			2.81	457,638	12.87	1,616,689
Lander			12.00	2,300,728					40.00	5,126,164	52.00	7,426,892
Lincoln			34.38	8,093,302	58.69	8,080,819			0.83	95,627	93.90	16,269,748
Lyon			22.39	5,351,478							22.39	5,351,478
Mineral			30.76	6,485,439	9.00	1,036,924					39.76	7,522,363
Nye			89.41	18,391,265	136.10	23,480,327					225.51	41,871,592
Pershing					4.00	460,855					4.00	460,855
Storey											0.00	-0-
Washoe	8.00	4,125,800	13.10	3,321,356	8.19	1,955,062					29.29	9,402,218
White Pine			117.93	21,253,855	24.08	3,166,957			62.80	8,117,330	204.81	32,538,142
TOTALS	33.63	17,880,201	510.10	105,409,056	462.91	73,660,638	10.17	5,017,688	149.17	20,013,030	1165.98	221,980,613

TABLE B-2

3. Federal-Aid Highway Funds cannot be used for maintenance operations but they can be used for 3R type improvements. At least 20% of the apportioned Federal-Aid Primary and Secondary funds must be used for 3R type work. There is a special category of federal funds for Interstate 3R work. Therefore, a portion of our backlog 3R needs will be accomplished with federal funds. The residue of the 3R backlog needs will have to be accomplished with 100% State Funds and a greater commitment from our available federal funds. All of our maintenance needs will have to be met with State or local funds.

III. Existing Expenditures

- A. The Department is presently spending approximately \$8.6 million each year for normal and heavy pavement maintenance operations. At first glance this appears to be in excess of the actual needs as reflected by the "PMS" study. But in reality, we are forced to spend a large amount for heavy pavement maintenance on the backlog 3R sections in addition to our normal maintenance needs. The heavy maintenance on the 3R sections is strictly a stop-gap effort to preserve the surface until we can properly correct the deficiency. The stop-gap effort represents the least cost effective use of our already scarce State funds.
- B. Approximately \$6.5 million of our available federal funding is presently being used for 3R type projects each year. Due to the lack of State funds in the last two years, we have not been able to meet any of our 3R needs with 100% State funds.
- C. Totally we are presently spending \$15.1 million for our surface maintenance and 3R needs. If status quo could be maintained, no inflation and no further surface deterioration, we could eliminate

our backlog 3R needs in fifteen years at our present rate of expenditures. Of course we know inflation is spiraling at a 12% to 20% rate in the highway industry and that our roadway surfaces are deteriorating at a 11% to 16% rate. This means that at our present rate of expenditures we will never catch up with our backlog needs. In fact, we'll fall further behind.

IV. Proposed Funding Solution

A. We must arrive at a funding method to preserve the existing surface while eliminating the backlog 3R needs including inflation and surface deterioration.

1. A simple method is to convince the legislature to give us a one-time appropriation to eliminate the backlog 3R needs over a short period of time. Then we would only need enough new revenue to keep up with the normal yearly surface deterioration and maintenance needs. This approach would be nice and economical but is not realistic in light of the funding problems being experienced throughout State Government.
2. A realistic approach has to be established to accomplish our objective of preserving the existing system and addressing inflation and deterioration.
 - a. We first had to arrive at a reasonable time frame necessary to eliminate our backlog needs that the traveling public, the Transportation Board and Legislature would find acceptable. The overall costs would be drastically reduced the sooner the objective is accomplished. But a shorter period requires an exorbitant commitment of new state revenue or a total commitment of eligible federal funds. After thorough consideration,

we have arrived at a maximum twelve (12) year period to return ourself to a yearly need basis.

b. Next we had to arrive at a reasonable funding method.

Regular Interstate Funds are not eligible for 3R work until the system has been completed within the State. Also, we cannot stop all the committed Federal-Aid Primary, Secondary and Urban System Projects. Therefore, we adopted an expanding commitment of Federal-Aid funding from the present \$6.5 million to \$25 million in F.Y. 1990 for 3R work to preserve the existing system. We were then able to calculate our additional State fund revenue needs to meet our twelve year objective and to meet our normal needs from that point on.

1. Please refer to Table C-1 which tabulates the backlog 3R and maintenance needs and proposed revenue needs over the twelve year period. The table takes into account a minimum 12% inflation rate, an 11% surface deterioration rate and additional heavy maintenance required on the 3R sections until they can be properly corrected. Also, related administrative costs for the preservation program have been incorporated in the total costs.

c. A base figure of \$29.5 million has been calculated as the amount of additional state revenue required to meet of twelve year objective. The base amount would be used as follows:

1. 3R backlog	\$21.3 million
2. Additional heavy maintenance	5.3 million
3. Related administration cost	2.9 million
Total	\$29.5 million

COSTS NECESSARY TO PRESERVE EXISTING SYSTEM
(Based on 1980 Pavement Management Report)
Costs Shown in Millions of Dollars

F.Y.	Contracted Overlay & Rehabilitation Work							Normal-Heavy Maintenance Work							F.Y.
	Proposed Revenue			Anticipated Costs			Accum. Deficit	Anticipated Costs				Proposed Revenue	Accum. Deficit		
	State Funds	Fed. Funds	Total	Deficit + 12% Inflation	Costs to Cover Deterior- ation of Exist. Sys.	Total		Normal Maint. Costs Based on PMS	Backlog 3R Maint. Costs	3R Deterior- ation Maint. Costs	Deficit + 12% Inflation			Total	
1981	0.00	6.50	6.50				221.98	5.14	12.79	0	0	17.93	8.60		1981
1982	23.40	6.50	29.90	241.34	25.52	266.86	215.48	5.75	0	1.58	10.45	17.78	11.93	9.33	1982
1983	28.60	6.50	35.10	265.39	25.65	291.04	236.96	6.45	0	1.77	6.55	14.77	13.36	5.85	1983
1984	32.03	9.14	41.17	286.65	25.80	312.45	255.94	7.22	0	1.98	1.58	10.78	10.78	1.41	1984
1985	35.88	11.78	47.66	303.83	25.96	329.79	271.28	8.08	2.60	2.21	0	12.89	12.89	0	1985
1986	40.18	14.43	54.61	315.98	26.15	342.13	282.13	9.05	0	4.96	0	14.01	14.01	0	1986
1987	45.00	17.07	62.07	322.03	26.36	348.39	287.52	10.14	0	5.56	0	15.70	15.70	0	1987
1988	50.40	19.71	70.11	320.68	26.59	347.27	286.32	11.36	0	6.22	0	17.58	17.58	0	1988
1989	56.45	22.36	78.81	310.42	26.85	337.27	277.16	12.72	0	6.96	0	19.68	19.68	0	1989
1990	63.22	25.00	88.22	289.47	27.14	316.61	258.46	14.25	0	7.80	0	22.05	22.05	0	1990
1991	70.81	25.00	95.81	255.80	27.47	283.27	228.39	15.96	0	8.74	0	24.70	24.70	0	1991
1992	79.31	25.00	104.31	209.95	27.84	237.79	187.46	17.87	0	9.78	0	27.65	27.65	0	1992
1993	88.83	25.00	113.83	149.50	28.25	149.50	133.48	22.22	0	5.48	0	27.70	27.70	0	1993
1994	99.49	10.00	109.49	71.59	28.70	100.29	63.92	24.89	0	0	0	24.89	24.89	0	1994
							(9.20)								

TABLE C-1

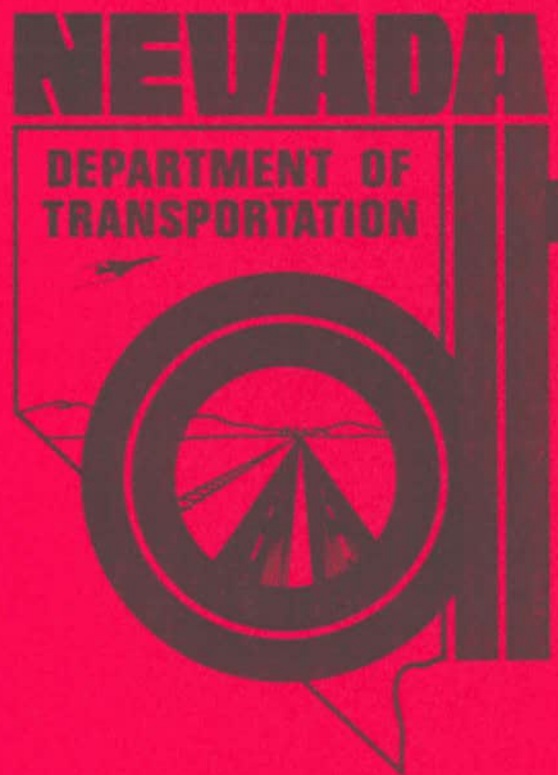
B. The proposed new state revenue must be indexed to keep up with a minimum 12% inflation rate or our backlog 3R needs will never be eliminated.

C. This proposal will affect our new and reconstruction needs. We will have to sacrifice these needs if we are to preserve our existing investment.

**NEVADA'S
1981 - 2001**

EXHIBIT J

STATE TRANSPORTATION NEEDS STUDY



**STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION**

Prepared by:
Planning Division and
Program/Project Management Division

December 1980

1981 - 2001
STATE TRANSPORTATION NEEDS STUDY

Table of Contents

	<u>Page</u>
Introduction	1- 2
General Information	3-18
Preserving the Existing System	19-24
Short Range Construction Program	25-30
Twenty Year Highway Needs	31-51

Statewide Highway Needs Study

Introduction

The Nevada Department of Transportation is using this biennial needs study to present an overall view of highway needs and revenues to the 1981 session of the Nevada State Legislature. The report addresses the phenomenal growth of the state and the problems this growth has caused the highway system. Highway needs are discussed and various funding levels presented with anticipated results at these levels. This is all brought to focus with findings and conclusions drawn for the consideration of the legislature.

The ever expanding needs are generated by a rapidly growing population, escalating vehicle miles traveled, heavier trucks, skyrocketing inflation, increasing congestion, and a deteriorating road system. This causes vehicle repair costs to soar, reduces safety, limits the economic growth of the state, and increases ultimate reconstruction costs.

The shape of future highway programs should be looked at for two important reasons, first as has been well demonstrated any reduction in the buying power of highway user revenues leads directly to highway budget problems. Contract lettings are canceled, maintenance programs are scaled down and people lose their jobs. This impact is almost immediate. The other major concern has to do with reviewing highway needs to see how long-range programs should be changed to meet changing requirements. Nevada can no longer postpone action on the road financing problem. Legislation is needed now if we are to halt the deterioration of street and highway service in Nevada.

The Department of Transportation has accepted the reality that it cannot finance the total needs of the State's streets and highways. The costs necessary to bring the State's highway system to twenty year geometric, safety and surfacing standards are so excessive (approaching \$3.0 billion as outlined in Section IV) that the total needs can no longer be considered as a viable alternative.

Therefore, the Department must revise it's goals to the following priorities:

1. Preserve the existing systems by normal maintenance and resurfacing, restoring or rehabilitating (3R) the existing surface; ignoring geometrics, drainage, and safety needs except in extreme cases.
2. Complete the construction of the Interstate System and reconstruct those sections on the other federal-aid systems which have reached their point of failure for traffic serviceability. This would include high hazard location and transportation system management type improvements (signals, turn-lanes, high-occupancy-vehicle lanes, etc.).
3. Construct selected new high priority volume roads on the primary and urban systems. The present policy of allocating 50% of our Federal-Aid Secondary Funds for county selected priority projects will be cancelled.

The Study is divided into four sections.

Section I - Provides general information concerning growth, scope of system within the State, safety and conditions of the existing system.

Section II - Covers the problems, methods and costs to accomplish our priority goal of preserving the existing systems.

Section III - Provides our proposed "Short Range Construction Program" for our second and third priority goals.

Section IV - Covers the total needs of our Highway system to bring them to proper geometric, safety, and surfacing standards in the next twenty years.

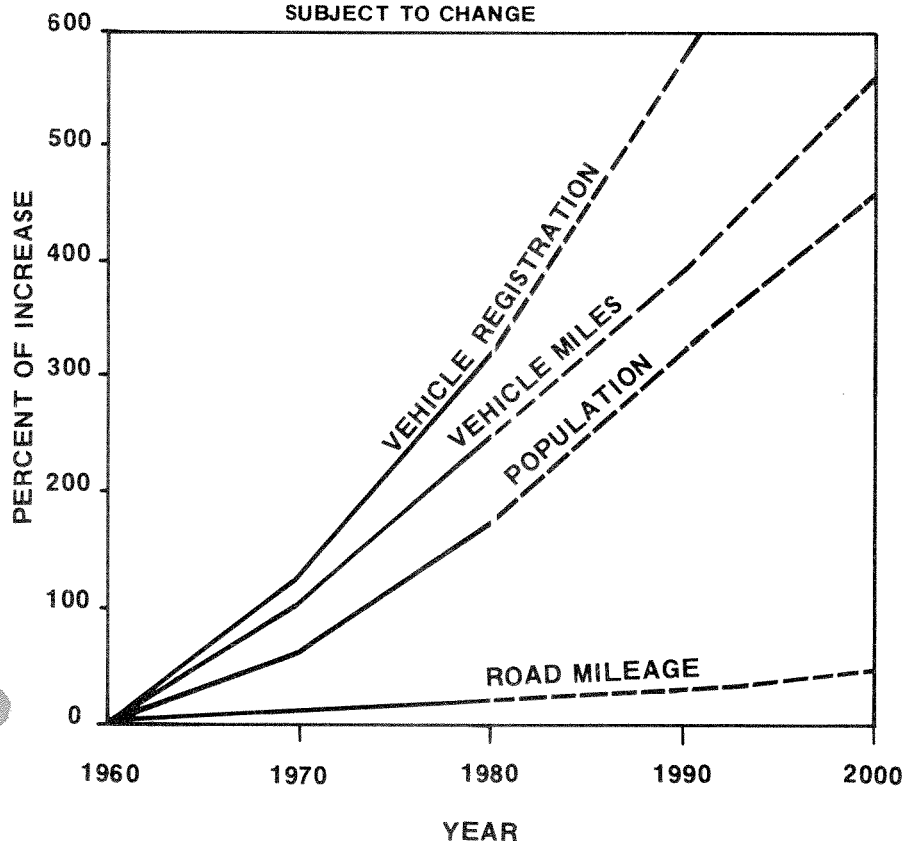
SECTION I
General Information

NEVADA'S GROWTH

Nevada's growth over the last two decades has more than doubled, and it is projected to double again by the end of the century. During this same time period motor vehicle registration and vehicle miles of travel have more than kept pace with population growth. More people and cars produce a need for more roads and so the miles of all types of roads has increased steadily, but has not kept pace with the growth in other areas. All this growth points to an increased need for highway services.

YEAR	POPULATION	MOTOR VEHICLE REGISTRATION	ANNUAL VEHICLE MILES (MILLION)	TOTAL ROAD MILES IN STATE
1960	285,000	158,000	1,763	44,505
1970	489,000	342,000	3,460	48,829
1980	* 798,000	649,000	5,930	50,161
1990	1,193,000	1,098,920	8,500	53,270
2000	1,585,000	1,467,160	11,600	56,572

* THIS FIGURE IS THE PRELIMINARY 1980 CENSUS TOTAL, SUBJECT TO CHANGE



SCOPE OF SYSTEM COVERED

This study deals only with those roads and streets that are the direct responsibility of the Department of Transportation. This means that all Federal and State Aid Routes have been included. It is noted, however, that a small percentage of these "system" miles have never been constructed by our department and are therefore not maintained by us. Their needs have been included under the assumption that, "if it's on the system - it should be constructed to appropriate design standards."

The following table shows the extent of State maintained system mileage and the mileage that is the responsibility of local governments.

Table I

STATUS OF MAINTAINED MILEAGE - 1979

<u>SYSTEM</u>	<u>STATE SYSTEM</u>		<u>Local Rds & Sts.</u>	<u>Total</u>
	<u>Maintained</u>	<u>Not Maintained</u>		
Federal-Aid Interstate	481.9	62.7*	-	544.6
Federal-Aid Primary	1,842.8	30.3*	-	1,873.1
Federal-Aid Secondary	2,105.0	350.9	-	2,455.9
Federal-Aid Urban	122.9	246.1	-	369.0
State-Aid Routes	413.5	-	-	413.5
Local Roads & Streets	-	-	44,505.7	44,505.7
TOTAL	4,966.1	690.0	44,505.7	50,161.8
% of Grand Total	9.9%	1.4%	88.7%	100.0%

*represents new roadways not yet constructed

See Tables I-A through I-C for breakdown by counties.

MAINTAINED MILEAGE BY COUNTY AND SYSTEM

AS OF JANUARY 1, 1980

COUNTY	FAI	FAP	FAS	FAU	SAR	TOTAL
CARSON CITY	-	24.307	2.369	6.442	8.898	42.016
CHURCHILL	29.305	174.885	71.578	-	58.161	333.929
CLARK	124.774	157.490	243.152	69.540	21.894	616.850
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NYE	-	240.461	299.551	-	12.319	552.331
PERSHING	64.770	-	56.636	-	39.235	160.641
STOREY	0.775	-	13.790	-	-	14.565
WASHOE	45.574	33.941	196.869	41.094	6.677	324.155
WHITE PINE	-	266.592	61.891	-	93.771	422.254
TOTAL	481.889	1,842.792	2,104.987	122.895	413.500	4,966.063

Table I-A

FEDERAL AND STATE SYSTEM TOTALS
AS OF JANUARY 1, 1980

COUNTY	FAI	FAP	FAS	FAU	SAR	TOTAL
CARSON CITY	-	24.307	13.747	6.442	8.898	53.394
CHURCHILL	29.305	174.885	79.150	-	58.161	341.501
CLARK	129.774	175.698	377.219	236.318	21.894	940.903
DOUGLAS	-	59.053	61.546	-	14.909	135.508
ELKO	132.773	195.444	321.686	15.190	8.900	673.993
ESMERALDA	-	115.924	103.860	-	17.941	237.725
EUREKA	25.773	47.385	103.090	-	6.615	182.863
HUMBOLDT	61.388	73.757	156.811	-	37.312	329.268
LANDER	26.982	56.898	118.583	-	49.866	252.329
LINCOLN	-	172.400	212.336	-	2.313	387.049
LYON	14.275	106.753	79.654	-	30.535	231.217
MINERAL	-	118.442	81.135	-	4.154	203.731
NYE	-	240.461	303.858	-	12.319	556.638
PERSHING	75.079	-	66.908	-	39.235	181.222
STOREY	0.775	-	13.790	-	-	14.565
WASHOE	48.507	45.118	277.659	111.002	6.677	488.963
WHITE PINE	-	266.592	84.842	-	93.771	445.205
TOTAL	544.631	1,873.117	2,455.874	368.952	413.500	5,656.074

Table I-B

SYSTEM - RURAL/URBAN TOTALS

JANUARY 1, 1980

<u>SYSTEM</u>	<u>SMALL URBAN</u>	<u>URBANIZED</u>	<u>RURAL</u>	<u>TOTAL</u>
FEDERAL-AID INTERSTATE	3.849	28.824	511.958	544.631
FEDERAL-AID PRIMARY	8.659	19.042	1,845.416	1,873.117
FEDERAL-AID SECONDARY	-	-	2,455.874	2,455.874
FEDERAL-AID URBAN	46.720	322.232	-	368.952
<u>STATE-AID ROUTES</u>	<u>0.879</u>	<u>0.989</u>	<u>411.632</u>	<u>413.500</u>
TOTAL	60.107	371.087	5,224.880	5,656.074

	<u>FAI</u>	<u>FAP</u>	<u>FAS</u>	<u>FAU</u>	<u>SAR</u>	<u>TOTAL</u>
<u>Small-Urban:</u>						
Boulder City	-	3.144	-	4.735	-	7.879
Carson City	-	5.515	-	6.442	0.879	12.836
Elko	3.849	-	-	15.190	-	19.039
Henderson	-	-	-	20.353	-	20.353
	<u>3.849</u>	<u>8.659</u>	<u>-</u>	<u>46.720</u>	<u>0.879</u>	<u>60.107</u>
<u>Urbanized:</u>						
Las Vegas	17.695	16.218	-	211.230	0.521	245.664
Reno	<u>11.129</u>	<u>2.824</u>	<u>-</u>	<u>111.002</u>	<u>0.468</u>	<u>125.423</u>
	28.824	19.042	-	322.232	0.989	371.087

Table I-C

While Table I shows the extent of the Department's mileage responsibility, a more meaningful presentation is Table II. The Department of Transportation maintains only 9.9% of the total miles within the state, however, this mileage represents 66.1% of all annual vehicle miles traveled statewide.

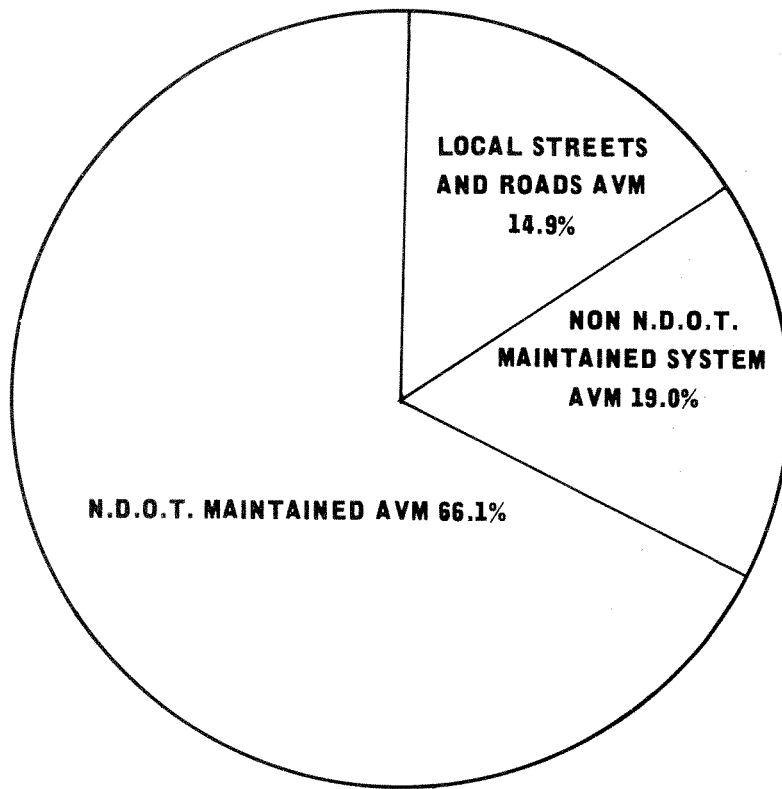
Table II

STATUS OF MILES AND ANNUAL VEHICLE MILES (AVM) - 1979

	<u>Miles</u>	<u>%</u>	<u>AVM</u> (thousands)	<u>%</u>
STATE SYSTEM				
Maintained by D.O.T.	4,966.1	9.9%	3,897,754	66.1%
Not currently				
Maintained by D.O.T.	690.0	1.4%	1,118,240	19.0%
<u>TOTAL</u>	<u>5,656.1</u>	<u>11.3%</u>	<u>5,015,994</u>	<u>85.1%</u>
LOCAL SYSTEM	44,505.7	88.7%	877,772	14.9%
<u>GRAND TOTAL</u>	<u>50,161.8</u>	<u>100.0%</u>	<u>5,893,766</u>	<u>100.0%</u>

See Table II-A and II-B for breakdown by counties.

**STATUS OF ANNUAL VEHICLE MILES (AVM)
STATE-WIDE**



N.D.O.T. MAINTAINED AVM	3,897,753,643	66.1%
NON N.D.O.T. MAINTAINED SYSTEM AVM	1,118,240,312	19.0%
LOCAL STREETS AND ROADS AVM	877,771,847	14.9%
TOTAL STATEWIDE AVM	5,893,765,802	100.0%

AVM – ANNUAL VEHICLE MILES ARE COMPUTED BY MULTIPLYING THE ADT (AVERAGE DAILY TRAFFIC) BY THE ROUTE MILEAGE, THEN MULTIPLYING BY 365.

TABLE II A

STATUS OF ANNUAL VEHICLE MILES (AVM)

Table II-B

Note: AVM Reflects 1979 Traffic

County	NDOT Maintained	%	Non-Maintained System	%	Local Streets & Roads	%	Total AVM
Carson City	138,516,448	77.2	5,631,422	3.2	35,217,759	19.6	179,365,629
Churchill	147,000,568	86.4	1,207,665	0.7	21,969,722	12.9	170,177,955
Clark	1,456,133,646	52.3	859,775,074	30.9	466,289,627	16.8	2,782,198,347
Douglas	162,598,425	84.4	19,845,123	10.3	10,112,596	5.3	192,556,144
Elko	258,396,308	89.2	6,044,717	2.1	25,208,114	8.7	289,649,139
Esmeralda	42,987,128	94.3	135,973	0.3	2,471,701	5.4	45,594,802
Eureka	49,481,365	93.2	457,214	0.9	3,122,542	5.9	53,061,121
Humboldt	138,125,706	90.1	971,895	0.6	14,173,058	9.3	153,270,659
Lander	58,873,371	89.9	1,005,538	1.5	5,626,838	8.6	65,505,747
Lincoln	47,520,855	87.6	324,910	0.6	6,421,102	11.8	54,266,867
Lyon	138,007,451	90.4	2,013,435	1.3	12,712,510	8.3	152,733,396
Mineral	67,405,290	85.7	1,166,140	1.5	10,115,970	12.8	78,687,400
Nye	92,830,562	83.9	2,872,010	2.6	14,919,186	13.5	110,621,758
Pershing	130,092,201	95.2	1,550,991	1.2	4,962,241	3.6	136,605,433
Storey	10,815,653	86.0	320,141	2.5	1,440,330	11.5	12,576,124
Washoe	892,215,158	67.0	214,275,209	16.1	224,291,698	16.9	1,330,782,065
White Pine	66,753,508	77.5	642,855	0.8	18,716,853	21.7	86,113,216
Total	3,897,753,643	66.1	1,118,240,000	19.0	877,771,847	14.9	5,893,765,802

SAFETY

As previously mentioned, Nevada's growth rate has been phenomenal, and has caused a growing concern in the safety program. As illustrated in Table A, the population has increased 42%, annual vehicle miles of travel has increased 63% and total statewide accidents has increased 55% for the 9 year period from 1971 to 1979. However, the accident rate has been held to a minimum through safety programs financed by federal and state funds. From 1977 to 1979 the percent of accident rates have steadily increased causing growing concern. The accident rate is computed by dividing total annual vehicle miles (millions) into total accidents to determine the accident rate.

To continue the suppression of the accident rate, Nevada must rely heavily on federal-aid funded programs. Due to spiraling costs and insufficient highway funds the accident rate will continue to soar unless additional funds are expended to improve and maintain our highway systems.

TABLE A

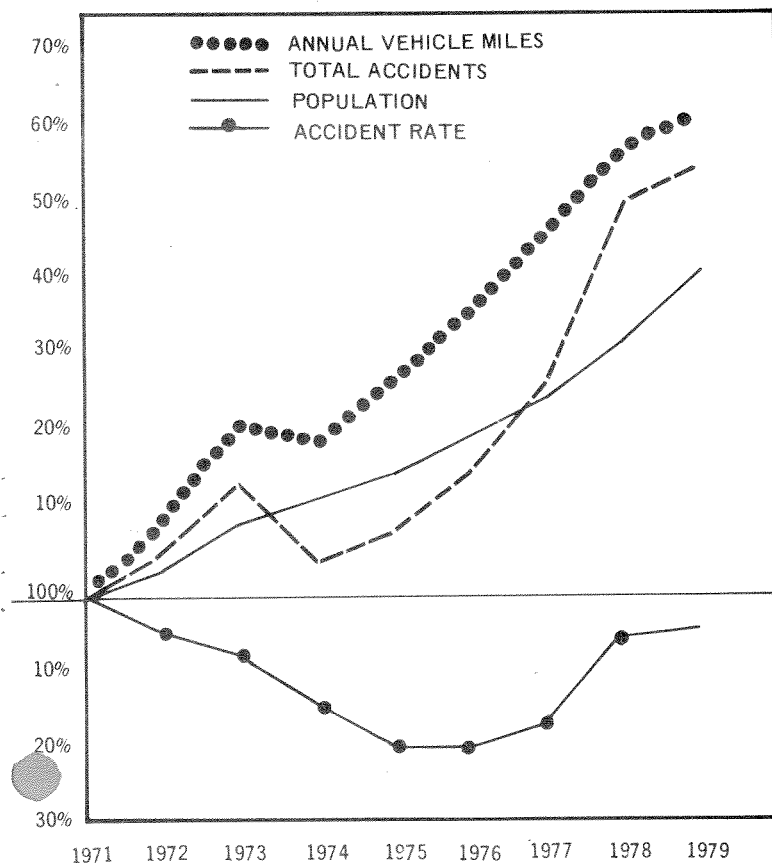


TABLE B

ACCIDENT RATES PER 100 MILLION VEHICLE MILES FOR TOTAL ACCIDENTS IN NEVADA			
YEAR	TOTAL ACCIDENTS	ACCIDENT RATE	ANNUAL VEHICLE MILES (MILLIONS)
1971	20,918	577.37	3,623
1972	22,035	553.37	3,982
1973	23,709	538.84	4,400
1974	21,639	499.17	4,335
1975	22,223	483.11	4,600
1976	23,655	483.74	4,890
1977	26,158	493.73	5,298
1978	31,582	549.25	5,750
1979	32,472	551.31	5,890

The Federal-Aid Highway Act of 1916 established the Federal-Aid Highway System and the resultant partnership between federal and state road agencies. Over the years this highway system has continued to grow until at this time we have 5,656 miles of streets and highways on the federal and state systems. The Federal-Aid Highway Act of 1956 established the Federal-Aid Interstate System and signaled the start of the largest public works project ever attempted. State Highway agencies geared up for this massive project and the highway construction boom era was on. But like all boom's the bust has come leaving the obligations of maintaining all these miles of roads with state funds. The scramble for road funds is an issue that must be addressed by all levels of government with some 50,000 miles of roads to be maintained by federal, state and local government for the benefit of all Nevadans.

1) Road Conditions Decline

Beginning in 1917 Federal-Aid funding became available for highway construction. From 1917 through 1979 the State of Nevada has received over one billion dollars in federal highway funds. In addition to this is a vast amount of state monies which have been spent for maintenance and construction. This is a substantial investment which must be protected. If a balanced program of maintenance and resurfacing is not persued we stand to loose entire sections of road. Once a road gets to a certain condition then the only recourse to bring it back to an acceptable standard is costly reconstruction.

Highways in Nevada are constructed for an effective 20 year service life. This assumes original construction or reconstruction and 1 resurfacing. After the 20 year period major renovation is generally required. Figure 1 illustrates that 63.1% of the Federal-Aid Primary System has seen no major rehabilitation in 20 years and 31.8% has seen no major rehabilitation in 30 years. 1.6% of the Primary System is unconstructed alignments.

**FIGURE 1 YEAR OF LAST CONSTRUCTION
FEDERAL AID PRIMARY**

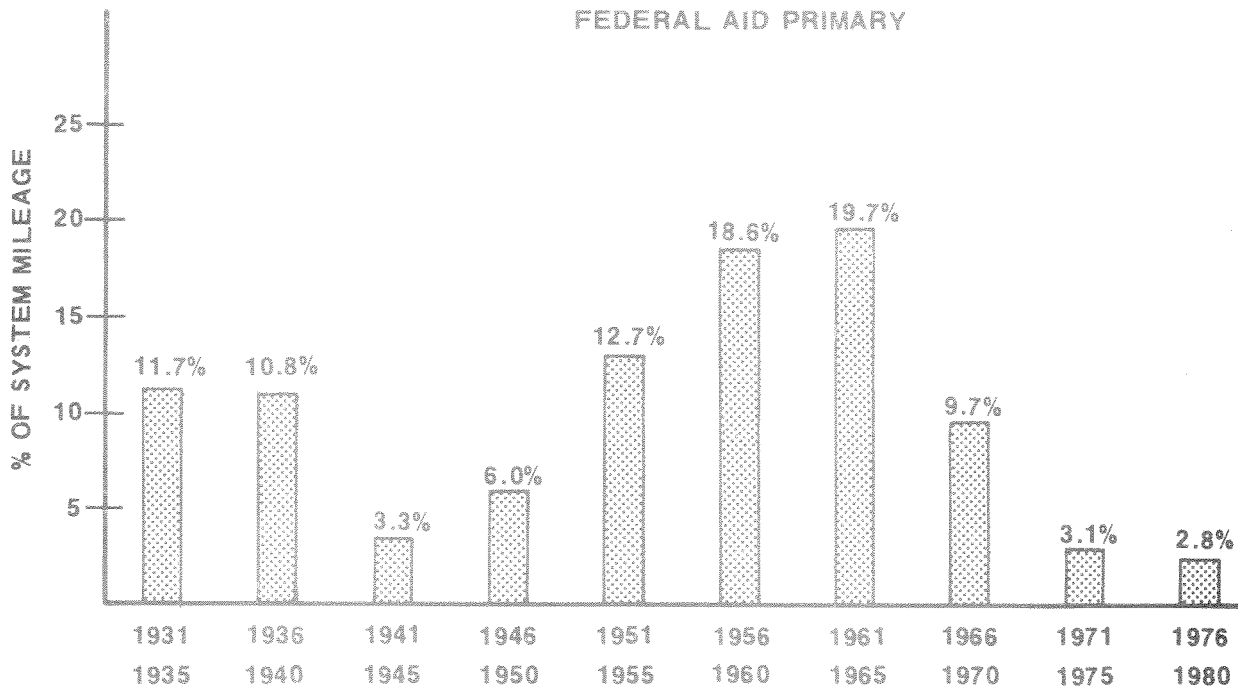


Figure 2 shows that 28.3% of the Federal-Aid Primary System has not been resurfaced in over 20 years. The department feels that a resurfacing should last between 7 and 11 years.

**FIGURE 2 YEAR OF LAST RESURFACING
FEDERAL AID PRIMARY**

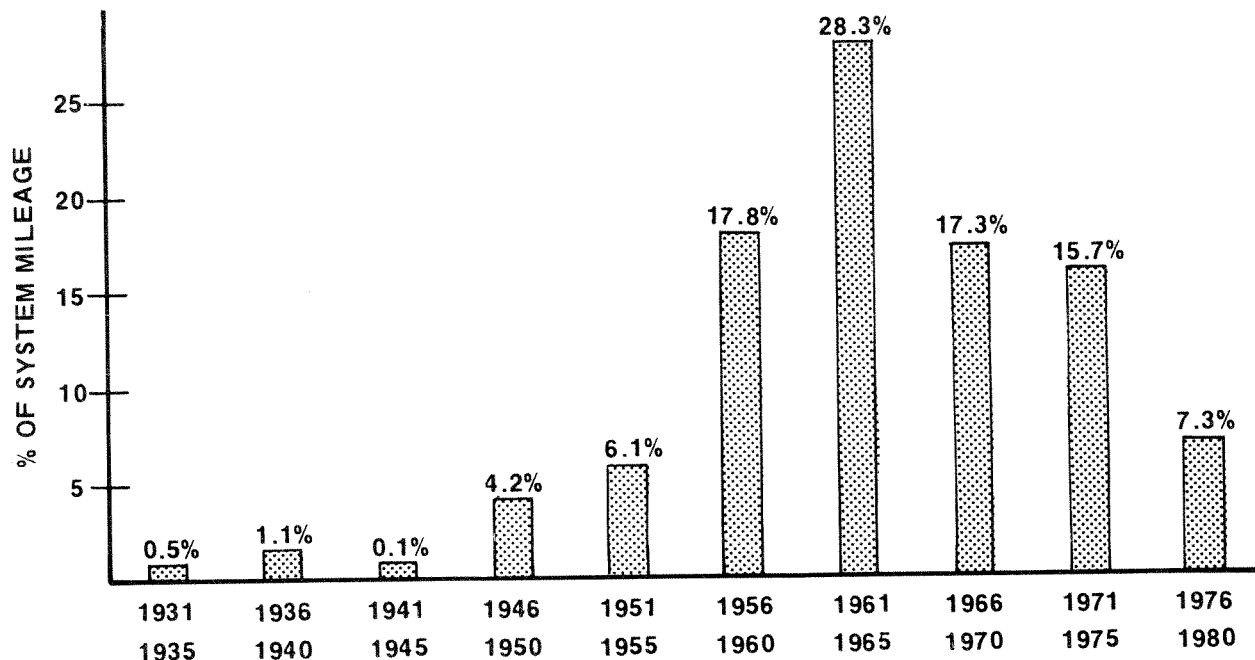


Figure 3 illustrates that 72.3% of the Federal-Aid Secondary System has seen no major rehabilitation in 20 years and 36.5% has seen no major rehabilitation in 30 years.

**FIGURE 3 YEAR OF LAST CONSTRUCTION
FEDERAL AID SECONDARY**

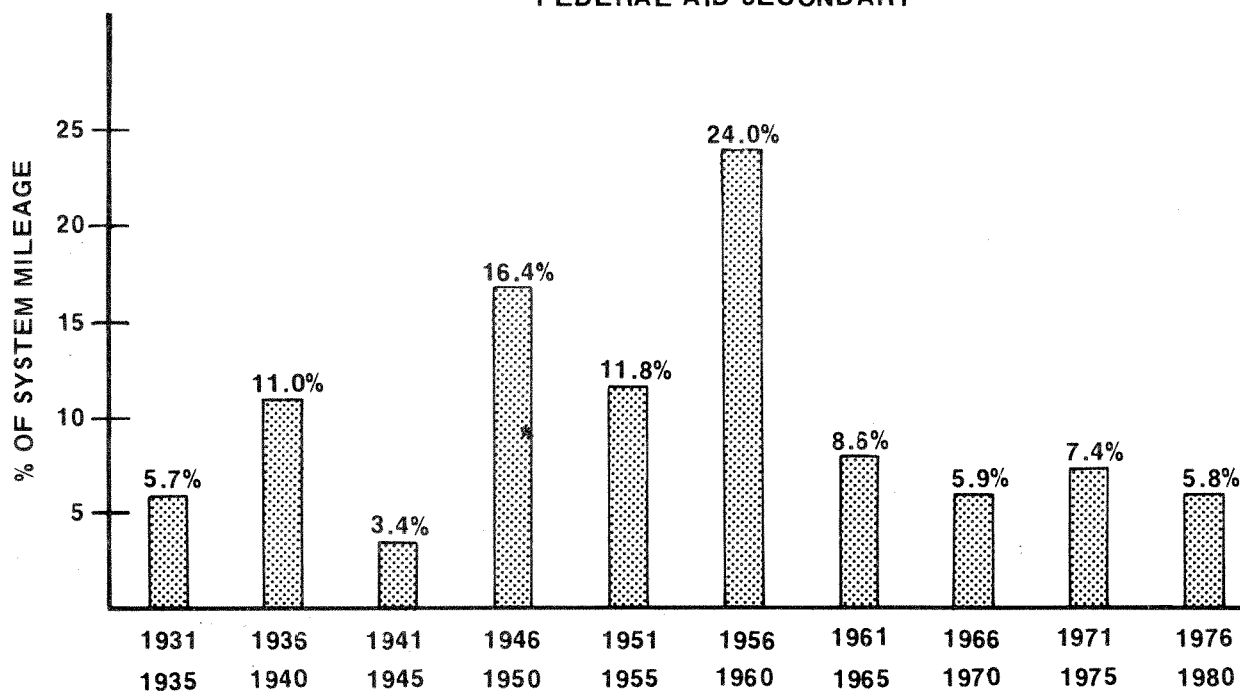
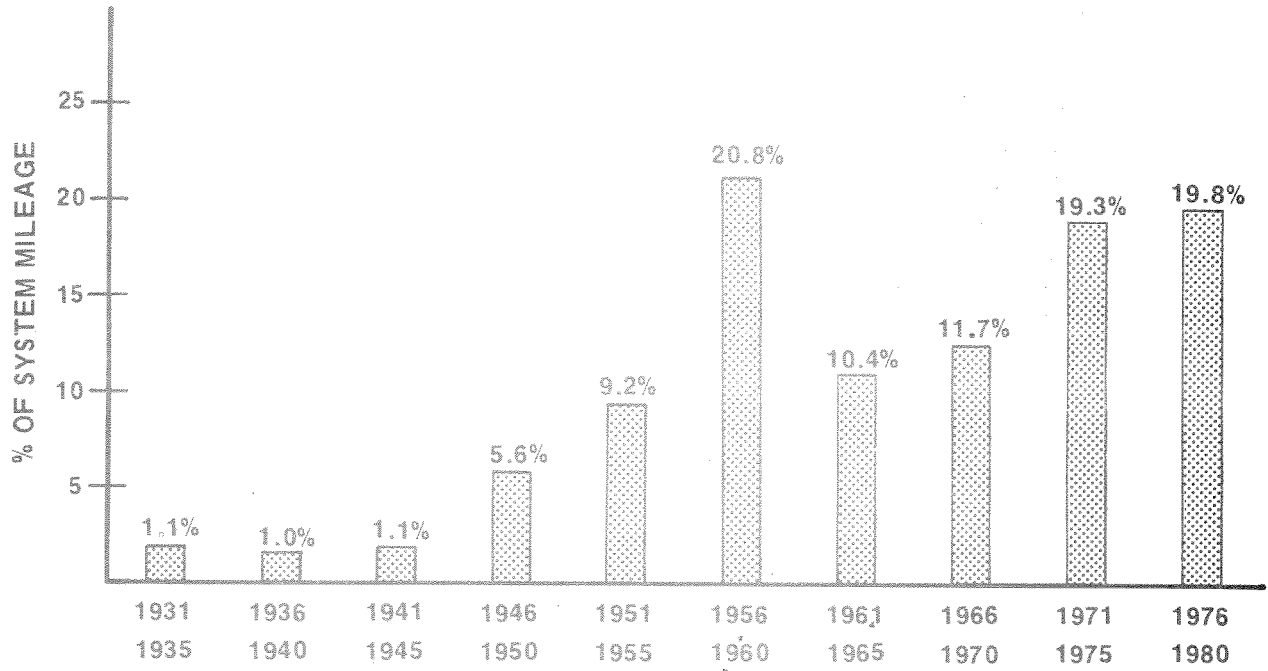


Figure 4 shows that 19.8% of the Federal-Aid Secondary System has not been resurfaced in over 20 years.

**FIGURE 4 YEAR OF LAST RESURFACING
FEDERAL AID SECONDARY**



The States' highways are deteriorating at an accelerated rate and sufficient funds are not available to meet current needs or future requirements. Excessive truck weight is a major cause of highway damage. The rate of highway deterioration will slow down if excessively heavy trucks are kept off the highways.

The American Association of State Highway and Transportation officials reported that concentrating large amounts of weight on a single axle multiplies the impact of the weight exponentially. Although a five-axle tractor-trailer loaded to the current 80,000-pound federal weight limit weighs about the same as 20 automobiles, the impact of the tractor-trailer is dramatically higher. Based on Association data, and confirmed by its officials, such a tractor-trailer has the same impact on an interstate highway as at least 9,600 automobiles. Increasing truck weight causes an ever increasing rate of pavement damage.

The increase of heavy trucks on our highways also poses a safety problem. The public is being exposed to increasing vehicle size and weight differentials as automobiles get smaller and lighter while trucks become larger and heavier. On our primary system alone we still have almost 100 miles of roads with a surface width of 24 feet. These narrow roads leave no margin for error when meeting or passing heavy trucks.

2) Revenues Are Down

A. The Federal Energy Act of 1975 mandates to the automobile industry fleet averages for gas mileage on new cars they produce. These averages are as follows:

1974-13.9 MPG	1982-24.0 MPG
1978-18.0 MPG	1983-26.0 MPG
1979-19.0 MPG	1984-27.0 MPG
1980-20.0 MPG	1985-27.5 MPG
1981-22.0 MPG	

This will seriously affect highway revenues.

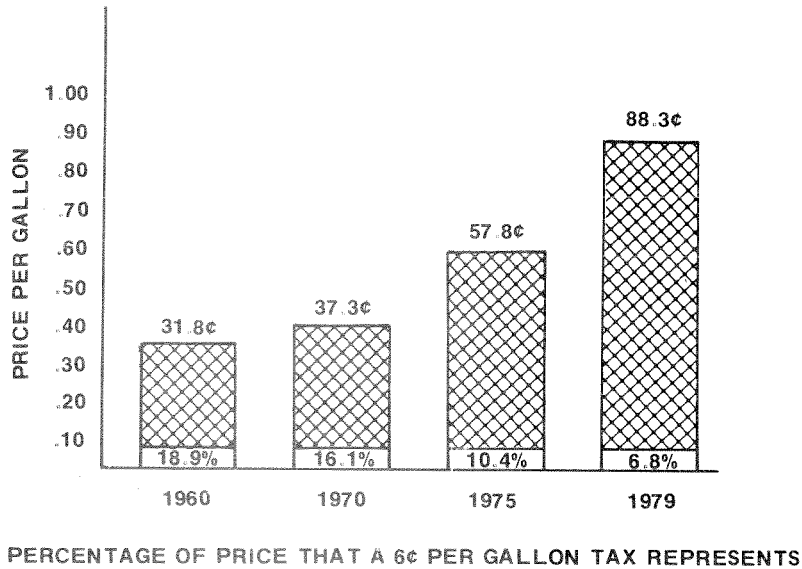
B. The federally imposed 55 MPH speed limit along with stringent enforcement requirements at the state level have created problems. The public driving at 55 MPH or less is getting better gas mileage and as the cars get smaller and lighter to meet the Energy Act's MPG requirements this savings will be compounded. There also could be a loss of federal funds if the state does not comply with this law. To comply with the law the following requirements and penalties have been set:

<u>Date</u>	<u>% of Veh. Exceeding 55 MPH</u>	<u>% Reduction of Fed. Hwy. Funds</u>
Sept. 30, 1979	70%	5%
Sept. 30, 1980	60%	5%
Sept. 30, 1981	50%	5%
Sept. 30, 1982	40%	10%
Sept. 30, 1983	30%	10%

As a part of this legislation there are incentive grants for states which fall 10% below the percentage requirements for exceeding 55 MPH each year. These grants would equal 10% of the states apportionment and are to be used for highway safety programs.

- C. The price of fuel during the 60's and 70's has risen from 31.8¢ per gallon to 88.3¢, a three fold increase. While the cost of gasoline has escalated the state gas tax has not been increased since 1955. It is estimated that the cost of gasoline is averaging about \$1.15 per gallon in 1980, but this is unofficial.

The following graph shows the state motor fuel tax as a percentage of the price of fuel.



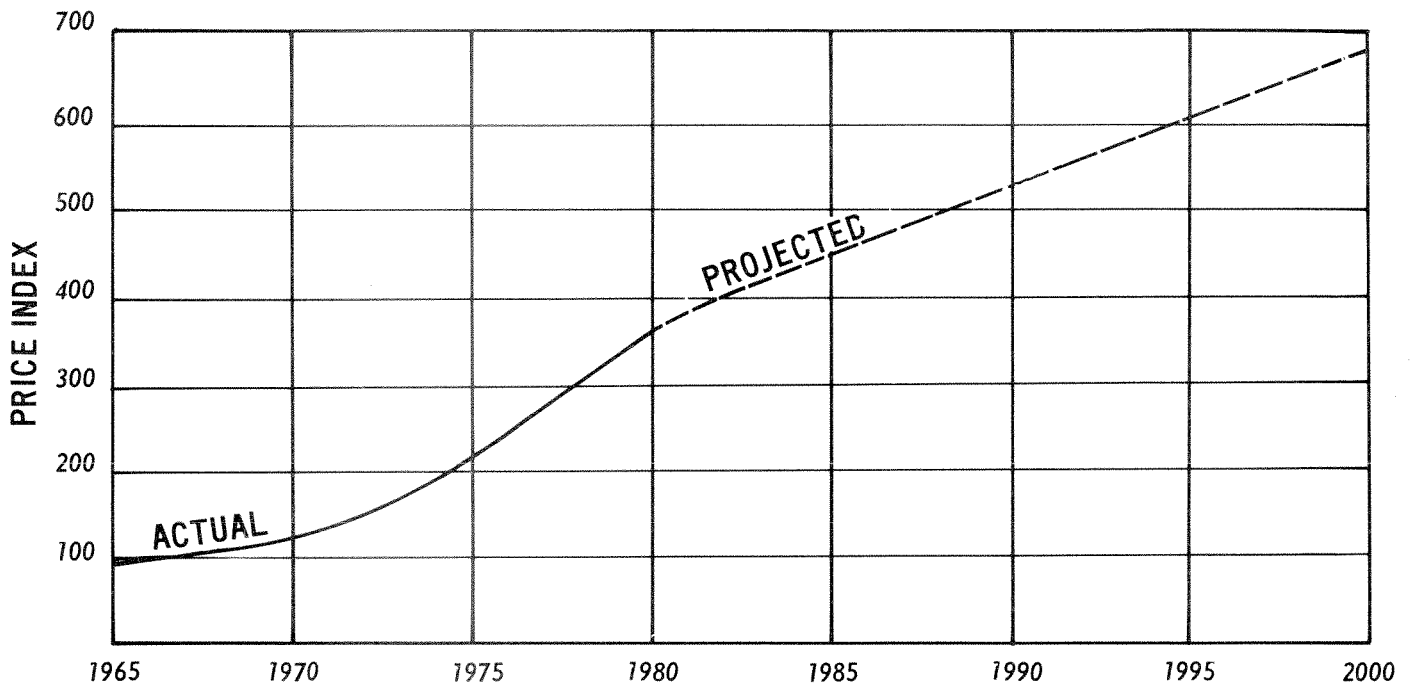
As the price of fuel increases people are buying less gasoline because they reduce the number of non-essential trips. If the price continues to increase and inflation continues, people will have even less of their income to spend for these non-essential trips.

3) Special Problems

- A) The cost of constructing highways has increased steadily over past years and is projected to continue to increase in the future. The highway cost index compiled by the Federal Highway Administration hit 352.1 in the fourth quarter of 1979. This means that it takes \$352.10 to buy the same amount of highway construction that \$100 would buy in 1967 and almost \$700 in the year 2000.

The cost of maintaining highways is also closely related to these price trends because many of the items which make up the trends are the same.

PRICE TRENDS FOR FEDERAL AID HIGHWAY CONSTRUCTION (Base Year 1967)



As the cost of highway construction has risen the amount of federal money for actual roadway work has dwindled. Such things as public hearings, environmental assessments, control of outdoor advertising, control of junkyards and other non construction functions has increased severely limiting the funding available for construction. There are also moves to divert highway revenues to mass transit.

- B) The production of gasohol in Nevada is about to begin with a plant soon to open in Wabuska and another planned for Winnemucca. If these become successful operations the use of gasohol would cut into our gas tax revenues as there are no provisions at this time for taxing gasohol.
- C) If the Sagebrush Rebellion were to be successful our federal funding would be seriously affected, because the amount of matching funds the states have to pay is affected by the amount of federal lands a state has.
- D) The rapid expansion of rural Nevada's economy caused by such things as new power plants, increased mining and oil well activity and most of all the proposed MX is putting a strain on our antiquated county road systems. This activity must be addressed with new heavy duty roads to handle the increased truck traffic.
- E) In addition to normal maintenance and reconstruction there are special projects which will take a heavy concentration of funds. To fund these programs from existing sources would disrupt normal road construction for many years.

Findings and Conclusions

The pavement surfaces on Nevada's State Highway Systems are deteriorating more rapidly than funds are available to rehabilitate or restore them in a timely manner. The result will be even lower performance levels in the future. Research results and field experience have demonstrated that more maintenance effort and thicker rehabilitation overlays are required for pavement surfaces as they deteriorate.

Deteriorating pavements are more costly to the highway user due to increased fuel consumption and increased wear and tear on vehicles. There is considerable energy savings through improved pavement condition.

The State of Utah made an economic analysis on various rehabilitation strategies to determine their relative costs and benefits. This showed that by maintaining pavement surfaces in good condition or better, much lower annual costs and higher benefits will be the result than for pavements in fair or poor condition. Many existing pavements must be upgraded to take advantage of the reduced annual costs and improved benefits. These need to be accomplished as expeditiously as possible due to inflation trends and energy conservation. Additional effort must be applied to existing pavement surfaces or they will continue deteriorating to the point where the efforts and costs to restore them will become insurmountable.

The first priority must be maintenance of our roads. As revenues fail to keep up with inflation an ever increasing percentage of highway revenues must be spent for maintenance leaving less and less available for construction. As less money is spent on construction the age of our road system increases and maintenance costs skyrocket. Without a balanced highway program our state highways can do nothing but deteriorate over the long haul. It is clear that tomorrow's transportation system must build upon the investment already made. This fact is strongly supported by Nevada's physical development as well as by limitations on resources available to make new investments.

SECTION II
Preserving the Existing System

NORMAL MAINTENANCE
COST ESTIMATE
FISCAL YEAR 1981

COUNTY	INTERSTATE		PRIMARY		SECONDARY		URBAN		STATE-AID		TOTALS	
	No. of Miles	Estimated Cost	No. of Miles	Estimated Cost	No. of Miles	Estimated Cost	No. of Miles	Estimated Cost	No. of Miles	Estimated Cost	No. of Miles	Estimate Cost
Carson City	0	0	8.0	21,504	2.0	7,549	9.0	7,885	4.0	12,074	23.0	49,012
Churchill	5.0	16,442	109.0	256,413	36.0	68,723	0	0	20.0	66,976	170.0	408,554
Clark	41.0	181,037	54.0	98,918	148.0	240,128	36.0	105,594	10.0	17,629	289.0	643,000
Douglas	0	0	20.0	48,989	23.0	47,757	0	0	8.0	13,306	51.0	110,052
Elko	48.0	115,629	108.0	218,960	198.0	440,922	3.0	4,883	4.0	14,784	361.0	795,178
Esmeralda	0	0	62.0	129,472	57.0	97,149	0	0	3.0	2,061	122.0	228,682
Eureka	19.0	46,413	28.0	61,555	65.0	167,328	0	0	3.0	7,034	115.0	282,330
Humboldt	29.0	31,472	36.0	82,342	100.0	176,042	0	0	12.0	23,789	177.0	313,645
Lander	11.0	8,198	18.0	55,082	65.0	112,269	0	0	10.0	28,134	104.0	203,683
Lincoln	0	0	97.0	158,032	78.0	118,294	0	0	1.0	3,920	176.0	280,246
Lyon	1.0	269	52.0	75,533	71.0	138,656	0	0	20.0	36,669	144.0	251,107
Mineral	0	0	45.0	87,674	48.0	81,200	0	0	0	0	93.0	168,874
Nye	0	0	64.0	99,882	134.0	279,910	0	0	0	0	198.0	379,792
Pershing	26.0	21,907	0	0	59.0	121,766	0	0	33.0	93,341	118.0	237,014
Storey	0	0	0	0	10.0	12,365	0	0	0	0	10.0	12,365
Washoe	10.0	40,365	26.0	68,365	132.0	192,998	24.0	58,643	6.0	14,291	198.0	374,662
White Pine	0	0	123.0	245,011	23.0	53,760	0	0	34.0	101,002	180.0	399,773
TOTALS	190.0	461,732	850.0	1,707,732	1,249.0	2,356,816	72.0	177,005	168.0	435,010	2,529.0	5,138,295

Additional Revenue Required

A. Additional revenue will be required to accomplish the new priority goals. Presently, financing for the maintenance, 3R, reconstruction and new construction programs is inadequate.

1. The Department is presently responsible for the maintenance of 5,000 miles of roads. These roads carry 66% of the vehicle miles traveled on all streets and roads in the State. There are an additional 690 miles of Federal-Aid System roads which could be added to the Department's maintenance responsibility if the roads are constructed or reconstructed (i.e.: US 93 truck route in Boulder City; Ring Road in Reno/Sparks; US 95 Freeway in Las Vegas and Henderson; Flamingo Road in Las Vegas; Hawthorne Truck Route).

a. Refer to Tables I and II in Section I for maintenance and vehicle mileage.

2. The Department recently completed a "Pavement Management System" which classifies the type of work required to preserve the existing surface on the 5,000 miles of state maintained roads. The classification only reflects the condition of the surface at this point in time. The following table shows the "PMS" work classification, length and the 1981 cost estimate necessary to correct the pavement deficiencies:

<u>Type of Work Required</u>	<u>Length</u>	<u>Total Estimated Costs</u>
No work required at this time	1,305	\$ 0
Normal or heavy maintenance	2,529	5.1 million
Resurfacing restoration or rehabilitation	1,166	222.0 million
Total	5,000	\$227.1 million

Note: The maintenance costs do not indicate the amount presently being spent or the amount required in the future for additional maintenance work on the 3R backlog section. Please refer to Tables B-1 and B-2 for 3R or maintenance work required in each county and system.

3. Federal-Aid Highway Funds cannot be used for maintenance operations but they can be used for 3R type improvements. At least 20% of the apportioned Federal-Aid Primary and Secondary funds must be used for 3R type work. There is a special category of federal funds for Interstate 3R work. Therefore, a portion of our backlog 3R needs will be accomplished with federal funds. The residue of the 3R backlog needs will have to be accomplished with 100% State Funds and a greater commitment from our available federal funds. All of our maintenance needs will have to be met with State or local funds.

RESURFACING & REHABILITATION
COST ESTIMATE
FISCAL YEAR 1981

COUNTY	INTERSTATE		PRIMARY		SECONDARY		URBAN		STATE-AID		TOTALS	
	No. of Miles	Estimated Cost	No. of Miles	Estimated Cost	No. of Miles	Estimated Cost	No. of Miles	Estimated Cost	No. of Miles	Estimated Cost	No. of Miles	Estimated Cost
Carson City			1.40	389,677							1.40	389,677
Churchill	9.63	5,502,800	62.19	10,771,632	18.39	2,544,807			23.30	2,692,839	113.51	21,512,078
Clark			15.61	3,888,501	57.40	11,709,174	10.17	5,017,688	14.00	2,736,814	97.18	23,352,177
Douglas			12.56	5,096,168	8.00	1,497,051			1.25	225,562	21.81	6,818,781
Elko	16.00	8,251,601	56.35	11,331,447	83.32	11,391,335			1.92	221,210	157.59	31,195,593
Esmeralda			18.02	3,522,671	29.34	5,206,007					47.36	8,728,678
Eureka			24.00	5,211,537	16.34	1,972,269			2.26	339,846	42.60	7,523,652
Humboldt					10.06	1,159,051			2.81	457,638	12.87	1,616,689
Lander			12.00	2,300,728					40.00	5,126,164	52.00	7,426,892
Lincoln			34.38	8,093,302	58.69	8,080,819			0.83	95,627	93.90	16,269,748
Lyon			22.39	5,351,478							22.39	5,351,478
Mineral			30.76	6,485,439	9.00	1,036,924					39.76	7,522,363
Nye			89.41	18,391,265	136.10	23,480,327					225.51	41,871,592
Pershing					4.00	460,855					4.00	460,855
Storey											0.00	-0-
Washoe	8.00	4,125,800	13.10	3,321,356	8.19	1,955,062					29.29	9,402,218
White Pine			117.93	21,253,855	24.08	3,166,957			62.80	8,117,330	204.81	32,538,142
TOTALS	33.63	17,880,201	510.10	105,409,056	462.91	73,660,638	10.17	5,017,688	149.17	20,013,030	1,165.98	221,980,613

TABLE B-2

Existing Expenditures

- A. The Department is presently spending approximately \$8.6 million each year for normal and heavy pavement maintenance operations. At first glance this appears to be in excess of the actual needs as reflected by the "PMS" study. But in reality, we are forced to spend a large amount for heavy pavement maintenance on the backlog 3R sections in addition to our normal maintenance needs. The heavy maintenance on the 3R sections is strictly a stop-gap effort to preserve the surface until we can properly correct the deficiency. The stop-gap effort represents the least cost effective use of our already scarce State funds.
- B. Approximately \$6.5 million of our available federal funding is presently being used for 3R type projects each year. Due to the lack of State funds in the last two years, we have not been able to meet any of our 3R needs with 100% State funds.
- C. Totally we are presently spending \$15.1 million for our surface maintenance and 3R needs. If status quo could be maintained, no inflation and no further surface deterioration, we could eliminate our backlog 3R needs in fifteen years at our present rate of expenditures. Of course we know inflation is spiraling at a 12% to 20% rate in the highway industry and that our roadway surfaces are deteriorating at a 11% to 16% rate. This means that at our present rate of expenditures we will never catch up with our backlog needs. In fact, we'll fall further behind.

Proposed Funding Solution

- A. We must arrive at a funding method to preserve the existing surface while eliminating the backlog 3R needs including inflation and surface deterioration.
 1. A simple method is to convince the legislature to give us a one-time appropriation to eliminate the backlog 3R needs over a short period of time. Then we would only need enough new revenue to keep up with the normal yearly surface deterioration and maintenance needs. This approach would be nice and economical but is not realistic in light of the funding problems being experienced throughout State Government.
 2. A realistic approach has to be established to accomplish our objective of preserving the existing system and addressing inflation and deterioration.
 - a. We first had to arrive at a reasonable time frame necessary to eliminate our backlog needs that the traveling public, the Transportation Board and Legislature would find acceptable. The overall costs would be drastically reduced the sooner the objective is accomplished. But a shorter period requires an exorbitant commitment of new state revenue or a total commitment of eligible federal funds. After thorough considerations, we have arrived at a maximum twelve (12) year period to return ourself to a yearly need basis.

COSTS NECESSARY TO PRESERVE EXISTING SYSTEM
(Based on 1980 Pavement Management Report)
Costs Shown in Millions of Dollars

F.Y.	Resurfacing, Restoration and Rehabilitation Work (3R)						Normal-Heavy Maintenance Work						F.Y.	
	Anticipated Costs			Proposed Revenue			Anticipated Costs							
	Deficit + 12% Inflation	Costs to Cover Deterioration of Exist. Sys.	Total	State Funds	Fed. Funds	Total	Accum. Deficit	Normal Maint. Costs Based on PMS	Backlog 3R Maint. Costs	3R Deterioration Maint. Costs	Deficit + 12% Inflation	Total	Proposed Revenue	Accum. Deficit
							221.98							
1981				0.00	6.50	6.50		5.14	12.79	0	0	17.93	8.60	1981
1982	241.34	25.52	266.86	23.40	6.50	29.90	215.48	5.75	0	1.58	10.45	17.78	11.93	1982
1983	265.39	25.65	291.04	28.60	6.50	35.10	236.96	6.45	0	1.77	6.55	14.77	13.36	1983
1984	286.65	25.80	312.45	32.03	9.14	41.17	255.94	7.22	0	1.98	1.58	10.78	10.78	1984
24 1985	303.83	25.96	329.79	35.88	11.78	47.66	271.28	8.08	2.60	2.21	0	12.89	12.89	1985
1986	315.98	26.15	342.13	40.18	14.43	54.61	282.13	9.05	0	4.96	0	14.01	14.01	1986
1987	322.03	26.36	348.39	45.00	17.07	62.07	287.52	10.14	0	5.56	0	15.70	15.70	1987
1988	320.68	26.59	347.27	50.40	19.71	70.11	286.32	11.36	0	6.22	0	17.58	17.58	1988
1989	310.42	26.85	337.27	56.45	22.36	78.81	277.16	12.72	0	6.96	0	19.68	19.68	1989
1990	289.47	27.14	316.61	63.22	25.00	88.22	258.46	14.25	0	7.80	0	22.05	22.05	1990
1991	255.80	27.47	283.27	70.81	25.00	95.81	228.39	15.96	0	8.74	0	24.70	24.70	1991
1992	209.95	27.84	237.79	79.31	25.00	104.31	187.46	17.87	0	9.78	0	27.65	27.65	1992
1993	149.50	28.25	149.50	88.83	25.00	113.83	133.48	22.22	0	5.48	0	27.70	27.70	1993
1994	71.59	28.70	100.29	99.49	10.00	109.49	63.92	24.89	0	0	0	24.89	24.89	1994
							(9.20)							

TABLE C-1

- b. Next we had to arrive at a reasonable funding method. Regular Interstate Funds are not eligible for 3R work until the system has been completed within the State. Also, we cannot stop all the committed Federal-Aid Primary, Secondary and Urban System Projects. Therefore, we adopted an expanding commitment of Federal-Aid funding from the present \$6.5 million to \$25 million in F.Y. 1990 for 3R work to preserve the existing system. We were then able to calculate our additional State fund revenue needs to meet our twelve year objective and to meet our normal needs from that point on.
1. Please refer to Table C-1 which tabulates the backlog 3R and and maintenance needs and proposed revenue needs over the twelve year period. The table takes into account a minimum 12% inflation rate, an 11% surface deterioration rate and additional heavy maintenance required on the 3R sections until they can be properly corrected. Also, related administrative costs for the preservation program have been incorporated in the total costs.
- c. A base figure of \$29.5 million has been calculated as the amount of additional state revenue required to meet the twelve year objective. The base amount would be used as follows:

1.	3R backlog	\$21.3 million
2.	Additional heavy maintenance	5.3 million
3.	Related administration cost	2.9 million
	Total	\$29.5 million

- B. The proposed new state revenue must be indexed to keep up with a minimum 12% inflation rate or our backlog 3R needs will never be eliminated.
- C. This proposal will affect our new and reconstructed needs. We will have to sacrifice these needs if we are to preserve our existing investment.

Project Priorities

- A. The Department in the process of prioritizing the backlog 3R needs for corrective action.

SECTION III

Short Range Construction Program

FORWARD

This "Short Range Construction Program" lists the proposed Federal-aid projects for construction contracts and other miscellaneous improvements on which the Department intends to start work in Fiscal Years 1981, 1982 and 1983. The proposed projects may not necessarily be completed prior to the end of the applicable Fiscal Year.

The schedule does not include the proposed Federal-aid 3R projects which are required to eliminate our 3R backlog needs covered in Section II.

The right of way projects listed in Clark County are being included as they require a major commitment of our available Federal-aid Interstate and Primary Funds.

The entire work program is subject to the availability of funds and manpower. Problems in financing, engineering or rights of way acquisitions may delay any of the listed projects. The listed Interstate projects are especially subject to potential delay as the schedule is based on an additional allocation of special Interstate Discretionary Funds.

The estimated project costs shown are the total estimated costs of the project including required work by Forces other than the contractor (local entities, railroads, state forces, etc.)

The program is listed by systems by fiscal year. The work type shown is as follows:

O	=	Pavement Overlay to 20 year standard
S	=	Safety Improvements
RC	=	Reconstruction
NC	=	New Construction
M	=	Modification
R/W	=	Convert from Advance Right of Way funds to regular federal-aid funds

INTERSTATE SYSTEM

(Costs in \$1,000)

<u>Project Description</u>	<u>Work Type</u>	<u>Length (Miles)</u>	<u>Estimated Costs</u>
<u>Fiscal Year 1981</u>			
I-80, 15 mi. SW to CH-PE Line	O&S	14.86	5,687
I-80, CH-PE Line to Westfall Rd.	S	11.35	807
I-80, Airport Road to Woolsey	NC	7.21	9,483
I-80, Winnemucca By-pass	NC	5.64	7,560
I-15, Sloan to Tropicana Ave.	S	11.28	2,227
I-15, Lamb Blvd. to US 93 Interch.	S	16.61	2,505
I-15, Charleston Blvd. Interchange	M	-	2,700
I-15, Jean Rest Area	M	-	200
I-580, Moana Lane Extension	NC	-	550
I-80, California Line to 3 mi. E.	O&S	-	2,500
I-515, Maryland Parkway to L.V. Blvd.	R/W	-	11,914
I-515, Maryland Parkway to L.V. Blvd.	NC	0.50	22,317
I-15, Crystal to 1.6 mi. N. Overton Intrch.	S	18.88	2,586
I-80, Lovelock Viaduct Structures	NC	0.67	15,328
Total		87.00	86,364
<u>Fiscal Year 1982</u>			
I-515, Charleston Blvd. to Eastern Ave.	R/W	-	8,970
I-515, Charleston Blvd. to Eastern Ave.	NC	1.70	12,315
I-80, 10 mi. E. Battle Mt. to Beowawe	O	20.06	3,893
I-80, Wadsworth Rest Area & Truck Weight	NC	-	458
I-80, Vista Drive Interchange	RC	-	2,588
I-80, U.S. 95 Rest Area	M	-	85
I-80, Lovelock to Airport Road	NC	2.60	7,749
Total		24.36	36,058
<u>Fiscal Year 1983</u>			
I-515, Eastern Ave. to Maryland Parkway	R/W	-	16,941
I-515, Eastern Ave. to Maryland Parkway	NC	0.80	30,500
I-515, Las Vegas Blvd. Interchange	NC	0.10	2,500
I-80, E. foot Golconda Smt. to Valmy	O&S	12.67	4,510
Total		13.57	54,451
Total Interstate		124.93	176,873

PRIMARY SYSTEM

(Costs in \$1,000)

<u>Project Description</u>	<u>Work Type</u>	<u>Length (Miles)</u>	<u>Estimated Costs</u>
<u>Fiscal Year 1981</u>			
US 95, Lathrop Wells to 18.5 mi. S. Beatty	RC	12.41	3,165
US 95 Fwy., Flamingo Rd. to I-515	R/W	-	4,940
US 95 Fwy., Structures at Viking, Twain & Desert Inn	NC	1.15	5,225
US 395, Stead Interchange	RC	1.13	3,850
US 95, Structure 7.8 mi. N. Calif. Line	RC	0.02	345
US 95, 6 mi. N. ES-MI Line to 3.9 mi. S. Mina	RC	5.75	3,250
Total		20.46	20,775
<u>Fiscal Year 1982</u>			
US 50, Leetville Jct. SE to Thompson Lane	RC	4.78	6,683
US 95 Fwy., Tropicana Ave. to Flamingo Rd.	R/W	-	9,796
US 95, Mina to 2.8 mi. N. Luning	RC	12.06	4,728
Total		16.84	21,207
<u>Fiscal Year 1983</u>			
US 93, Boulder City Truck Route	RC	4.00	4,000
US 93, Meadow Valley Wash Structure	RC	0.03	541
US 95 Fwy., Structures at Flamingo Rd.	NC	0.10	9,200
US 95, 2.8 to 14.4 mi. N. Luning	RC	11.64	4,560
Total		15.77	18,301
Total Primary		53.07	60,283

SECONDARY SYSTEM

(Costs in \$1,000)

<u>Project Description</u>	<u>Work Type</u>	<u>Length (Miles)</u>	<u>Estimated Costs</u>
<u>Fiscal Year 1981</u>			
SR 278, 16 to 9 mi. S. Palisade Road	RC	6.95	2,118
SR 318, 43.8 mi. N. Hiko to 1.7 mi. S. Sunnyside	NC	24.68	2,324
FAS 443 Sun Valley Drive, 2nd Ave. to 7th Ave.	RC	1.33	1,400
SR 230, four structures near Deeth	RC	-	587
Charleston Park, Lee Canyon & Deer Creek Roads	M	-	100
SR 401, Rye Patch State Park E. to I-80	RC	2.80	1,000
SR 168, UPRR Grade Separation at Moapa	RC	0.02	380
Total		35.78	7,909
<u>Fiscal Year 1982</u>			
SR 225, 11 mi. S. to 9.5 mi. N. of North Fork	O	20.35	1,700
SR 431, 0.5 to 3.4 mi. E. Jct. SR 28	M	2.96	363
SR 431, Recreational Parking Area 7 mi. NE SR 28	NC	-	360
SR 159, Blue Diamond Rd., SR 160 to 10 mi. SW Rainbow Boulevard	RC	11.20	3,375
Total		34.51	5,798
<u>Fiscal Year 1983</u>			
FAS 362, Hawthorne Truck Route	NC	1.39	1,000
SR 159, Blue Diamond Rd., 10 mi. SW to Rainbow Boulevard	RC	10.50	3,770
Total		11.89	4,770
Total Secondary		82.18	18,477

URBAN SYSTEM
(Costs in \$1,000)

<u>Project Description</u>	<u>Work Type</u>	<u>Length (Miles)</u>	<u>Estimated Costs</u>
<u>Fiscal Year 1981</u>			
Ring Rd.-Sparks, N-S Fwy. to Pyramid Way	NC	1.94	4,520
L.V. Areawide Traffic Control System (Conduit)	NC	-	1,100
L.V. Areawide Traffic Control System (Conduit)	NC	-	1,200
L.V. Areawide Traffic Control System (Building)	NC	-	330
Signals at 3 Intersections in L.V.	NC	-	261
L.V. Areawide Traffic Control (Signals & Computer Syst.)	NC	-	4,000
Total		1.94	11,411
<u>Fiscal Year 1982</u>			
Sunset Rd.-Henderson, Gibson Rd. to Boulder Hwy.	RC	0.99	1,081
Idaho St.-Elko, 3rd to 14th St. (Curb & Gutter)	RC	-	600
Total		0.99	1,681
<u>Fiscal Year 1983</u>			
5th St.-Elko, Idaho St. to Railroad St.	RC	0.10	65
Flamingo Rd.-LV, Suzanne St. to Eastern Ave.	RC	2.44	4,658
Total		2.54	4,723
Total Urban		5.47	17,815

MISCELLANEOUS PROJECTS

(Costs in \$1,000)

<u>Project Description</u>	<u>Work Type</u>	<u>Length (Miles)</u>	<u>Estimated Costs</u>
<u>Fiscal Year 1981</u>			
SPRR Xings. in Lovelock, Carlin & Palisade	S	-	16
WPRR Xings. in Reno, Washoe Co. & Humboldt Co.	S	-	455
WPRR Xings. in Reno, Washoe Co. & Humboldt Co.	S	-	162
UPRR Xings. in Las Vegas & Clark Co.	S	-	262
US 395 at Zolezzi Lane (Signals)	NC	-	65*
I-80, West Wadsworth Interchange	M	-	440**
City St. in NLV Signals at 3 Inters.	NC	-	90
Reno St's - Modify 2 Signal	M	-	90
Replace Bridge B-1685 - Squaw Creek - WA. Co.	RC	-	109
B-1603 Carson River Bridge on Riverview Drive	RC	-	360
Replace Bridge B-1591 on Casey Rd. in Fallon	RC	-	139
River Rd. - Clark Co. FM 1.2 MN Laughlin to SR 163	RC	.70	619
Co. Rd. 4000S NR BM-Jenkins to Hilltop	RC	2.10	109
Off sys St.-NLV-Revamp Lighting	M	-	96
Hawthorne-1st-4th-8th & K St's	RC	1.20	280
City St.-NVL-Flashers & Pave markers	NC	-	25
Nye Co.-Beatty-Round Mt.-Tonopah-Pahrump	RC	-	166
Evans AV-NLV-400 to 900 ft. N. LV Blvd.	RC	.09	81
Metropolis Rd. FM 10.3 to 13.8 M N of Wells	RC	3.50	254
Co. Rd. M-101 FM US 50 to 4 M N	RC	4.00	130
Reno St.'s-Install 3 signals	NC	-	191
OS St's-Henderson-Revamp Lighting	M	-	34
Off System Rds.-Ruth-McGill & WP Co.	RC	3.56	134
DeImue Road FM Jct. SR 319 to 8.2 MN	RC	8.20	181
Aiazzi Ln.-Hendricks Rd. to Miller Ln.	RC	-	135
Total		23.35	4,623
* Washoe County Funds			
**Developer Funds			
<u>Fiscal Year 1982</u>			
Elko RR Reloc; WPRR Yard, Tracks & Facilities	NC	-	5,625
Elko RR Reloc; SPRR & WPRR Mainline Tracks	NC	-	3,150
Total		-	8,775
<u>Fiscal Year 1983</u>			
Elko RR Reloc; Restore City Streets	RC	-	891
Total Miscellaneous		23.35	14,289
TOTAL SHORT RANGE F.A. CONSTRUCTION PROGRAM		289.00	287,737

SECTION IV
Twenty Year Highway Needs

The sufficiency rating study is the prime factor in establishing total highway needs. This rating process provides a comparison between existing conditions and acceptable design standards by assigning 100 points to a road that is perfect in every respect and deducting points to indicate the degree to which the road fails to meet construction standards and traffic demands being imposed upon it. A rating of 64 or less is considered intolerable. A variety of aspects are measured in this fashion, however, they all fall into three categories: Condition, Safety and Service. Within these broad categories, a number of smaller components are measured to assure uniform treatment and to account for a wide variety of situations that are important to a roadways adequacy. The resultant, "basic ratings" are adjusted to current traffic volumes imposed upon each section of road. (If two sections of road have the same basic rating but one is carrying twice the traffic, the highway carrying the greater volume is less sufficient and, therefore, receives a lesser rating.) The rating, after the traffic adjustment is then known as the "adjusted rating".

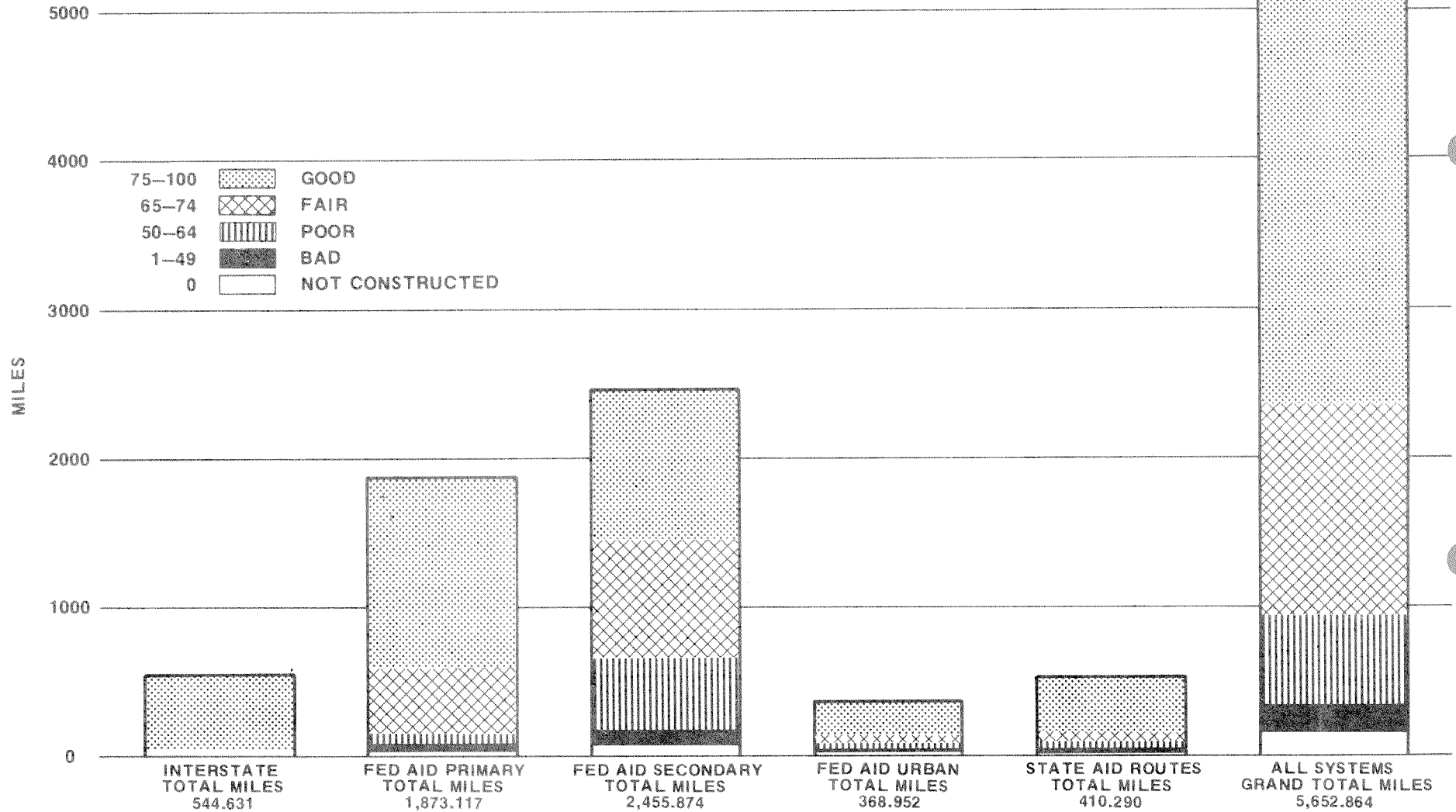
The following conclusions were reached after analyzing the Sufficiency Rating Study:

- A) The Primary System has 98.104 miles of intolerable rating of which 37.813 miles has a critical rating on surface condition. Of the 98.104 miles of intolerable ratings 67.767 miles of road are intolerable because they are 2 lane high ADT routes that are operating over capacity. These over capacity rural primary routes comprise the most critical segments of our highway transportation system and should receive prime consideration for improvement.
- B) The Secondary System has 595.319 miles of intolerable rating of which 266.956 miles have a critical rating on surface condition. These routes generally are low ADT routes which are narrow with no shoulders. They have poor consistency of curves, which means a normal curve being followed by sub-normal curve making it hard to judge speed through these curves. There are some exceptions to this generalization though. A number of routes fall in or near our population centers and are urban in nature with high ADT's. These should be analyzed separately to better judge their need for improvement. Of the 595.319 miles of intolerable rated sections 455.757 miles are under local or federal jurisdiction and we should avoid improvements to these routes which would bring them under our jurisdiction. This additional jurisdiction would only burden our under budgeted maintenance program.
- C) The State-Aid System has 64.029 miles of intolerable rating of which 24.056 miles has a critical surface condition rating. These are low ADT routes which have been removed from Federal-Aid systems and are given minimal maintenance. These routes are supposed to be turned over to the locals as soon as possible, because of their local nature.

- D) The Urban System has 49.693 of intolerable rating which signifies that these roads not only have condition problems, but also capacity problems.
- E) Routes with a travelway condition of 13 points or less are considered critical and are close to passing the point where resurfacing will save the roadway and a complete reconstruction is necessary. We have 328.825 miles of routes on all systems in this category. In 1977 we had 163.845 miles of critical surface rating which equates to a 200.7% increase from 1977 to 1979.

In summary, the 1979 Sufficiency Rating Study shows the declining condition of our road systems and points out the critical areas of our road systems that are beyond the capabilities of normal maintenance for improvement. These critical segments must be upgraded if we are to continue to have a viable highway transportation system.

SUFFICIENCY RATING



The following is a brief explanation of the methodologies used in determining the "NEEDS" and "REVENUES" for the 1981 - 2001 Statewide Highway Needs Study.

Also included is a table showing the total 20 year needs and revenues, the short-fall, and the average annual deficit for each of three situations labeled Case 1, Case 2 and Case 3.

Case 1 is the result of the original projections. The total needs are expressed entirely in 1980 dollar values and the net total revenues to the department are the sum of the dollar values of income projected for each year throughout the study period.

Case 2 does not consider inflation for the program for the 20 year period. The total needs remain in 1980 dollar values as in Case 1, and the net revenues have been reduced to 1980 constant-value-dollars by devaluing the annual income using projected construction price index values for each year of revenue acquisition.

Case 3 considers that inflation will continue over the 20 year period. The total needs have been inflated to the anticipated year of expenditure using the projected construction price index. The total revenues are likewise based upon the anticipated year of receipt value as in Case 1.

In summation, it is felt that this data points out:

1. In the event there is minimal inflation beyond 1980 -- we would have an average annual short-fall, or deficit, of approximately \$91 million for the next 20 years.
2. In the event inflation continues at the approximate rate that it has since 1970 (12% per year) -- we would have an average annual short-fall, or deficit, of approximately \$184 million for the next 20 years.

It is suggested then, that the annual deficit between what we will have available and what we should invest in the system will be at least \$91 million per year and can range as high as \$184 million per year depending on the rate of inflation.

CONSTRUCTION COSTS

The Sufficiency Rating Study is a prime factor in establishing construction needs. This rating process provides a comparison between the existing road conditions and accepted standards. The performance level of a road section is determined under a wide variety of aspects within three broad categories:

CONDITION

SAFETY

SERVICE

The results, on a 0 to 100 point basis, are adjusted for the demand placed upon the road by the current volumes of traffic. The final or "adjusted" rating identifies road sections that are in need of correction and indicates the specific area of deficiency.

The recommended design and construction cost is the product of the type of improvement required to bring each section up to its appropriate standard. Other highway divisions (Program, Design, Right-of-Way, Bridge, Testing, Maintenance and the District Engineers) provide expert assistance in project selection, improvement determinations and construction costs. Most costs were obtained from the Design Division's unit pricing tables. However, where- ever more detailed cost data were available, that data was utilized.

OTHER COSTS

Additional needs over and above construction needs are grouped under two headings; (1) MAINTENANCE and, (2) EXECUTIVE & SUPPORT SERVICES. The estimated needs in these areas were projected using historic trends, anticipated changes in system size, department responsibilities and the adequacy of past funding levels.

The major factors that are considered in determining maintenance needs are, the number of lane-miles to be maintained and the adequacy of past funding levels. The Maintenance Division and District Engineers provided major input in this process.

In the past, the executive and support services budget has a direct relation- ship to the overall departmental budget. According to Accounting Division sources, this cost has amounted to a little more than 3% of the total budget and has been projected to continue at that level.

FEDERAL-AID REVENUES

Projections were made using historic trends and funding level growth assumptions for Federal-Aid Revenues. Allocations for 1981 through 1982 were derived from the latest FA Highway Act appropriations for projected revenues.

In our projections, it was assumed the Federal-Aid Interstate apportionments would end in the Fiscal Year of 1990. We reduced the revenue projections by approximately 37 million per year but continued the "3-R" interstate funding with a 2.6% annual growth rate. The overall growth rate equates to a 5% per year increase for all funding systems. The funding systems that comprise Federal- Aid revenues are: Interstate, Primary, Secondary, Urban and Off Systems apportionments. One other revenue was also projected as miscellaneous revenues. This is a consolidation of forest highway, bridge replacement, high hazard and roadside obstacles, metropolitan planning, pavement marking, railroad crossings (on and off systems), and economic growth center apportionments.

STATE REVENUES

This source includes both state gas tax revenues and Department of Motor Vehicle (DMV) collections. Gas tax revenues are "net to the Highway Fund" and historically are only 56% of the total collections. DMV collections are like- wise "net to the Highway Fund" and exclude distributions, collection costs and appropriations made from the fund.

GAS TAX These revenues were based upon projections of gallons of fuel to be consumed considering Federal mandates involving energy conservation measures, MPG requirements, etc. It was assumed that our annual vehicle miles (AVM) of travel would continue to grow at its past growth rate of 5.8% per year for the last 17 years. (The Federal AVM growth target is approximately half of Nevada's anticipated growth rate.) It was also assumed that our "fleet-mix" and, therefore, fleet MPG could be considerably lower than the National goal of 30 MPG by 1990. Our projected state MPG (22.2 MPG by 1990) was based on actual data which shows that Nevada is realizing a lower MPG rate than the National goal. It is felt that this approach, which slows the growth of state revenues, is realistic in that it reflects national goals and objectives but also recognizes that due to our rural characteristics and high tourist travel, the Federal goals and objectives will not be achieved in Nevada. It also recognizes, however, that due to federal policies our past growth rate in gas tax revenues will decline.

DMV These revenues were projected at a 2% annual growth rate. It is noted that periodically large capital improvements are appropriated out of DMV collections, however, for purposes of this study, and due to their infrequent nature, they were not considered.

MISCELLANEOUS REVENUES

Miscellaneous revenues were projected at a 3.8% growth rate for each 5 year period, as existed from 1972 to 1977. This item covers various revenues not associated with Federal-Aid, State Gas Tax or DMV Collections.

TOTAL NEEDS VS. REVENUES

ORIGINAL PROJECTIONS

Case 1	Total Needs (1980 dollar values)	\$2,803,030,000
	Total Revenues (Yr. of Income Values)	\$2,034,019,000
	Short-Fall	\$ 769,011,000
	(Avg. Annual Deficit)	(\$ 38,450,000)

NO INFLATION

Case 2	Total Needs (1980 dollar values)	\$2,803,030,000
	Total Revenues (1980 constant-value-dollar)*	\$ 979,945,000
	Short-Fall	\$1,823,085,000
	(Avg. Annual Deficit)	(\$ 91,154,000)

PROJECTED INFLATION

Case 3	Total Needs (Yr. of expenditure values)	\$5,723,379,000
	Total Revenues (Yr. of income values)	\$2,034,019,000
	Short-Fall	\$3,689,360,000
	(Avg. Annual Deficit)	(\$ 184,468,000)

* Inflation is considered by devaluing the dollar using construction price index values for each year of acquisition funds.

SUMMARY
1981-2001 HIGHWAY NEEDS STUDY

PRESENTED IN:

1980

CONSTANT DOLLAR VALUES*

* All dollar amounts have been adjusted to reflect 1980 dollar values in accordance with U.S. DOT Construction Price Index trends.

FUTURE OUTLOOK

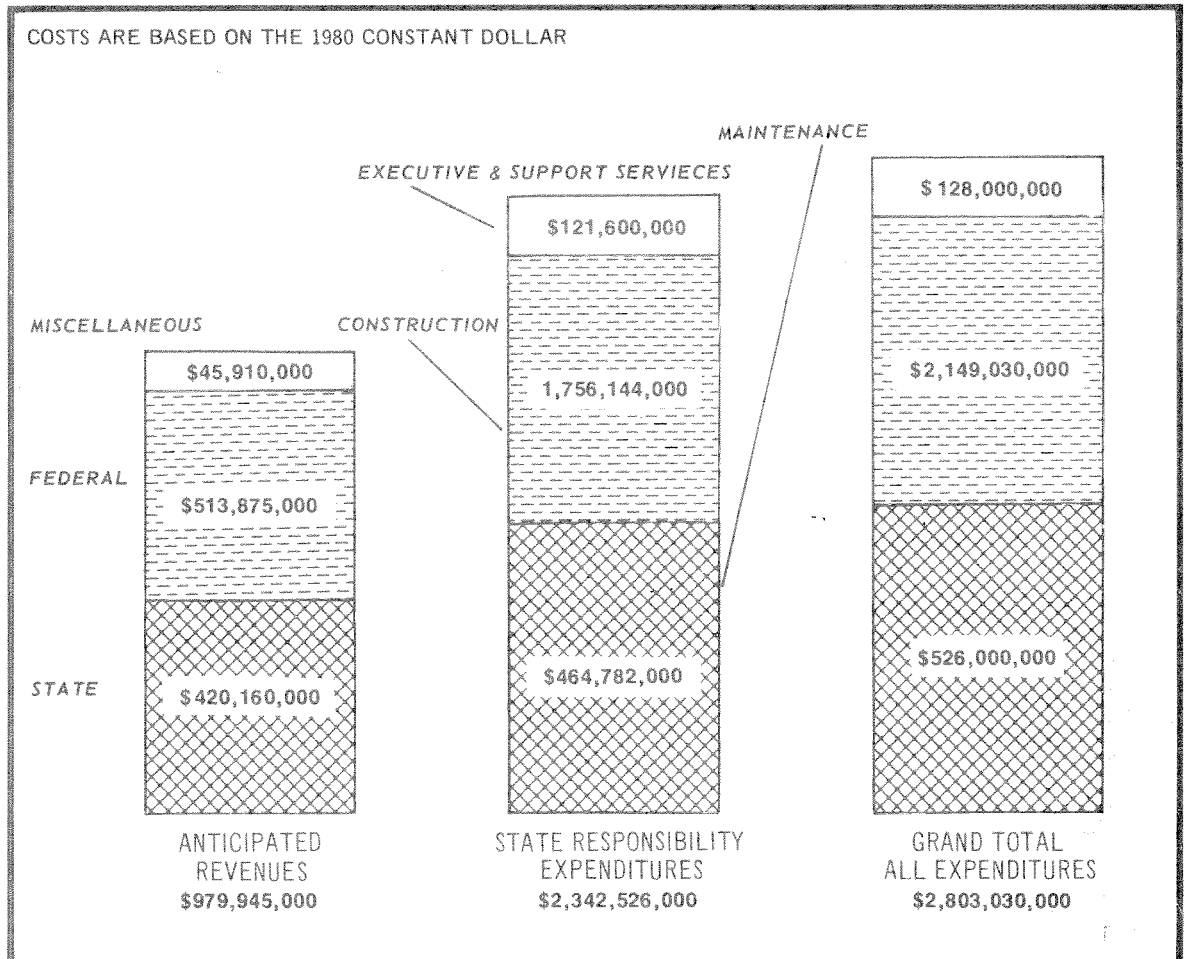
Prior to the examination of highway needs the following three basic areas were investigated.

1. What is the probable revenue level for the next 20 years.
2. What is the expenditure requirement for the state maintained Federal-Aid highways and State-Aid routes for those same years.
3. What is the expenditure requirement for State maintained and non-maintained Federal-Aid highways and State-Aid routes for those same years.

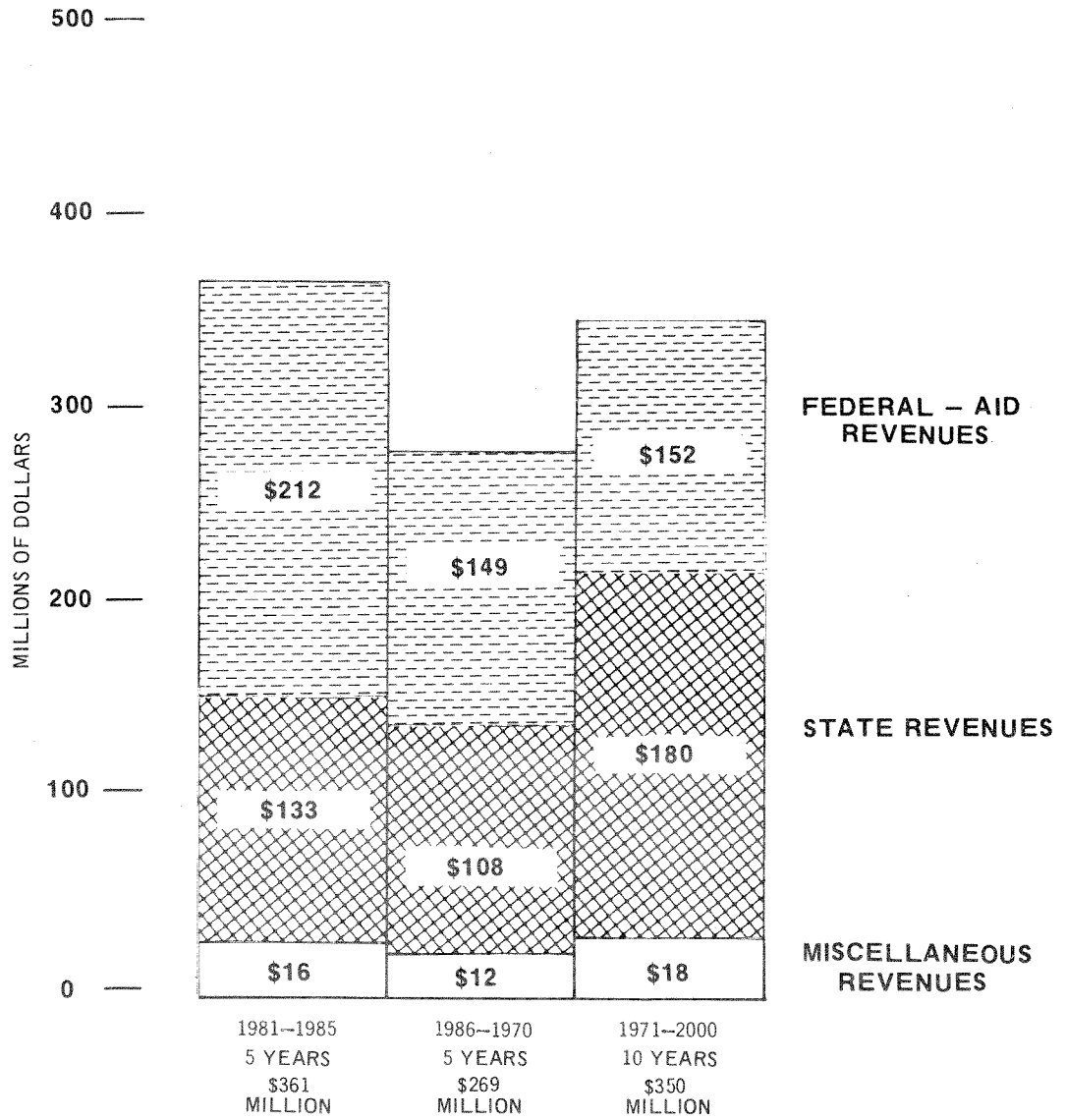
The probable revenue projections were made assuming the continuance of the present structure and amounts of revenues. Federal-Aid revenues were based on only the funding apportionment of Federal-Aid system highways and safer off systems funds for Nevada's non Federal-Aid State-Aid routes.

The expenditures are based on the sufficiency study, and the costs are based on upgrading all Federal-Aid and State-Aid routes to their respective design standards over a twenty year needs program.

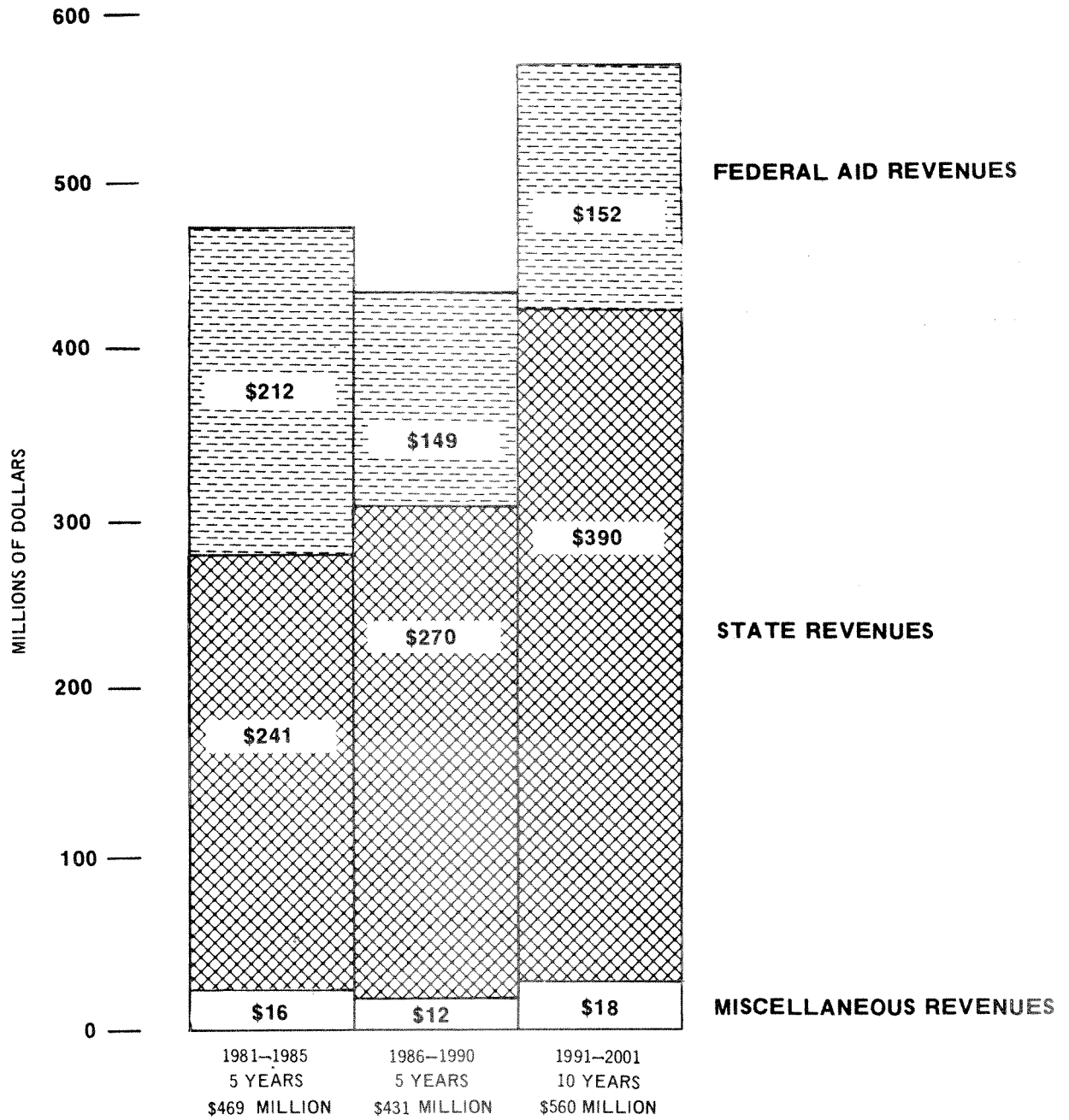
The graph below projects anticipated revenues, expenditures on routes the Department of Transportation maintains, and expenditures for all routes (maintained and non maintained) that comprise the Federal-Aid System and State-Aid route system.



**PROJECTED REVENUES
1981 TO 2001
(1980 CONSTANT DOLLARS)**



**PROJECTED REVENUES WITH INCREASED GASOLINE TAX
1981-2001
(1980 CONSTANT DOLLARS)**



FINDINGS AND CONCLUSIONS

At the current rate of revenue, only 35% of the Needs can be met during the next 20 years. This means that less than one out of every two projects that need attention can be adequately improved. Highway systems will not expand to open up new areas in the State and the annual cost for maintenance will increase in order to preserve a tolerable level of service until needed improvements can be made. In short, economic development will be restricted for lack of system expansion capability and the needs of the present system will continue to grow since they cannot now be adequately met.

It has been determined from this study that 2.8 billion dollars will be needed during the twenty year period, 1981 to 2001, to satisfy the needs of the Department of Transportation. However, during that same period, only 980 million dollars is estimated to be available to meet these needs. This large difference between highway needs and revenues represents an average annual deficit of 91 million dollars.

The following figures and tables indicate some of the key overall study findings.

Table I

20 YEAR NEEDS BY MAJOR CATEGORY
1981 to 2001
(1980 Constant Dollars)

CONSTRUCTION COSTS	\$2,149,030,000	76.7%
MAINTENANCE COSTS	\$ 526,000,000	18.7%
EXECUTIVE & SUPPORT SERVICES	\$ 128,000,000	4.6%
<hr/>		
TOTAL	\$2,803,030,000	100.0%

Table II

20 YEAR CONSTRUCTION COSTS BY OPERATION
1981 to 2001
(1980 Constant Dollars)

MISCELLANEOUS	\$ 97,354,000	4.5%
NEW CONSTRUCTION	\$ 395,599,000	18.4%
RECONSTRUCTION	\$1,353,678,000	63.0%
RESURFACE	\$ 302,399,000	14.1%
<hr/>		
TOTAL	\$2,149,030,000	100.0%

TOTAL 20 YEAR NEEDS BY CATEGORY

1981 to 2001
(1980 Constant Dollars)

CONSTRUCTION COSTS

Federal-Aid Interstate	\$ 278,966,000
Federal-Aid Primary	799,378,000
Federal-Aid Secondary	732,825,000
Federal-Aid Urban	286,451,000
State-Aid Routes	51,410,000

Subtotal \$2,149,030,000

MAINTENANCE COSTS \$ 526,000,000

EXECUTIVE AND SUPPORT SERVICES 128,000,000

Subtotal \$ 654,000,000

GRAND TOTAL \$2,803,030,000

Table 2

TOTAL 20 YEAR NEEDS

By Construction Operation
1981 to 2001

*(1980 Constant Dollars)

SYSTEM	NEEDS - Thousands of Dollars				TOTAL
	New Construction	Reconstruction	Resurface	Miscellaneous Costs **	
FAI	\$165,895	\$ 2,667	\$ 48,923	\$61,481	\$ 278,966
FAP	147,119	524,278	92,108	35,873	799,378
FAS	42,138	576,407	114,280	-	732,825
FAU	40,004	221,024	25,423	-	286,451
SAR	443	29,302	21,665	-	51,410
TOTAL	\$395,599	\$1,353,678	\$302,399	\$97,354	\$2,149,030
% of GRAND TOTAL	18.4%	63.0%	14.1%	4.5%	100.0%

* 1980 Constant Dollars are to the whole thousand.

** Miscellaneous Costs are expended on projects such as - rest areas, landscaping, structure modification, guardrails, traffic signals, beautification, lighting and street or sign designations.

Table 3

**TOTAL 20 YEAR NEEDS
BY CONSTRUCTION OPERATION
1981 TO 2001
(* 1980 CONSTANT DOLLARS)**

SYSTEM	STATE RESPONSIBILITY					NON STATE RESPONSIBILITY					GRAND TOTAL
	NEW CONST.	RECONST.	RESURFACE	** MISC. COSTS	TOTAL	NEW CONST.	RECONST.	RESURFACE	** MISC. COST.	TOTAL	
FAI	165,895	2,667	48,923	61,481	278,966	—	—	—	—	—	278,966
FAP	147,119	524,278	92,108	35,873	799,378	—	—	—	—	—	799,378
FAS		472,893	111,211	—	584,104	42,138	103,514	3,069	—	148,721	732,825
FAU	1,257	28,721	12,308	—	42,286	38,747	192,303	13,115	—	244,165	286,451
SAR	443	29,302	21,665	—	51,410	—	—	—	—	—	51,410
GRAND TOTAL	314,714	1,057,861	286,215	97,354	1,756,144	80,885	295,817	16,184	—	392,886	2,149,030
% OF GRAND TOTAL	14.7%	49.2%	13.3%	4.5%	81.7%	3.8%	13.8%	0.7%	—	18.3%	100.0%

* 1980 CONSTANT DOLLARS ARE TO THE WHOLE THOUSAND

** MISCELLANEOUS COSTS COVER PROJECTS SUCH AS; REST AREAS, LANDSCAPING, STRUCTURE MODIFICATION, GUARDRAILS, PEDESTRIAN OVERPASSES, BEAUTIFICATION, AND LIGHTING OR SIGN DESIGNATIONS.

SUMMARY
1981-2001 HIGHWAY NEEDS STUDY

PRESENTED IN:
CURRENT DOLLAR VALUES*

* All dollar amounts have been adjusted to reflect the dollar values at the year of projected expenditure or receipt in accordance with U.S. DOT Construction Price Index trends.

FUTURE OUTLOOK

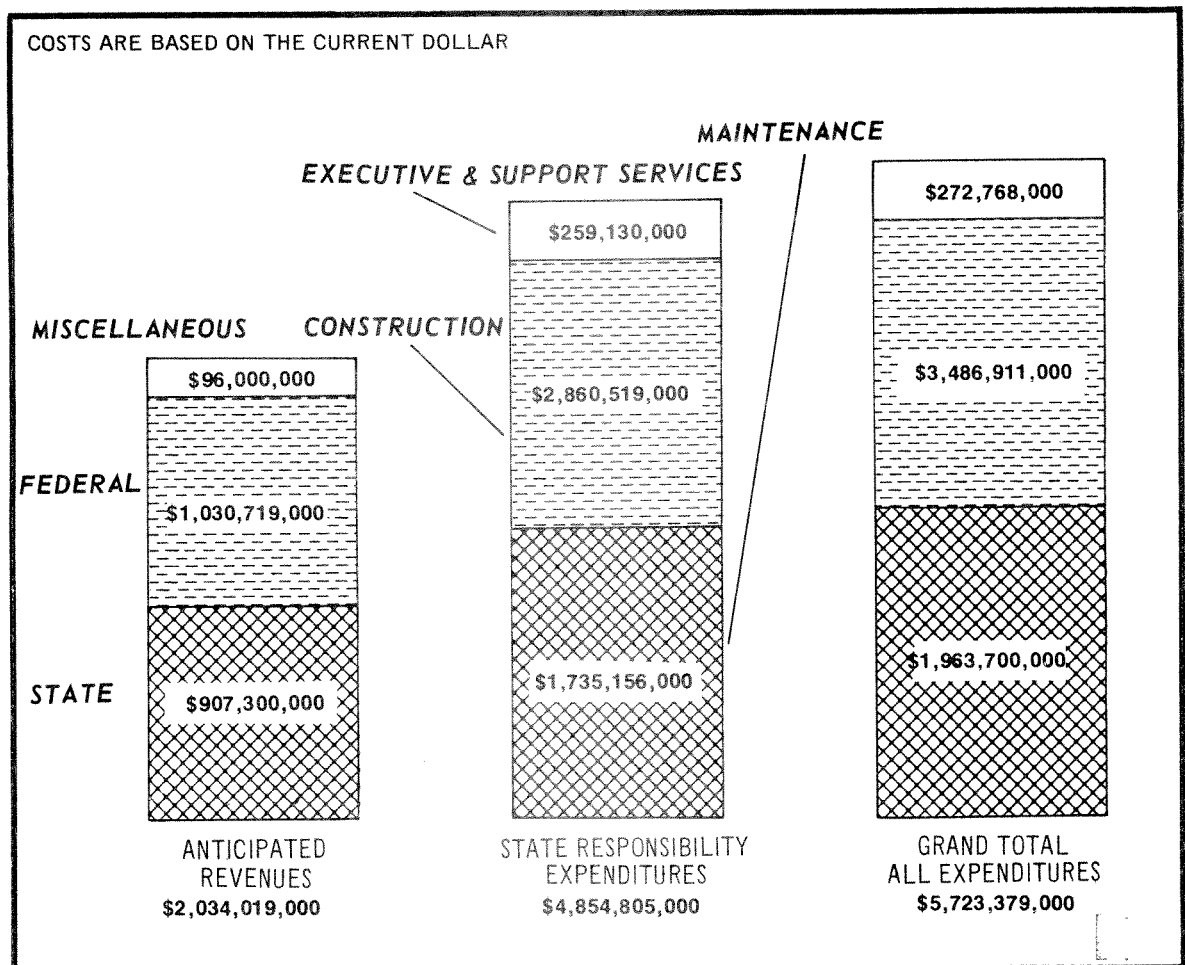
Prior to the examination of highway needs the following three basic areas were investigated.

1. What is the probable revenue level for the next 20 years.
2. What is the expenditure requirement for the state maintained Federal-Aid highways and State-Aid routes for those same years.
3. What is the expenditure requirement for State maintained and non-maintained Federal-Aid highways and State-Aid routes for those same years.

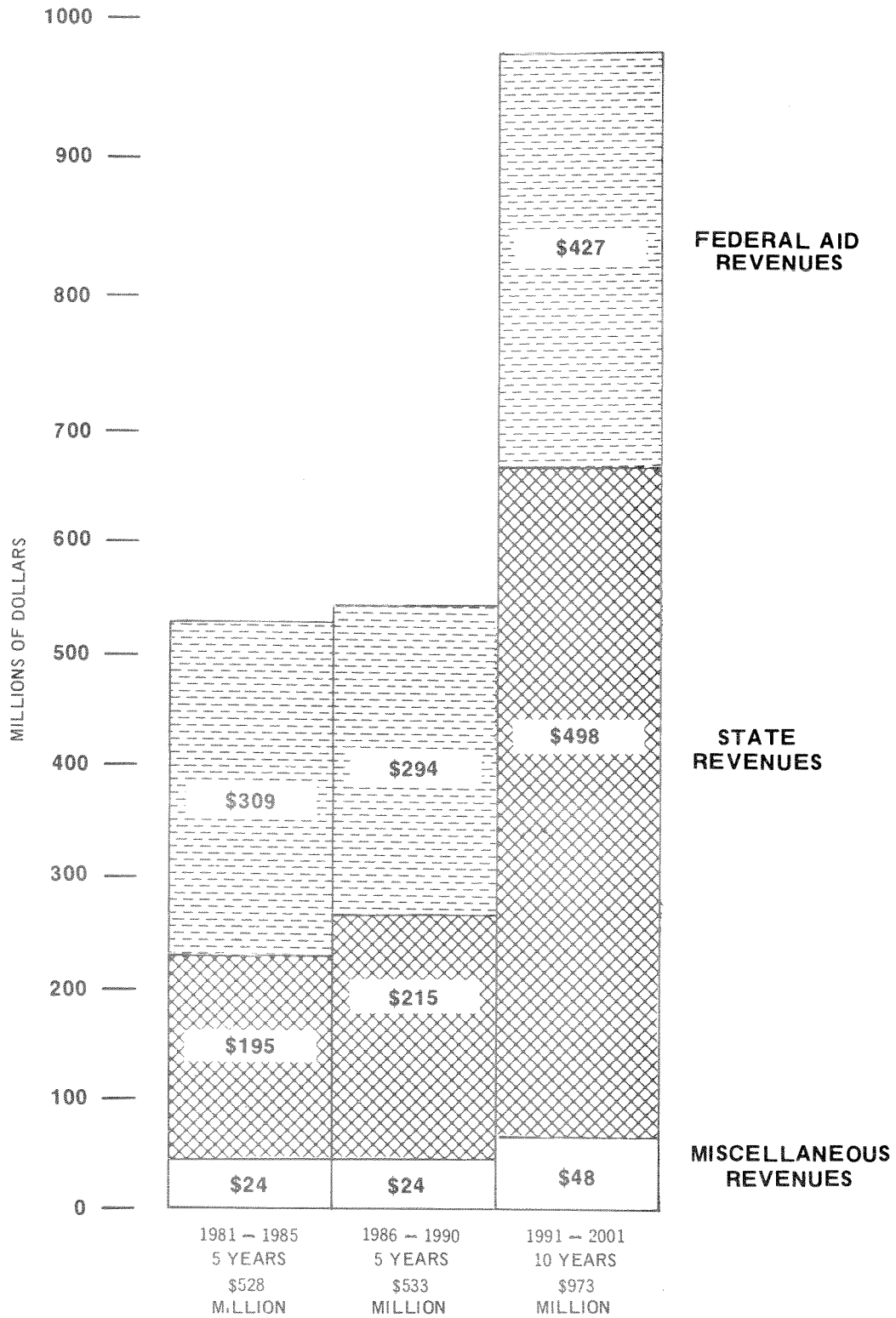
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The expenditures are based on the sufficiency study, and the costs are based on upgrading all Federal-Aid and State-Aid routes to their respective design standards over a twenty year needs program.

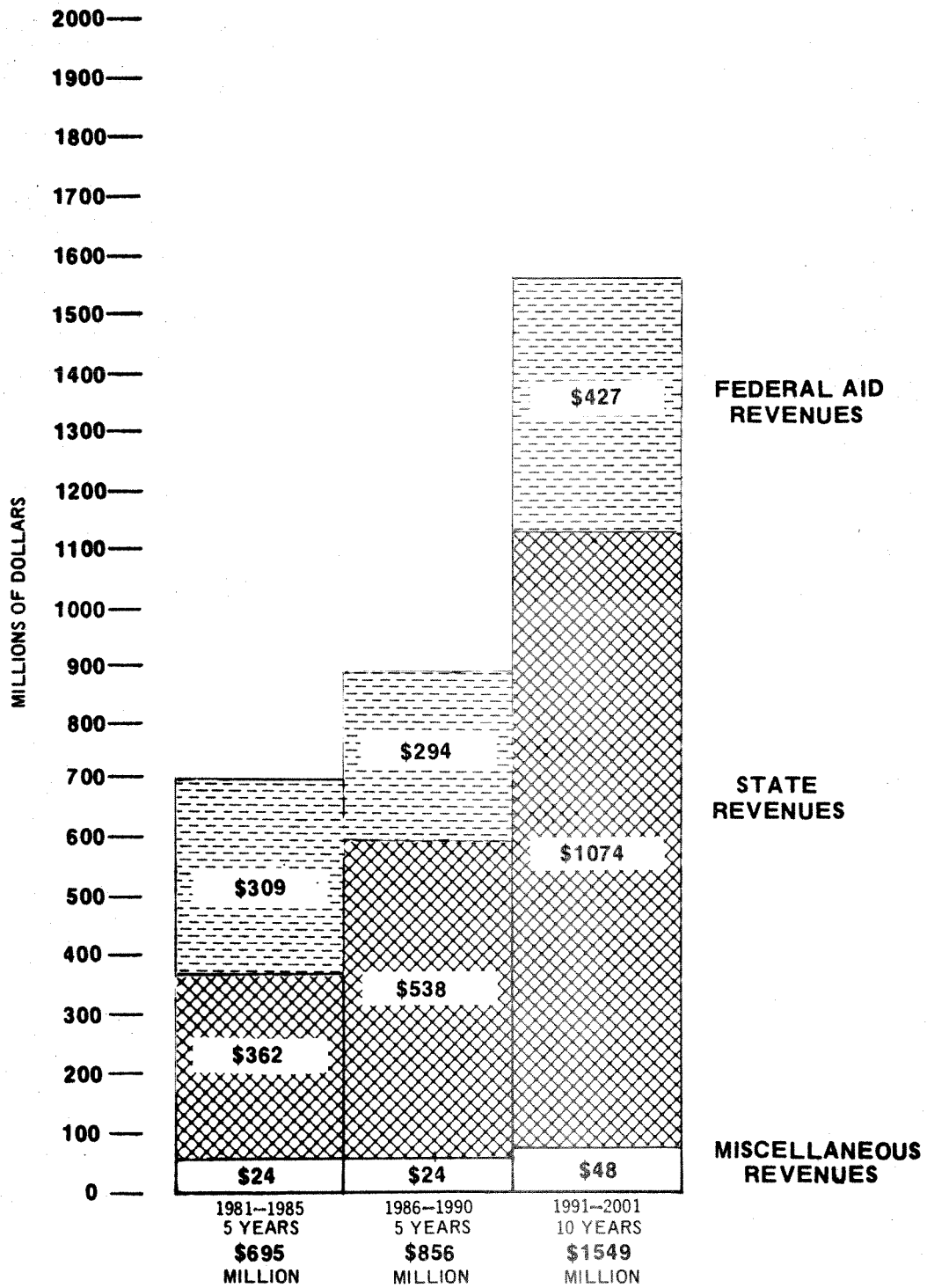
The graph below projects anticipated revenues, expenditures on routes the Department of Transportation maintains, and expenditures for all routes (maintained and non maintained) that comprise the Federal-Aid System and State-Aid route system.



**PROJECTED REVENUES
1981 - 2001
(CURRENT DOLLARS)**



**PROJECTED REVENUES
1981 TO 2001
(CURRENT DOLLARS)
WITH GAS TAX INCREASE**



TOTAL 20 YEAR NEEDS BY CATEOGRY

1981 to 2001
(Current Dollars)

CONSTRUCTION COSTS

Federal-Aid Interstate	\$ 411,613,000
Federal-Aid Primary	1,348,012,000
Federal-Aid Secondary	1,185,029,000
Federal-Aid Urban	452,732,000
State-Aid Routes	89,525,000

Subtotal \$3,486,911,000

MAINTENANCE COSTS \$1,963,700,000

EXECUTIVE AND SUPPORT SERVICES \$ 272,768,000

Subtotal \$2,236,468,000

GRAND TOTAL \$5,723,379,000

Table II

TOTAL 20 YEAR NEEDS

By Construction Operation
1981 to 2001

(Current Dollars)

<u>SYSTEM</u>	<u>NEEDS - Thousands of Dollars</u>				
	<u>New Construction</u>	<u>Reconstruction</u>	<u>Resurface</u>	<u>Miscellaneous</u>	<u>Total</u>
FAI	\$244,778	\$ 3,935	\$ 72,185	\$ 90,715	\$ 411,613
FAP	248,091	884,103	155,325	60,493	1,348,012
FAS	68,140	932,091	184,798	-	1,185,029
FAU	63,226	349,325	40,181	-	452,732
SAR	772	51,026	37,727	-	89,525
TOTAL	\$625,007	\$2,220,480	\$490,216	\$151,208	\$3,486,911
% of GRAND TOTAL	17.9%	63.7%	14.1%	4.3%	100.0%

Table III



Prepared By

THE ROAD INFORMATION PROGRAM
1899 L Street, N.W., Suite 401
Washington, D.C. 20036

EXHIBIT K

(202) 466-6706

JANUARY 1981

THE EFFECT OF
SUBSTANDARD ROADS
ON VEHICLE OPERATING
COSTS IN NEVADA

for

ASSOCIATED GENERAL CONTRACTORS OF NEVADA

300 S. Wells Avenue

P.O. Box 7315

Reno, Nevada 89510

(702) 329-6116

The Road Information Program (TRIP) of Washington, D.C. researches, evaluates and distributes economic and technical data on transportation issues. TRIP is a non-profit agency sponsored by insurance companies, motor vehicle manufacturers, energy companies, highway contractors, construction equipment manufacturers and suppliers, and businesses involved in highway engineering, construction and financing.

Introduction

This study estimates the added vehicle operating cost of driving on deteriorated roads in Nevada. This study includes only paved main roads, which comprise 13.2 percent of the state's total mileage, but handle 92.6 percent of the traffic volume.

Findings are based on data from the Nevada Department of Highways, the Federal Highway Administration, the National Cooperative Highway Research Program (NCHRP) and on scientific road tests that measured fuel consumption, tire wear and vehicle damage relative to the quality of the road pavement in use. Vehicle depreciation, insurance, parking, tolls, licenses and registration were not included because these cost items exist regardless of road conditions.

Summary

- Badly worn roads add an estimated \$104.5 million a year to drivers' costs in Nevada because of wasted fuel, excessive tire wear and extra vehicle repairs. The total amounts to an average annual expense of \$175 per driver.
- More than one-half of the state's 6,612 miles of paved main roads (arterial and collector) are deficient by nationally accepted engineering standards.
- Drivers in Nevada logged an estimated 2.23 billion vehicle miles on these 3,706 miles of deteriorated roads in 1979 at a total vehicle operating cost of \$402.3 million. Had these roads been up to standard, this travel would have cost only \$297.8 million -- a savings of \$104.5 million or 26 percent.
- TRIP recommends a 10-year program to resurface, overlay or rebuild the 3,706 miles of deteriorated roads at an average cost of \$66.9 million a year, not including inflation or future deterioration.

Recent Travel Trends

Motorists in Nevada logged an estimated 5.89 billion vehicle miles of travel in 1979, up 2.3 percent from 1978 when they traveled 5.75 billion vehicle miles.

For the next few years, traffic volume in Nevada is expected to grow slightly. However, at the same time, fuel consumption is expected to drop off slightly because of wider use of small economy cars, engines that are more fuel-efficient, continuation of the 55-mph speed limit and enforcement of progressively more stringent federal fuel economy standards for the vehicle manufacturers.

Because of a decline in fuel consumption relative to traffic volumes, motor-fuel taxes are generating proportionally less revenue for the mileage driven than in the past, leaving the state and local jurisdictions short of highway revenue for road renewal and maintenance. Inflation is aggravating this problem, with road work in Nevada now costing almost two-and-one-half times as much as it did 10 years ago.

Vehicle Operating Cost Test Procedures

Scientific road tests were used to determine the cost of operating vehicles on deteriorated road surfaces, compared with the cost of driving on good pavement.

The road tests were a part of a study conducted by Paul J. Claffey and Associates of Potsdam, New York, for the American Association of State Highway and Transportation Officials (AASHTO) in cooperation with the Federal Highway Administration. Test results have been published by the Transportation Research Board of the National Academy of Sciences in NCHRP Report 111.

The tests to measure effects of road pavement deterioration on operating costs were conducted at 22 locations in three states. Types of roadway used consisted of Interstate highways, state primary roads, secondary roads and city streets. Each test site represented a particular combination of grade, alignment and surface condition required to obtain a varied realistic sampling. Tests were run in light traffic to reduce the fuel-consuming effects of congestion.

Eleven vehicles were used, including standard sedans, compact cars, trucks and a transit bus. Fuel-consumption tests involved multiple, timed runs over each test section using an electronic fuel meter.

The same sections of road used to measure fuel consumption also were used to determine tire wear. The degree of wear was determined by removing the tires from the wheel rims and weighing them, compared with the recorded weight in grams prior to testing. The amount of tire damage was determined by physical inspection.

The amount of brake system and transmission wear was determined following 15,000 test stops from various posted speed limits.

Test Results

The road tests by Paul J. Claffey and Associates established that vehicles traveling at a uniform 40-mile-per-hour (mph) base speed consumed 34 percent more fuel on "fair" road surfaces, and 56 percent more fuel on "poor" road surfaces, than vehicles traveling on "good" surfaces. These percentages apply to travel on straight, level roadways.

This increased fuel consumption results from a loss of traction on uneven road surfaces and because of an uneven power flow through the drive train due to excessive vibration. (More fuel is consumed by vehicles that operate on curves or steep grades and at speeds greater than 40 mph.)

At 40 mph, a vehicle that is required to periodically slow and then reaccelerate in order to negotiate particularly bad sections of pavement will waste more fuel and have higher operating costs.

Road tests also showed that operating over rough, rutted pavement caused an average of 156 percent more tire wear. Repair to damaged brake, steering and suspension systems would be required almost twice as often. Excessive wear and damage were evident even at speeds well below the posted limits.

TRIP's study does not include increased operating costs due to slowing and accelerating over bad roads, or to traffic congestion caused by narrow lanes, lack of left-turn space, single-lane bridges, overcrowded access roads and other common bottlenecks. All of these factors, however, waste fuel and add to the cost of driving on substandard roads and streets.

Extent of Road Deficiency

The standard for determining road pavement deficiency used in this study is the Present Serviceability Index. It was developed by the American Association of State Highway and Transportation Officials (AASHTO) and is used by federal, state and municipal highway planners to assess current road needs and to estimate future requirements. (The standard is published in the National Transportation Planning Study of the U.S. Department of Transportation.) The index has a numerical rating of 0 to 5, ranging from "very poor" to "very good" pavement.

There are 531 miles of paved main roads in Nevada that are rated "poor" or "very poor" by AASHTO standards. The pavement on these roads is extensively cracked, rutted and broken. Riding quality on these roads is described as "intolerable." Fuel consumption when driving on these substandard roads is 56 percent higher than on roads with "good" or "very good" surfaces.

Another 604 miles in the state rank in a "low-fair/high-poor" category. The roads in this category have deteriorated beyond "fair" condition and are very rough, with broken and heavily cracked portions. Vehicles consume an extra 45 percent more fuel on these roads than on "good" or "very good" pavement.

An estimated 2,571 miles of the state's main paved roads are in "fair" condition according to AASHTO standards. The pavement on "fair" roads is characterized as having numerous ruts and cracks and some breaks. Riding quality is tolerable but noticeably inferior to "good" pavement according to the federal standards manual published by the Federal Highway Administration. Fuel consumption when driving on these substandard roads is 34 percent higher than on roads with "good" or "very good" pavement.

The total estimated 3,706 miles of substandard roads amount to 56 percent of the state's 6,612 miles of paved main roads.

Although physical characteristics such as grade and curvature make some sections of roads in the state deficient by AASHTO standards, this study is concerned only with rutted and broken pavement.

Included in the substandard mileage are some sections of the Nevada Interstate system which now are more than 20 years old and need to be resurfaced or upgraded. This is to be expected since the average life span of Interstate road pavement is 16 to 25 years, depending on traffic volume, terrain, weather and type of construction.

Vehicle Operating Costs

Cost data used in this study included:

1. The average fuel consumption rate for all vehicles in Nevada in 1979 was an estimated 10.7 miles per gallon of fuel, based on federal and state reports on vehicle miles traveled and fuel consumption.

2. The average cost of a gallon of gasoline in the state (as of November 25, 1980) was 126.9 cents per gallon, according to the American Automobile Association.

The typical Nevada motorist drives 9,900 miles a year at a total estimated operating cost of \$1,512. This includes \$1,165 for 918 gallons of fuel, \$227 for vehicle maintenance and repair and \$120 for tire repair and replacement. (Fuel accounts for 77 percent, vehicle maintenance and repairs account for 15 percent and tire repair and replacement is 8 percent, based on findings by Runzheimer and Company, a research firm in Rochester, Wisconsin.)

Driving on deteriorated road pavements can greatly inflate that annual cost. It costs 14.8 cents-per-mile to drive on a road pavement ranging from "fair" to "very poor" condition, compared with a cost of 10.3 cents-per-mile to drive on a road surface ranging from "good" to "very good" condition.

In 1979, motorists in Nevada drove some 2.23 billion vehicle miles (38 percent of all travel on main roads) over the state's deficient roads.

The cost of driving on those 3,706 miles of substandard roads was \$402.3 million (at November 1980 prices). Had these roads been up to AASHTO standards, this travel would have cost only \$297.8 million -- a savings of \$104.5 million (26 percent), or a savings of more than \$175 for each of the state's 598,000 licensed drivers. Included in the savings is 63.3 million gallons of fuel, or an average of 106 gallons per driver annually.

The fuel consumption rate was the 1979 average for Nevada based on total vehicle miles traveled and sales of motor fuel in the state.

The fuel waste figures are conservative, as the calculations are based on data that studied passenger cars driving over straight and level roadways at a constant speed of 40 miles per hour.

The figures do not consider cost added as a result of slowing and reaccelerating in order to negotiate bad stretches of roadway or as a result of traffic congestion due to narrow lanes, lack of left-turn space, single-lane bridges and overcrowded access roads.

Additionally, this study's calculations do not consider increases in fuel consumption caused by driving up steep grades or around sharp curves. The study concerns vehicle operating costs only as a direct result of loss of traction and uneven power flow through drive trains of vehicles driving on deficient road surfaces.

Road Renewal Cost

The cost of rebuilding the 531 miles of roads and streets rated "poor" would be \$225.7 million, based on the average cost per mile of \$425,000. Rebuilding usually involves replacing broken pavement, widening lanes, shoulder work, grading and some new alignment.

The cost of resurfacing the 2,571 miles of paved roads rated "fair" would be \$298.2 million, based on an average cost per mile of \$116,000. Resurfacing usually entails covering the existing deteriorated surface with a three-inch layer of asphalt over a 24-foot-wide rural-type road. Also included in the cost is road-shoulder paving, guardrail repair and installation, some drainage work and traffic-control planning.

The 604 miles of "low-fair/high-poor" roads need to be overlaid with at least four inches of asphalt at a cost of \$145.6 million or \$241,000 per mile. This cost includes overlaying a 22-foot roadway, with shoulder paving, guardrail repair and installation and some drainage work.

The combined cost of all operations would be \$669.5 million, or \$66.9 million per year if the work were completed within 10 years. This would spread out the cost and allow adequate time for the work to be performed. This 10-year estimate does not allow for the uncertain rate of future inflation or further road deterioration.

Some of the roads involved would be eligible for federal-aid funds which would cover up to 80 percent of the cost of the improvements.

The condition of the roads in Nevada would be even worse were it not for the continuing efforts of the state and local road agencies to achieve maximum possible improvement in recent years under extremely limited budgets. Any blame for the road conditions in the state should be placed on inadequate funding.

##

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(202) 466-6706

State motor vehicle fuel taxes have been imposed on gasoline consumers for more than sixty years and, until recently, all states levied MVG taxes on a cents-per-gallon basis. This approach has withstood the test of time because the tax is set through direct legislative action to meet specific highway needs, is well understood by the public, and is easy to administer.

In the past, tax revenues increased as highway usage rose, providing adequate funds for highway projects. However, with the recent drop-off in gasoline consumption, states are collecting fewer MVG tax revenues, while inflation pushes up maintenance and construction costs. Thus, some states, as Nevada, face shortages of highway funds. Hence, consideration of variable taxes - that is to say, an indexed tax or a percentage-tax such as is proposed in S.B. 154.

Under a variable tax approach, revenues change according to a relationship with gasoline prices. This approach is a new concept in motor vehicle fuel taxation and holds the potential for imposing huge administrative burdens on the states and on the gasoline marketers unless the legislators proceed with caution. In most cases, because the states have no experience with MVF taxes other than those experienced in cents-per-gallon, the problems are not well known to tax administrators who must implement the new laws.

My clients do not oppose increases in fixed cents-per-gallon fuel taxes when highway needs justify the increase, but they strongly oppose both percentage-rate taxes and use of fuel tax revenues for non-highway purposes. The proposed percentage taxes are based on the selling price of the product, which is subject to considerations of the marketplace, decisions of foreign governments, and which are irrelevant to a state's highway needs. Moreover, legislative control over a critical program is weakened when the tax level changes according to a fluctuating index instead of a study or action by elected representatives. It is quite conceivable that the consumers could pay far more in fuel taxes than the revenues actually needed for a carefully studied and controlled highway program.

Percentage-taxes feed inflation because their indices are inflation-fed. Beyond that, this bill as now written would create astronomically expensive and complicated record-keeping and auditing burdens for both the private sector and the state; burdens that ultimately pass on to the consumer in the form of high prices, higher taxes, or a combination of both. By comparison, the accounting structure for administering a cents-per-gallon tax is already in place both in the private sector and in the state.

All of the historic procedures for reporting, collecting, and auditing taxes and tax returns will become meaningless if this legislation is adopted. It further appears inevitable that the total substitution of a new accounting system would be

mandated. State audit expenses will substantially increase as auditing of a tax based on a percentage of price is inherently more arduous and expensive, therefore, collection and administrative costs will rise. Frequent adjustments in the price of gasoline and diesel will complicate the filing and processing of refund claims. Particularly in cases of claims which cover periods of numerous price changes.

Generally, the independent marketer offers less service and sells at a lower price, yet under this proposal it would appear that his consumers would be losing some advantage by meeting unrelated tax burden. This legislation might also tend to discriminate against rural areas as prices are generally higher.

As to the proposed percentage-tax on diesel, it would appear that service stations having diesel pumps are responsible for this tax. In holding dealers in special fuel to the responsibility for this percentage-tax a great many problems will arise, including the turnover in retail service station operators, inadequate record-keeping, failure to file returns, etc.

Undoubtedly, this proposal will impose a greatly increased burden on both the dealers and the taxing authorities in record-keeping, auditing and collection.

By adoption of S.B. 154 the legislature would be actually and, perhaps, unconstitutionally delegating legislative authority to the Department of Transportation. Under the broad delegation contained in Section 3, Page 2, which permits the department to conduct "periodic surveys" to select, without any control or guidelines, what is to be included in the sixty percent in number of outlets, in volumes of sales and to determine or revise a so-called "representative price" for the state as a whole, it is really the Department of Transportation, and not the Legislature that is setting the tax rate. This is indeed a broad delegation of legislative authority and responsibility.

As previously stated, my clients in no way oppose increase in fixed cents-per-gallon gasoline and diesel taxes when highway needs justify the increase, when priorities and needs are reviewed by elected representatives, and when the Department of Transportation justifies requests for new revenues from this source. This process insures that an increase in the tax burden results from a deliberate determination by responsible elected officials accountable to their constituents, the ultimate taxpayer.

If the Legislature should determine, in its wisdom, that a departure from the historic procedure is necessary, and hence institutes a variable tax, the following points should be most carefully considered:

1. Express the tax as a cents-per-gallon levy rather than as a percentage, but allow it to move up or down annually [

in whole cents in proportion to changes in the inflation rate (see no. 5 below). This is a form of cents-per-gallon tax that allows states to increase MVF tax revenues in a controlled manner, and ensures the same tax rate on every gallon of gasoline regardless of price.

2. Increase or decrease the tax in whole cents rather than fractions of cents in order to retain efficient, expeditious administrative procedures.
3. In the interest of streamlined administration, the level of the tax should preferably change only annually, and in no case more often than semi-annually. Administering refunds will be extraordinarily difficult for the states under a tax that changes oftener than once a year.
4. Place a limit on the number of cents-per-gallon that the tax can be increased annually. This ensures that the legislatures will carefully consider revenue needs for highways in each session. Proper control also can be ensured by requiring legislative review, with public hearings, at stated intervals such as every two years. A rate determined this way is most likely to be justified, equitable and properly administered.
5. Index the tax to a relevant, certifiable base that most accurately reflects inflation. Examples would be the Implicit Price Deflator* for the Gross National Product

(also known as the Gross National Product Deflator);
or an average highway construction and maintenance cost
index, which would not be uniform throughout the U.S.
and should be determined by each state. Avoid
irrelevant indices such as the Consumer Price Index.
Another approach could be a tax which rises in whole
cents in proportion to decreases in gasoline consumption.

* * * * *

*As published monthly by the Federal Department of Commerce,
Bureau of Economic Analysis, in the monthly publication
entitled "Survey of Current Business" or any successor
publication.

The Implicit Price Deflator is used for calculation of tax
due under the Federal Crude Oil Windfall Profit Tax Act
of 1980.

NORTH AMERICAN GASOLINE TAX CONFERENCE

EXHIBIT M

In the event that variable fuel tax bills are introduced, the following guidelines should be used to help each legislature write a law that can be efficiently administered.

1. Express the tax as a cents-per-gallon levy rather than as a percentage, but allow it to move up or down in whole cents in proportion to changes in the inflation rate. This is a form of "variable" cents-per-gallon tax that would allow states to increase MVT tax revenues in a controlled manner, and ensures the same tax rate on every gallon of gasoline regardless of price. In the interest of streamlined administration, the level of the tax should preferably change only annually, but no more often than semiannually.
2. Increase or decrease the tax in whole cents rather than fractions of cents in order to retain efficient, expeditious administrative procedures.
3. Change the tax no oftener than once a year. This avoids difficulties in administering refunds.
4. Place a limit on the number of cents-per-gallon that the tax can be increased annually. This ensures that the legislatures will carefully consider revenue needs for highways in each session.

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2. Increase or decrease the tax in whole cents rather than fractions of cents in order to retain efficient, expeditious administrative procedures.
3. Change the tax no oftener than once a year. This avoids difficulties in administering refunds.
4. Place a limit on the number of cents-per-gallon that the tax can be increased annually. This ensures that the legislatures will carefully consider revenue needs for highways in each session.

Proper control also can be ensured by requiring legislative review, with public hearings, at stated intervals such as every two years. A rate determined this way is most likely to be justified, equitable and properly administered.

5. Index the tax to a relevant, certifiable base that most accurately reflects inflation. Examples would be the Implicit Price Deflator* for the Gross National Product (also known as the Gross National Product Deflator); or an average highway construction and maintenance cost index, which would not be uniform throughout the U.S. and should be determined by each state. Avoid irrelevant indices such as the Consumer Price Index. Another approach could be a tax which rises in whole cents in proportion to decreases in gasoline consumption.

*As published monthly by the Federal Department of Commerce, Bureau of Economic Analysis, in the monthly publication entitled "Survey of Current Business" or any successor publication.

The Implicit Price Deflator is used for calculation of tax due under the Federal Crude Oil Windfall Profit Tax Act of 1980.

DISCUSSION

I. Percentage Tax at the Wholesale Level: Specific Problems.

1. Increased Record Requirements

Since the original adoption of motor fuel taxes half a century ago, all segments of the oil industry and the various levels of government have developed and maintained an

-2-

accounting system geared to volume (cents-per-gallon) rather than price. Many years have gone into perfecting stock records to be used by all persons involved in preparing tax returns and other reports which the states require to assure that the correct amount of tax is paid and that there is no evasion. These records are based almost exclusively on gallonage records of inventory, shipments into and out of the state, and deliveries within the state. If a tax based on a percentage of price is enacted, these gallonage records will become meaningless in verifying the tax liability of taxpayers. Therefore, it can be concluded that a tax based on a percentage of price would involve superimposing a price-accounting system on the existing gallonage-accounting system. No doubt the states would still require the latter for control purposes.

2. Audit Expenses of the States Would Increase

Tax administrators say cents-per-gallon taxes on motor fuels are among the easiest to audit and that the cost of auditing is nominal. The method is simple to understand and allows administration and audit procedures to be equally simple. It assures thorough, efficient verification of collection.

Auditing of a tax based on a percentage of price (which equates to present sales and use taxes) is more arduous and expensive. It is clear that in order to ensure accuracy of tax reports, thousands of wholesale invoices would have to be reviewed. Collection and administrative costs of

sales taxes have consistently run higher than collection and administrative costs applicable to cents-per-gallon motor fuel taxes.

3. Administrative Cost of Handling Refund Claims Would Increase

Refunds of motor fuel taxes to consumers who use these fuels for non-highway purposes are an integral part of most motor fuel tax laws. Frequent adjustments in the price of motor fuel would complicate the filing and processing of refund claims, particularly in the case of claims which cover periods of many price changes.

4. Unequal Tax Treatment of Consumers

Given many different wholesale prices, equal proportioning of the tax among all classes of consumers would be impossible. Wholesale prices vary by company, and within one firm, they can vary by geographic area, (affected by freight expenses), volume purchased (especially contracts awarded on bid) and classes of customers. With such price disparity, a percentage tax at the wholesale level would be extremely regressive. Large-quantity purchasers, who pay the lowest prices, would bear the smallest percentage of the tax, while small-volume consumers would pay higher prices and more of the tax.

5. Unequal Tax Treatment of Wholesalers

Wholesale prices vary by company due to factors such as transportation and crude oil costs. Wholesalers whose prices are higher would be required to pay higher wholesale taxes, thus, their competitive disadvantage would be increased.

6. Jeopardy to Interstate User of Motor Fuels
Refunds Claims

Most state motor fuel tax laws allow interstate truckers who purchase motor fuel within that state to obtain refunds of taxes paid on the fuel if it is used in another state. With a system of taxation at the wholesale level it would be impossible for interstate truckers to determine what wholesale price their tax (or their refunds) would be based on.

7. Number of Taxpayers Would Increase

Under most state motor fuel tax laws, many wholesale distributors purchase motor fuel tax-paid. They have no collecting and reporting responsibilities. This tax type would require many wholesalers to become licensed, post bond and file tax returns.

II. Percentage Tax at the Retail Level: Specific Problems.

1. Administrative Expenses of the State Would Increase.

This tax would be collected by retail vendors and remitted to government agencies where thousands of additional returns would have to be monitored and validated.

2. Unequal Tax Treatment of Highway Users.

The same reasons apply here as in No. 4 under Percentage Tax at the Wholesale Level.

3. Increased Retail Dealers' Tax-Reporting and Collecting Burden

Reporting requirements of retail dealers would be vastly increased as would their revenue-handling responsibilities, as they collect the tax from customers and remit it to the government.

4. Jeopardizes Tax Collections

A percentage tax on the retail price would be the same as sales and use taxes on gasoline. The collection experience of some state sales tax departments regarding service stations has not been encouraging. Problems include the high turnover of retail service station operators, inadequate record keeping and failure to file returns. In some states, tax administrators have had to ask legislatures to mandate that retail vendors become bonded to ensure sales tax payments.

5. Possible Tax on Tax

Double taxation is possible because the U.S. Supreme Court ruled in one case that federal and state motor fuel taxes can be included in the sales tax base. If final legislation does not exclude both federal and state gallonage taxes, and a substantial increase in one or both taxes occurs, then the sales tax also will increase regardless of what is happening to the actual product cost. This "tax on tax" is widely regarded by the consuming public as unfair and often is a source of taxpayer dissatisfaction.

6. Compliance Problems for Interstate User of Motor Fuels

Subjecting motor fuels to the retail sales tax would require interstate truckers to become registered for sales and use tax purposes. This is because they would be required to pay these taxes, but then they could obtain refunds of any tax paid on fuel consumed outside the state of purchase.

7. Possible Diversion to Other Than Highway Fund

In most states, sales and use taxes go into the general fund. If the highway fund is to benefit from a retail sales and use tax, provisions must be made in legislation for the sales tax on motor fuels to be credited to a state's highway fund. For the above reasons and in recognition of the fact that motor fuel already is heavily taxed, most jurisdictions provide for an exemption in their sales and use tax laws for motor fuels.

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III. Unfixed Cents-Per-Gallon

This method would tend not to fuel inflation as would percentage-rate taxes. Like the others, it holds the potential of offsetting highway revenue erosion due to declining consumption. But an adjustable tax that retains the rate in cents-per-gallon avoids many of the administrative problems associated with percentage-rate taxes.

Such a tax may, however, fail to overcome the basic objection to "indexed" levies--that they usurp the legislative tax-setting prerogative--unless the legislation is carefully drawn. In addition, there can be problems such as the following:

1. To meaningfully "track" prices, inflation or any specified index, tax rate adjustments must be made with some frequency and on a regular schedule. Rate changes pose administrative problems and should change as infrequently as possible. Changes require tax attention to inventories and special fuel taken into a trucker's or farmer's storage on one date and used on the highway at a later time, and to refunds for non-highway use. Indeed, each change in a tax rate creates a possibility of tax evasion. That possibility is heightened, moreover, when rate changes can be anticipated on a regular, frequent schedule. On the other hand, a conscientious taxpayer could be led into an honest mistake by a change in rate which took place within a reporting period. Many states have mandatory penalty provisions which do not excuse even an innocent error and the penalties are normally very high.

figures from CPI

2. During the decade from July 1, 1969 to July 1, 1979, the average motor fuel tax rate in 50 states and the District of Columbia rose about 21% from 7.07 to 8.54 cents per gallon. During the same ten years, the Consumer Price Index rose more than three times as rapidly - 70.7%. The retail price of gasoline rose 160%. In other words, the cents-per-gallon motor fuel tax rates adopted by state lawmakers, after due consideration of the state's needs, underwent fairly modest increases. Overtaxation is a distinct possibility when "variable" rates are adopted. This leads to overspending or the piling up of surpluses which then invite diversion to "needs" that have blossomed spontaneously with the availability of extra cash.

*40 states for increase
of fuel tax*

3. The prospect of regular, frequent tax rate increases that are not based on proven need can have a depressing effect on a state's economy. Motor carriers and tourists will tend to avoid fuel purchases in a high-tax state, with a consequent loss to truck stops and other highway-oriented businesses.

Service stations in border areas will be adversely affected if rates climb beyond those of neighboring states.

If taxes are increased because of inflation-fed indices or price increases, the taxes themselves will fuel inflation.

4. Some versions of this tax would base the rate on a weighted average of actual prices (retail or wholesale) charged during a designated period. This information likely would be obtained by a random survey of retailers or distributors.

Many tax administrators foresee problems in obtaining the compliance of large numbers of retailers if the weighted average of the retail price is used as the base for adjusting the per-gallon tax rate. They complain, too, that more employees will be needed to do the job.

5. As to the Dealers, special price reports will increase their record-keeping and reporting requirements. These added administrative costs will ultimately end up in consumer prices.

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EXHIBIT N

STATE
VARIABLE-RATE MOTOR FUEL TAXES

Summaries of Principal Provisions
December 1980

FEDERATION OF TAX ADMINISTRATORS
444 North Capitol Street, N.W.
Washington, D.C. 20001

Research Memorandum 510

December 1980

STATE VARIABLE-RATE MOTOR FUEL TAXES

Variable-rate motor fuel taxes are now in effect in six states: Indiana, Kentucky, Massachusetts, Nebraska, New Mexico, and Washington State. All have been enacted since 1977.

This Research Memorandum summarizes the principal provisions of these tax laws. Part I. compares the features of the six taxes, while Part II. provides a more detailed summary of each state's law.

PART I.

Summaries of Variable-Rate Motor Fuel Taxes

Effective Dates

Indiana: July 1, 1980
Kentucky: July 1, 1980
Massachusetts: August 1, 1980
Nebraska: October 1, 1980
New Mexico: July 1, 1979
Washington State: July 1, 1977

Fuels Covered

Indiana: Gasoline and special fuels
Kentucky: Gasoline and special fuels
Massachusetts: Gasoline and special fuels (but not fuels taxed under the motor carrier tax law)
Nebraska: Gasoline and special fuels
New Mexico: Gasoline and special fuels
Washington State: Gasoline and special fuels

Agency Determining the Rate

Indiana: Motor Fuel Tax Administrator, Department of Revenue
Kentucky: Department of Revenue
Massachusetts: Commissioner of Revenue

Agency Determining the Rate (continued)

Nebraska: Tax Commissioner
New Mexico: Revenue Division, Taxation and Revenue
Department
Washington State: Department of Licensing

Rate Base

(Indiana: Average retail price of gasoline sold in
Indiana, less state and federal taxes
Kentucky: Weighted average per gallon tank-wagon price
of gasoline, less federal tax
Massachusetts: "Selling price" of gasoline sold by
distributors, unclassified exporters or importers,
and oil companies, and of special fuels sold by
licensees other than users
Nebraska: Price of gasoline and special fuels purchased
by the state, less federal and state taxes
New Mexico: Average wholesale prices of gasoline and
special fuels, including federal tax
Washington State: Average weighted retail sales price of
gasoline, less federal and state taxes

Frequency of Rate Changes

(What is indicated below is the frequency the rate is
recalculated; it need not actually change so frequently.)

Indiana: Semi-annually
Kentucky: Quarterly
Massachusetts: Quarterly (by regulation)
Nebraska: Monthly
New Mexico: Annually
Washington State: Semi-annually

Method of Determining Price

Indiana: The price is determined from sales and use tax
returns filed by Indiana retailers.. (Indiana levies
its sales tax on motor fuels.) The price is computed
every six months; information from returns filed for
August and February is used to set the rate for the
six months beginning the following January and July,
respectively. The rate must be set at least 30 days
before it is to take effect.

Method of Determining Price (continued)

- Kentucky: The price is determined from information submitted by licensed Kentucky gasoline dealers concerning their sales during the first month of each calendar quarter. The rate is set every quarter, using information from the test month ending two months previously.
- Massachusetts: The statute does not specify a method for determining the price. A notice issued by the commissioner of revenue indicates the commissioner will set the rate every quarter, "based upon sales and other relevant data."
- Nebraska: Every month, the material administrator of the department of administrative services is to submit to the tax commissioner a report of the fuel purchased by the state in lots of 50 gallons or more during the preceding month. The department of revenue is to calculate an "average statewide price of fuel" from this report, and compute the following month's tax rate from that price. Dealers must have at least a five-day notice of a rate change.
- New Mexico: The price is determined every year from information reported by the U.S. Department of Energy in its "Monthly Petroleum Product Price Report." The rate for the year beginning July 1 is to be set before the end of the preceding calendar year, from information for the year ending the preceding June 30. Separate price bases are determined for gasoline and for other motor fuels.
- Washington State: The price is to be determined through "state-wide sampling and survey techniques" from the sales of Washington service stations. The computation is made every six months, information from March and September being used to set the rate for the six months beginning the following July and January, respectively. A rate is set at least 30 days before it is to be effective.

Tax Rates

- (1) Percentage: Indiana--8 percent, calculated to the nearest one-tenth of a cent per gallon
Kentucky--9 percent, calculated to the nearest one-tenth of a cent per gallon (The rate for carriers operating heavy equipment is 11 percent.)

Tax Rates (continued)

Massachusetts--10 percent
Nebraska--2 percent, calculated to the nearest one-tenth of a cent per gallon (The variable-rate tax is supplementary to the state's gallonage tax.)
New Mexico--A bracket system, rather than a straight percentage, is used.
Washington State--21.5 percent, calculated to the nearest one-half cent per gallon

(2) Present Tax (as of December 1, 1980):

Indiana--8.5 cents per gallon
Kentucky--9 cents per gallon
Massachusetts--9.8 cents per gallon
Nebraska--13.6 cents per gallon; the basic rate is 11.5 cents, the variable rate 2.1 cents
New Mexico--8 cents per gallon
Washington State--12 cents per gallon

Statutory Rate Limits

Indiana: 12 cents during 1980, 14 cents during 1981, 16 cents thereafter
Kentucky: Through June 30, 1982, no less than 9 cents nor more than 13.5 cents; thereafter the rate may rise no more than 10 percent in a fiscal year
Massachusetts: None
Nebraska: None
New Mexico: The rate may rise no more than 1 cent a year, and may not exceed 11 cents
Washington State: No less than 9 cents nor more than 12 cents

Other Features

Massachusetts: The commissioner of revenue has declared the variable-rate tax law "unworkable, discriminatory in effect and possibly violative of federal pricing laws and regulations." By revenue department rule, the rate is currently being set according to average rather than actual selling prices.

Other Features (continued)

Nebraska: Beginning in 1981, the state board of equalization and assessment is to set the percentage tax rate every year within fifteen days of the adjournment of the regular session of the legislature, in order to bring enough revenue into the state highway fund to meet legislative appropriations for the coming year. The rate is to be set in increments of a tenth of a percent. The board may change the rate at any time during the year if deposits in the highway fund are more than 10 percent above or below projections.

Washington State: The rate of the tax may be increased if fuel tax revenues for the current year will be less than those collected in the year ending June 30, 1973, plus 6 percent annual interest. The 12 cent limit must still be observed.

The rate may be reduced if revenues coming into the state motor vehicle fund during the biennium exceed by more than 5 percent the appropriations to be made from the fund. The 9 cent lower limit must still be observed.

PART II.

Indiana

The variable-rate motor fuel tax statute was approved March 3, 1980, and was effective July 1, 1980. The new rate applies to both gasoline and special fuels, although only data from the sale of gasoline are used in calculating the rate.

Under the terms of the law, the department of revenue's motor fuel tax administrator is responsible for determining the tax rate every six months. For the first half of a calendar year, he is to set the rate during the preceding November, using data from the previous August. For the second half of a year, the rate is set in May, from February data.

Determining the price of fuel. The Indiana sales tax applies to sales of motor fuel. In setting a rate, the administrator determines from the sales and use tax returns filed by Indiana retailers the total quantity of gasoline sold by them during the test month--either August or February--and the total price received by them--less the federal excise and the state sales and motor fuel taxes.

Setting the tax rate. The average retail price of gasoline is determined from these figures, and multiplied by 8 percent to arrive at the tax rate, which is stated to the nearest one-tenth of a cent per gallon. The law limits the tax rate during 1980 to 12 cents, during 1981 to 14 cents, and thereafter to 16 cents. (The law required a special one-time survey of selected retailers for determining the rate to go into effect July 1, 1980.)

Taxpayers are to be notified by the administrator of the next six months' rate at least 30 days before it is to take effect.

Kentucky

The variable-rate motor fuel tax statute was approved April 3, 1980, and was effective July 1, 1980. The new rate applies to special fuels and liquefied petroleum gas as well as to gasoline, but only the price of gasoline is considered in determining the rate.

Determining the price of fuel. Under the terms of the law, the department of revenue is charged with determining an "average wholesale price" of gasoline for each calendar quarter. This price is defined as the weighted average per gallon wholesale tank-wagon price, exclusive of the federal excise tax, obtained during the first month of the quarter. Such information as the department may reasonably request with respect to this price is to be forwarded to the department for its calculation by licensed gasoline dealers within 20 days of the end of the test month.

Setting the tax rate. The tax rate is 9 percent of this wholesale price, rounded to the nearest one-tenth cent per gallon. The rate is to be recalculated every three months for the calendar quarter beginning two months after the test month. A floor tax is imposed on inventory already on hand.

Through June 30, 1982, the rate may not fall below 9 cents a gallon, nor rise above 13.5 cents, and thereafter it may rise no more than 10 percent in a fiscal year.

In addition to this tax, motor carriers operating heavy equipment also pay a tax of 2 percent of the wholesale price as determined above per gallon of fuel they consume.

Massachusetts

The variable-rate motor fuel tax statute was approved July 17, 1980, and was effective August 1, 1980. The variable rate applies to gasoline and special fuels but not to fuel consumed by motor carriers.

By its terms, the law places a tax of 10 percent of the "selling price" of gasoline sold in Massachusetts by distributors, unclassified exporters or importers, and oil companies, and of special fuels sold by licensees other than users.

However, a notice from the commissioner of revenue, effective August 1, 1980, declares that the law is "unworkable, discriminatory in effect and possibly violative of federal pricing laws and regulations." Instead, by regulation, the tax will be based on the average rather than the actual selling price of fuel, with that price to be determined by the commissioner each calendar quarter from data taken from tax returns and other sources.

Nebraska

The variable-rate motor fuel tax law was approved April 16, 1980, and was effective October 1, 1980. It is a supplementary tax, to be paid in addition to the cents-per-gallon gasoline and special fuels taxes levied by the state.

Determining the price of fuel. Under the terms of the law, the material administrator of the state department of administrative services is to submit to the tax commissioner by the tenth of each month a statement of the amount of gasoline and special fuels purchased by the state during the preceding month in lots of at least fifty gallons, and what the state paid for it, less federal and state taxes. The department of revenue is to calculate the "average statewide price of fuel" from these figures, and to multiply that by the tax rate to reach the rate, in cents per gallon, rounded to the nearest tenth of a cent, to be charged the taxpayers. The revenue department is to notify fuel dealers at least five days before a change in the tax rate goes into effect.

Setting the tax rate. The tax rate is initially 2 percent of the average price of fuel. Beginning in 1981, the state board of equalization and assessment is to set the tax rate every year within fifteen days of the adjournment of the regular session of the legislature. The rate set by the board will be effective for the year beginning the following July 1. Using information submitted by the state departments of roads and revenue, the board sets the rate of tax so that enough revenue is brought into the state highway cash fund to meet the legislature's appropriations from the fund for the next year. The rate is raised or lowered in increments of a tenth of a percent. The governor may call a meeting of the board to change the tax rate at any time during the year if deposits in the highway fund are more than 10 percent above or below projections. After a mid-year change of this sort, the new rate would take effect at the beginning of the following month.

New Mexico

The variable-rate motor fuel tax law was approved March 30, 1979, and was effective July 1, 1979. It applies to both gasoline and special fuels.

Determining the price of fuel. Under the terms of the law, separate tax rates are determined by the revenue division of the state taxation and revenue department for gasoline and

for other motor fuels. Before the end of each calendar year, the division is to compute average wholesale prices for each fuel, including the federal excise tax, for the year ending the previous June 30, from price information reported by the U.S. Department of Energy in its publication entitled "Monthly Petroleum Product Price Report." Rounded down to the nearest whole cent per gallon, the average prices for gasoline and special fuels determine the tax rate for the year beginning the following July 1.

Setting the tax rate. If the average price of gasoline is not over 45 cents a gallon, the tax rate is 7 cents a gallon. For each 10 cent increase in price, the tax rate increases by 1 cent, until, if the price is 75 cents or over, the tax rate will be 11 cents. For special fuels, the tax rate is 7 cents a gallon if the price is not over 41 cents. The rate increases 1 cent for each 10 cent increase in price, until the rate becomes 11 cents with prices of 71 cents and over. The tax rate may not rise more than 1 cent per gallon each year. For the year ending June 30, 1980, the law provided that the tax rate on both fuels was to be 7 cents a gallon.

Washington State

The variable-rate motor fuel tax law was approved June 27, 1977, and was effective July 1, 1977. The rate applies to special fuels and liquefied petroleum gas as well as to gasoline, but only the price of gasoline is considered in setting the rate.

Determining the price of fuel. Under the terms of the law, the state department of licensing, which administers Washington's fuel taxes, is charged with setting the tax rate every six months. Using a "weighted average retail sales price of motor vehicle fuel," used in the state during the third month of the current half-year (either March or September), it sets the rate in the fifth month (either May or November), to be effective for the following half-year (beginning either July 1 or January 1). The average weighted retail sales price is the price of gasoline sold by Washington service stations, less federal and state taxes. It is determined by the department through "state-wide sampling and survey techniques."

Setting the tax rate. The tax rate itself is 21.5 percent of this average price, but must be no lower than 9 cents

a gallon nor higher than 12 cents. (This 12 cent limit was reached by July 1979; the tax can go no higher unless the law is amended.)

The rate of the tax may also be increased in half-cent increments if it appears (by department of licensing estimates, to be made every six months) that fuel tax revenues for the current fiscal year will be less than the taxes collected in the fiscal year ending June 30, 1973, plus 6 percent annual interest. The rate may then be raised to meet this figure, but may not exceed the 12 cent limit.

The tax rate may be reduced if department estimates indicate revenues coming into the state motor vehicle fund during the biennium will exceed by more than 5 percent the appropriations to be made from the fund. The rate may be reduced to match appropriations plus 5 percent, but it may not fall below 9 cents a gallon.

TESTIMONY BEFORE THE SENATE TAXATION COMMITTEE

SENATOR KEITH ASHWORTH, CHAIRMAN

EXHIBIT O

RE: S.B. 154

MEMBERS INCLUDE: SENATOR KEITH ASHWORTH, CHAIRMAN
SENATORS DON ASHWORTH, GLASER, KOSINSKI,
LAMB, GETTO & RAGGIO

THANK YOU FOR ALLOWING US THE OPPORTUNITY TO PRESENT OUR THOUGHTS TODAY ON S.B. 154. MY NAME IS COMMISSIONER RON LURIE, CHAIRMAN OF THE CLARK COUNTY REGIONAL TRANSPORTATION COMMISSION, WHICH IS COMPRISED OF THE CITIES OF LAS VEGAS, NORTH LAS VEGAS, HENDERSON, BOULDER CITY AND THE COUNTY OF CLARK.

I'M SURE THAT MOST OF YOU ARE AWARE AND UNDERSTAND THE ROLE AND FUNCTION OF THE REGIONAL TRANSPORTATION COMMISSION; HOWEVER, IN BRIEF, LET ME REVIEW FOR YOU THE RTC ROLE AND FUNCTION. IN 1965 THE RTC WAS CREATED AS PERMITTED UNDER NRS 373 TO BE RESPONSIBLE FOR FUNDING A PROGRAM OF PROJECTS TO IMPROVE THE TRANSPORTATION FACILITIES THROUGHOUT CLARK COUNTY. RTC HAS ADMINISTERED THE FUEL TAX FUNDS ON A PRIORITY BASIS IN AN ATTEMPT TO MEET THE DYNAMIC GROWTH OF THE SOUTHERN NEVADA AREA WHICH OVER THE LAST DECADE HAS EXPERIENCED THE SECOND HIGHEST GROWTH RATE PER CAPITA WITHIN THE UNITED STATES.

WITH THE EXPECTED CONTINUED GROWTH IN FUTURE YEARS, COMPOUNDED BY THE EXPECTED IMPACT RESULTING FROM THE PROPOSED MX PROJECT, RTC WILL BE HARD-PRESSED AT ITS PRESENT LEVEL OF FUNDING TO KEEP UP WITH THE BASIC NEEDS OF THE PRESENT TRANSPORTATION SYSTEM.

FROM ITS CREATION UNTIL THE PRESENT TIME, THE RTC HAS ADMINISTERED THE DISBURSEMENT OF \$50,258,000 FOR CONSTRUCTION OF NEEDED TRANSPORTATION FACILITIES OF CLARK COUNTY. WITHOUT ADDITIONAL REVENUE, AFTER SATISFYING REQUIREMENTS OF OUR RETIRING RTC EXISTING DEBT, THERE WILL BE APPROXIMATELY \$800,000 PER YEAR THAT COULD BE UTILIZED FOR STREET AND HIGHWAY CONSTRUCTION IN CLARK COUNTY. THE RTC HAS AN ESTABLISHED PRIORITY LIST OF MAJOR STREET IMPROVEMENT PROJECTS THAT TOTALS IN EXCESS OF ONE HUNDRED MILLION DOLLARS.

THE CLARK COUNTY REGIONAL TRANSPORTATION COMMISSION REQUESTS THAT THE SENATE TAXATION COMMITTEE AMEND S.B. 154 TO INCLUDE AN ADDITIONAL TWO CENTS PER GALLON GAS TAX ON A SLIDING SCALE FOR FUNDING REGIONAL TYPE PROJECTS.

CITY OF LAS VEGAS PRESENTATION

SENATE TAXATION COMMITTEE

S.B. 154

THE CITY OF LAS VEGAS HAS APPROXIMATELY 725 MILES OF STREETS WITHIN ITS CORPORATE BOUNDARIES.

BECAUSE OF INFLATION AND RAPID GROWTH THE STREETS OF LAS VEGAS HAVE NOT BEEN ADEQUATELY MAINTAINED FOR A NUMBER OF YEARS.

\$2,500,000 WAS BUDGETED BY THE CITY OF LAS VEGAS FOR STREET MAINTENANCE THE CURRENT YEAR. WE ESTIMATE THAT JUST TO STAY EVEN WITH THE EXISTING RATE OF DETERIORATION AND NEW STREETS ADDED EACH YEAR, WE NEED APPROXIMATELY \$4.3 MILLION FOR MAINTENANCE ALONE.

IT IS ESTIMATED THAT THE PRESENT S.B. 154 WILL PROVIDE THE CITY OF LAS VEGAS WITH APPROXIMATELY \$1.2 MILLION FOR MAINTENANCE THIS COMING YEAR IF PASSED BY THE LEGISLATURE.

THE CITY OF LAS VEGAS SUPPORTS THE S.B. 154 AND THE RTC POSITION FOR AN ADDITIONAL 2 CENTS TAX. IN ADDITION, WE WANT TO POINT OUT THE NEED AND REQUEST CONSIDERATION FOR ADDITIONAL MAINTENANCE OF STREETS AND ROADS WITHIN THE CITIES AND OUR COUNTY.

REGIONAL TRANSPORTATION COMMISSION

MEMBERS OF THE NEVADA LEGISLATURE

EXHIBIT P

The Regional Transportation Commission was created in 1965 by an ordinance adopted by the Clark County Board of Commissioners. The original ordinance provided for one cent a gallon tax and this tax was increased to two cents effective September 1, 1969. This tax presently generates approximately 4.8 million dollars. The construction of the projects shown in blue has been financed by the Regional Transportation Commission. These projects serve the motoring public in Southern Nevada. Included in these projects are signal systems at selected intersections to provide more efficient and safer traffic movement.

The Regional Transportation Commission has sold Highway Improvement Revenue Bonds to provide the construction funds for the above projects. The interest rate paid on these bonds is well below the present inflation rate which helped to construct more miles of roadway at a lessor cost to the public. The facilities were open to the public during the bond redemption period.

Presently, the Regional Transportation Commission cannot sell additional revenue bonds without an additional source of revenue. The Regional Transportation Commission has sold 35.5 million dollars in bonds to date. This does not include the bonds sold prior to 1976 which were refinanced by a bond sale in 1976. The bond redemption costs are approximately equal to the existing revenue.

The Regional Transportation Commission unanimously adopted a phase one and phase two priority list on July 22, 1980. The total funding required to complete these projects is \$124.6 million in 1980 dollars. Phase one accounts for \$45.2 million leaving \$37,350,000 worth of projects that cannot presently be

REGIONAL TRANSPORTATION COMMISSION

constructed without additional funding. These projects are shown in red on the map and are listed below:

The Regional Transportation Commission Technical Committee has submitted the following as the recommended Phase I priorities.

<u>PROJ. NO.</u>	<u>PROJECT NAME</u>	<u>LIMITS</u>	<u>ESTIMATED COST (1980 Dollars)</u>
2a (Funded)	Eastern Avenue Surface Rehabilitation	Bonanza Road to Owens Avenue	350,000
3k (Funded)	Maryland Parkway Surface Rehabilitation	Stewart Avenue to Owens Avenue	250,000
8e	Sunset Road	Eastern Avenue to Mountain Vista Street	2,000,000
8f (Funded)	Sunset Road	Boulder Highway to Haren Drive	600,000
10b	Rainbow Boulevard	Flamingo Road to Sahara Avenue	2,500,000
15b (Funded)	Gibson Road	Warm Springs Road to Boulder Highway	1,900,000
16e	Carey Avenue	Clayton Avenue to I-15	1,400,000
18a	Bonanza Road	Eastern Avenue to Nellis Boulevard	6,300,000
21a	Highland Drive	Charleston Boulevard to Carey Avenue	3,000,000
24f/24h	Pecos Road	Charleston Boulevard to Las Vegas Boulevard South	7,500,000
28b	Nellis Boulevard	Flamingo Road to Las Vegas Boulevard North	9,000,000
33a (Funded)	Jones Boulevard	Spring Mountain Road to Charleston Boulevard	2,600,000
33a	Jones Boulevard	Spring Mountain Road to Tropicana Avenue	1,900,000
34e	Swenson Street	Airport to Tropicana Avenue	3,750,000

REGIONAL TRANSPORTATION COMMISSION

<u>NO.</u>	<u>PROJECT NAME</u>	<u>LIMITS</u>	<u>ESTIMATED COST (1980 Dollars)</u>
35b (Funded)	Losee Road Phase II	Cheyenne Avenue to Craig Road	2,000,000
48a (Funded)	Lake Mead Boulevard	Sloan Structure	200,000

The Phase I projects are estimated to cost \$45,250,000 in 1980 dollars.

The remaining projects on this list are Phase II and are as follows:

2k	Eastern Avenue	Warm Springs Road to Sunset Road	1,350,000
4g	Owens Avenue	Pecos Road to Nellis Boulevard	4,750,000
5e	Cheyenne Avenue	Las Vegas Boulevard North to Nellis Boulevard	1,750,000
6e	Tropicana Avenue	Torrey Pines Drive to Rainbow Boulevard	550,000
6f	Tropicana Avenue	Paradise Road to Las Vegas Boulevard South	1,000,000
7e	Decatur Boulevard	Spring Mountain Road to Tropicana Avenue	2,335,000
15b	Gibson Road	Pacific Avenue to State Highway 41	1,860,000
16d	Carey Avenue	Rancho Road to Clayton Avenue	1,775,000
16f	Carey Avenue	Pecos Road to Nellis Boulevard	2,615,000
17a	Smoke Ranch Road	Jones Boulevard to Rancho Drive	1,800,000
18b	Bonanza Road	Nellis Boulevard to Sloan Lane	2,615,000
21c	Highland Drive	Craig Road to Cheyenne Avenue	1,170,000
23b	Flamingo Road	Valley View Boulevard to Rainbow Boulevard	7,260,000

REGIONAL TRANSPORTATION COMMISSION

PROJ. NO.	PROJECT NAME	LIMITS	ESTIMATED COST (1980 Dollars)
24b	Pecos Road	Flamingo Road to Sunset Road	2,000,000
25a	Craig Road	I-15 to Las Vegas Boulevard North	2,500,000
25b	Craig Road	Rancho Drive to I-15	8,650,000
28j	Nellis Boulevard	Las Vegas Boulevard North Craig Road	250,000
33c	Jones Boulevard	Smoke Ranch Road to Rancho Drive	3,850,500
34d	Swenson Street	Karen Avenue to Sahara Avenue	1,750,000
37a	Rancho Drive	Sahara Avenue to Charleston Boulevard	979,800
42a	Michael Way	Decatur Boulevard to Vegas Drive	1,345,000
46a	Warm Springs Road	Lake Mead Drive to Pueblo Place	650,000
No Number	Mojave Road	Washington Avenue to Charleston Boulevard	2,808,000
No Number	Stewart Avenue Reconstruction	28th Street to Nellis Boulevard	6,537,800
No Number	Sahara Avenue	Paradise Road - Las Vegas Boulevard Overpass	17,160,000

The Phase II Projects are estimated to cost \$79,311,100 in 1980 dollars.

As shown on page number 7, gasoline tax revenue is presently decreasing due to two factors: 1) use of more fuel efficient vehicles and 2) changes in public driving habits. With this decrease in consumption, revenues are also decreasing while the cost of materials and services increasing at approximately twenty percent.

REGIONAL TRANSPORTATION COMMISSION

Southern Nevada is presently experiencing a rapid growth rate, 49.6% in the ten years between 1970 to 1980. This growth is taxing our existing facilities and the level of service to the motoring public will rapidly deteriorate without additional improvements to relieve the traffic congestion.

WHAT DOES THE FUTURE HOLD

The cash flow for the Regional Transportation Commission will fall to an \$800,000 minimum in July, 1982 given our present construction projections. This can quickly be eroded by inflation and unanticipated project cost changes.

Our present bonding capacity is exhausted. Revenue will meet bond redemption only. Without additional revenue, no new construction is possible in the near future.

The attached bonding analysis prepared by Burrows, Smith and Company of Nevada, shows that the Regional Transportation Commission cannot sell additional bonds for capital improvements. Also shown are potential impacts imposed by changes to the fuel tax structure on bonding capacity.

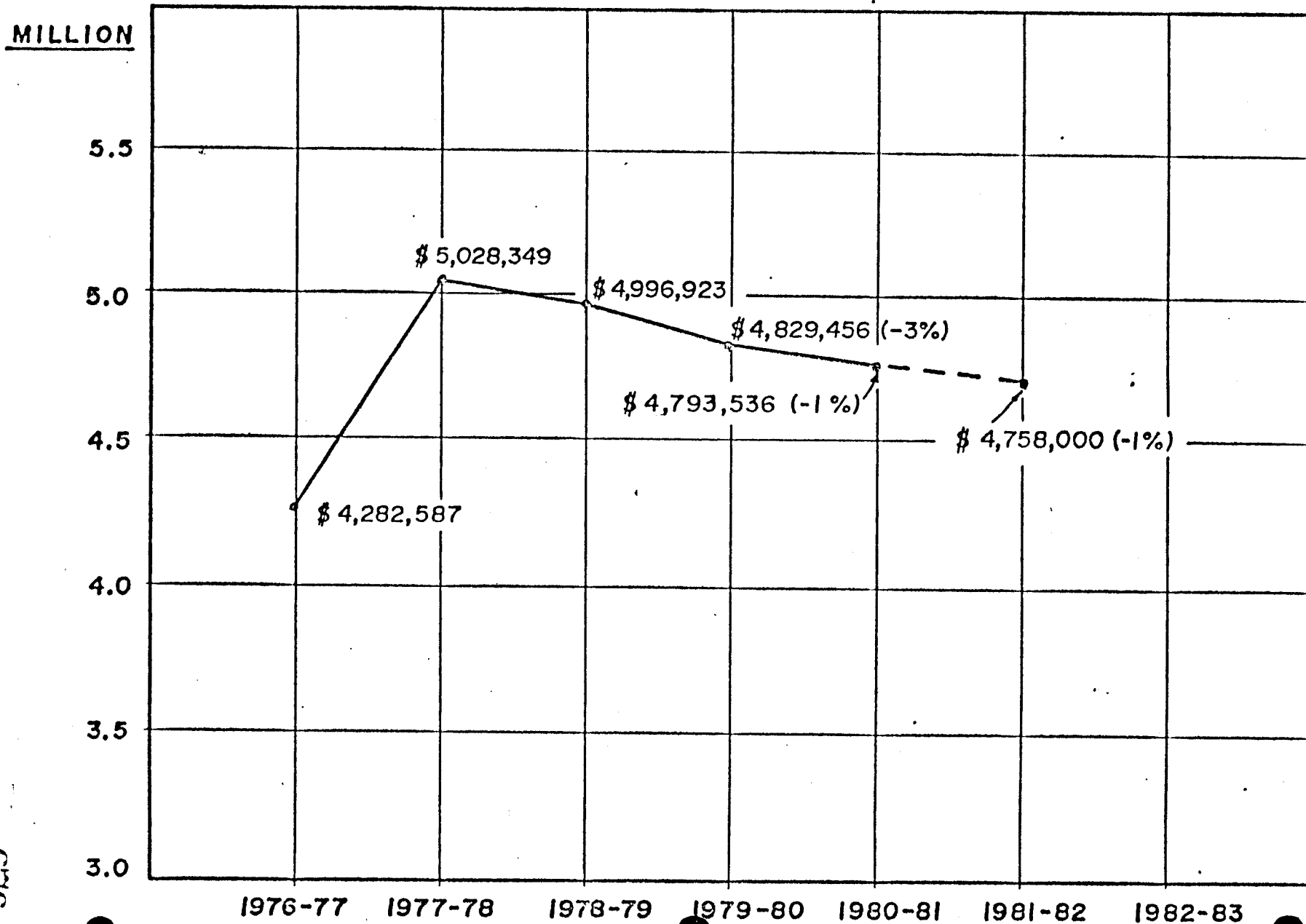
The Regional Transportation Commission adopted a resolution on Thursday, March 12, 1981 requesting the Nevada State Legislature to consider increasing revenues through motor fuel taxes to provide the necessary funding for roadway improvements. The revenues generated by this increase should be EQUIVALENT to at least a two cent per gallon tax increase on motor vehicle fuel imposed in a manner consistent and appropriate.

It is our understanding that the Regional Transportation Commission of Washoe County is faced with the same funding problem.

REGIONAL TRANSPORTATION COMMISSION

We therefore request that additional revenue be generated by a motor vehicle fuel tax to provide the Regional Transportation Commission with the funding resources necessary to maintain a viable construction program to serve the motoring public.

GAS TAX REVENUE REGIONAL TRANSPORTATION COMMISSION



-7-

676

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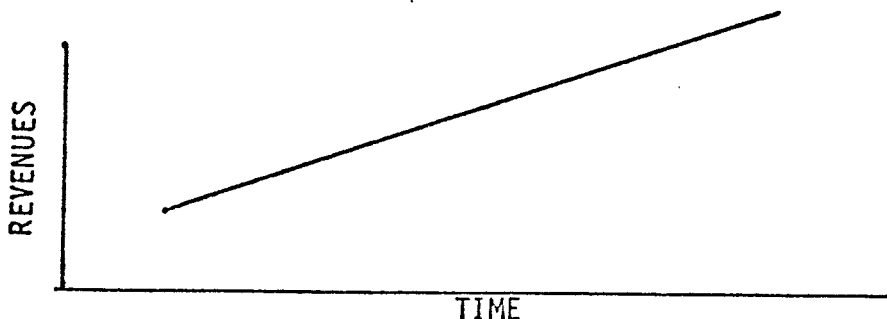


and
Suite 1003 Kearns Building
Salt Lake City, Utah 84101
Telephone (801) 355-6700

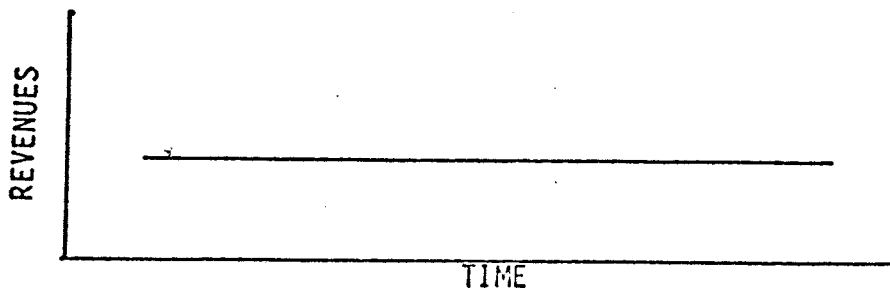
MEMO

TO: Regional Transportation Commission of Clark County
FROM: Henry L. Chanin
RE: Financing of Additional Projects and Proposed Fuel Tax Increases

As originally conceived, the Regional Street and Highway Commission and the associated financing mechanisms provided in Nevada law were intended to provide for an on-going program of improving arterial roadways within Clark County. With steady increases in population and economic activity, the revenues projected to be received by the Commission and the ability of the Commission to raise capital by the sale of bonds secured by such revenues might have been graphically stated as follows:



As a result of the energy crisis and all of its ramifications, increases in population and economic activity which in the past resulted in increased fuel consumption have been off-set by the improved efficiency of the vehicle fleet and voluntary conservation. At present, under the existing tax structure, the revenues projected to be received by the Commission for its programs may be graphically stated like this:

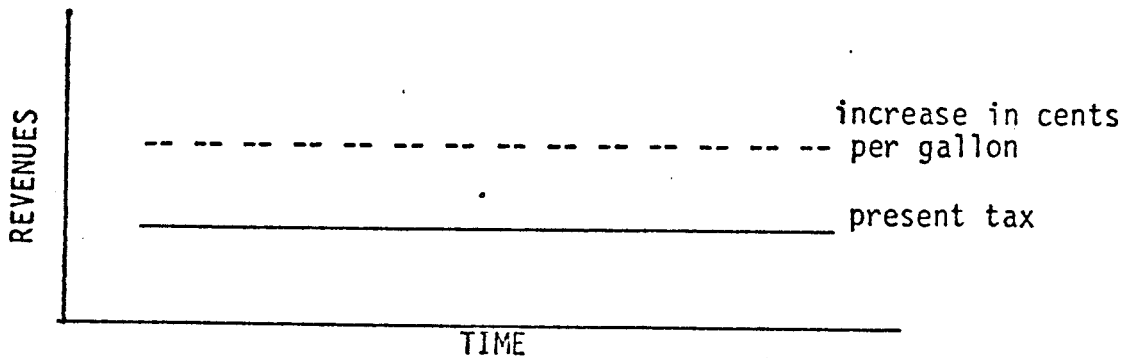


Burrows, Smith and Company

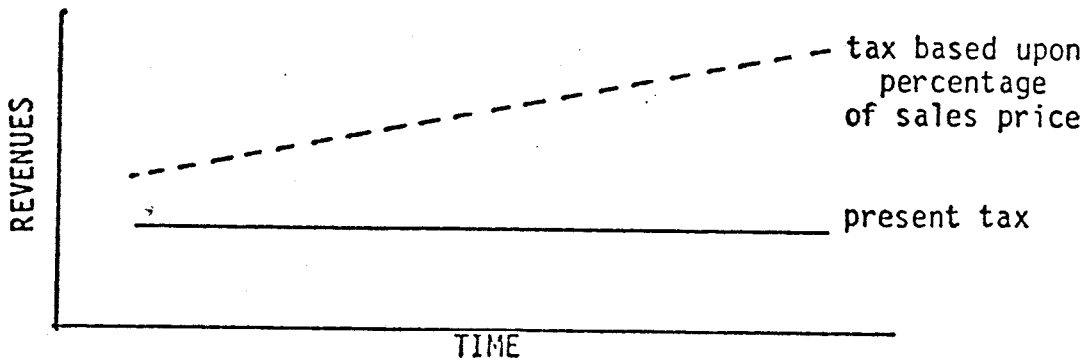
The Regional Transportation Commission of Clark County is not bankrupt. But the flattening of the revenue curve has eliminated the ability of the Commission to raise capital by the sale of additional bonds. Any such attempted sale at the present time under the existing tax structure would impair the Commission's operating funds, jeopardize the A-1 bond rating assigned to the bonds in the past, and require an exorbitant rate of interest in an already difficult market.

Several proposals for changes in the existing fuel tax laws may be considered by the 1981 Nevada State Legislature.

An increase in the present 2¢ county tax to some greater number of cents per gallon will increase future revenues and therefore increase bonding capacity, but once the Commission has used that bonding capacity, there will be a return to the present circumstances.



Alternately, a change in the computation of the tax to one based upon a percentage of the retail or wholesale sales price per gallon would also increase future revenues and bonding capacity, but, assuming an increase in such sales price over time, the result would be a return to a secure, permanent and on-going funding base for the Regional Transportation Commission's street and highway program.



Burrows, Smith and Company

The following table presents rough estimates of the additional bonding capacity that would result from the various options which the Legislature may consider.

	<u>Excluding Diesel Fuel</u>	<u>Including Diesel Fuel</u>
No change	-----	\$ 5,000,000
1¢ increase *	\$11,000,000	\$15,500,000
2¢ increase *	\$21,500,000	\$27,500,000
DOT sliding scale applied to present 2¢ **	\$33,000,000	\$43,000,000

* Assuming no increase in either 1/2¢ or 1¢ state tax with which bonds are additionally secured

** Assuming increase in 1/2¢ and 1¢ state as provided in DOT proposal; bonding capacity would increase further over time

REGIONAL TRANSPORTATION COMMISSION
OF
CLARK COUNTY

RESOLUTION NO. 42

A RESOLUTION REQUESTING THE SIXTY-FIRST SESSION OF THE NEVADA LEGISLATURE TO ENACT LEGISLATION TO AMEND CHAPTER 373.070 OF THE NEVADA REVISED STATUTES.

WHEREAS, Chapter 373 of the Nevada Revised Statutes provides for the improvement of local roadways by permitting the imposition of certain taxes upon motor vehicle fuels by boards of county commissioners; and

WHEREAS, Chapter 373 provides for the creation of Regional Transportation Commissions to recommend to boards of county commissioners the beneficial use of the proceeds of such taxes for the efficient and safe movement of people and goods over such roadways; and

WHEREAS, the Board of Commissioners of Clark County did create the Regional Transportation Commission of Clark County (Commission) by ordinance number 4.04.020 in 1965 and did impose a two-cent tax on each gallon of motor vehicle fuel sold within its jurisdiction by ordinance; and

WHEREAS, the Commission has recommended and overseen the development of 135 miles of needed roadway improvements utilizing \$50,258,000 in revenues since its inception; and

WHEREAS, the Commission has recommended 16 first priority improvements totaling \$45,250,000 and second priority improvements totaling \$79,311,000 in 1980 dollars for the beneficial use of the motoring public; and

WHEREAS, the capacity to issue bonds to finance the aforesaid improvements is dependent upon the tax revenues received; and

WHEREAS, the tax revenues are declining due to decreasing fuel consumption; and

WHEREAS, the revenues available have reached bonding limitations; and

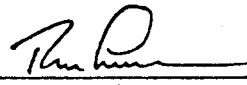
WHEREAS, additional revenues equivalent to two cents per gallon of motor vehicle fuel sold are needed to fund necessary improvements to enhance the safe and efficient movement of people and goods over local roadways; and

WHEREAS, the legislature of the State of Nevada is empowered to provide for such additional revenues and is now in session to consider matters of importance to its public.

NOW, THEREFORE BE IT RESOLVED by the Regional Transportation Commission of Clark County that:

1. The Nevada State Legislature consider increasing the revenues available through taxes on motor vehicle fuel to provide the necessary funding for roadway improvements.
2. The Nevada Legislature consider providing increased revenues equivalent to a two cent per gallon tax on motor vehicle fuel sold in such manner as is consistent and appropriate.

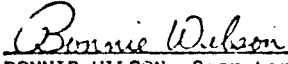
PASSED, ADOPTED, AND APPROVED this 12 day of MARCH, 1981.



RON LURIE, Chairman

REGIONAL TRANSPORTATION COMMISSION
OF CLARK COUNTY

ATTEST:



BONNIE WILSON, Secretary

AMENDMENT TO SB 154*

EXHIBIT Q

Amend the bill as a whole by adding one new section designated as Section 14 to read as follows:

"Section 14. NRS 373.030 is hereby amended to read as follows:

373.030. In any county for all or part of which a streets and highways plan has been adopted by the county or regional planning commission, the board may by ordinance:

1. Create a regional transportation commission; and
2. Impose a tax on motor vehicle fuel sold in the county of :

(a) One cent or 2 cents per gallon 1 cent or 2 cents, or 3 cents, or 4 cents per gallon.

 (b) In addition to the tax provided for in paragraph (a), 2 cents per gallon to be effective only if the tax is approved by a vote of the registered voters of the county upon a question which the board may submit to the voters at any election.

A tax imposed under this section is in addition to other motor vehicle fuel taxes imposed under the provisions of Chapter 365 of NRS."

*Amend the bill as a whole by renumbering Section 14 as Section 15.

TESTIMONY OF GRANVILLE M. BOWMAN, DIRECTOR OF PUBLIC WORKS,
COUNTY OF CLARK, BEFORE THE STATE OF NEVADA SENATE TAXATION
COMMITTEE, THURSDAY, MARCH 26, 1981.

EXHIBIT R

MY PURPOSE HERE TODAY IS TO ADVISE YOU OF THE URGENT ROAD MAINTENANCE NEEDS FOR THE UNINCORPORATED AREA OF CLARK COUNTY.

THE RECENT HISTORY OF CLARK COUNTY REFLECTS A PERIOD OF VERY RAPID GROWTH. IN 1960, WE HAD ABOUT 127,000 RESIDENTS. THAT NUMBER INCREASED TO OVER 273,000 BY 1970, AND TO ALMOST A HALF MILLION BY 1980. THESE NUMBERS ARE SIGNIFICANT FOR THE PURPOSE OF THIS PRESENTATION BECAUSE THEY INDICATE THAT FOR THE PAST 15 TO 20 YEARS, MOST OF THE AREA ROAD FUND RESOURCES WENT INTO NEW ROAD CONSTRUCTION AND THE PEOPLE IN CLARK COUNTY HAVE BEEN LIVING WITH NEW ROADS. THESE ROADS MUST NOW BE MAINTAINED, AND AS OUR RAPID GROWTH CONTINUES, THIS MAINTENANCE REQUIREMENT WILL LIKewise ACCELERATE.

IN 1979, CLARK COUNTY HIRED A CONSULTANT TO REVIEW THE CONDITION OF OUR ROADS AND PRODUCE RECOMMENDATIONS WHICH WOULD ENABLE US TO GET THE MAXIMUM UTILITY FROM OUR PAVEMENT. BRIEFLY, THAT INVESTIGATION CONCLUDED, AMONG MANY OTHER TECHNICAL DETAILS, THAT MAJOR MAINTENANCE (OVERLAYS/ SEALS) SHOULD BE PROGRAMMED FOR ASPHALT ROADWAYS ABOUT EVERY SEVEN TO 10 YEARS, DEPENDING ON THE TYPE OF USE RECEIVED. THAT MEANS THAT WE NOW HAVE A BACKLOG OF MAJOR ROAD MAINTENANCE FOR ALMOST EVERY ROAD BUILT BEFORE 1975.

TO GIVE YOU AN IDEA OF THE SCOPE OF THAT BACKLOG, I'D LIKE TO POINT OUT A FEW BRIEF STATISTICS:

1. ROAD DATA PRIOR TO 1970 ARE NOT AVAILABLE. DATA FOR THAT YEAR, HOWEVER, INDICATES THAT CLARK COUNTY HAD APPROXIMATELY 1,245 MILES OF ROAD. OF THAT NUMBER, 706 MILES (1,532 LANE MILES) WERE PAVED. CHARACTERISTICALLY, THE PAVED ROADS WERE OF THE TWO-LANE VARIETY. IN CONTRAST, WE HAD 1,646 MILES OF ROAD IN 1980, 1,024 OF WHICH WERE PAVED (2,285 LANE MILES). THIS INCREASE REFLECTS THE GROWTH OF THE URBANIZED AREA AND THE MOVEMENT TOWARD WIDER ROADS NECESSARY TO HANDLE INCREASED TRAFFIC VOLUME.

2. AS YOU MIGHT EXPECT, INFLATION HAS HIT EVERYONE'S HIGHWAY CONSTRUCTION BUDGET DRAMATICALLY. IN 1970, WE PAID ABOUT \$26/TON FOR LIQUID ASPHALT. THAT COST MORE THAN DOUBLED TO \$82/TON IN 1974. TODAY, OUR BID PRICE IS \$240/TON, ABOUT THREE TIMES THE COST IN 1974, AND 10 TIMES OUR COST IN 1970.

3. FUEL CONSUMPTION REACHED A PEAK IN CLARK COUNTY IN 1978 AND HAS BEEN DECLINING EVER SINCE. THIS MAY BE HIGHLY DESIRABLE AS A MATTER OF ECONOMIC POLICY, BUT THE RESULTANT DECLINE OF RELATED GAS TAX REVENUE HAS SERVED TO INTENSIFY THE CRITICAL CONDITION OF OUR ROAD MAINTENANCE NEED. BECAUSE SOME MAJOR MAINTENANCE EFFORTS SIMPLY CANNOT WAIT ANY LONGER, OTHER COUNTY FUNDS HAVE HAD TO BE DIVERTED TO TRY AND MAINTAIN THIS IMMENSE CAPITAL INVESTMENT.

4. IN 1980, 372,635 OF THE STATE'S 712,939 REGISTERED VEHICLES, OVER 52%, WERE IN CLARK COUNTY.

NOW THAT I'VE LAID OUT SOME OF THE MORE PERTINENT FACTS, I'LL TELL YOU WHAT I BELIEVE THEY MEAN AS A CONSIDERATION OF OUR NEEDS:

1. THE TREMENDOUS PRICE SURGE OF PETROLEUM DERIVED PRODUCTS IN THE 1970'S ESSENTIALLY ELIMINATED ANY SIGNIFICANT MAJOR MAINTENANCE OF PAVED ROADS. RATHER, THOSE EFFORTS HAVE STEADILY DECLINED IN FAVOR

OF IMMEDIATE TEMPORARY REMEDIES AND ROUTINE MAINTENANCE (PATCHING, STRIPING, SIGNS, ETC.). THE CONSEQUENCE, AS SHOWN BY THE NECESSITY TO DIVERT GENERAL FUND REVENUES FOR TRADITIONAL ROAD FUND PURPOSES, IS THAT WE'VE FINALLY REACHED THE POINT WHERE EVEN THE CONTINUATION OF ROUTINE ROAD MAINTENANCE IS QUESTIONABLE.

2. ABOUT 70% OF THE ROADS IN CLARK COUNTY ARE A MINIMUM OF 10 YEARS OLD. THESE ROADS NEED MAINTENANCE NOW IF THE MAJOR CAPITAL INVESTMENT THEY REPRESENT IS TO BE PRESERVED. A CONSERVATIVE 12 YEAR MAINTENANCE PROGRAM, BEGUN NOW, WOULD STILL MEAN THAT OUR NEWEST ROADWAY WOULD BE OVERDUE BY THE TIME WE GET AROUND TO IT, AND IF THE GROWTH OF THE LAST DECADE IS ANY EXAMPLE, OUR ROAD INVENTORY IN 1990 WILL BE SIGNIFICANTLY GREATER.

3. WHILE FUEL CONSUMPTION HAS DECLINED SLIGHTLY, THE NUMBER OF REGISTERED VEHICLES IN CLARK COUNTY REMAINS AS HIGH TODAY (IN FACT SLIGHTLY HIGHER) AS IT WAS IN 1979. CONSEQUENTLY, IT MAY BE CONCLUDED THAT WHILE THE MOTORING PUBLIC MAY BE MORE SELECTIVE IN ITS USE OF THEIR VEHICLES, THOSE PRIVATE VEHICLES REMAIN THE PRINCIPAL MEANS OF TRANSPORTATION. THIS MEANS THAT OUR SYSTEM OF ROADWAYS HAS TO BE PRESERVED. LIKEWISE, AS OUR POPULATION GROWS, THIS OBLIGATION ALSO INCREASES.

IN SUMMARY, MY CONCLUSIONS ARE AS FOLLOWS:

1. A MINIMUM 12 YEAR MAINTENANCE PROGRAM WILL REQUIRE GAS TAX REVENUES OF ABOUT \$8 MILLION, AT TODAY'S PRICES. UNDER THE PRESENT DISTRIBUTION FORMULAE, THE TAX DERIVED FROM NRS 365.180 WOULD HAVE TO RISE FROM .5¢/GALLON TO 1.5¢/ GALLON, AND THE TAX SPECIFIED IN NRS 365.190 WOULD HAVE TO INCREASE FROM 1¢ TO 3¢. THIS PROGRAM WOULD BE INHERENTLY UNSTABLE BECAUSE IT WOULD STILL FAIL TO ADJUST FOR INFLATIONARY FORCES.

2. EVEN WITH THE CONTINUATION OF LOCAL GENERAL FUND SUPPORT, THE REVENUE DERIVED UNDER S.B. 154 WOULD NOT BE SUFFICIENT TO MAINTAIN A MINIMUM PROGRAM LEVEL UNTIL THE PRICE OF FUEL REACHES \$2.10/GALLON. IN THIS CASE, WHILE FUNDING WOULD BE SOMEWHAT MORE STABLE, THE LAG BETWEEN THE PRICE LEVEL AND THE REALIZATION OF NEEDED REVENUE IS BELIEVED TO BE TOO LARGE TO SUPPORT THE PROGRAM OUTLINED. USING THE SCHEDULE REFLECTED IN S.B. 154, THE LOCAL TAX IN COLUMNS "C" AND "D" WOULD NEED TO BE RAISED TO 1.58¢ AND 3.17¢, RESPECTIVELY, AT THE \$1.20/GALLON LEVEL.

3. A TAX BASED ON A PERCENTAGE OF THE SALE PRICE WOULD SEEM TO WORK EQUALLY AS WELL AS THE SLIDING SCALE METHOD UTILIZED IN S.B. 154. IN THIS CASE ALSO, HOWEVER, THE PERCENTAGE APPLIED WOULD NEED TO BE SUFFICIENT TO GENERATE THE NECESSARY REVENUE. OUR ANALYSIS INDICATES THAT THE CONVERSION FROM A FLAT RATE TO A PERCENTAGE BASIS WOULD REQUIRE NRS 365.180 AND NRS 365.190 TO BE SET AT 1.25% AND 2.5% OF THE PUMP PRICE, RESPECTIVELY (COMPUTED AT \$1.20/GALLON).

RECOMMENDATIONS:

THE BOTTOM LINE IS THAT CLARK COUNTY NEEDS \$8 MILLION IN GAS TAX RELATED REVENUE THAT IS INDEXED IN SOME MANNER TO REDUCE THE EFFECTS OF INFLATION. A FLAT RATE TAX INCREASE COULD PROVIDE THE IMMEDIATE FUNDS NEEDED, BUT NOT PROVIDE THE PROTECTION NEEDED TO CARRY ON A CONSISTENT PROGRAM. THE SLIDING SCALE PROJECTED BY S.B. 154 PROVIDES A MEANS TO ADDRESS INFLATIONARY PRESSURES, BUT THE DISTRIBUTION OF THE REVENUE WHICH WOULD BE REALIZED BY CLARK COUNTY WOULD NOT MEET OUR FUNDING NEEDS UNLESS AND UNTIL MOTOR VEHICLE FUEL INCREASES ANOTHER .80¢ TO .90¢/GALLON. A PERCENTAGE OF SALE METHOD LIKEWISE PROVIDES INFLATIONARY PROTECTION, BUT THE PERCENTAGE AMOUNTS WOULD NEED TO BE ADJUSTED TO PROVIDE THE NEEDED REVENUE.

I APPRECIATE THE OPPORTUNITY TO PRESENT THESE REMARKS TO YOU, AND WILL RESPOND TO ANY QUESTIONS YOU MAY HAVE.



news release

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Release on receipt
Issued: 3-2-81

EXHIBIT S

GAS PRICES UP 8¢ - HIGHEST INCREASE SINCE MAY OF 1979

Northern California and Nevada retail gasoline prices went up more than eight cents a gallon in February, representing the greatest single month increase since May of 1979, according to the California State Automobile Association.

The AAA-affiliated auto club's monthly survey of nearly 650 service stations within its membership area found the price of a gallon of regular (leaded) grades averaging \$1.37 (36¢ a liter), an increase of 8.1¢ since the end of January, coinciding with federal decontrol of retail prices. Premium grades are currently priced at about \$1.47 (39¢ a liter), up 8.8¢ since last month. Unleaded regular now averages \$1.43 (38¢ a liter), a jump of 8.1¢ during February.

Present prices reflect an increase of more than 8% during the first two months of this year and 17% above retail prices at this time a year ago.

Diesel prices advanced 3¢ a gallon in February and now average \$1.26 in California and \$1.15 in Nevada. (Diesel price differences between the two states are attributable to differing tax structures.)

The pump price of gasohol (90% unleaded gasoline and 10% ethanol) moved up over 10¢ a gallon and now sells for about \$1.38.

LPG (liquid propane gas) advanced 5¢ a gallon and is presently marketed at an average of 85¢.

(more)

GAS PRICES UP 8¢ - HIGHEST
INCREASE SINCE MAY OF 1979
Page 2 of 2
Issued: 3-2-81

Price spreads among retailers in areas of high competition continue to range from 3¢ to 5¢ a gallon, while the difference between "gas only" and "full service" islands can be as much as 6¢ a gallon. Highest prices recorded in California were \$1.59, while some remote parts of Nevada topped the survey at \$1.64 for "full service" premium.

No availability problems were reported, with approximately 60% of the surveyed dealers staying open at night and 85% through Sundays. Fifteen percent were reported open 24 hours a day, seven days a week.

-CSAA-