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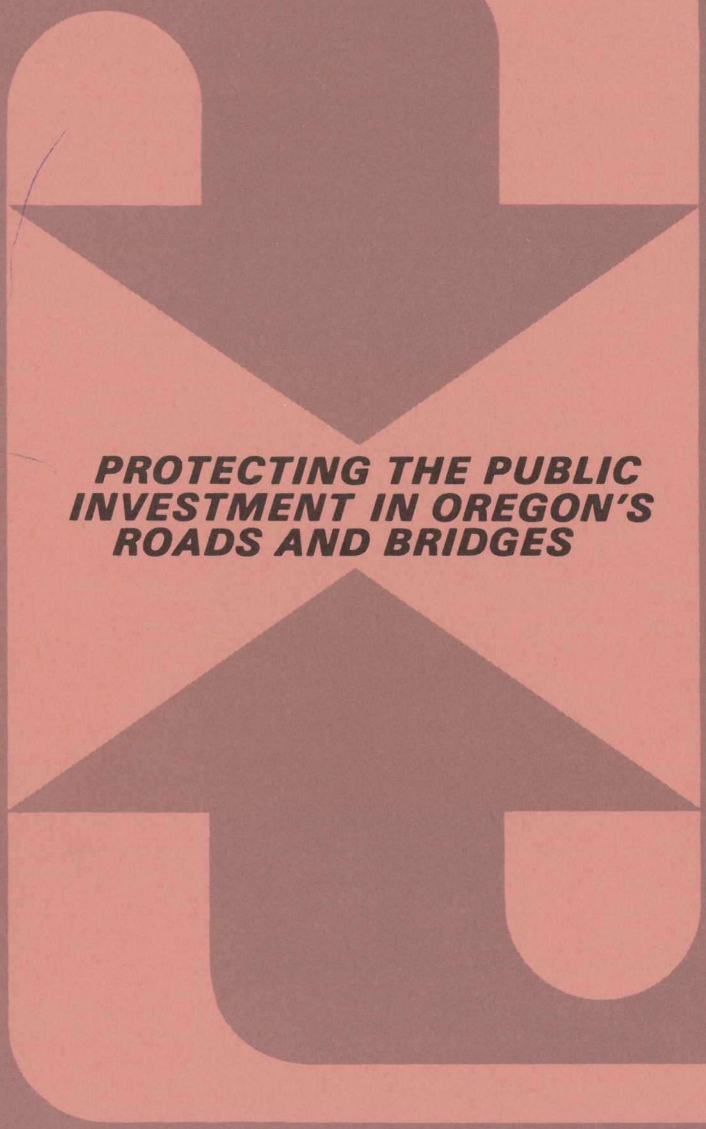
Making the Right Turn :



PROTECTING THE PUBLIC INVESTMENT IN OREGON'S ROADS AND BRIDGES

A joint study by the League of Oregon cities, Association of Oregon Counties, and the Oregon Department of Transportation

Prepared by
Price Waterhouse
DECEMBER 1986

MAKING THE RIGHT TURN:

PROTECTING THE PUBLIC INVESTMENT IN OREGON'S ROADS AND BRIDGES

Prepared for:

League of Oregon Cities
Association of Oregon Counties
Oregon Department of Transportation

Prepared by:

Price Waterhouse

in association with:
Don Barney & Associates, Inc.
DeLeuw Cather and Company
Government Finance Associates, Inc.

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EXECUTIVE SUMMARY

Oregon's biggest public investment is at risk. The aging system of roads and bridges operated by the cities, counties and the State of Oregon is deteriorating, more and more rapidly. Traffic exceeds capacity on many roads.

A backlog of essential maintenance and reconstruction work, deferred because of inadequate funding, is reaching significant proportions. Increasing use is taking its toll on many Oregon roads not designed or built to handle heavier traffic.

Help for roads from recent sessions of the State Legislature, and support from road users and local taxpayers, have braked this slide, making recovery possible.

Action now to build aggressively on this renewed effort will produce a regenerated, adequately maintained Oregon roads system by 2005, able to meet the capacity, design and safety demands of anticipated economic growth.

Without a major new commitment, the cost of keeping Oregon's roads safe and drivable will become an unacceptable burden for taxpayers and road users to bear by the turn of the century.

That's the choice and the challenge presented by a new assessment of Oregon's road system conducted jointly by the cities, counties and the State.

THE ASSESSMENT

The assessment is the most comprehensive ever made, for the first time surveying conditions of the complete range of roads and bridges, from freeways in Oregon's metropolitan areas to local roads in the state's rural counties.

More than 5,000 field samples of roadways in all 36 Oregon counties and over 225 cities were inventoried by consultants to provide a 90 percent confidence level in the data assembled for the assessment.

Three objectives were achieved:

- Survey present needs and forecast long-term system requirements on all state and local roads in Oregon;
- Evaluate the sources and adequacy of funding now available to cities, counties and the State to meet those needs;
- Develop a sound management strategy and financial plan.

THE RESULTS

1. Total road system requirements in Oregon over the next 20 years amount to an estimated $32-billion. The road system requirements in Oregon are of such magnitude that they must be met incrementally on a long-term basis.

2. More than $6-billion of the total is today's need to improve a backlog of substandard roads and bridges up to a modest standard for pavement condition, capacity and design.

3. One-third of Oregon's roads need repair and reconstruction now. Nearly 40% of roads in urban areas require immediate work.

4. Today the pavement condition of Oregon roads is generally fair. Pavement will be in poor condition on more than 75% of road miles in Oregon by the year 2005, given present levels and sources of road funding.

5. Nearly 30% of roads in urbanized areas of the state will be in congested condition by 2005 without an expanded funding effort.

6. Basic maintenance, critical to enhancing the life cycle of roads and bridges and avoiding costlier repair and reconstruction, has been severely restricted in recent years due to lack of funds. As much as 50% of the work has been deferred.

7. The cost of deferring maintenance and repair is significant. Postponing repair of pavement can mean the road will have to be completely reconstructed in a few years, at two to four times the cost.

8. Oregon motorists will face higher vehicle operating costs -- an extra three cents per mile -- by the late 1990's, to pay for repairs and other impacts if roads continue to deteriorate at present rates.

9. Estimated revenue from current sources at present levels to pay for needed improvements to Oregon's roads and bridges will fall far short of meeting the identified system requirements. Over the next 20 years, the gap between requirements and revenue is estimated at $21-billion.

10. Current revenue sources for roads are not promising.

    - State gas tax revenues are likely to remain flat with gasoline consumption predicted to decline.
    - At best, federal investment is expected to hold steady.
    - Competition for the local tax dollar will intensify.
    - Erosion of the purchasing power of the road dollar is expected to continue at about four percent a year.

THE ACTION PLAN

Based on these findings, the following recommendations are made to city and county elected officials statewide and the Oregon Transportation Commission:

1. Adopt the long-term plan which has emerged from this assessment, a plan for the cities, counties and the State that sets priorities for future road and bridge improvements and establishes coordinated work programs for the most cost-effective use of the road dollar.

2. Adopt the proposed program for implementing the first six-year segment of the plan (1987-1992), which focuses on basic maintenance requirements of all roads in Oregon, plus about half of repair and modernization (construction) requirements.

3. Seek approval of the implementation program from the 1987 State Legislature, requesting authority to raise an additional $1.1-billion in road user fees over the next six years to help fund the program by:

   - Establishing a state titling fee on new and used autos and light-weight trucks at the rate of two percent of the value of the vehicle at the time of title change, beginning in 1988;

   - Increasing the existing vehicle registration fee by $10 per year, beginning in 1988;

   - Increasing the state fuel tax and equivalent weight/mile tax by a total of two cents per gallon for each of the six years beginning in 1988. The initial request to the State Legislature is to approve the two cent increase for 1988 and 1989;

   - Establishing the distribution of these additional revenues on the basis of 50% to the State, 30% to the counties, and 20% to the cities, a formula which addresses both system requirements and road usage levels. Distribution of existing revenues would remain on the same basis as now provided.

4. Seek approval of the 1987 State Legislature for new authority to create a special account in the State Highway Trust Fund for a new program to enhance the state's economic development efforts through the improvement of urban arterials statewide. Provisions would include:

   - The target for funding the urban arterials program would be at a level of $22-million annually;

   - City, county and State arterial and collector roads within urban growth boundaries would be eligible;

   - Cities, counties and the State would jointly develop a priority setting process for projects to be funded.

5. Seek approval from the 1987 State Legislature of an additional road funding source for local governments to help meet costs of local roads and streets not covered by the state revenue package by:

   - Authorizing counties to enact, as a local option, an increase on the existing state vehicle registration fee. Revenue accruing from this source would be shared with cities.

6. Pursue the expanded use of funding tools available to local governments to help meet local road requirements, including:

   - Local dedicated road levies for roads;
   - Development and redevelopment fees dedicated to roads;
   - General fees and assessments;
   - Street user fees;
   - Local improvement districts;
   - Utility franchise fees;
   - Tax increment financing.

7. Urge the 1987 State Legislature to give serious consideration to the fiscal recommendations of the Oregon Transit Finance Study of 1986 to ensure that transit meets its responsibilities in carrying traffic as set out in regional transportation plans.

8. Periodically update the plan by a joint effort of cities, counties and the State which:

   - Charts progress and emerging system requirements;
   - Provides accountability to the State Legislature, road users and taxpayers;
   - Develops new strategies to address remaining unmet needs.

USE OF THE PROPOSED NEW FUNDS

- Continue and expand the state modernization program.
- Meet maintenance requirements for all types of roads in Oregon.
- Meet repair requirements for arterial and collector roads.
- Begin a new urban arterial program.
- Expand small cities allotment account.
- Contract with the private construction industry where the private sector can accomplish work most cost-effectively.

I. THE ASSESSMENT

A. A Landmark Effort

This is the first comprehensive assessment of Oregon's roads and bridges. It incorporates data and analysis provided by all Oregon jurisdictions responsible for roads about all functional classifications of roads -- freeways, arterials, collectors and local roads -- and about all categories of work necessary to preserve the statewide system.

The sponsors of this assessment -- the cities, the counties and the State of Oregon -- conducted the study with a sense of working cooperatively on a mutual problem, sharing responsibility and ownership of the results, and looking for solutions which benefitted all, not just some. The study is in response to a call from state legislators for detailed information on road needs and a long-term approach to funding those needs.

There are three objectives of the study:

- Make a comprehensive assessment of needs on all road systems in Oregon;
- Evaluate the revenue sources available to cities, counties and the state to meet these needs;
- Develop a long-term financing strategy that includes a specific funding proposal for presentation to the 1987 State Legislature.

Technical work was carried out by a consulting team headed by Price Waterhouse charged with team management and financial analysis; DeLeuw Cather and Company, which developed system requirements; Don Barney & Associates, responsible for policy considerations and final report; and Government Finance Associates, financing analysis.

The study was organized to include a policy committee, composed of representatives of each of the jurisdictions and chaired by Tom Walsh of Portland. This committee set policy direction for the study and reviewed results of a steering committee's work. The steering committee, representing technical staff from each jurisdiction level, guided the work of the consultants.

Introduction of data and judgment has been structured to assure a basis for fair comparisons, solid analysis and development of models and evaluation measures that can be utilized in the future to increase cost effectiveness and public accountability in the use of road financing resources.

Participants consistently applied a conservative approach, paring down preliminary needs into essential priorities, applying modest design and engineering standards, and relating to the political realities of limited public resources and resistance to increased fees and taxes.

The participants reached consensus after vigorous discussion. They recognize that road users, taxpayers and elected officials must join in that consensus for successful implementation of the study results.

B. Plan Development: Step-by-Step

1) System Data.

Step 1: To begin physical assessment of roads system requirements, field research was conducted by inventory crews which followed an approved needs methodology. Features of this methodology included:

- Standard presentation of needs by:
  - jurisdiction: cities, counties and the State, with cities stratified by rural, small urban and urbanized;
  - functional classifications: interstate, principal arterial/expressways, minor arterial, major collector, minor collector and local road/streets;
  - work category:* operation and maintenance (O&M), such as pothole patching and roadside maintenance; repair and preservation (R&P), such as resurfacing; and modernization, or construction and expansion (C&E), including reconstruction to widen roads and improve alignments.
- Time periods delineation, consisting of present requirements (backlog) and future requirements up to the year 2005.
- Roadway samples, utilizing roadway geometric and condition data from the nationally utilized Highway Performance and Monitoring System (HPMS). A total of 5,165 samples of roadways were taken. Some 4,000 new samples were taken in the field in all 36 Oregon counties and over 225 cities to provide a 90 percent or better confidence level in the data assembled for the assessment. In addition, inventory crews also performed assessment and validation of existing state HPMS sample sections.

Step 2: HPMS computer program assessed the needs of each road sample and measured performance and condition for the 20-year period ending in 2005. In the analysis model, traffic grows, pavements deteriorate, and deficiencies are identified. Road improvements are selected and costed year-by-year.

Step 3: Bridge requirements were developed, utilizing the Oregon Structure Inventory and Appraisal System. Improvement types, such as repair, rehabilitation and replacement, were established and unit costs developed for each type of bridge.

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* See Glossary.

Step 4: Operation and maintenance requirements were developed from historical expenditures and adequacy of maintenance service levels. ODOT and several counties and cities utilize maintenance management programs which quantify service levels for specific maintenance work activities. The current maintenance service levels on Oregon roads maintained by the Oregon Department of Transportation are 80 percent of desired levels. An 80 percent target level for operations and maintenance was adopted for all roads in the state.

Step 5: Key factors were established to reflect realistically Oregon conditions. These factors included tolerable conditions and service levels, design standards, and unit costs. The standards are at the lower end of the range recommended by the American Association of State Highway and Transportation Officials (AASHTO).

2) Financial Considerations.

Step 6: In developing the financial analysis, historical funding levels among jurisdictions and revenue flows of individual revenue sources within jurisdictions were obtained from trends at the federal, state and local level over the past 5-10 years. The Oregon Dept. of Transportation's local government road surveys were used to develop this data, supplemented by study results from 26 counties and 31 cities and data from the State Treasurer's Office and the University of Oregon's Bureau of Governmental Research and Service.

Step 7: Projected revenue flows by jurisdiction and source were estimated for the 19-year period ending in 2004. Estimates of federal funding levels are expected obligation levels. State estimates are net of administrative collection fees. County and city estimates are net of any dedicated allocation to other programs, such as schools in the case of National Forest Reserve Rentals. In determining these estimates, Oregon Executive Dept. forecasts were utilized, as well as additional expert resources of Price Waterhouse's Washington, D.C. office and independent timber revenue experts. Factors which may have an impact on the stability of revenue projections were analyzed.

Step 8: Potential for additional revenue sources were then explored, including:

- Capacity of current sources, such as gasoline tax and vehicle registration fee;
- Revenue sources utilized by other states and local jurisdictions but not yet applied in Oregon, such as a vehicle titling fee;
- Alternative financial sources, such as debt financing;
- Local government sources now authorized but perhaps underutilized, or requiring new authority from the State Legislature.

Step 9: Expenditure patterns at the state and local level for roads in Oregon during the past 10 years were analyzed.

Step 10: An inflation rate was introduced into financial calculations, using a range for two groups of road work: operations and maintenance (O&M); repair (R&P) and reconstruction (C&E). The range for O&M varied from a long-term estimate of 5.5-6.0% to a short-term estimate of 3.9%. The range for R&P and C&E varied from a long-term estimate of 7% to a short-term estimate of 4.4%.

3) System Requirements.

Step 11: System requirements were identified and costed, using this approach:

a. Before any samples were taken, the consultant and the study steering committee began by agreeing on definitions of minimum conditions. Any road sample that did not meet minimum condition would indicate a system requirement.

b. The consultant and the steering committee established the definition of a design standard, the level to which any system requirement would be improved.

c. Estimated costs were set for each type of improvement on each type of road to bring a system requirement up to design standard.

d. Then the 5,135 samples were taken. Conditions of roads that were examined for possible system requirements included:

- access control
- number of lanes
- lane width
- median type
- median width
- shoulder type
- shoulder width
- surface type
- surface condition
- drainage adequacy
- volume/capacity ratio
- operating speed

e. System requirements were then determined. For example, if a two-lane, urban collector road was found to have a lane width of 10 feet, that represented a system requirement, because the agreed minimum condition for that type road's lane width was 12 feet. This kind of improvement would not be scheduled until pavement deterioration triggers a need for repair work. Future system requirements that would emerge over the next 18 years were also identified.

f. Data from the samples was extrapolated to the full 42,500 miles of road owned by the sponsor jurisdictions. The identified system requirements were then costed out, using the estimated costs per type of improvement agreed to earlier.

4) Implementation Strategy.

Step 12: A plan for addressing the system requirements between now and 2005 was developed. The total universe of road requirements, both emerging needs and the backlog of substandard roads, was identified.

Step 13: A program of work was developed from this universe for the first six-year period, based on priorities set by the steering committee. The priorities are addressing a modest portion of the backlog of substandard roads, sustaining the state modernization program, meeting maintenance and repair requirements on all Oregon roads, and repair requirements on arterial and collector roads.

Step 14: Financing of the work program for the first six years of the plan (1987-1992) was then analyzed. The consultants worked with these assumptions:

- Existing and added revenue combined would probably not meet the total requirements for the six-year period;

- Local governments would accept responsibility for financing reconstruction of local streets and roads from local revenue sources;

- Existing sources are the most likely for raising additional road revenues at the state level.

Step 15: A package of added revenue sources at both the state and local level was identified which the participants deemed fiscally and politically responsible. With these new revenues, about 60% of the priority system requirements in the six-year program would be met.

Step 16: An appropriate formula for the distribution among cities, counties and the State of any additional road revenue from state taxes or fees was determined at 50% State, 30% counties and 20% cities. Several considerations were made:

- Existing formulas. The initial distribution formula still applying to the first ten cents of current state fuel taxes is 68% to the State, 20% to counties and 12% to cities.

  Under the program approved in 1985, the distribution formula for the two cents in state fuel tax is 50% to the State, 30% to counties and 20% to cities. This formula would also remain in place.

- Total unmet system requirements. This study identified that in the gap between total system requirements of the next 20 years and estimated available revenue (without added revenues), the State would only meet 64% of its requirements, the counties 32% and the cities 28% (See Table 4)

- Usage; traffic levels. One estimate made by the State indicated that roads under state jurisdiction carry 61% of total traffic, counties 21% and cities 18%, while state roads carry 69%, counties 18% and cities 13% of the ton miles on Oregon roads.

Note: New Roads. Construction and improvement requirements of collectors and arterials are included in this study. The Highway Performance Monitor System (HPMS) model calculates projected growth and registers the need for widening, realigning and other improvements to accommodate traffic, service levels, etc. The model cannot create new roads, but it can anticipate the demand on existing roads and project a capacity improvement to meet demand. Projected economic growth yields increased demand and subsequent capacity improvements.

The study does not include directly the construction requirements or revenues associated with new local roads. It is assumed that new local roads are the responsibility of the developer, local property owner and local jurisdiction.

II. OREGON'S ROADS INVESTMENT AT RISK: Results of the Assessment

Key Findings.

A. Road System Requirements

1. Total road system requirements in Oregon over the next 19 years amount to an estimated $32-billion.

2. Of those requirements, $6.5-billion exist today, representing roads and bridges in substandard condition. This is a backlog of deferred work set aside because of inadequate funding. These roads are deficient in physical condition, service level or design standard.

   - One-third of Oregon's roads need repair and modernization now.

   - 40% of roads in urban areas require immediate repair and preservation work.

3. The $6.5-billion cost of today's backlog of substandard roads will rise to $7-billion by 1990 and $16-billion by 2000 if not addressed up front.

   - A modest standard is proposed. The goal set in this assessment would bring Oregon's substandard roads up to minimum or adequate pavement condition, capacity and design.

4. Operations and maintenance (O&M) work, critical to enhancing the life cycle of roads and bridges, has been significantly underfunded in Oregon due to limited fiscal resources.

   - In the past three years, Oregon cities have been able to budget for only two-thirds of their O&M surface work requirement. Oregon counties have deferred as much as half of such work. The State has met 80% of its need.

5. Modernization of roads will remain a priority requirement. A State modernization program is currently being implemented at the rate of $40-million annually. This program will terminate after five years under present funding levels, and would require an additional five years revenue to sustain.

6. The cost of postponing necessary repair and preservation work now can mean paying significantly more later for reconstruction of the road to maintain minimum standards:

   - Placing a new overlay on a typical arterial road in a rural Oregon area to preserve its use today costs some $356,000 per mile. If that road is allowed to deteriorate so that reconstruction is required, the cost jumps to $775,000 per mile.

   - In an urban area of the State, the cost on a typical arterial road in an urban area of the State goes from $590,000 per mile for repair with an overlay to $1.3-million per mile for reconstruction.

7. Oregon's road users face rapidly escalating costs to their vehicles given status quo funding of roads.

   - Most roads would rapidly decline from fair condition now to poor condition during the next 20 years. Nearly 30% of roads in urbanized areas would be congested during peak hours by early in the next century.

   - The repair costs of operating vehicles on roads in poor condition is typically three to four cents a mile higher than on adequate roads, according to national studies.

B. Funding the Requirements

1. Estimated revenue from current sources at present levels to pay for total needed improvements to Oregon's roads and bridges will fall far short. Over the next 19 years, the gap between requirements and revenue is estimated at $21-billion.

2. The road system requirements in Oregon are of such magnitude that they must be met incrementally on a long-term basis.

3. Current revenue sources for Oregon roads are not promising.

   - A key factor is the anticipated combination of modest growth over the next 20 years in vehicle registration and miles traveled in Oregon (two percent annually) with slight decline in gasoline consumption (due to increased fuel economy of the fleet), signalling stagnation in state fuel tax receipts.

- Federal investment levels in other state and local roads are expected to hold steady, subject to any effects of Gramm-Rudman-Hollings.

- Local governments have significantly increased their participation in paying for roads through use of special assessments, fees and property taxes, but face growing pressure to support other public services as overall federal assistance declines.

4. The impact of inflation in the construction industry has cut the purchasing power of the road dollar by 70% during the past decade. The erosion is expected to continue.

5. Closing the gap between requirements and revenue is a responsibility of both road users and local taxpayers.

   - Road users statewide are the beneficiaries of improvements to road system collectors, arterials and other higher usage roads.

   - Local residents are the chief beneficiaries of local roads and streets improvements.

6. It is reasonable to increase road user fees collected in Oregon.

   - Oregon is at the low end among western U.S. states on the level of road fuel taxes levied, and at the bottom rung of vehicle registration fees set.

   - Oregon does not have road revenue sources that grow with the effect of inflation, as do 12 other U.S. states.

7. Transit will need new State financial assistance to meet its responsibilities in carrying traffic, according to the Oregon Transit Needs Study of 1986.

III. THE ACTION PLAN: Confronting the $32-Billion Challenge

A. Recommendations for Implementation

Based on the findings of the assessment, the following recommendations are made to city and county-elected officials statewide and to the Oregon Transportation Commission:

1. Adopt the long-term plan which has emerged from this assessment, a plan for the cities, counties and the State to set priorities cooperatively for future road and bridge improvements and to coordinate work programs for the most cost-effective use of the road dollar. The components of the plan for the future 19-year period are:

   - Total road system requirements, identifying the type of road and bridge work to be accomplished by jurisdictions responsible for implementing the work. (Table 1)

   - Total road mileage in backlog, representing roads in substandard condition and identified by functional classification of roads. (Table 2)

   - Estimation of the shortfall between estimated cost of system requirements and estimated available revenue, based on current funding sources projected for the period. (Table 3)

   - The work program for the first six-year segment of the period representing priority backlog and emerging requirements to be addressed. This program will estimate the impact of current funding sources and any proposed new or expanded sources, and will identify the scope of any requirements which will go unmet because of limited revenues. (Table 4)

   - Fiscal impact of proposed new road revenue sources for the period. (Table 5)

TABLE 1

OREGON ROADS FINANCE STUDY
ROAD SYSTEM REQUIREMENTS: 1987-2004
(millions of dollars)

	STATE	COUNTY	CITY	TOTAL
Operations & Maintenance	$ 2,602	$ 2,878	$ 1,892	$ 7,372
Repair & Preservation	3,935	3,874	1,361	9,170
Construction & Expansion	2,334	1,092	586	4,012
Backlog	3,901	5,947	2,017	11,865 1)
Total	$12,772	$13,791	$ 5,856	$32,419

Assumptions:

1) Current backlog of $6.5-billion is accomplished evenly over the period.

Note: Inflation rate generally applied is mid-point between long-term estimate (approx. 7% for R&P and C&E, and 5.5-6.0% for O&M) and short-term estimate (4.4% for R&P and C&E, and 3.9% for O&M).

TABLE 2

MILES OF BACKLOG BY FUNCTIONAL CLASS OF ROADS

Class	Total Miles in System	Backlog: Repair & Preservation		Backlog: Construction & Expansion	
		Miles	% of Total Miles	Miles	% of Total Miles
Rural					
Interstate	596	0	0%	0	0%
Major Arterial	2265	649	29%	452	20%
Minor Arterial	2853	736	26%	375	13%
Major Collector	8274	1220	15%	885	11%
Minor Collector	4050	271	7%	800	20%
Local Roads	6791	821	12%	382	6%
Total Rural	24829	3697	15%	2894	12%
Urban					
Interstate	142	0	0%	21	15%
Expressway/ Freeway	56	22	39%	7	13%
Major Arterial	650	175	27%	42	6%
Minor Arterial	1024	186	18%	111	11%
Collector	1069	354	33%	40	4%
Local Roads	4708	2144	46%	33	1%
Total Urban	7649	2881	38%	254	3%

Note: 1) Backlog is the existing requirements on roads for R&P and C&E work identified during the study.

2) Unpaved roads are not included.

TABLE 3

THE ROADS FUNDING GAP (1987-2004)
(millions of dollars)

	State	County	City	Total
System Requirements	$12,772	$13,791	$ 5,856	$32,419
Current Revenue Sources	6,385	3,234	1,465	11,084
Shortfall	$ 6,387	$10,557	$ 4,391	$21,335

ASSUMPTIONS:

1. System requirements are based on tolerable and design standards outlined in Deleuw Cather Phase I Road Needs Report (see Appendix A).

2. Inflation assumptions for the period were based on projections by Data Resources, Inc., Lexington, Mass., July, 1986. The O&M inflation factors range from 3.9%- 6.0%. O&M projections are based on DRI's calculations utilizing the Implicit Price Deflator for personal consumption expenditures. R&P and C&E projections are based on DRI's calculations utilizing the Implicit Price Deflator for New Public Construction. The R&E and C&E factors range from 4.4% to 7%.

TABLE 4

ROADS SYSTEM TARGET PROGRAM: 1987-1992
(millions of dollars)

Requirements	STATE	COUNTY	CITY	TOTAL
Operations & Maintenance	$ 641	$ 709	$ 466	$1,816
Repair & Preservation	1,144	1,091	945	3,180
Construction & Expansion	1,395	1,189	187	2,771
Total	3,180	2,989	1,598	7,767
Revenue Estimates				
Current Sources	$2,021	$ 950	$ 447	$3,418
New Revenue				
Gasoline	281	169	112	562
Vehicle Registration	54	32	21	107
Title Fee	230	138	92	460
Total	$2,586	$1,289	$ 672	$4,547
Unmet Requirements (Requirements minus revenue)	$ 594	$1,700	$ 926	$3,220

Note: This table is based on a prioritized program, identified by the study Policy Committee and described in (1) below. It is not the same as the requirements identified in Table 1, but it describes the program for addressing Table 1's priority requirements during the first six years.

1) The requirements have been presented with the backlog addressed before emerging needs. Therefore, the first six year period contains all backlog needs (R&P and C&E) except those relating to C&E on local roads. C&E on local roads is assumed to be the responsibility of local jurisdictions and/or property owners. O&M needs are included.

Table 4 Notes (continued)

All emerging needs which are generated during this period are assumed to be deferred until the next six-year period. Those needs are expected to total $2,316 million for the state, $1,373 million for the Counties, and $467 million for the cities.

2) Inflation assumptions for the period were based on projections by Data Resources, Inc., Lexington, Mass., July 1986. The O&M factors reflect the low end of a range of projections varying from 3.9-6.0%. The R&P and C&E projections reflect the low end of a range from 4.4% to 7%.

3) The requirements are assumed to be addressed evenly over the six-year period.

TABLE 5

REVENUE ESTIMATES (1987-2004)

(millions of dollars)

PERIOD	STATE	COUNTY	CITY	TOTAL
Current Sources	$6,385	$3,234	$1,465	$11,084
New Revenue				
Gasoline	2,067	1,240	827	4,134
Vehicle Registration	205	123	81	409
Title Fee	1,244	747	498	2,489
Subtotal	$3,516	$2,110	$1,406	$ 7,032
GRAND TOTAL	$9,901	$5,344	$2,871	$18,116

Assumptions:

(1) County and City revenue estimates are net of funds dedicated to local Construction and Expansion activities.

(2) New revenues are allocated, State 50%, Counties 30%, and Cities 20%.

2. Adopt the proposed program for implementing the first six-year segment of the plan, which focuses on the $7.7-billion of highest priority system requirements:

   - 80% of basic maintenance requirements of all roads in Oregon.
   - About 50% of repair and modernization (construction) requirements identified in the backlog.
   - Urban arterials, which would be prioritized under a new urban arterial improvement program.

3. Seek approval of the implementation program from the 1987 State Legislature to raise an additional $1.1-billion in state-collected road user fees over the next six years to help fund the program by:

   - Establishing a state titling fee on new and used autos and light-weight trucks at the rate of two percent of the value of the vehicle at the time of title change, beginning in 1988.
   - Increasing the existing annual vehicle registration fee by $10, beginning in 1988.
   - Increasing the state fuel tax and equivalent weight/mile tax by a total of two cents per gallon for each of the six years, beginning in 1988.

   This package sets a balance between fees derived from use of the roads system, and fees for the right to use the system.

4. Seek approval of the 1987 State Legislature of the plan for distribution of the added revenues on the basis of 50% to the State, 30% to the counties and 20% to cities.

   - Distribution of existing state road revenues would remain on the same basis as now provided.

5. Seek approval of the 1987 State Legislature to create a new urban arterial program under the State Highway Trust Fund. Provisions would include:

   - The target for funding the urban arterials program would be at a level of $22-million annually.
   - State, county and city arterials and collectors within urban growth boundaries would be eligible.

- Cities, county and the State would jointly develop a priority setting process for projects to be funded under this program.

- The small city allotment program would be increased to $1-million.

6. Seek approval from the 1987 State Legislature of an additional road funding source for local governments to help meet costs of local roads and streets by:

   - Authorizing counties to enact, as a local option, an increase on the existing state vehicle registration fee. Revenue accruing from this source would be shared with cities.

7. Pursue the expanded use of funding tools available to local governments to help meet local road requirements, including:

   - local dedicated road levies for roads
   - development and redevelopment fees dedicated to roads
   - general fees and asessments
   - street user fees
   - local improvement districts
   - utility franchise fees
   - tax increment financing
   - local gasoline taxes

8. Urge the 1987 State Legislature to give serious consideration to the fiscal recommendations of the Oregon Transit Needs Study of 1986 to ensure that transit meets its responsibilities in carrying traffic as set out in regional transportation plans.

   - Special attention should be given to the role transit plays in the Portland metropolitan area in supplementing the capacity of the roads network in that region and thereby avoiding additional roads expenditures.

9. Maintain the plan in a joint effort by cities, counties and the State which charts progress and emerging system requirements, provides accountability to the State Legislature, road users and taxpayers, and develops new strategies to address remaining unmet needs.

   - Every two years, evaluate progress by development of a surface or pavement condition inventory, and by a summary of road and bridge improvements initiated during the biennium.

   - Every six years, update the system requirements and financing program, identifying additional sources of funding that may be needed to meet requirements.

B. Proposed Use of Additional Revenues

Cities, counties and the State reached this consensus on use of any additional roads funding:

1. A top priority in use of new funds would be continuation of the state modernization program now being implemented annually but not to be sustained after 1990 without added road revenue.

   The State views this program as key to keeping up high-usage roads essential to economic development efforts. Attention would be given to the backlog of state roads and major bridges requiring construction and replacement.

2. Another top priority would be given to a management strategy that covers maintenance needs for safety and preservation of the roads system. Basic improvements, such as surface and shoulder rock, seal coatings and drainage maintenance are identified. Spot safety improvements on all functional classes of roads would be made, and pavement preservation, such as structural overlays of existing pavements, would be conducted.

3. Some urban counties would emphasize new basing and surfacing (reconstruction) of existing deficient county roads where traffic volumes and weights justify the expenditure. Beyond this, construction is proposed to relieve congestion, as well as existing roads now or soon to be below minimum standard.

4. Beyond operations and maintenance, cities would plan repair and preservation activity. Limited capital improvements are foreseen at this level.

5. The urban arterial program would be implemented as funding is available.

6. The small cities allotment account would be expanded.

7. Where the private sector can accomplish work most cost-effectively, work will be carried out by the private construction industry.

IV. BACKGROUND

A. The Road Taken

1) An Aging Investment.

The last two decades have been years of change in the history of Oregon's system of roads and bridges. The age of the system moved into a period when:

- preventive maintenance became essential to avoid costly reconstruction;
- the use of the system rose significantly;
- road revenue increases at the state level were limited;
- state-collected road revenues declined in real terms due to inflation;
- local governments increased spending of general fund dollars in an effort to keep up their roads.

The average age of the road system in Oregon is 40 years or older among roads not on the interstate system. Age coupled with increased use imply the future need to both preserve and reconstruct the system.

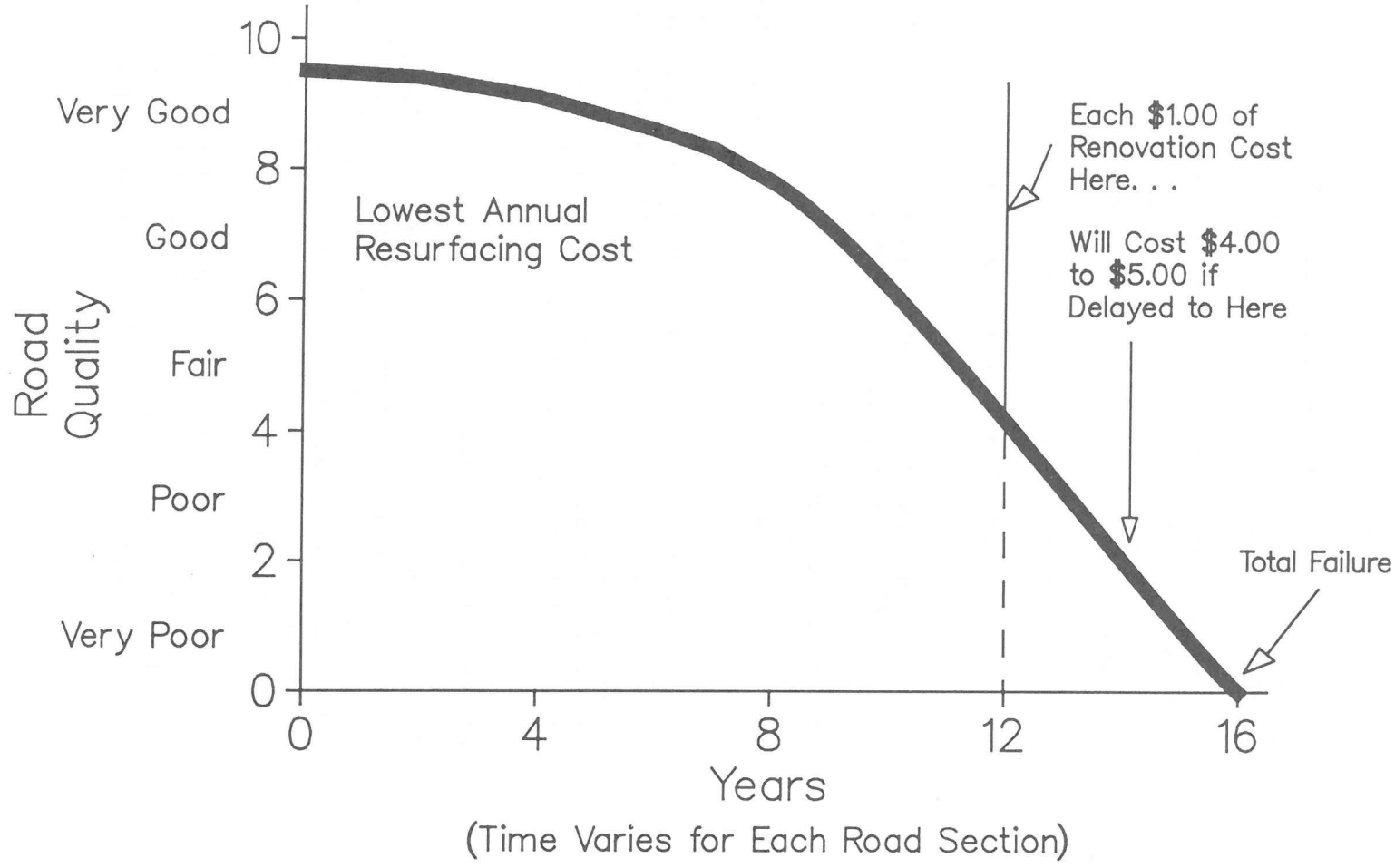
Regular preventive maintenance can prolong the life of a road. But if care is deferred, a road will steadily deterioriate over a span of 15 to 30 years. There is a critical period toward the end of the road lifespan when the deterioriation process accelerates. At that stage, the road can reach a point in three to five years where it is no longer repairable and costly reconstruction is the only option. (Figure 1)

2) Financial Difficulties.

From a financing perspective, Oregon lost ground in the 1960's and 1970's, inadequately financing and preserving its roadway system and related investment (Figure 2). The net result was that maintenance, repair and modernization was deferred, resulting in growth of a backlog of work as well as a need to face higher costs and increased revenue resources in the future.

The system required significantly more financial help for preservation, due to age, and modernization and repair due to use. For example, between 1968 and 1978, the number of autos and light trucks in operation on Oregon roads rose 68%, and miles travelled increased 59%.

The Cost of 'Timely' Maintenance



Source: "The Hole Story"; American Public Works Association., 1983.

Figure 1

History Of Financing Roads In Oregon

	AREA / PROGRAM EVENTS	1900	1910	1920	1930	1940	1950	1960	1970	1980
	PROGRAM EVENTS		o Highway Dept. bond Program Created o Federal Post and Aid Programs		o Secondary System Created o Highway and Accidents Funds Created	o Highway Trust fund Created	o Interstate system Aid Created			o Constitutional Amendment to Remove Police and Parks from Road User Fund
TAXES	LEVIES	o 10 Mill County Roads o Special Assessment Districts Created	o 1/4 Mil Statewide Property Tax o Federal Maturity Created	o 1 Mil Statewide Property Tax for Counties	o 1 Mil Statewide Tax for Secondary Roads					
TAXES	FUEL		o $.01 fuel Tax Enacted	o Fuel Taxes Increases from $.02 to $.04	$.05 Fuel Tax Enacted	o $.06 Fuel Tax Enacted		o $.07 Fuel Tax Enacted	o Legislature Passed but Referred One $.06 and two $.09 Measures	o Legislature Passes $.08, .09, .10, .11 and .12 increases
TAXES	MOTOR CARRIER			o Ton Mile and Passenger Mile Taxes Enacted	o Weight Mile Tax Instituted	o Log Trucks Flat Fee Option	o Weight-Mile Taxes Increased 28 to 58,000 and Reduced > 58,000 lbs.	o Sand & Gravel Trucks Flat Fee Option	o Legislature Passed but Referred Three Increase Measures	o Legislature Increases Taxes to Maintain Cost Responsibility
TAXES	USE FUEL					o $.05 Use Fuel Enacted – Diesel Exempted & Gas Credit for Weight Mile			o Legislature Passed but Refered one $.06 and Two $.09 Measures	O Legislature Passes $.08, .09, .10, .11 & .12 Increases
FEES	REGISTRATION	o $3 One Time State Registration Fee Authorized	o Annual Registration Horsepower Base o Trunk Capacity Fee o Auto Fee Increased	o Truck Registrations Tire Width and Auto Weight	o Auto $5 Flat Pickup $10 but Eliminated	o Truck Registration, Flat $5 and Changed to Weight o Auto increased to $10	o Truck Reduced and Changed to Cross Weight		o Auto Fee $20 Biennial	
FEES	LICENSE		o Chauffer License Fee Created o Driver License – No Fee	o Driver Licenses Fee Increases $.25 to $1	o Driver License increased $.50 for Accident fund		o Driver License increase by $1.50		o Driver License Increased to $4 and then $9	
	APPORTIONMENT		o All Registration Allocated to Counties Change to 1/4	o Counties Allocated 1/2 Motor Carrier Taxes	o 1 Mil County Tax Repealed o Counties Receive Flat $1.6 Mil Per Year	o County Allocation Increased from 15.7 to 19% o Cities Allocated 5% Above $11 Mil		o County Allocation 20% o City Allocatiuon 12%	o County Allocation Increased tp 20.07% o City Allocation Increato 12.17%	
	VOTER REFERRALS		o Poll Tax Repealed	o Statewide Property Tax Approved o $.03 to $.05 Fuel Tax Defected	o Statewide Property Tax for Counties Repealed		o Weight-Mile Tax Increase Approved 2 to 1		o Voter Reject Two Mass Transit Proposals and $.06 and $.09 fuel, Use Fuel, weight Mile Proposals	O Voters Approve Removal of Police & Park Responsibility O Voters Reject Registration Fee Increase of $10

Figure 2

During the 1960's and 1970's, the state fuel tax and weight/mile equivalent was raised by one penny per gallon, with voters rejecting further revenue-raising efforts.

The 1970's was a period of high inflation, on average at seven percent annually during the decade.

A description of the principles of road financing in Oregon in recent years can be summarized as follows:

- State government. Financing has been based entirely on user fees, including fuels tax, equivalent weight/mile tax and vehicle registration fees. The governing principles are: pay-as-you-go with road user fees paying for state road needs, "cost responsibility" among types of users by class of vehicles, and dedicated taxes for types of road work.

- Local government. Roads financing at the local level was originally based on property taxes, then included timber harvest receipts for counties, and a share of state-collected taxes for cities and counties. More recently, local governments have instituted sharing in roads costs by developers and adjacent property owners, introduced local road user taxes in some jurisdictions, and returned to a major use of property taxes.

3) Into the Eighties.

The early 1980's were a time of changing fuel prices and increased fuel efficiency that brought motor fuel consumption in Oregon from a recent high of 1.4-billions of gallons in 1978 to average annual levels of 1.25-billion in the 1980's, with forecasts for the future indicating a continued decline (See Figure 3)

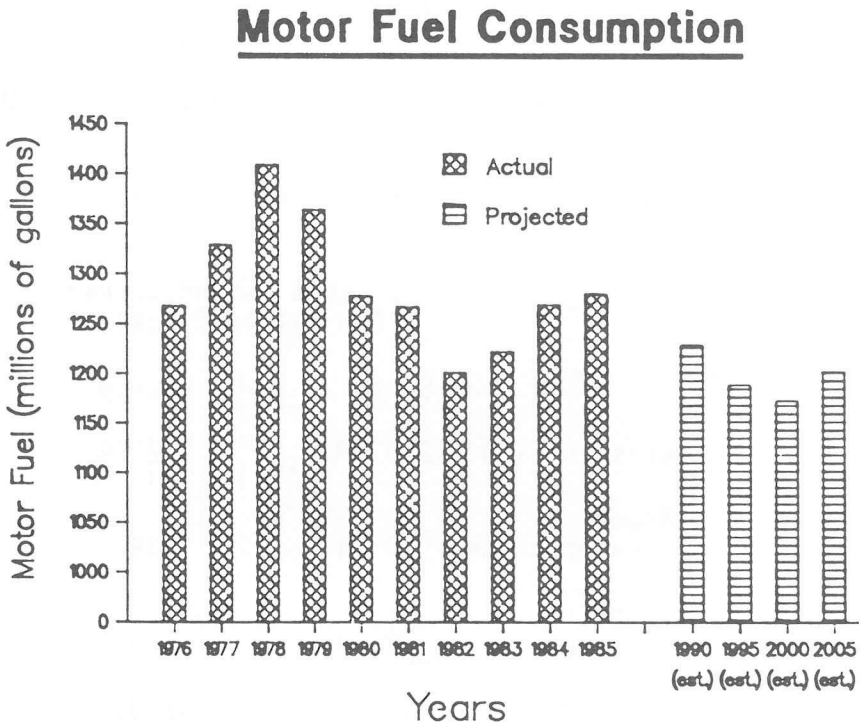
State-collected revenues for roads were flat in the early 1980's, at around $200-million annually between 1978-1982. Some relief in pressure on the state highway trust fund was provided by the Legislature when state police and parks operations were removed from fund support.

The Legislature in the early 1980's recognized the growing need and authorized fuel tax/weight-mile tax increases, moving up from seven cents to twelve cents.

Total local revenues raised for roads at the county level rose nearly fivefold from $10.8-million in 1977 to $52.4-million in 1984. During this time, local road user taxes were introduced in Multnomah, Washington and Union counties, and several cities.

At the city level, the increase was more than double, from $23.1-million in 1977 to $55.6-million in 1984.

FIGURE 3



Source: Oregon Depatrment Of Transportation

4) Current Status.

a. Jurisdiction responsibility. The system of 42,500 miles used for this study covers all roads under the jurisdiction of the State, counties and cities in Oregon. The remainder of roads in the state are the responsibility of the federal government or private owners.

The breakdown is as follows:

	State	County	City	Total
Interstate	738	-	-	738
Arterial	5,235	1,076	789	7,100
Collector	1,692	12,012	872	14,576
Local	-	14,743	5,358	20,101
Total	7,665	27,831	7,019	42,515

b. Road expenditures. A summary of road expenditures in 1984, the most recent year of data for all three jurisdictions, shows:

1984 Expenditures*
(in millions dollars)

	State	County	City
Construction	$169.9	$ 23.4	$ 30.2
Repair & Preservation	57.4	39.6	12.1
Operation & Maintenance	86.8	80.0	51.1
Total	$314.1	$143.0	$ 93.4

Over the previous five years, levels for each of the jurisdictions averaged around the 1984 levels.

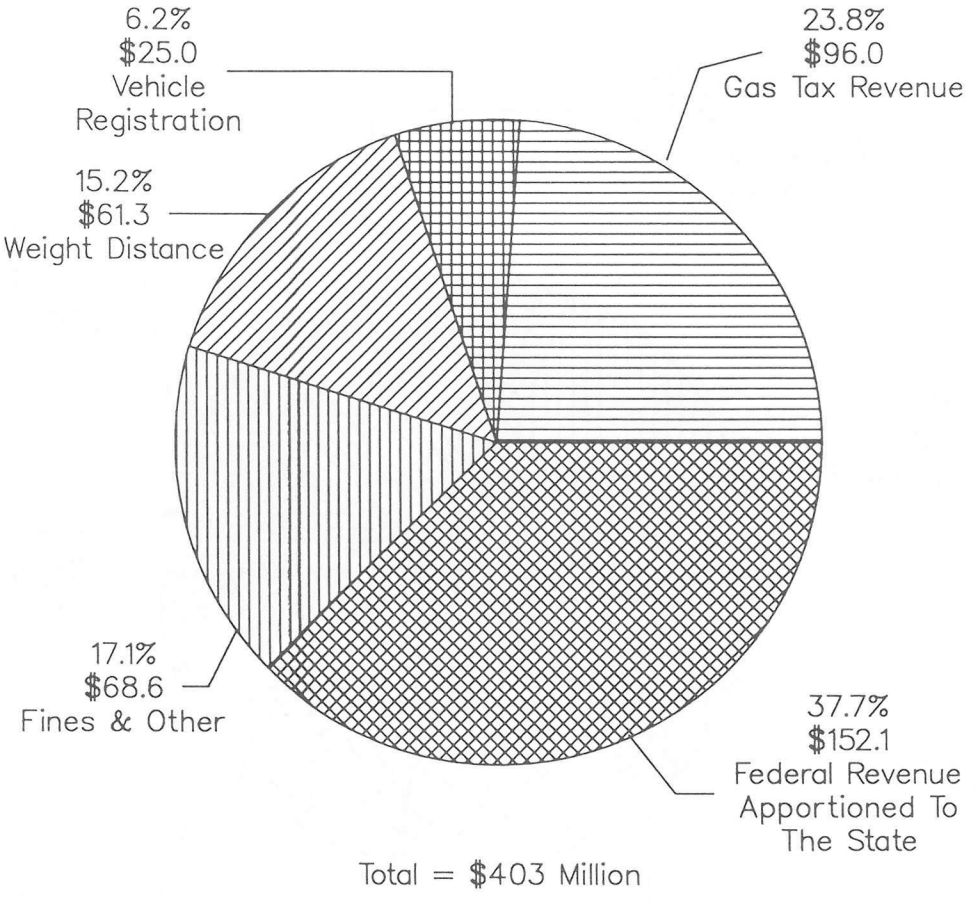
c. Roads financing. A summary of revenue sources in 1984 by jurisdictions in Oregon is shown in Figures 4, 5 and 6.

* These expenditures were extrapolated from a limited number of jurisdictions surveyed. The estimated expenditures do not account for beginning and ending balances, and carryover attributed to differences between federal and local fiscal years. Debt service is not included.

FIGURE 4

State Revenue Sources* – 1984

(Millions)



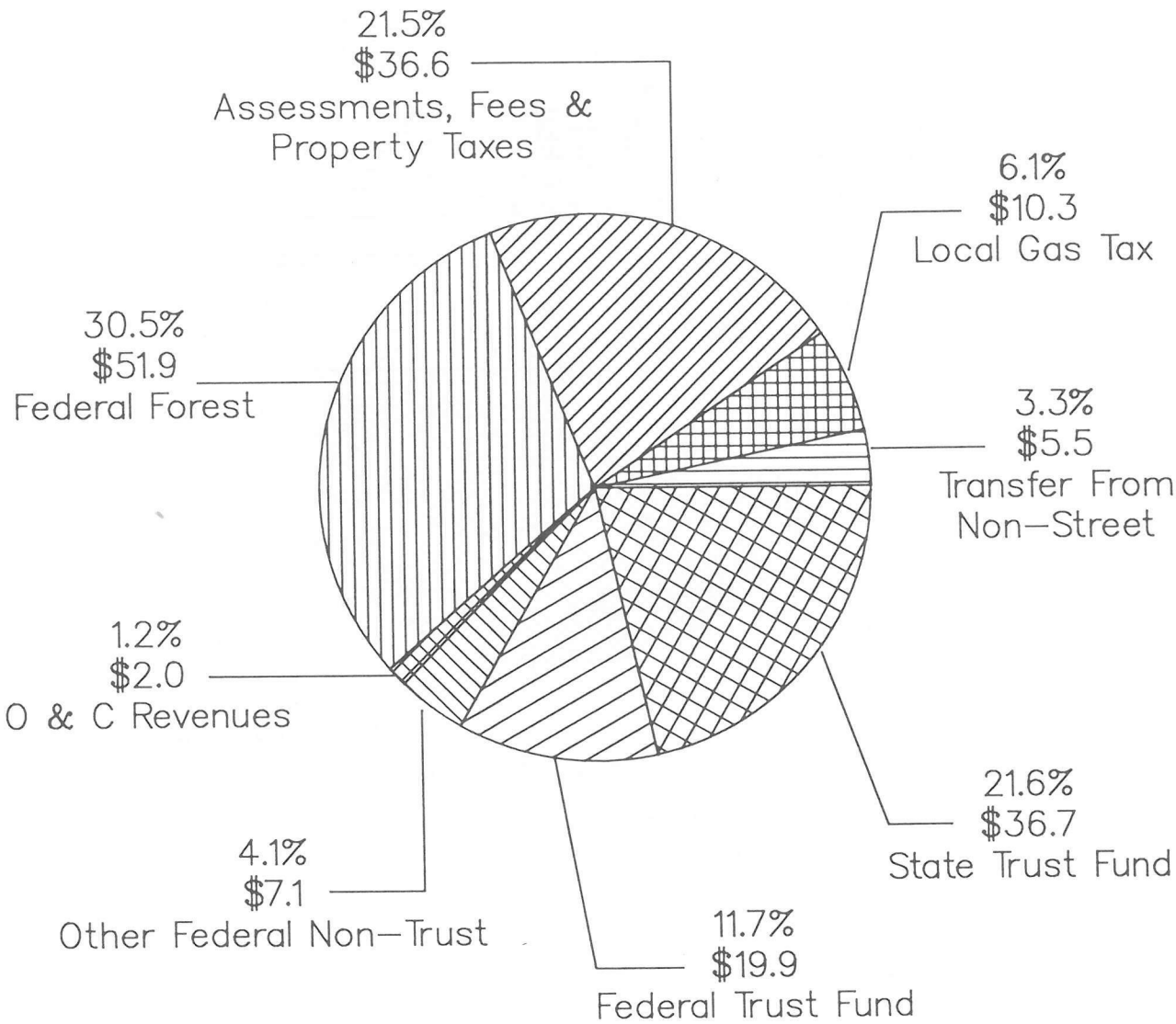
Total = $403 Million

* Before Transfers To Counties And Cities

FIGURE 5

County Revenue Sources – 1984

(Millions)

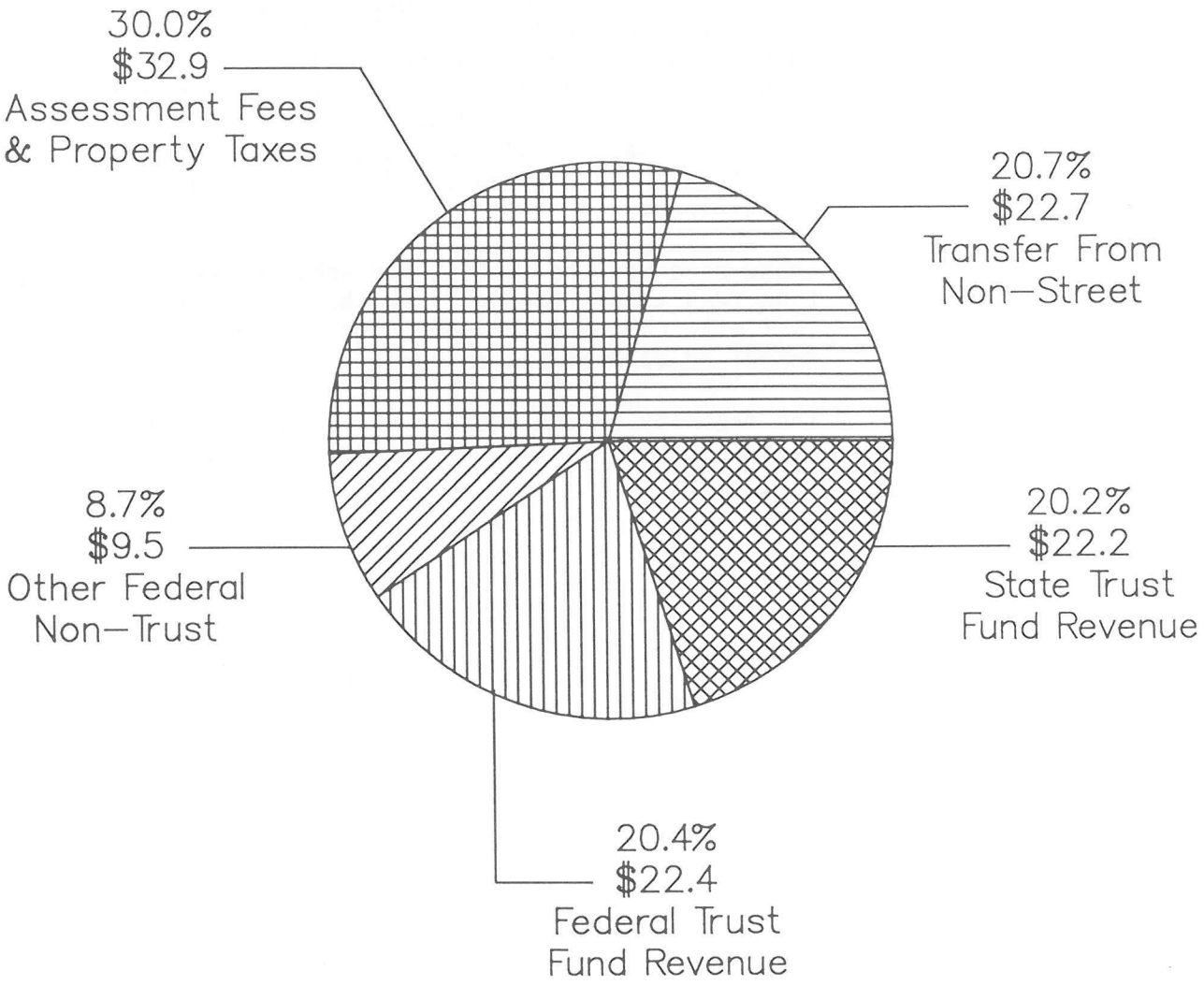


TOTAL = $170.0 million

FIGURE 6

City Revenue Sources – 1984

(Millions)



Total = 109.7 Million

Comparisons among western U.S. states on the use of road-related fees and taxes produce these observations:

- Washington State and Colorado have the highest state fuels tax at 18¢ per gallon; Montana is at 17¢ and California at 15.6¢, including its sales tax on gasoline. Also higher than Oregon's 12¢ per gallon are Idaho at 14.5¢, Utah at 14¢ and Nevada at 13¢. Wyoming is low at 8¢.

- Comparisons on vehicle registration fees is more difficult because of various approaches among the states. But from any perspective, Oregon relies least on this source.

  Among all U.S. states, the Oregon Highway Fiscal and Statistical Data Book (1985) shows Oregon 49th of the 50 states in the level of combined fees for annual registration and personal property and excise taxes. The U.S. average in this comparison was $77.94 for 1983, the year of most recent data compiled by the Federal Highway Administration.

  Among nine western states, for vehicle registration fees alone, Oregon is at the bottom of the list with Colorado, though Colorado adds a sizable annual ad valorem tax on cars.

- The majority of the western states surveyed levy either a weight-based or mileage tax on trucks.

B. A Clear Choice

1) The Two Scenarios.

Oregonians need to act now to preserve the largest public investment in the state, the 42,500 miles of roads and bridges operated by the cities, counties and State of Oregon.

While several recent increases in road fuel and weight-mile taxes authorized by the Legislature have helped, the system is deteriorating from age and increasing use.

Oregon faces a $32-billion road problem over the next 20 years, and without new revenue raising efforts will have about $11-billion to address it.

Backlogs of deferred repair and preservation work are expanding to major proportions, and many segments of the road system require modernization.

What of the future? Depending on the choices made now, the history of Oregon's road system will read quite differently in 2005, based on an opportunity lost (Scenario 1) or decisively addressed (Scenario 2):

Scenario 1: Following the Status Quo.

At the end of the 20th century, Oregon continued a cycle of authorizing limited new revenues to preserve its rapidly aging, multi-billion dollar public investment in state and local roads and bridges. The approach proved too little, too late.

Basic maintenance and preservation, increasingly deferred because of inadequate funding, no longer could stem the deterioriation of a roads system largely built before and just after World War Two. Much more extensive reconstruction measures were needed to avoid system breakdown, at two to four times the cost.

Inflation continued to erode the purchasing power of available dollars to fix roads. The cost of addressing the backlog of substandard roads rose from $7-billion in 1990 to $16-billion by the year 2000.

By the opening years of the 21st century, three-quarters of the pavement on Oregon's arterials and collectors roads were in poor condition, inadequate for the movement of goods and people. Oregonians were paying three to four cents more per mile in auto and truck operating costs, or several hundred dollars a year, to drive their vehicles on poor roads.

Scenario 2: Making the Right Turn.

In the late 1980's, cities, counties and the State of Oregon sat down together to plan for cost-effective management of an impending serious problem: the deterioriation of the great public investment in roads and bridges in Oregon. They devised a long-term plan which identified for the first time comprehensive system requirements and how to meet them.

The plan outlined a long-term, consistent annual effort to tackling the backlog of substandard roads and staying abreast of new requirements.

The State Legislature, convinced by the plan that the roads investment was genuinely threatened, authorized new revenues to meet the need up front, agreeing that the choice was to pay now or pay significantly more later. Road users supported the action.

In the 1990's and into the 21st century, state and local roads in Oregon were maintained in adequate condition, major roads were modernized, drivers in urban areas avoided serious congestion, residents in small cities remained accessible to jobs.

Costs to motorists and commercial users of the highways were kept in balance. Under the plan, those who benefitted from roads at the local level shared in the costs of keeping up roads with users of the statewide system.

Voters were not faced with emergency revenue-raising measures. The public investment was protected and preserved.

A clear choice is presented:

- Maintain the status quo of inadequate funding and spend added billions later in an attempt to resolve crisis needs; or

- Invest aggressively now, get on top of the problem, and save millions of the road user's and taxpayer's dollars.

Analysis behind the scenarios includes:

° The backlog in Oregon gradually will increase to more than two and one-half times its 1986 value by the year 2000, as shown in the table below, prepared by Price Waterhouse.

Growth in Backlog Needs
(Millions of 1985 Dollars)

	1986	1990	1995	2000
Total	$ 6,322	$ 7,016	$11,325	$16,043

° Vehicle operating costs represent more than 92 percent of the total road transport costs under status quo funding.

DeLeuw Cather estimated that without a new roads improvement initiative, the rising percentage of poor, substandard roads and bridges will send vehicle operating costs in Oregon up 5-7% by 1990 compared to current costs. These costs are expected to rise 20% by 1995, and escalate after that unless the roads problem is turned around.

A roads system with 20 percent or more of roads in poor condition can mean between $100 and $300 a year in today's dollars in extra costs for motorists, according to recent studies by the Asphalt Institute and the World Bank.

° Funding under status quo would result in extensive pavement deterioration on the majority of roadway miles.

For example, among roads under the responsibility of the State, about 5,630 miles would be in poor condition in 2005 out of a total of 7,665 miles covered in the sample. Among county roads in the sample, 85% would be in poor condition by 2005; among city roads sampled, 81% would be in poor condition. Urban arterial road mileage would move from primarily in good-to-fair condition now, to 80% in poor condition by 2005.

° Roads with high traffic volumes would increase significantly in Oregon under status quo funding. According to DeLeuw Cather estimates, arterial and collector roads characterized by congestion during peak hours, would include:

- State responsibility: 636 miles, or 29% of state roads in urban areas would be in congested condition by 2005. Some 90% of urban principal arterials mileage would be in poor condition by 2005.

- County responsibility: 372 miles, or 29% of county roads in urbanized areas would be in congested condition by 2005.

- City responsibility: 199 miles, or 27% of the total, would be congested in 2005.

2) Revenue Considerations.

a. Projected revenue flows from existing sources:

Revenues are estimated by jurisdiction and source for the period ending in 2005. Estimates of Federal funding levels are expected obligation levels. State estimates are net of administrative collection fees. County and city estimates are net of any dedicated allocation to other programs, such as schools (in the case of National Forest Reserve Rentals).

° Federal Highway Trust Fund obligations have been estimated based on information available from the Oregon Department of Transportation, and Federal Highway Admininistration staff in Washington D.C. Table 6 presents estimated Federal revenues.

° The estimate of State Highway Trust Fund revenues is based on an econometric model administered by the Oregon Department of Transportation. The estimates are based on the July 1986 model update and incorporate the latest economic data available. Table 7 presents the Oregon Department of Transportation revenue estimates. These estimates are net of distribution to counties and cities.

° County road revenue estimates are presented in Table 8.

° City road revenue estimates are presented in Table 9.

TABLE 6

OREGON ROADS FINANCE STUDY
FEDERAL HIGHWAY TRUST FUND REVENUES ESTIMATES *

1987 to 2005
(Millions of Dollars)

	1987-1990	1991-1995	1996-2000	2001-2005	TOTAL
Interstate Construction	112.0	0	0	0	112.0
Interstate 4R	192.0	284.0	332.0	356.0	1,164.0
Primary System (FAP)	116.0	182.0	229.0	240.0	767.0
Secondary System (FAS)	44.0	58.0	48.0	42.0	192.0
Urban System	32.0	40.0	34.0	31.0	137.0
Bridge Program	84.0	106.0	116.0	128.0	434.0
Safety Program	20.0	28.0	30.0	30.0	108.0
Interstate Substitution	81.0	0	0	0	81.0
TOTAL ESTIMATED REVENUE	681.0	698.0	789.0	827.0	2,995.0

* The estimates in this table, as well as tables 7, 8 and 9, are based on a 19-year period through 2005.

TABLE 7

OREGON ROADS FINANCE STUDY

STATE REVENUE ESTIMATES

1987 to 2005
(Millions of Dollars)

	1987-1990	1991-1995	1996-2000	2001-2005	TOTAL
State Trust Fund	832.8	1,101.1	1,144.9	1,203.9	4,282.7
Federal Trust Fund	551.2	584.2	681.6	720.7	2,537.7
TOTAL ESTIMATED REVENUE	1,384.0	1,685.3	1,826.5	1,924.6	6,820.4

TABLE 8

OREGON ROADS FINANCE STUDY
COUNTY REVENUE ESTIMATES
1987 to 2005
(Millons of Dollars)

	1987-1990	1991-1995	1996-2000	2001-2005	TOTAL
State Trust Fund	241.2	319.5	332.1	349.1	1,241.9
Federal Trust Fund	86.5	83.8	79.6	79.2	329.1
Transfers From Non-Street	16.2	13.4	8.5	5.4	43.5
Local Gas Tax	26.1	27.7	27.0	26.2	107.0
Assessments & Other Local Taxes	82.4	128.8	171.0	226.0	608.2
Other Federal Non-Trust	3.8	0	0	0	3.8
Forest Reserve Rentals	228.0	331.3	403.1	490.4	1,452.8
O & C Revenues	16.2	13.4	8.5	5.4	43.5
TOTAL ESTIMATED REVENUES	700.4	917.9	1,029.8	1,181.7	3,829.8

TABLE 9

OREGON ROADS FINANCE STUDY
CITY REVENUE ESTIMATES
1987 to 2005
(Millons of Dollars)

	1987-1990	1991-1995	1996-2000	2001-2005	TOTAL
State Trust Fund	149.3	197.8	205.6	216.1	768.8
Federal Trust Fund	51.2	30.0	27.8	27.1	136.1
Transfers from Non-Street	66.4	55.1	34.9	22.1	178.5
Federal Non-Trust Fund	3.0	0	0	0	3.0
Assessment & Other Fees	115.1	179.8	238.9	315.7	849.5
TOTAL ESTIMATED REVENUE	385.0	462.7	507.2	581.0	1,935.9

b. Revenue stability:

° Federal Revenue Stability

Federal revenues should be stable over the long term, but may be subject to short-term downturns as a result of Gramm-Rudman-Hollings through 1991. Although the Supreme Court has declared certain key provisions of the legislation unconstitutional, backup provisions are currently being considered by Congress. The likely effect will be a decrease in road funding from the Federal government during the period 1987-1991.

It is anticipated that the Federal Highway Trust Fund will remain intact and that legislation to extend the Surface Transportation Act for another four years will be enacted. As the Interstate Construction Program ends in the mid-1990's, available funds will be channeled to "Interstate 4R" and "Federal-Aid Primary" programs.

° State Revenue Stability

At the State level, few uncertainties exist. Due to the combined and offsetting effects of projected population growth and increases in fleet fuel efficiency, the level of revenues generated to the benefit of the State Highway Trust Fund will grow very slowly during the nineteen year period ending in 2005. Changes in the Trust Fund will occur due to total employment, trucking activity, population growth, fleet fuel efficiency. The net effect on the level of revenue generated for the Trust Fund is expected to be minimal.

° County Revenue Stability

Major uncertainties exist in important county funding sources like the National Forest Reserve Rental Program. Proposed legislation could severely reduce this important source of dedicated funding. Other important sources of county road funding such as transfers from non-street funds and Oregon and California Land Grant revenues are expected to diminish over the nineteen year period.

One of the more vulnerable sources of non-dedicated funding for county roads is local assessments, fees and property taxes. If recent trends continue, these monies will increase slowly at about the rate of inflation.

- City Revenue Stability

  The estimate assumes that cities will continue to rely heavily on non-dedicated sources of revenue, such as local fees and property taxes. This source is assumed to increase at the projected rate of inflation. This assumption is subject to the same influences which could impact the county property tax situation. However, local assessments, fees and property taxes are a relatively large proportion of city funding, representing 43.8 percent of the estimated revenue over the next nineteen years.

  The cities' share of State Trust Fund revenue will be the second most important funding source for cities and the source that offers the best long-term stability. The city revenue estimate anticipates a decline in federal non-Trust Funds revenue until 1990 after which these funds will no longer be available.

c. Projected revenue from proposed new state sources:

- The proposed new titling fee for autos and light-weight trucks would raise $460-million during the first six years of the plan. A titling fee is imposed in eleven U.S. states. In states approximating Oregon's population, the fee raises $77-million per year at a five percent level in West Virginia, $156-million per year at a five percent level in Kentucky. This tax is also viewed as a one-time entry fee for road users, and could be collected efficiently by the Dept. of Motor Vehicles as part of title processing.

- The proposed increase in the vehicle registration fee would raise $107-million during the first six years of the plan. While there has been reluctance in the past to raise this visible fee, this basic and only current cost of entering the system remains at $10 a year, among the very lowest of road "entry" fees in the 50 states. It accounts for less than seven percent of total state receipts for roads.

- The proposed increase in the state fuels and equivalent weight/mile tax would raise $562-million during the first six years of the plan. This tax remains the most relevant to meeting road requirements, produces significant increases in revenue per penny increase ($22-milion annually), is most efficient to collect and administer, and is currently in the lower range when compared to other U.S. states.

d. Options for raising new local revenue for roads:

Options for expanding existing financing mechanisms and utilizing new or alternative mechanisms were analyzed by Price Waterhouse and Government Finance Associates (see Appendices C & D).

GLOSSARY

° WORK TYPES

Maintenance & Operations (O&M). Maintenance includes the routine upkeep of a road or street in its original or improved condition. Operations provides the safe and efficient movement of vehicular traffic over roads and streets.

The following items generally describe the scope of maintenance and operations. An indication of the types of activities are shown in parenthesis:

- Surface (pothole patching, crack sealing)
- Drainage (ditch, culvert, storm sewer and curb cleaning and repair)
- Roadside (mowing, litter pickup, sweeping, median, rest area and guardrail repair)
- Traffic services (signaling, signals, street lighting, pavement marking)
- Structures (painting, deck and rail repair)
- Snow and ice removal
- Other maintenance
- Administration

Repair and Preservation (R&P). This work category involves the repair, restoration and resurfacing of existing facilities in order to extend the design life. Traffic capacity is sufficient so the dimensions of the road either remain unchanged or are slightly modified. No additional traffic lanes are added. Specific improvement types include:

- Resurfacing with minor widening
- Resurfacing with shoulder improvements
- Resurfacing with alignment improvements
- Resurfacing with alignment and shoulder improvements
- Resurfacing
- Structure repair

Construction Improvements (C&E). This work category involves the reconstruction and expansion of existing facilities to provide additional traffic capacity. Specific improvement types include:

- Reconstruction to freeway standards
- Reconstruction with more lanes
- Reconstruction to wider lanes
- Pavement reconstruction with alignment improvements
- Pavement reconstruction
- Major widening with additional lanes
- Structure reconstruction and widening
- Structure replacement

° FUNCTIONAL CLASSIFICATIONS

Interstates are major national freeways developed under the federal interstate plan, such as I-5, I-84, I-82, I-205.

Principal Arterials are major urban and rural highways connecting communities, towns and cities. The principal arterial provides for through traffic movement. Examples: State Highways 99, 101, 30, 97, 58 22.

Minor Arterial roadways connect areas of principal traffic generation to major urban and rural highways. The arterial network provides for through traffic movement and distribution onto the network of collector and local streets.

Major Collectors carry local traffic between neighborhood areas and arterials. The major collector provides access from minor collectors to community services and to other neighborhoods within, or immediately adjacent to, urban areas.

Minor Collectors serve internal traffic within areas having a single land use pattern. They carry local traffic within a neighborhood area. Minor collectors carry traffic between minor traffic generators, such as neighborhood shopping and community centers and schools.

Local Roads provide direct access to abutting property.

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City of Newberg

BASIS OF ESTIMATES

Estimates were prepared on the basis of information and assumptions set forth in the accompanying text and appendices and cannot be properly interpreted without reference to the underlying assumptions described therein. The estimates are not intended to be used to solicit or obtain external financing for any roadway or bridge projects. It should be noted that the achievement of any financial estimate is dependent upon the occurrence of future events which cannot be assured, as well as on the assumptions and estimation methods. Actual results, therefore, may differ from these estimates, and others may arrive at conclusions different from those which are present in this report.

Price Waterhouse

APPENDICES

A. DeLeuw Cather: Phase 1 Road Needs Report

B. Price Waterhouse: Financial Report and Appendices

C. Price Waterhouse: Alternative Financing Analysis

D. Government Finance Associates: Alternative Financing Analysis

E. Don Barney & Associates: Community Opinion Leader Survey Report