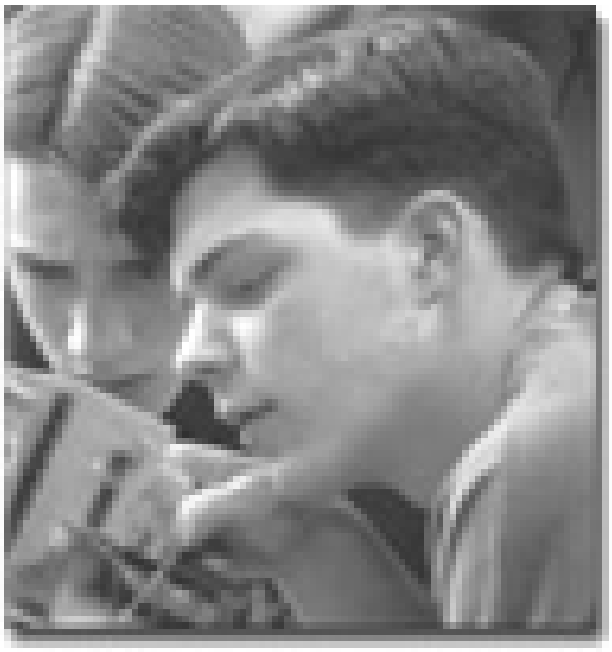
Preliminary
Cost Panel Report

To the Quality Education Commission

March 20, 2002



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List of Panel Members

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I. Executive Summary

A. Cost Panel Charge

The Quality Education Model estimates the statewide costs of various education program levels and school configurations and the school-level impacts of changes in state funding. The Quality Education Commission 2000 found that the Quality Education Model (QEM) is an effective tool for evaluating and forecasting school resource requirements.[1]

The charge of this Cost Panel is to make recommendations for improving the Model as a tool to support policy decisions regarding state school funding. Specifically, the task of the Panel is to recommend ways to accomplish the following:

- Continue to improve the accuracy and utility of the Quality Education Model.
- Refine and update cost estimates based on additional data in the Department of Education Database, inflation projections, and other factors.
- Align Model cost estimates with Current Service Level estimates developed by the School Revenue Forecast Committee.
- Improve the Model's ability to link funding levels to student performance.
- Adjust cost estimates for programs under study by other panels.
- Keep the Model understandable and easy to use.

In addition to addressing all of these issues, the Panel identified other keys issues that need to be addressed in the future, and the Panel made recommendations for future model enhancements.

1. Improving the Accuracy and Utility of the Model

As with any model, the Quality Education Model must be frequently revised and updated if it is to remain an accurate and useful budgeting and analytical tool for policymakers. Assuring that the Model is as accurate as possible involves three steps: reviewing the assumptions in the model to make sure they remain valid; reviewing and updating the structure of the model so it reflects the characteristics an effective school system; and reviewing and updating the forecasts of key variables that drive the model.

Reviewing the Model Assumptions

Three key assumptions underlie the Quality Education Model as an effective budgeting and policy analysis tool, and the Cost Panel Finds those three assumptions to be valid:

- The prototype schools in the Model are representative of the operating cost structures of schools in Oregon for the purpose of establishing the aggregate statewide funding requirement.

- There is a positive link between resources and student performance: additional resources, used effectively, will lead to higher student performance.

[1] Quality Education Commission, Quality Education Model 2000, December 2000.

Updating the Structure of the Model

The Cost Panel reviewed each element and component of the prototype schools. Following the recommendations of the prior Quality Education Commission, the Cost Panel recommends the services provided to districts by Education Service Districts be included in the current version of the Model. The Panel also recommends that other programs not included in the Quality Education 2000 should be included in the current Model as supplemental information outside of the prototype schools:

- Federal Programs
- Funds for financing capital facilities
- Funds from private sources

Reviewing and Updating Forecasts of Key Variables

An important use of the Quality Education model is to forecast the level of resources needed to adequately fund Oregon's schools over some specified period in the future, typically the coming biennium. For those forecasts to be accurate, the forecasts of the key variables that drive the model must also be accurate. The most important of those variables are teacher salaries, growth rates in benefits costs, and growth rates in the prices of non-compensation inputs such as energy and textbooks.

The cost panel spent considerable effort in updating the forecasts of teacher salaries made by the previous Quality Education Commission and in disaggregating the employee benefits data so that each component of benefits could be forecast more accurately. More work is needed to understand the cost trends for energy and other inputs.

2. Refining and Updating Model Cost Estimates

To improve the accuracy of the Model's estimates, the Cost Panel made the following revisions:

- Added more refined methods for estimating salaries and benefits to provide more accurate estimates and projections.
- Updated cost estimates for individual Model components based on 1999-00 and 2000-01 Database Initiative (DBI) data from the Department of Education.
- Obtained detailed expenditure data for services provided by Education Service Districts (ESDs) for inclusion in the prototype schools.

3. Aligning the QEM with Current Service Level Estimates

The QEM contains prototype schools that reflect two different levels of resources:

1. The Fully Funded Prototypes estimate the level of resources needed statewide to meet the state's Quality Education Goals. State funding has not yet reached this level.

2. The Baseline Prototypes are based on current funding levels and are used to: a) validate the Model against current conditions in Oregon schools, and b) serve as the

basis for projecting the impacts of various funding decisions on school programs and performance.

Because the QEM is the primary tool for estimating education funding needs and evaluating the impacts of policy proposals, it is important the Baseline forecast of the QEM be consistent with the Current Service Level estimates generated by the School Revenue Forecast Committee. Cost Panel staff participated in the Current Service Level estimation process to assure that the assumptions and forecasts of key variables were the same for the two groups.

4. Linking Funding Levels to Student Performance

Tying school funding levels to student performance remains one of the greatest challenges for education funding research. While early research gave mixed results, more recent studies have found a positive and significant relationship between expenditures per student and student performance, controlling for student characteristics, family background, and other variables outside the control of the schools themselves. Further development of techniques for estimating the relationship between school spending and student performance is needed. This work will help policymakers better understand the expected impact on student outcomes from budget decisions, and it also will provide valuable information needed to evaluate the accuracy of the cost estimates that currently form the basis of the student weighting system in state's current school funding formula.

5. Changes Based on Recommendations of Other Panels

In addition to the revisions and updates already made or recommended, the cost Panel will evaluate any proposed changes to the model recommended by other Commission Panels to determine if they have cost implications.

6. Keeping the Model Understandable and Easy to Use

Despite added detail in the salary and benefits elements of the Model and the addition of ESD services, the QEM remains simple to use and understand. These changes will, in fact, make the model more flexible and easy to use without adding complexity to the model. Addition of ESD services will make the Model more comprehensive and should, therefore, make it easier to understand because all services and programs funded through the State School Fund will be accounted for explicitly.

B. Key Findings & Recommendations

1. Findings

<u>Cost Drivers</u>

- Salaries and benefits comprise approximately 80% of K-12 school spending. Changes in the costs of compensation are primarily influenced by inflation and changes in the makeup of the workforce.

- Oregon is experiencing major changes in student demographics that will affect the costs of bringing all students to state benchmarks. The rapid increases in the number of students in special education programs and of English language learners have a cost impact.

- Declining enrollment in a majority of Oregon school districts is also a factor that is changing cost structures. State school funding is allocated on a per-student basis. Because school districts have certain fixed costs that do not fluctuate with enrollment changes, decreases in enrollment affect the relationship between fixed and variable costs.

- Accumulated capital needs, estimated at $3 billion statewide for school facilities in Oregon, affect the costs of maintaining and operating schools.

Cost Increases

- Salary cost increases have been moderate over the past decade. The Panel is projecting that salary increases will continue to be moderate and that increases will be slightly less than inflation.

- Benefits costs are rising rapidly. Health insurance costs have risen at 10-15% annually and will continue to increase. Most school districts can mitigate cost increases to some extent by setting caps on district benefit contributions, reducing benefits, or shifting costs to employees; however benefits costs to districts are still projected to increase by 12% over the next biennium.

- The rates paid by school districts to the Public Employees Retirement System (PERS) are projected to increase by a minimum of 2.5 percentage points, or approximately $130 million, over the next biennium. The Panel is concerned about the impact of the unfunded PERS liability on the school budgets.

- Cost increases for non-salary cost items are expected to be moderate over the next biennium, with potential volatility in the costs of fuel and electricity.

Costing Methods

- Refined cost forecasting methods are improving the accuracy of the Model. The Department of Education is continuing to improve the quality of the salary and benefits cost estimates in the Model with a richer database and more detailed projection techniques.

- The cost projections are aligned with the work of the School Revenue Forecast Committee that is charged with determining the costs of maintaining the current service level for K-12 schools. The Cost Panel staff participated in estimation processes of the School Revenue Forecasting Committee, assuring that the assumptions and forecasts of key variables were consistent between the two groups.

2. Recommendations

- Minimize changes to the key components and format of the prototype schools to maintain comparability over time.

- Continue to use three prototype schools as the basis for the Model. The Commission may wish to construct additional prototype schools and use statistical analyses to understand variations in costs among schools. These additional prototypes should be developed outside the Model and included as supplementary information in the Commission Report.

- Include the costs of ESD services in the Model as central service components in the prototype schools. This report adds the costs of ESD services to the Model for the first time. Subsequent Commissions should review this new portion of the model to ensure that it is accurately reflecting the costs of ESD services.

- Describe all sources of funding for the K-12 system. This report includes a summary of the funding sources for the K-12 system, with particular attention to Federal revenues. A description of these sources should be included in the full Commission report but the associated programs should not be incorporated into the prototype schools.

- Formalize the schedule for updating cost projections in the Model to align with changes in state budget projections and School Revenue Forecasts.

- Compile historical information on changes in Baseline prototype schools. The Baseline prototypes will change to align with state current service level projections and to adjust for changes in real funding levels over time. The Commission may wish to establish an historical Baseline to link to changes in performance expectations.

- Investigate the link between funding and performance based on actual spending and performance data available through the Database Initiative to improve current projection methods. The Quality Education Model 2000 used trend analysis and professional judgment to forecast expected student performance trends under Baseline and Full funding levels. Combining these this approach with intensive data analysis will increase our understanding of this complex relationship. This work will take time and should be an ongoing priority for the Commission.

II. Introduction

The previous Quality Education Commission came to the following conclusions regarding the QEM 2000[2]:

- The Quality Education Model can estimate statewide school costs with reasonable accuracy. The Quality Education Model, based on the prototype schools approach, provides a reliable method for estimating education costs at a statewide level. The previous Commission employed a group of school finance consultants, Management Analysis and Planning, Inc. (MAP) to review the original QEM. According to the MAP consultants, "The Quality Education Model represents an excellent effort to identify and cost the essential elements of an adequate education."

- The cost elements and components of the prototype schools are appropriate and reflect the inputs needed to effectively run Oregon's schools. The Model accurately reflects the categories of activities and spending required for well-run schools, and the structure of the Model is flexible enough to accommodate changes in programs or school configurations through adding, deleting, or modifying components.

- The data used to estimate costs are of relatively high quality and should continue to improve over time. In general, the data required by the model is available and of good quality. The salary and benefits data available from the Department of Education and other state education organizations are of relatively high quality. Data quality in general should improve over time as all districts in the state are included in the Database Initiative and have more time to fully implement the uniform chart of accounts.

- The methods used to estimate the prices of model inputs are appropriate. For most components of the prototypes, the model uses statewide average costs estimated from data on actual Oregon schools as the input prices. Because most school inputs are purchased in relatively competitive markets, average expenditures should represent accurate estimates of the prices of inputs specified in the prototype schools.

- With ongoing review and enhancements in the quality of the data, assumptions, and methods, the QEM should continue to be an effective budgeting and decision support tool and should become more precise over time.

The Cost Panel of the Quality Education Commission 2002 has thoroughly reviewed the elements and components of the Model and has made revisions and enhancements to the Model's structure, the data used to estimated the Model's costs components, and the methods for forecasting the Model's key variables. The result is a significantly improved model that can estimate and forecast the funding needs of Oregon's K-12 school system. It represents a valuable tool for policymakers for evaluating the effects of different education funding proposals.

[2] Quality Education Commission, Resources and Cost Panel Report, April 2000.

III. Improving the Accuracy and Utility of the QEM

For the Quality Education Model to remain a useful tool for policymakers, it must be reviewed and updated on an ongoing basis so that its assumptions remain reasonable, its structure continues to reflect effective educational practices, and its data are the most current and reliable available. One of the primary charges of the Cost Panel is to review and update the Model and its data. The Panel's work involves three central tasks:

- Review the Model's components and assumptions to make sure they are reasonable and up-to-date.
- Change the model structure where necessary.
- Determine if changing the level of detail in the model will improve the accuracy and usefulness of the model.

In considering any changes to the Model, the Panel also must weigh the benefits against the added complexity to the model that would result from the changes.

A. Reviewing the Model's Assumptions

Three key assumptions underlie the Quality Education Model as an effective budgeting and policy analysis tool:

1. The prototype schools in the Model are representative of the cost structures of schools in Oregon for the purpose of establishing the aggregate statewide funding requirement.

2. There is a positive relationship between resources and student performance: additional resources, used effectively, will lead to higher performance.

The first assumption is critical to the effectiveness of the model, and it will remain valid only if the model is regularly reviewed and updated. A review of the Quality Education Model 2000 by independent consultants concluded that the Model's elements and components are an accurate and comprehensive description of the resources used by schools.[3] And because the model is built on expenditure data gathered by the Database Initiative Project, the cost components of the Model accurately reflect actual input prices in Oregon schools.

The second assumption—that there is a relationship between resources and student performance--remains a topic of spirited debate in the education community. Early research was mixed on whether, and how much, the level of resources affected student performance. More recent research, based on better data and estimation techniques, has more consistently found a positive link between school spending and student performance.[4]

In addition to these three general assumptions about the Model's effectiveness as a policy tool, there are a series of more specific assumptions related to the prototype schools. The Equity and Best Practices Panels will review these assumptions.

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[3] Management Analysis and Planning, Inc., A Review of the Oregon Quality Education Model, May 2000.

[4] For example, see Duncombe, William D. and John M. Yinger, *Performance Standards and Educational Cost Indexes: You Can't Have One Without the Other,* in Equity and Adequacy in Education Finance: Issues and Perspectives, Ladd, Chalk, and Hansen, editors, National Research Council, 1999.

B. Updating the Structure of the Model

The purpose of regularly updating the structure of the Model is to assure that it remains consistent with the resource requirements of high-performing schools and is able to accurately estimate the cost effects of potential policy changes. The Cost Panel reviewed the elements and components of the prototype schools and concluded that all the major inputs required to operate a high-quality school were present in the prototype schools. The Panel does, however, recommend providing more detailed data for the salaries and benefits components of the Model in order to increase the Model's accuracy. The Panel also recommends including ESD services as components of the prototype schools rather than as an add-on outside of the prototypes. Finally, the Panel recommends adding information about Federal programs, capital spending, and private sources of funds as supplemental information outside of the prototype schools. Specifically, the Panel recommends:

- Estimating average teacher salaries separately for elementary, middle, and high schools since salaries may differ by level of school (administrator salaries already are estimated separately by level of school).

- Breaking benefits into their separate components (health insurance, social security, PERS, and workers compensation) so that more accurate estimates and forecasts can be made. Because some of these components are calculated as a percentage of salary and some are not, the practice in prior versions of the Model of expressing total benefits as a percentage of salary is likely to lead to less accurate estimates.

- Adding the services provided by Education Service Districts to the prototype schools to make the Model more comprehensive, but keeping the ESD components as a separate element in the model so that ESD resources and district resources can be distinguished.

- Adding federal programs to the model as supplemental information outside the prototype schools. Federal programs are concentrated in a subset of schools that differ significantly from the prototype schools in the Model. Thus, adding an average level of federal programs to the prototype schools would make the prototypes unrepresentative of actual Oregon schools and also would not accurately portray the way federal funds are really used.

- Adding information on school facilities to the Model outside the prototype schools to reflect the effects of policy decisions on capital spending needs.

- Adding information about private sources of funding for public schools.

Table 1 shows the differences between the prior version of the Model—the Quality Education Model 2000—and the current version of the Model with regard to these structural elements of the Model. Table 2 presents data on ESD services added to the QEM prototype schools and

Table 1
Changes in Model Structure

Quality Education Model 2000	Quality Education Model 2002
Employee benefits estimated at 34.2% of salary.	Health insurance benefits estimated at $7,438 per full-time employee. Other benefits estimated at 22.4% of salary.
Early retirement benefit costs Are excluded from the Model.	Early retirement benefits costs are included under 'Other Benefits'.
Education Service District Services are excluded from the Model.	Education Service District Services are included in the prototype schools as five separate components: special education; instructional support; technology support; central services, and ESD overhead.
Federal programs are excluded from the Model.	Federal programs are included as supplemental information outside the prototype schools.
Capital expenditures are excluded from the Model.	Capital expenditures are included as supplemental information outside the prototype schools.
Revenue from private sources are excluded from the model.	Estimated revenue from private sources is included as supplemental information

Table 2
Education Service District Services
In the Quality Education Model 2002

Special Education	$79 per student
Instructional Support	$116 per student
Technology Services	$29 per student
Central Services	$12 per student
ESD Overhead	$50 per student

Federal Funds

The major sources of federal education funding for Oregon are in the areas of compensatory education, special education, and child nutrition.

Title I

These grants provide funds for standards-based, compensatory education activities for students from low-income families, migrant students, and neglected students to help them meet content and performance standards. The funding is targeted to specific schools and student populations. The *No Child Left Behind Act* requires States to implement statewide accountability systems covering all public schools and students. These systems must be based on challenging State standards in reading and mathematics, annual testing for all students in grades 3-8, and annual statewide progress objectives ensuring that all groups of students reach proficiency within 12 years. Assessment results and State progress objectives must be broken out by poverty, race, ethnicity, disability, and limited English proficiency to ensure that no group is left behind. School districts and schools that fail to make adequate yearly progress (AYP) toward statewide proficiency goals will, over time, be subject to improvement, corrective action, and restructuring measures aimed at getting them back on course to meet State standards. Schools that meet or exceed AYP objectives or close achievement gaps will be eligible for State Academic Achievement Awards.

Individuals with Disabilities Act (IDEA)

These grants help to educate and support students receiving special education and related services; provide access to technological instruction and adaptive equipment for these students; and, support professional development for special education personnel to improve delivery of services.

USDA Child Nutrition Programs

This entitlement program provides school breakfast, lunch, and snacks to low income children and includes a small subsidy for all students who participate. Federal support includes cash reimbursement for meals served and government surplus commodity food.

Table 3 shows the sources of funds to Oregon schools, including Federal program spending. Detailed information on salary and benefit costs estimates and forecasts appear in Section IV, and estimates of current capital needs of Oregon School Districts, as well as estimates of the added capital needs of full implementation of the Quality Education Model, appear in Section X.

Other Local Sources of Funding

School districts collect an estimated $200 million annually statewide in funding that is outside the State School Fund. Major sources of funding include fees charged to students for extra-curricular activities, facilities rental, interest earnings on investment of funds, school lunch sales, and private donations from individuals, foundations, and fundraising. The Cost Panel discussed the issue of unreported donations to schools and districts and concluded that the amounts are not significant. However, the Panel did agree that districts should be required to follow accounting standards for reporting private and in-kind donations.

Table 3
Sources of K-12 Education Funding
2001-03 Biennium

(in millions)	State General Fund	Other Funds	Lottery Funds	Federal Funds	All Funds
State School Fund					
State Revenues	4,560.9	122.9	288.4		4,972.2
Local Revenues	2,183.3				2,183.3
School Improvement Fund	220.0				220.0
State Grants					
Regional Programs	32.9				32.9
Hospital Programs	2.2				2.2
Long-Term Care & Treatment	18.3				18.3
OPEN	2.3				2.3
Other	3.3	14.7			18.0
Federal Grants					
Special Education - IDEA				163.7	163.7
Title I - Low Income				163.8	163.8
Title I - Migrant Education				27.1	27.1
Title I - Vocational Education				25.2	25.2
USDA Child Nutrition				194.7	194.7
Other Grants				93.2	93.2
Other Local Sources*					
Tuition, Fees, Rents		150.0			150.0
Interest Earnings		100.0			100.0
Food Service Sales		140.0			140.0
Private Donations		20.0			20.0
Department of Education					
Schools for the Blind & Deaf	16.7	3.3		0.6	20.6
Youth Corrections Education		20.4		2.9	23.3
Department Operations	42.6	13.6	-	32.8	89.0
Total 2001-03 Funding	$ 7,082.5	$ 584.9	$ 288.4	$ 704.0	$8,659.8

Note: State and Federal Sources are based on the Legislatively Adopted Budget as of July 2001
Other Local Sources are estimated based on historical data

C. Level of Detail of the Model—Are Changes Needed?

Adding more detail to the Model should enhance the Model's accuracy, but there are competing goals—more detail to give better accuracy; and less detail to keep the Model easy to understand and use. For salaries and benefits, the benefit of more accuracy made adding detail worthwhile.

The Panel considered adding more detail to the prototype schools in the area of administrative and central support costs, but determined that the extra detail would add little to the accuracy and utility of the model and would potentially make the model more difficult it understand and use. In general, the Panel concluded that the level of detail currently in the Model is appropriate and that any proposed changes should be evaluated carefully.

IV. Refining and Updating Model Cost Estimates

The Cost Panel spent a large amount of time refining the methodology and discussing the assumptions for estimating future costs of salaries and benefits. The forecasting process involved two steps: 1) estimating the current costs of salaries, benefits, and non-compensation related items in the Prototype Schools based on historical data, and 2) making assumptions regarding changes in costs over the next biennium. The Panel coordinated its efforts closely with the School Revenue Forecast Committee, and these estimates are based on the latest work with the Committee in January 2001. To keep the Model in alignment with Current Service Level estimates, the Commission will need to periodically update estimates for certain components in the Model, such as the Consumer Price Index and student enrollment growth.

Salary Estimation Methods

The Department of Education has developed a forecasting model for teachers' salaries based on data collected at the individual teacher level, including demographic information, years of teaching experience, education level, employment status, and annual average salary. The salary model estimates the cost increases for returning teachers, including cost of living and step increases for experience and education level. Savings from employee turnover are calculated based on the number of teachers expected to retire and the differences in salary levels between retiring and newly hired teachers.

Cost-of-living increase projections are based on historical data and current salary settlements. Savings from turnover are the most volatile factor in the estimates. Teacher turnover has been relatively high over the past few years, and this trend is expected to continue as many teachers approach retirement age. Turnover savings are difficult to project; however, because they reflect other variables, including economic conditions that affect retirement decisions, and staffing reductions due to budget cuts.

Administrative salaries are forecast using a process similar to the teacher salary forecast model. Turnover savings have less impact on administrative salaries because the salary schedules are structured differently than teachers'. Other non-teaching staff salaries are projected based on average hourly pay rates and increases projected for state employees.

Employee Benefits

Employee benefits costs are split into two categories: 1) payroll taxes that are calculated as a percentage of salary, and 2) contracted benefits, primarily health insurance, that are tend to be a fixed amount per employee. Increases in benefits costs are projected using data from PERS, insurance company projections, and medical CPI trends.

Other Costs

The costs of non-salary items are based primarily on audited expenditures reported by school districts through the Database Initiative. Costs are forecast in general to increase by the Portland CPI, unless more specific projections are available.

Table 4 shows estimates and forecasts through the 2003-05 biennium for salaries and benefits of teachers, administrators, and classified employees.

Table 4
Salary and Benefits Estimates

School Year	Teacher Compensation*	Percent Change	Classified Employee Compensation	Percent Change	Superintendent Compensation	Percent Change
1999-00	$60,899		$30,725		$107,792	
2000-01	$62,706	3.0%	$32,070	4.4%	$111,576	3.5%
Forecasts						
2001-02	$64,500	2.9%	$33,522	4.5%	$115,199	3.2%
2002-03	$66,874	3.7%	$35,450	5.8%	$119,252	3.5%
2003-04***	$70,541	5.5%	$37,940	7.0%	$125,777	5.5%
2004-05	$73,240	3.8%	$39,970	5.3%	$129,978	3.3%

School Year	Principal Compensation	Percent Change	Asst. Principal Compensation	Percent Change	**Overall Percent Change****
1999-00	$93,748		$88,425		
2000-01	$97,454	4.0%	$91,325	3.3%	**3.3%**
Forecasts					
2001-02	$101,042	3.7%	$94,129	3.1%	**3.3%**
2002-03	$105,084	4.0%	$97,355	3.4%	**4.2%**
2003-04***	$111,299	5.9%	$102,524	5.3%	**5.8%**
2004-05	$115,526	3.8%	$105,843	3.2%	**4.1%**

* Includes all benefits and early retirement payments to retired teachers.
**Weighted average for all employee groups.
***2003-04 includes a projected 2.8% increase in PERS rates

Sources of Data

The primary data sources used to estimate the costs of the prototype schools are the following:

The Oregon Database Initiative Project (DBI): DBI started collecting detailed expenditure data at the school level in 1997-98 for 16 pilot school districts in the state, and starting in 1999-00, DBI was expanded to include data for all districts in the state. An initial step in the project was to develop a uniform chart of accounts so that the data from each district and school are comparable. As school districts fully implement the new chart of accounts, the accuracy of the DBI data should improve. Database Initiative Project staff currently are combining the DBI data with other information collected by the Department of Education (described below) into an integrated database. This combined database will allow analysis at a level of detail never before possible. DBI currently contains final audited data for the 1999-00 school year as well as preliminary data for the 2000-01 school year.

The Oregon Department of Education: The Department of Education has collected a broad range of information from school districts for many years. This information includes data on student enrollment, student test scores, teacher and administrator salaries, staffing levels, budgets, and a variety of other information.

Oregon School Boards Association: OSBA collects data on salaries, benefits, and other information for certified teachers in Oregon.

Confederation of Oregon School Administrators: COSA collects data on salaries, benefits, and other information for superintendents, principals, and other administrative personnel.

Oregon School Employees Association: OSEA collects wage and salary data for the classified employees it represents.

Oregon Education Association: OEA collects data on the wage rates of classified employees.

The National Center for Education Statistics: NCES is part of the U.S. Department of Education and collects a wide range of data for all school districts in the U.S. The primary value of these data is for making comparisons across states, which often can provide guidance in making assumptions when detailed Oregon data are not available.

VI. Aligning the QEM with the Current Service Level Estimates

One of the charges to the Cost Panel is to align cost increase estimates in the Model with Current Service Level estimates developed by the School Revenue Forecast Committee. The current service level is defined as the level of resources required to provide the same level of services in the current biennium as were provided in some prior period, usually the prior biennium.

In 1999, Governor Kitzhaber issued Executive Order 99-15 directing the Department of Administrative Services (DAS) to annually forecast a statewide allowable growth factor of general operating revenue per student (ADMw) and to establish a School Revenue Forecast Committee to review the statewide average ADMw forecasts. “This committee shall consist of representatives from the Oregon Department of Education, the Legislative Fiscal Office, the Legislative Revenue Office, K-12 stakeholders from school districts, labor unions and the Legislature.”

“That forecast will consider:

a. Projected changes in the cost of personal services, other services, supplies and capital outlay; and

b. Forecasted local revenues as provided by the Oregon Department of Administrative Services, Legislative Fiscal Officer, Legislative Revenue Officer and Department of Revenue.”

The Quality Education Commission 2000 developed ‘Baseline Prototype Schools’ in the QEM that represented the current service level for school spending statewide. In the updated Model for 2002, estimates for cost increases and for the Baseline should align with the current service level projections from the Revenue Forecast Committee.

VII. Linking Funding Levels to Student Performance

Establishing the relationship between education funding levels and student performance remains a difficult undertaking. The challenge is to estimate the cost of achieving a given level of student performance. However, different levels of resources are required for different groups of students to meet standards, and various districts may experience different costs to provide the same set of services.

Three approaches are currently available to isolate the effects of funding levels while controlling for other factors that affect student performance:

- Successful schools model
- Professional judgment model
- Statistical cost model

The successful schools approach identifies schools that are succeeding, then evaluates the practices used at those schools to try to identify what makes them successful. This approach is based on the assumption that if some schools can succeed at a given level of funding, all schools should be able to succeed at that level of funding. The professional judgment model uses the judgment of educators and school finance professionals to estimate the level of resources required in order to achieve a given or desired level of student achievement. The statistical cost approach uses data-driven, statistical techniques to estimated the level of resources need to achieve a given level of performance, controlling for differences in family background, socio-economic status, teacher quality, and other factors partly or fully outside the control of the schools.

Currently, the approach used in the QEM is a form of the professional judgment model, where judgment is used to determine the level of resources for different degrees of implementation of the full model and to determine the effect on student achievement that different levels of resources will bring about. This approach involves first increasing our understanding of effective teaching practices and the other intangibles that lead to student learning, then determining how to promote those intangible elements and estimating how much it will cost to do so. As our knowledge increases, we can begin to develop measures of how much it costs to promote those elements in Oregon's schools. Efforts to find a direct link between funding and student performance are unlikely to bear fruit because they ignore the complex processes by which school resources are translated into student learning.

In this discussion, student performance is defined primarily as student achievement on statewide assessments. It is important to recognize that assessment scores are only one indicator of student success, but at this point they are easily quantified and available. A key factor to improving the QEM in the future will be the development of more comprehensive student performance measures.

The Panel identified several other issues related to funding and performance, including the need to develop statewide longitudinal data on individual student performance and progress to gain an understanding of the gains that cohort groups of students are achieving.

Other factors to consider are the changing demographic trends in Oregon's student population and the consequent effect on total resource requirements over time, varying costs across districts and the implications for equity and allocation of resources. These issues will be addressed in the School Equity Panel report.

VIII. Changes Based on Recommendations of Other Panels

[This Section will be finalized after the Commission receives reports from the Best Practices and School Funding Equity Panels]

XI. Keeping the Model Understandable and Easy to Use

The Cost Panel raised several issues in considering refinements to the Model:

Additional Detail Within the Prototype Schools

The Panel determined that the current level of description is adequate and that more detail could be confusing. Some formatting improvements would be helpful, such as including sub-totals and clarifying some of the component labels.

Additional Prototype Schools

The Cost Panel did not support the addition of more prototype schools to the Model. The Commission may wish to construct additional prototype schools and use statistical analyses to understand variations in costs among schools. These types of analyses will improve the accuracy of the Model and provide a better understanding of asymmetric costs in certain sets of schools, e.g. small high schools and schools with high concentrations of poverty that may skew the computation of the total statewide education cost. Any additional prototype schools that are needed should be developed outside the Model and included as supplementary information in the Commission Report.

X. Other Key Issues Identified by the Panel

Cost Structures

The cost structures of schools affect the appropriate approach to funding schools, but our understanding of school cost structures is incomplete.

- Some school districts experience asymmetric costs, where schools or districts with certain characteristics face much different costs (higher or lower) than the prototype schools.

- Depending on school size and possibly other characteristics, some schools may face much higher fixed costs so that adjusting to budget cuts or declining enrollment is more difficult.

- The characteristics of students, regional cost variations, and other factors outside the control of the schools themselves have implications for the total statewide level of funding and for the distribution of funding.

- State policymakers should explore possibilities for creating increased efficiencies in Oregon's school system that are beyond the authority of individual districts, e.g. reducing the costs of the PERS system and considering mergers. Benchmarking and costing of best business practices could support the identification of efficiencies at the school and district level.

- A review of federal, state, and local mandates may help identify instances where schools could increase efficiency, by relaxing or eliminating mandates that are inconsistent with local desires, are expensive to implement, and add little to the educational goals of the community.

Facilities

Under Oregon law, the financing for capital improvements to school facilities is the responsibility of local school districts. Upon voter approval, districts issue general obligation bonds to finance capital improvements and then levy local property taxes to cover debt service payments. Because there is a wide disparity in property values among school districts, voters in many districts are unwilling or unable to pay for major capital improvements. Many districts in the state have at least some schools that have a significant amount of deferred maintenance. In most cases, these conditions arose because budget constraints led districts to reduce maintenance spending in order to direct those resources to activities more directly related to student learning. The result is substantial variation in the level and quality of school facilities around the state and an estimated backlog of capital needs in the $3 billion range.

Table 6
Estimated Annual Capital Costs per Student

	1000-Student High School	500-Student Middle School	340-Student Elem. School
Land and Construction Costs	$35,000,000	$10,000,000	$6,000,000
Expected Useful Life of Facilities	50 years	50 years	50 years
Annual Amortization Costs at 6%	$2,220,540	$634,440	$380,664
Annual Amortization Costs per Student	$2,221	$1,269	$1,120
Total Number of Students in Oregon 2000-01	163,358	130,686	250,482
Estimated Total Annual Capital Costs	$362,742,973	$165,824,852	$280,439,647
Total of all Schools	**$809,007,472**		

Research is beginning to show that there is a connection between the physical environment in schools and student learning. Noisy or crowded classrooms, run-down facilities, and schools that are too large can all negatively impact academic achievement.[5]

To better understand the effects of education policies on the infrastructure needs of school districts, the State should construct a school infrastructure model that takes into account major capital improvements, routine maintenance, deferred maintenance, and the building replacement cycle. The infrastructure model also should explicitly address the question of what types of buildings are needed to achieve the educational goals specified in the Quality Education Model.

Capital cost implications of implementing the full Quality Education Model:

- The state currently has little data on the number of schools that are under-capacity, at capacity, or over-capacity, which will affect the capital cost of lowering class size and lowering school size.
- It is not clear how many schools would be required if the full Model is implemented.
- Funding for capital improvements is not equitable across the state because it is funded from local property tax levies.
- The Model does not explicitly address the costs of furnishing new classrooms.

The Effect of Technology on School Costs

Administrative Computing

School districts must upgrade their business and student accounting computer systems to meet the increasing need for accurate, detailed reporting and school-level accountability. A recent audit conducted by the Secretary of State's Audit Division pointed out the need for school districts to obtain better data management tools to improve data quality.

[5] School Physical Environment and Structure: Their Relationship to Student Outcomes, School Business Affairs, February 2001, pp. 40-44.

Currently, Oregon school districts use 23 different computer service centers and software companies for computer services. Forty-one small school districts use manual systems for recording student data. School districts need guidance and support to plan for, select, implement, and upgrade computer systems.

The Information Technology Directors from School Districts and ESD's along with the Oregon Department of Education have been working toward more standardized data collection and maintenance of student data for some time. The Data Base Initiative Project has standardized finance data collection and reporting. As part of this effort, ODE has proposed a project to set standards for computer service providers and to provide financial incentives to districts to upgrade and consolidate school district data systems. The purpose of the project, which is currently unfunded, is to reduce costs and provide accurate data to support school accountability and implementation of CIM/CAM/PASS record keeping. School districts statewide will realize substantial savings over time if computer services are moved into consolidated service centers. The quality of school data systems will improve if ODE establishes a process to certify computer systems to higher standards and provides funding to support system upgrades.

Instructional Technology

To further refine the Model, the Panel recommended further study of technology and its use in schools and raised several questions regarding the use of technology:

- What technologies are used in schools, and what are they used for?
- What do we know about the effect on costs of using technology?
- What do we know about the effect on student achievement?
- How should school districts manage funding for rapidly changing technologies?
- Should the state establish standards for instructional technology?

XI. Recommendations for Future Model Enhancements

The Panel recommended work in the following areas to continue to improve the Model:

- Developing an understanding of the relationship between school resources and student achievement. Further work is needed to understand the connection between the components of the Quality Education Model, the level of funding, and student performance.

- Continuing integration of the state's education equity goals and the QEM's cost model.

- Enhancing the Model's usefulness as a benchmark for good educational practice through regular updates of the model to reflect the most recent research.

- Benchmarking of business practices, so districts can begin to use the QEM to evaluate the efficiency of business services.

- Quantifying the Quality Indicators in the model so that they can be used to help us better understand and measure the link between school funding, school processes, and student performance.

- Further improving the depth, breadth, and quality of education data. The quality of the data available to support the QEM and other analyses of public education in Oregon has improved tremendously through the creation of the Database Initiative Project, but an ongoing effort is required.

Appendix: Description of Cost Update Methodology

Component Costs in the Quality Education Model

QEM 2000 Compared to QEM 2002

Model Component	Elem. School Prototype		Middle School Prototype		High School Prototype	
	QEM 2000 (1998-99)	QEM 2002 (2000-01)	QEM 2000 (1998-99)	QEM 2002 (2000-01)	QEM 2000 (1998-99)	QEM 2002 (2000-01)
Compensation						
Teacher Salary	$43,005	$44,510	$43,005	$44,213	$43,005	$45,274
Principal Salary	$68,000	$72,488	$72,899	$77,710	$75,955	$80,968
Assistant Principal Salary	NA	NA	$62,639	$66,773	$65,321	$69,632
Classified Employee Hourly Wage	$11.75	$12.40	$11.75	$12.40	$11.75	$12.40
Contract Benefits	34.20%	$7,438	34.20%	$7,438	34.20%	$7,438
Other Benefits	NA	22.38%	NA	22.38%	NA	22.38%
Computers						
Computer Hardware (per computer)	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000
Computer Software (per computer)	$150	$150	$150	$150	$150	$150
Supplies						
Texts, consumables/student	$60	$63	$60	$63	$75	$79
Classroom materials & equip/student	$113	$119	$126	$133	$159	$168
Copying/student	$25	$27	$21	$22	$22	$23
Media Center Materials/student	$12	$13	$18	$19	$34	$36
Teacher reimbursement/student	$10	$10	$10	$10	$10	$10
Miscellaneous/student	$50	$53	$50	$53	$120	$127
Extra-curricular/student	$0	$0	$157	$166	$239	$240
Teacher Professional Development						
Per diem	$200	$211	$200	$211	$200	$211
Materials, Travel/teacher	$225	$238	$225	$238	$225	$238
Consultants	$0	$0	$1,000	$1,000	$3,000	$3,000
Special ed. Support Staff/day	$100	$106	$100	$106	$100	$106
Leadership Training/day	$300	$317	$300	$317	$300	$317
Additional Instruction Time						
Licensed staff cost per day	$280	$296	$280	$296	$280	$296
Classified staff cost per day	$100	$106	$100	$106	$100	$106
Supplies/student	$20	$21	$20	$21	$20	$21
Other activities/student	$200	$211	$400	$423	$400	$423
Centralized Support						
Food Service/student	$0	$0	$0	$0	$12	$13
Student Transportation/student	$241	$255	$231	$244	$231	$244

Technology services/student	$95	$100	$95	$100	$95	$100
Operations & Maintenance/student	$535	$550	$535	$600	$535	$650
Other support services/student	$59	$62	$59	$62	$59	$62
Centralized special ed/student	$66	$70	$66	$70	$66	$70
Centralized curriculum, etc./student	$83	$88	$83	$88	$83	$88
District Administrative Support						
Executive (Board, super.)/student	$61	$64	$61	$64	$61	$64
Business & Fiscal/student	$71	$75	$71	$75	$71	$75
Personnel Services/student	$64	$68	$64	$68	$64	$68
Public Information/student	$12	$13	$12	$13	$12	$13
ESD Support						
Special Education/student	NA	$79	NA	$79	NA	$79
Instructional Support/student	NA	$116	NA	$116	NA	$116
Technology Services/student	NA	$29	NA	$29	NA	$29
Central Services		$12		$12		$12
ESD Overhead/student	NA	$50	NA	$50	NA	$50

Estimation Methodology for QEM Component Costs

Model Component	Methodology
Compensation	
Teacher Salary	Estimates: DBI salary database. Forecast: ODE salary forecasting model.
Principal Salary	Estimates: DBI salary database. Forecast: forecast of Portland CPI.
Assistant Principal Salary	Estimates: DBI salary database. Forecast: forecast of Portland CPI.
Classified Employee Hourly Wage	Estimates: OEA and OSEA wage rate data. Forecast: forecast of Portland CPI.
Contract Benefits	Estimates: OSBA survey of benefits. Forecast: DAS forecast of health insurance rates.
Other Benefits	Estimates: current percentage contribution rates. Forecast: Cost Panel consensus.
Computers	
Computer Hardware (per computer)	Estimates: market prices. Forecast: assumption of zero price growth.
Computer Software (per computer)	Estimates: market prices. Forecast: assumption of zero price growth.
Supplies	
Texts, consumables/student	Estimates: DBI expenditure data. Forecast: forecast of textbook price increases.
Classroom materials & equip/student	Estimates: DBI expenditure data. Forecast: forecast of Portland CPI.
Copying/student	Estimates: prior QEM estimates. Forecast: forecast of Portland CPI.
Media Center Materials/student	Estimates: DBI expenditure data. Forecast: forecast of Portland CPI.
Teacher reimbursement/student	Estimates: prior QEM estimates. Forecast: assumption of no change.
Miscellaneous/student	Estimates: prior QEM estimates. Forecast: forecast of Portland CPI.
Extra-curricular/student	Estimates:DBI expenditure data. Forecast: forecast of Portland CPI

Teacher prof. Development

Per diem	Estimates: prior QEM estimates. Forecast: forecast of Portland CPI.
Materials, Travel/teacher	Estimates: prior QEM estimates. Forecast: forecast of Portland CPI.
Consultants	Estimates: prior QEM estimates. Forecast: forecast of Portland CPI.
Special ed. Support Staff/day	Estimates: prior QEM estimates. Forecast: forecast of Portland CPI.
Leadership Training/day	Estimates: prior QEM estimates. Forecast: forecast of Portland CPI.

Additional Instruction Time

Licensed staff cost per day	Estimates: DBI salary database. Forecast: ODE salary forecasting model.
Classified staff cost per day	Estimates: OEA and OSEA wage rate data. Forecast: forecast of growth in Portland CPI.
Supplies/student	Estimates: prior QEM estimates. Forecast: forecast of Portland CPI.
Other activities/student	Estimates: prior QEM estimates. Forecast: forecast of Portland CPI.

Centralized Support

Food Service/student	Estimates: DBI expenditure data. Forecast: forecast of Portland CPI.
Student Transportation/student	Estimates: DBI expenditure data. Forecast: forecast of Portland CPI.
Technology services/student	Estimates: DBI expenditure data. Forecast: forecast of Portland CPI.
Operations & Maintenance/student	Estimates: DBI expenditure data. Forecast: forecast of Portland CPI.
Other support services/student	Estimates: DBI expenditure data. Forecast: forecast of Portland CPI.
Centralized special ed/student	Estimates: DBI expenditure data. Forecast: forecast of Portland CPI.
Centralized curriculum, etc./student	Estimates: DBI expenditure data. Forecast: forecast of Portland CPI.

District Administrative Support

Executive (Board, super.)/student	Estimates: DBI expenditure data. Forecast: forecast of Portland CPI.
Business & Fiscal/student	Estimates: DBI expenditure data. Forecast: forecast of Portland CPI.
Personnel Services/student	Estimates: DBI expenditure data. Forecast: forecast of Portland CPI.
Public Information/student	Estimates: DBI expenditure data. Forecast: forecast of Portland CPI.

ESD Support

Special Education/student	Estimates: DBI expenditure data. Forecast: assumed growth rate in special ed. costs
Instructional Support/student	Estimates: DBI expenditure data. Forecast: forecast of Portland CPI.
Technology Services/student	Estimates: DBI expenditure data. Forecast: forecast of Portland CPI.
Central Services	Estimates: DBI expenditure data. Forecast: forecast of Portland CPI.
ESD Overhead/student	Estimates: DBI expenditure data. Forecast: forecast of Portland CPI.

Elementary School - 340 Students							
		QEM 2000		QEM 2002			
Program Element:	**Component**	**FTE**	**Component cost (2000-01)**	**FTE**	**Component cost (2000-01)**	**Explanation/Assumptions**	**Comments**
Teacher salary assumption	$44,510					2000-01 Average Salary=$44,510 for elementary school teachers. Does not include benefits.	Calculation of average salary includes employee contribution to PERS for districts that pay it for their employees.
Classified employee wage rate assumption	$12.40					Based on wage data from Oregon Education Association	
Principal's secretary wage rate assumption	$13.00						
Contract Benefits	$7,438					Assumes $7,438 for every employee.	Benefits that are typically a fixed dollar amount rather than a percentage of salary. Primarily health insurance.
Other Benefits	22.38%					Employer payroll taxes, employer PERS contribution, and early retirement incentive payments.	Benefits that are a percentage of salary. Primarily payroll taxes and PERS contribution.
Core instructional staff	Kindergarten	2.00	123,819	2.00	123,819	K=40: 1 FTE @ 20:1 with full-day Kindergarten.	
	Grades 1-3	9.00	557,184	9.00	557,184	1-3=180 students. Class size=20	
	Grades 4-5	5.00	309,547	5.00	309,547	4--5=120 students. Class size=24	
	Program staff: music, PE, art, media/librarian, second language, reading specialist, math specialist, TAG facilitator, child development specialist/counselor	4.50	278,592	4.50	278,592	Schools choose staff to best meet their specific needs.	
	English Language Learners	0.50	30,955	0.50	30,955	Assumes 5% ESL (17 students)	
	Special education staffing	1.50	92,864	1.50	92,864	Assumes high-cost students are funded directly from the state.	Excludes services provided with Federal and ESD funds.
	Licensed substitute teachers for general instruction		13,260		13,260	$39 per student times 340 students	Average per student cost from DBI pilot districts = $37

	Licensed substitute teachers for special education		10,540		10,540	$31 per student times 340 students	Average per student cost from DBI pilot districts = $29
Additional instructional time for students to achieve standards	Licensed	*3.00*	13,320	*3.00*	13,320	60 students - 4wks summer schl:1/2 days- 3 licensed staff, 1 wk full-time preparation and 4wks 1/2 teaching = 15 staff days @ $296/day	Summer school and extra time will be focused on students with most need and motivation. Not available to all students.
	Classified	*1.00*	1,590	*1.00*	1,590	1 classified staff, 1 wk preparation and 4wks 1/2 time school =15 days @ $106/day	
	Supplies		1,260		1,260	60 students @ $21 per student	
	Other activities		12,660		12,660	Saturday school, tutoring, after school programs. Assumes 60 students at $211 per student.	
Instructional improvement		0.50	30,287	0.50	30,287	Curriculum Development specialist to help teachers teach to standards, administer assessments, score work samples.	
Instructional support staff assistance	Special education	1.00	29,897	1.00	29,897		
	Classified	4.00	119,589	4.00	119,589	Records clerk, parent involvement coordinator, playground supervisor, family resource center coordinator, technology specialist.	Classified wage rate estimate based on OSEA survey. School is free to distribute these support positions in whatever configuration is most consistent with achieving higher standards at that school.
	Secretary	1.00	34,166	1.00	34,166		
Administrative accountability	Principal	1.00	96,149	1.00	96,149	Average salary based Dept. of Education certificated personnel database.	Benefit rate assumed to be the same as teacher benefit rate.
Computer hardware/software	Hardware including student and administrative		17,000		17,000	Purchases 20% new computers per year. 17 computers @ $1,000 per computer	6 students/computer, 1 computer/instructional & administrative staff
	Software		2,550		12,750	Upgrade software for all machines at $150 per machine.	In QEM 2000, only new computers received software upgrades.
	Network upkeep/upgrades		0		4,500	Upgrade and maintenance of network hardware and software.	Not included in QEM 2000
Supplies, books, materials	Texts, consumables, classroom sets		21,420		21,420	$63 per student times 340 students	Some schools do not use texts. Funds could be redirected to school-produced materials.
	Classroom materials & equipment		40,460		40,460	$119 per student times 340 students	Includes video, tvs for classes, globes, maps, science equipment, etc.

	Copying		9,180		9,180	1670 copies per student @ $.016 per copy = $27 per student times 340 students	Classroom-related, administrative.
	Media center materials		4,420		4,420	$13 per student times 340 students	library books, reference materials, subscriptions.
	Teacher reimbursement of materials purchases		3,400		3,400	Out-of-pocket teacher expenses for materials/supplies @ $10 per student times 340 students.	Reflects actual current average contribution of teachers based on DBI pilot district data.
	Miscellaneous		17,000		0		
Extra-curricular activities			0		0	Elementary school extra-curricular activities are assumed to be self-supporting through fund-raising.	
Professional training & development	7 days of teacher professional development related to standards and assessments	*23.00*	33,971	*23.00*	33,971	$211 per diem- District/school discretion on how this is used: teacher training, teacher collaboration and team planning, or other professional development activities. Expectation of a minimum of 175 teacher/student contact days.	Schools can use a combination of extended contract, stipends, per diem to compensate teachers.
	Materials, Travel,		5,474		5,474	$238 per teacher	
	Consultants		0		1,000	Elementary schools are assumed to not use consultants.	
	Special ed. support staff-7 days	*1.00*	742	*1.00*	742	$106 per day	
	Leadership training for Principal--4 days	*1.00*	1,268	*1.00*	1,268	$317 per day	
Centralized support costs: Centralized costs distributed to each building	Food services		0		0	Assumes self-supporting food services program	
	Student transportation		115,600		115,600	$340 per student times 340 students	Statewide average for elementary schools
	Technology services		39,100		39,100	Computer networks, telephones, voice mail - $115 per student times 340 students	
	Operation, plant maintenance		204,000		204,000	Custodian, maintenance staff, utilities, security system - $600 per student times 340 students	Estimated based on DBI data for 2000-01
	Other support services		21,080		21,080	Warehouse, courier service, community facilities (pool, library) - $62 per student times 340 students	

	Centralized special education		23,800		23,800	Self-contained schools, other students who are not served at the building level - $70 per student times 340 students	
	Centralized curriculum development, assessment		29,920		29,920	Centralized curriculum development, assessment, and other instuctional improvement services - $88 per student times 340 students	DBI data for improvement of instruction (Function 2210) and assessment and testing (Function 2230)
District administrative support	Executive administration: Board of Education, superintendent		21,760		21,760	$64 per student times 340 students	
	Business & Fiscal Services		25,500		25,500	$75 per student times 340 students	
	Personnel Services		23,120		23,120	$68 per student times 340 students. Includes district supplemental retirement incentives	
	Public Information		4,420		4,420	$13 per student times 340 students	
Total School Cost			**$2,420,863**		**$2,419,563**		
School Cost Per Pupil			**$7,120**		**$7,116**		
School cost per ADMw			**$5,890**		**$5,887**		
Education Service District support	Special Education Services		26,860		26,860	$79 per student times 340 students	Based on DBI data for 2000-01. Does not included cash payments to districts.
	Instructional Support		39,440		39,440	$116 per student times 340 students	
	Technoogy Services		9,860		9,860	$29 per student times 340 students	
	Central Services		4,080		4,080	$12 per student times 340 students	
	ESD Overhead		17,000		17,000	$50 per student times 340 students	
Total Cost			**$2,518,103**		**$2,516,803**		
Total Cost per Pupil			**$7,406**		**$7,402**		
Total Cost per ADMw			**$6,127**		**$6,124**		

Middle School - 500 Students							
		QEM 2000		QEM 2002			
Program Element:	**Component**	**FTE**	**Component cost (2000-01)**	**FTE**	**Component cost (2000-01)**	**Explanation/Assumptions**	**Comments**
Teacher salary assumption	44,213					2000-01 Average Salary=$44,213 for middle school teachers. Does not include benefits.	Calculation of average salary includes employee contribution to PERS for districts that pay it for their employees.
Classified employee wage rate assumption	$12.40					Based on wage data from Oregon Education Association	
Principal's secretary wage rate assumption	$13.00						
Contract Benefits	$7,438					Assumes $7,438 for every employee.	Benefits that are typically a fixed dollar amount rather than a percentage of salary. Primarily health insurance.
Other Benefits	22.38%					Employer payroll taxes, employer PERS contribution, and early retirement incentive payments.	Benefits that are a percentage of salary. Primarily payroll taxes and PERS contribution.
Core instructional staff	English, math, science, social sciences, second languages, the arts	21.00	1,292,463	23.33	1,435,865	Each student takes English, math, science, social science, second lang (at least 1 yr), arts (at least 1 yr). Average class size = 25.	
	Additional teachers in math, English, science	1.50	92,319	1.50	92,319	To provide smaller classes in these areas to develop key literacy, numeracy, scientific reasoning skills	Each school to decide how best to deploy extra resources
	English Language Learners	0.50	30,773	0.50	30,773	25 students, 1 period/day	20:1 ratio, 1 period/day (assumes decreasing time in ESL over 3 years)
	Media/Librarian	1.00	61,546	1.00	61,546		

	Special education and alternative education staffing	3.00	184,638	3.00	184,638	60 spec. ed. students. Teachers teach 5 of 8 classes to allow time for paperwork, IEP meetings. Assumes high-cost students are funded directly by the state.	Itinerant services for areas like speech pathologist, school psychologist @ .50. Includes Medicare offset. Excludes services provided with Federal and ESD funds.
	Licensed substitute teachers for general instruction		19,500		19,500	$39 per student times 500 students	
	Licensed substitute teachers for special education		15,500		15,500	$31 per student times 500 students	
	Counseling/Child Development Specialist	2.00	123,092	2.00	123,092	1:250 as per accreditation guidelines	Run student support groups, family liaison, crisis intervention, peer mediation, drug & alcohol, some academic advising.
Additional instructional time for students to achieve standards	Licensed	*6.50*	28,860	*6.50*	28,860	100 students - 4wks summer schl:1/2 days- 6.5 licensed staff, 1 wk full-time preparation and 4wks 1/2 days teaching = 15 staff days @ $296/day @ 15:1	Summer school and extra time will be focused on students with most need and motivation. Not available to all students.
	Classified	*1.00*	1,590	*1.00*	1,590	1 classified staff, 1 wk full-time preparation and 4wks 1/2 days=15 staff days @ $106/day	
	supplies		2,100		2,100	Assumes 100 students at $21 per student	
	Other activities		42,300		42,300	Saturday school, tutoring, after school programs. Assumes 100 students at $423 per student	
Instructional improvement		1.00	61,546	1.00	61,546	Curriculum Development specialist to help teachers teach to standards, administer assessments, score work samples plus release periods for 5 other teachers to help departments	
Instructional support staff assistance	Principal's secretary	1.00	40,530	1.00	40,530	$13 per hour @ 260 days per yr	Classified wage rate estimate based on OSEA survey. School is free to distribute these support positions in whatever configuration is most consistent with achieving higher standards at that school.
	School nurse	0.50	30,773	0.50	30,773	Licensed staff rate	
	Special education	1.50	44,846	1.50	44,846	$12.40 per hour @ 185 days per year	
	Attendance	1.00	29,897	1.00	29,897	$12.40 per hour @ 185 days per year	
	Additional support	1.00	29,897	1.00	29,897	$12.40 per hour @ 185 days per year	
	Community outreach	1.00	34,146	1.00	34,146	$12.40 per hour @ 220 days per year	

	Family resource center coordinator	0.00	0	0.00	0	$12.40 per hour @ 185 days per year	
	Volunteer coordinator	1.00	34,146	1.00	34,146	$12.40 per hour @ 220 days per year	
	Media center assistant	1.00	34,146	1.00	34,146	$12.40 per hour @ 220 days per year	
	Receptionist	1.00	29,897	1.00	29,897	$12.40 per hour @ 185 days per year	
	Campus monitor	2.00	59,794	1.00	29,897	$12.40 per hour @ 185 days per year	
Administrative accountability	Principal	1.00	102,539	1.00	102,539	Average salary based on COSA annual survey of school administrators	
	Assistant principal	1.00	89,155	1.00	89,155	Average salary based on COSA annual survey of school administrators	
	Teacher leadership		19,000		19,000	Department chairs, lead teachers. $38 per student times 500 students	
Computer hardware/ software	Hardware including student and administrative		21,000		21,000	Purchases 20% new computers per year (16 student, 5 staff = 21) @ $1,000 per computer	6 students/computer, 1 computer/instructional & administrative staff
	Software		3,150		15,750	Upgrade software for all machines at $150 per machine.	In QEM 2000, only new computers received software upgrades.
	Network upkeep/upgrades		0		6,000	Upgrade and maintenance of network hardware and software.	Not included in QEM 2000
Supplies, books, materials	Texts, consumables, classroom sets		31,500		31,500	$63 per student times 500 students	
	Classroom materials, all equipment, supplies		66,500		66,500	Includes video, tvs for classes, globes, maps, science equipment, etc. $133 per student times 500 students	
	Copying		11,000		11,000	1400 copies per student @ .016 per copy = $22 per student	Classroom-related, administrative
	Media center materials		9,500		9,500	Library books, reference materials, subscriptions. $19 per student times 500 students	
	Teacher reimbursement of materials purchases		5,000		5,000	Out-of-pocket teacher expenses for materials/supplies. $10 per student times 500 students	Reflects actual current average contribution of teachers based on DBI pilot district data.
	Miscellaneous		25,000		0		
Extra-curricular activities	Extracurricular expenditures		83,000		83,000	Clubs, drama, debate, newspaper, FFA, athletics, outdoor school. $166 per student times 500 students	

Professional training & development	7 days of teacher professional development related to standards and assessments	*30.00*	44,310	*32.33*	47,751	$211 per diem- District/school discretion on how this is used: teacher training, teacher collaboration and team planning, or other professional development activities. Expectation of a minimum of 175 teacher/student contact days.	Schools can use a combination of extended contract, stipends, or per diem to compensate teachers
	Materials, Travel,		7,140		7,695	$238 per licensed staff	
	Consultants		1,000		1,000		
	Special ed. support staff-7 days	*1.50*	1,113	*1.50*	1,113	$106 per day	
	Leadership training for principal and assistance principal--4 days	*2.00*	2,536	*2.00*	2,536	$317 per day	
Centralized support costs: Centralized costs distributed to each building	Food services		0		0	Assumes self-supporting food services program	
	Student transportation		165,500		165,500	$331 per student	Statewide average for middle schools
	Technology services		57,500		57,500	Computer networks, telephones, voice mail. $115 per student	
	Operation, maintenance of plant		325,000		325,000	Custodian, maintenance staff, utilities, security system, roof repair, general upkeep. $650 per student times 500 students	Estimated based on DBI data for 2000-01
	Other support services		31,000		31,000	Warehouse, courier service, community facilities (pool, library). $62 per student times 500 students	
	Centralized special education		35,000		35,000	Self-contained schools, other students who are not served at the building level. $70 per student times 500 students	
	Centralized curriculum development, assessment		44,000		44,000	Centralized curriculum development, assessment, and other instuctional improvement services - $88 per student times 500 students	DBI data for improvement of instruction (Function 2210) and assessment and testing (Function 2230)
District administrative support	Executive administration (Board of Education, superintendent)		32,000		32,000	$64 per student times 500 students	
	Business & Fiscal Services		37,500		37,500	$75 per student times 500 students	
	Personnel Services		34,000		34,000	$68 per student times 500 students. Includes district supplemental retirement incentives	
	Public Information		6,500		6,500	$13 per student times 500 students	

Total School Cost*			**$3,614,742**		**$3,725,843**		
School Cost Per Pupil			**$7,229**		**$7,452**		
School cost per ADMw			**$6,017**		**$6,202**		
Education Service District support	Special Education Services		39,500		39,500	$79 per student times 500 students	Based on DBI data for 2000-01. Does not included cash payments to districts.
	Instructional Support		58,000		58,000	$116 per student times 500 students	
	Technoogy Services		14,500		14,500	$29 per student times 500 students	
	Central Services		6,000		6,000	$12 per student times 500 students	
	ESD Overhead		25,000		25,000	$50 per student times 500 students	
Total Cost			**$3,757,742**		**$3,868,843**		
Total Cost per Pupil			**$7,515**		**$7,738**		
Total Cost per ADMw			**$6,255**		**$6,440**		

High School - 1,000 Students							
		QEM 2000		QEM 2002			
Program Element:	**Component**	**FTE**	**Component cost (2000-01)**	**FTE**	**Component cost (2000-01)**	**Explanation/Assumptions**	**Comments**
Teacher salary assumption	45,274					2000-01 Average Salary=$45,274 for high school teachers. Does not include benefits.	Calculation of average salary includes employee contribution to PERS for districts that pay it for their employees.
Classified employee wage rate assumption	$12.40						
Principal's secretary wage rate assumption	$13.00						
Contract Benefits	$7,438					Assumes $7,438 for every employee.	Benefits that are typically a fixed dollar amount rather than a percentage of salary. Primarily health insurance.
Other Benefits	22.38%					Employer payroll taxes, employer PERS contribution, and early retirement incentive payments.	Benefits that are a percentage of salary. Primarily payroll taxes and PERS contribution.
Core instructional staff	English, math, science, social sciences, second languages, the arts. Added classes in core area plus courses necessary to succeed in CIM/CAM/PASS	44.00	2,765,150	46.67	2,932,944	Each student will take courses in English, math, science, social studies, second language, and the arts to meet state requirements. Average class size of 25.	Assumes teachers teach 3/4 of classes in a day (3 of 4 or 6 of 8). Assumes students are taking 7 of 8 classes. Students will take courses necessary to meet graduation requirements with a minimum of 8 electives.
	Additional teachers in math, English, science	3.00	188,533	3.00	188,533	To provide smaller classes in these areas to develop key literacy, numeracy, scientific reasoning skills	Each school to decide how best to deploy extra resources
	English Language Learners	0.50	31,422	0.50	31,422	Assumes 5% of students are English Language Learners = 50 students.	20:1 ratio, 1 period/day (assumes decreasing time in ESL over 4 years)
	Media/Librarian	1.00	62,844	1.00	62,844		

	Special education staffing	3.75	235,666	3.75	235,666	120 spec. ed. students. Teachers teach 5 of 8 classes to allow time for paperwork, IEP meetings. Assumes high-cost students are funded directly by the state.	Itinerant services for areas like speech pathologist, school psychologist @ .75. Includes Medicare offset. Excludes services provided with Federal and ESD funds.
	Additional special student programs	2.50	157,111	2.50	157,111	Alternative ed., teen parent, adjudicated students, home tutors	
	Licensed substitute teachers for general instruction		39,000		39,000	$39 per student times 1,000 students	Estimate based on DBI pilot district data.
	Licensed substitute teachers for special education		31,000		31,000	$31 per student times 1,000 students	Estimate based on DBI pilot district data.
	Counseling	4.00	251,377	4.00	251,377	1:250 as per accreditation guidelines	Run student support groups, family liaison, crisis intervention, peer mediation, drug & alcohol, some academic advising.
	Co-curricular Director		4,865	1.00	62,844	Licensed staff rate	In QEM 2000, assumes a stipend equal to athletic coaches and club advisors.
Additional Instructional Time for Students to Achieve Standards	Licensed	*13.00*	57,720	*13.00*	57,720	200 students - 4wks summer schl:1/2 days- 13 licensed staff, 1 wk full-time preparation and 4wks 1/2 days teaching = 15 days of staff time @ $296/day @ 15:1	Summer school and extra time will be focused on students with most need and motivation. Not available to all students.
	Classified	*2.00*	3,180	*2.00*	3,180	2 classified staff, 1 wk full-time preparation and 4wks 1/2 days=15 staff days @ $106/day	
	Supplies		4,200		4,200	Assumes 200 students at $21 per student	
	Other activities		84,600		84,600	Saturday school, tutoring, after school programs. Assumes 200 students at $423 per student	
Instructional Improvement		1.00	62,844	1.00	62,844	Curriculum Development specialist to help teachers teach to standards, administer assessments, score work samples plus release periods for 5 other teachers to help departments	
Instructional Support Staff Assistance	Principal's secretary	1.00	40,530	1.00	40,530	$13 per hour @ 260 days per year	Classified wage rate based on OSEA survey. School is free to distribute these support positions in whatever configuration is most consistent with achieving higher standards
	School Nurse	1.00	62,844	1.00	62,844	Licensed staff rate	
	Special education	2.00	59,794	2.00	59,794	$12.40 per hour @ 185 days per year	
	Support staff for alternative education and teen parent	1.50	51,219	1.50	51,219	$12.40 per hour @ 220 days per year	

	Counseling office	1.00	34,146	1.00	34,146	$12.40 per hour @ 220 days per year	at that school.
	School-to-work coordinator	1.00	34,146	1.00	34,146	$12.40 per hour @ 220 days per year	
	Registrar	1.00	39,002	1.00	39,002	$12.40 per hour @ 260 days per year	
	Attendance	1.00	29,897	1.00	29,897	$12.40 per hour @ 185 days per year	
	Community outreach	1.00	29,897	1.00	29,897	$12.40 per hour @ 185 days per year	
	Family resource center coordinator	0.00	0	0.00	0	$12.40 per hour @ 185 days per year	
	Departmental support	2.00	59,794	2.00	59,794	$12.40 per hour @ 185 days per year	
	Bookkeeper	1.00	39,002	1.00	39,002	$12.40 per hour @ 260 days per year	
	Volunteer coordinator	1.00	34,146	1.00	34,146	$12.40 per hour @ 220 days per year	
	Health clerk	0.50	14,949	0.50	14,949	$12.40 per hour @ 185 days per year	
	Media center assistant	1.00	34,146	1.00	34,146	$12.40 per hour @ 220 days per year	
	Receptionist	1.00	29,897	1.00	29,897	$12.40 per hour @ 185 days per year	
	Campus monitor	3.00	89,692	3.00	89,692	$12.40 per hour @ 185 days per year	
Administrative Accountability	Principal	1.00	106,527	1.00	106,527	Average salary based on COSA annual salary of school administrators	
	Assistant principals	2.00	185,307	2.00	185,307	Average salary based on COSA annual salary of school administrators	
	Teacher leadership		55,000		55,000	Department chairs, lead teachers. $55 per student times 1,000 students	
Computer Hardware/ Software	Hardware including student and administrative		45,000		45,000	Purchase 20% new computers per year (32 student, 10 staff, 3 office = 45) @ $1,000 per computer	
	Software		6,750		33,750	Upgrade software for all machines at $150 per machine.	In QEM 2000, only new computers received software upgrades.
	Network upkeep/upgrades		0		15,000	Upgrade and maintenance of network hardware and software.	Not included in QEM 2000
Supplies, Books, Materials	Texts, consumables, classroom sets		79,000		79,000	$79 per student times 1,000 students	
	Classroom materials, all equipment, supplies		168,000		168,000	Includes video, tvs for classes, globes, maps, science equipment, etc. $168 per student times 1,000 students	
	Copying		23,000		23,000	1467 copies per student @ .016 per copy = $23 per student	Classroom-related, administrative
	Media center materials		36,000		36,000	Library books, reference materials, subscriptions. $36 per student times 1,000 students	

	Teacher reimbursement of materials purchases		10,000		10,000	Out-of-pocket teacher expenses for materials/supplies. $10 per student times 1,000 students	Reflects actual current average contribution of teachers based on DBI pilot district data.
	Miscellaneous		120,000		0		
Extra-Curricular Activities	Coaching	*37.00*	180,005	*37.00*	180,005	Average coaching stipend of $4865 including benefits	
	Cther co-curricular sponsors	*8.00*	38,920	*12.00*	58,380	Clubs, drama, debate, newspaper, FFA, DECA, FBLA @ $4865 per stipend	
	Athletic event-related expenses		21,000		21,000	Referees, uniforms, event supervision, league fees. $21 per student times 1,000 students	Athletic participation & gate receipts fee cover other costs
Professional Training & Development	7 days of teacher professional development related to standards and assessments (3 days in Baseline)	*59.75*	88,251	*63.42*	93,671	$211 per diem- District/school discretion on how this is used: teacher training, teacher collaboration and team planning, or other professional development activities. Expectation of a minimum of 175 teacher/student contact days.	Schools can use a combination of extended contract, stipends, or per diem to compensate teachers
	Materials, Travel,		14,221		15,094	$238 per staff member	
	Consultants		3,000		3,000		
	Special ed. and Alternative ed. support staff-7 days	*3.50*	2,597	*3.50*	2,597	$106 per day	Training focused on special ed. and alternative ed. support staff.
	Leadership training for principal and assistance principals--4 days	*3.00*	3,804	*3.00*	3,804	$317 per day	
Centralized Support Costs: Centralized Costs Distributed to Each Building	Food services		13,000		13,000	$13 per student times 1,000 students	Some, but not all, districts can run on a self-supporting basis
	Student transportation		356,000		356,000	High school transportation is state-mandated unless district receives a waiver. $356 per student times 1,000 students	Statewide average for high schools.
	Technology services		115,000		115,000	Computer networks, telephones, voice mail, student records, administrative computing services. $115 per student times 1,000 students	
	Operation, maintenance of plant		700,000		700,000	Custodian, maintenance staff, utilities, security system, roof repair, general upkeep. $700 per student times 1,000 students	Estimated based on DBI data for 2000-01

	Other support services		62,000		62,000	Warehouse, courier service, community facilities (pool, library) $62 per student times 1,000 students	
	Centralized special education		70,000		70,000	Self-contained schools, other students who are not served at the building level. $70 per student times 1,000 students.	
	Centralized curriculum development, assessment		88,000		88,000	Centralized curriculum development, assessment, and other instuctional improvement services - $88 per student times 1,000 students	DBI data for improvement of instruction (Function 2210) and assessment and testing (Function 2230)
District administrative support	Executive administration (Board of Education, superintendent)		64,000		64,000	$64 per student times 1,000 students	
	Business & Fiscal Services		75,000		75,000	$75 per student times 1,000 students	
	Personnel Services		68,000		68,000	$68 per student times 1,000 students	
	Public Information		13,000		13,000	$13 per student times 1,000 students	
Total School Cost			**$7,472,997**		**$7,646,525**		
School Cost Per Pupil			**$7,473**		**$7,647**		
School cost per ADMw			**$6,310**		**$6,457**		
Education Service District support	Special Education Services		79,000		79,000	$79 per student times 1,000 students	Based on DBI data for 2000-01. Does not included cash payments to districts.
	Instructional Support		116,000		116,000	$116 per student times 1,000 students	
	Technoogy Services		29,000		29,000	$29 per student times 1,000 students	
	Central Services		12,000		12,000	$12 per student times 1,000 students	
	ESD Overhead		50,000		50,000	$50 per student times 1,000 students	
Total Cost			**$7,758,997**		**$7,932,525**		
Total Cost per Pupil			**$7,759**		**$7,933**		
Total Cost per ADMw			**$6,552**		**$6,698**		