February 21, 1997

Senator Craig A. Peterson
Representative Bill Wright
Utah State Legislature
319 State Capitol Bldg
Salt Lake City UT 84114

Subject: **Applied Technology Education Funding** (Report #94-10)

Dear Legislators:

The State Legislature should develop a more rational approach for distributing funds for applied technology education. Over the years, state officials have made numerous changes to the funding formula as they have tried respond to many different individual needs. As a result, funding for applied technology education has evolved into an overly complex process which is not guided by a unifying set of policies which apply statewide. Because different rules apply to different circumstances, there are regions and school districts which receive a greater share of state funds simply because they draw from a better set of funding sources than others. We recommend that the Legislature study the problems identified in this report and consider developing alternative strategies for funding applied technology education.

The State Lacks a Coherent Approach for Funding Applied Technology Education

The state's current approach for funding applied technology education does not distribute funds in an equitable manner from region to region or from school district to school district. For both adult and secondary programs, some regions receive far more public funds per capita than other regions. On a region by region basis, we compared the total funding for applied technology education for both secondary and adult programs to the total number of high school students and working age adults living in each region. Although an analysis based on per capita spending may not tell the whole story, we consider it to be a fair starting point for evaluating the impact of the state's current approach for funding applied technology education.

Some State Funding Policies Lead to Inequitable Funding

There are many causes for the inequities in the current system of funding applied technology education. One major concern is that some regions of the state have access to fully-funded applied technology centers while other regions of the state do not have similarly funded programs. However, it would be a mistake for state policymakers to focus on this problem alone because the state's current funding policies also create a number of other inequities. For example, the state has a policy which allows the double funding of students attending colleges and ATCs. In addition we found that certain regions are able to draw much more funding for their programs simply because of the particular funding sources they are able to draw from. Finally, we are concerned that appropriations are often linked to student enrollment.

A More Rational Funding Mechanism Is Needed

We do not believe that the current inequities in the state's funding policies can be corrected by simply creating additional ATC facilities in regions which do not currently have them. This piecemeal approach to funding applied technology education is what caused the problem in the first place. Instead, we recommend that the Legislature consider developing a more equitable funding formula which is based not only on student enrollments but also rewards institutions for accomplishing other positive outcomes such as placing students in the job market.

In addition to developing a new funding formula, we also recommend that the budget process be linked to a comprehensive strategic planning process. Specifically, we recommend that institutions should not be permitted to use their state funding for applied technology education until the use of those funds has been included in a regional strategic plan prepared by regional vocational education councils. We believe this will encourage the school districts, colleges and ATCs in each region to combine their efforts in ways which will result in a more efficient use of funds.

Audit Scope

This letter report addresses just one of several questions you asked. In addition to the funding of applied technology, we were also asked to evaluate the performance and costs of

individual programs as well as the governance of applied technology education in general. These other issues will be covered separately in a report to be released at a later date.

With regard to the funding issue, we were asked to evaluate the fairness of public funding for applied technology education by legislators who wanted to know whether the four vocational education service regions not served by an ATC are receiving the same level of funding as the five regions which have ATCs. We recognize that there are many ways we might have judged the "fairness" of the funding formula for applied technology education and that there are advantages and disadvantages to any approach we might have selected. We decided that the best way to compare the total impact of state funding for applied technology would be to compare the amount of funding from all sources; state, federal and local; to the student population which might be served in a region. We also decided to evaluate funding for adult and secondary programs separately.

Funds For Applied Technology Education Are Not Distributed Evenly

The state's current funding policies for applied technology education provide certain regions and school districts with higher levels of funding than others. When we evaluated funding for programs serving secondary students, we found that three regions which do not have applied technology centers received less funding per student than other regions in the state. When the funding for adult applied technology training was evaluated, the Wasatch Front South and Davis Regions were found to be receiving far less than other regions. Our findings are based on a comparison of all sources of funding for applied technology education to the potential student population residing in each region. Although our analysis of per capita spending may not reflect the actual need for services in each region, we consider it to be a fair starting point for evaluating the impact of the state's current approach for funding applied technology education.

Funding for High School Programs Is Lowest in Three Regions Without ATCs

Three of the four regions without ATCs receive less funding for applied technology education than other regions in the state. These three service delivery regions are the Wasatch Front-South, including Salt Lake and Tooele counties; the Mountainlands, including Utah,

Wasatch and Summit counties; and the Southwest region, including Washington, Beaver, Garfield, Iron and Kane counties. However, not all regions without ATCs have a low level of funding. Even though the Southeast Region does not have an ATC, it receives the highest level of funding for applied technology programs serving secondary students.

Because there are many different sources of funding for applied technology education, we decided the best way to evaluate the fairness of the current funding process would be to compare the total funding level in each region to the potential demand for applied technology education in that region. For programs serving secondary students, the potential demand is represented by the total number of 9th, 10th, 11th and 12th grade students residing in each region. Figure I shows the amount of total applied technology appropriations, the high school student population, and the funding per student in each of the nine regions of the state. See the attachments for a detailed description of the high school populations and appropriations to each region.

Figure I
Funding for Secondary Applied Technology Education By Region
FY 1993

Region	Revenues From All Sources	Percent of Total	High School Age Population	Percent of Total	Appropriations Per High School Student
Bear River	$7,673,098	7.5%	9,017	6.6%	$ 851
Davis	13,270,319	12.9%	17,320	12.7%	766
Six County	5,189,300	5.1%	4,667	3.4%	1,112
Uintah Basin	3,810,145	3.7%	3,278	2.4%	1,162
Weber-Morgan	9,014,164	8.8%	11,424	8.4%	789
ATC Regions:	**38,984,026**	**38.0%**	**45,706**	**33.5%**	**853**
Mountainland	16,680,458	16.3%	24,720	18.1%	675
Southeast	5,089,300	5.0%	4,180	3.1%	1,218
Southwest	5,660,507	5.5%	7,609	5.6%	744
Wasatch Front South	36,213,468	35.3%	54,247	39.8%	668
Unserved Regions:	**63,643,733**	**62.0%**	**90,756**	**66.5%**	**701**
STATEWIDE	**$102,627,759**	**100.0%**	**136,462**	**100.0%**	**$ 752**

Figure I demonstrates that regions with ATCs receive more funds per student than the state average appropriation for applied technology education. The Uintah Basin and Six County Regions are appropriated the two highest per capita amounts among the ATC regions. Uintah Basin receives the highest amount at $1,162 for each secondary student and Six County gets $1,112 per secondary student. The reason these ATC regions receive such a large amount of funding per secondary student is because they have low student populations compared to the amount of funds they receive. For example, the Uintah Basin Region is appropriated almost double the $668 appropriated for each student in the Wasatch Front South Region. However, in terms of the total appropriations, these regions receive a small

amount compared to other regions. For example, the Uintah Region only receives about one tenth the total amount of funds appropriated to the Wasatch Front South Region.

Figure I also shows that three of the four non-ATC regions are appropriated less than the state average of $752 per secondary student. The Wasatch Front South region, which includes Salt Lake and Tooele counties, gets the least amount per secondary student in the state--only $668. The Mountainland Region, made up of Utah, Summit, and Wasatch counties, only receives slightly more than the Wasatch Front South with $675 per secondary student. However, these are also the two regions with the highest student populations in the state. In addition, the Southwest Region receives $744 per secondary student which is just below the state average. Possible reasons the Southwest Region fares better than the Wasatch Front South and Mountainland are that it does not have as large a student population. In addition, the Southwest Region has developed several cooperative agreements among the high schools, Dixie College, and Southern Utah University that draw funds through appropriations for both public education and higher education. In contrast to the other three non-ATC region, the Southeast Region is appropriated the highest amount per secondary student in the state at $1,218. This can be attributed to the fact that the Southeast Region also has cooperative agreements between high schools and college and because school districts generate three times the local tax revenue per student than the state average.

Overall, Figure I illustrates that ATC regions get more money per student than the non-ATC regions. The school districts and ATCs in those regions are appropriated $853 per secondary student. The school districts and colleges in the non-ATC regions are appropriated $701 per secondary student. Therefore, the ATC regions get $152 (22%) more per student than the non-ATC regions. One cause for this secondary student inequity between regions is the ATC regions get a $17,000,000 appropriation for the ATCs and the non-ATC regions only get $600,000 appropriated for "ATC-type" programs.

Figure 2 compares the current funding levels for each region with the amount of funding each region would received if funds were appropriated at the statewide average rate of $752 per secondary student.

Figure II

Appropriations Based On Secondary Student Populations FY 1993

Region	Revenues from all Sources	Appropriations if Based on State Average	Difference
ATC Regions:			
Bear River	$7,673,098	$6,781,335	($ 891,763)
Davis	13,270,319	13,025,698	(244,621)
Six County	5,189,300	3,509,869	(1,679,431)
Uintah Basin	3,810,145	2,465,256	(1,344,889)
Weber-Morgan	9,041,164	8,591,546	(449,619)
Unserved Regions:			
Mountainland	16,680,458	18,590,950	1,910,492
Southeast	5,089,300	3,143,615	(1,945,684)
Southwest	5,660,507	5,722,433	61,925
Wasatch Front South	36,213,468	40,797,058	4,583,590

According to Figure II, if all sources of funding for applied technology education were allocated on the average statewide rate of $752 per student, three of the four regions not served by ATCs would have received more funds than they did in 1993. The Wasatch Front South Region would receive an additional $4.5 Million. The Mountainland Region would receive an additional $1.9 Million. The Southwest Region would have received a smaller increase of $61,000.

We do not advocate that funding be based purely on the population of individuals which might be served in each region. Some allowance needs to be made for other factors. State officials need to consider the fact that because of their size, larger districts should be able to operate more efficiently and at a lower cost per student than the smaller regions. Economists

refer to this as the "economies of scale." For example, the Wasatch Front South Region has the largest student population. Their cost per student should be lower than other regions because their facilities will be used more efficiently. More of their courses will be full and the cost for equipment will be spread among more students. In smaller region such as the Uintah Basin, the classes and equipment will not be used as efficiently because they will have more difficulty filling each class and will be more likely to have equipment which sits idle at some time during the day.

Our analysis suggests there are inequities in the funding for applied technology education. However, we do not believe it would be more equitable to provide the Wasatch Front South Region with an increase of $4.5 Million to bring that region to the state average, and, for example, to reduce the funding for the Uintah Basin from $3,810,145 to $2,465,256. For the Uintah Basin Region, this would amount to a 45% reduction in the funding for that region. We do not believe the Uintah Basin could maintain a viable applied technology program at the state average of $752 per student. Some allowance need to be made for the lower efficiencies and the need to cover fixed costs of administration in the smaller regions. However, we believe our analysis of the per capita funding levels is still instructive. It identifies the degree to which certain regions benefit most from the current funding process.

Some Regions Receive High Levels of Funding For Their Adult Programs

We also evaluated the funding level in each region for applied technology programs aimed at students over age 18. We compared the total amount of funding from all state, federal and local sources for adult applied technology education to the potential demand for applied technology education in each region. To calculate the funding for adult programs, we identified all appropriations to the state's five ATCs, five colleges and three universities. To estimate the potential demand for applied technology education in each region, we identified the number of working-age adults age 18 to 64. Figure III compares the total funding in each region to the potential adult student population in the region. See the attachments for a detailed description of the working-age adult population and appropriations to each region.

Figure III
Funding for Adult Applied Technology Education By Region
FY 1993

Region	Revenues from all Sources	Percent of Total	Adult Work Age Pop.	Percent of Total	Appropriation Per Working Age Adult
Bear River (a/c)	$ 4,551,598	6.4%	57,754	6.1%	$ 79
Davis (a)	2,449,887	2.9%	103,745	11.0%	24
Mountainland (c)	13,144,022	17.5%	160,279	17.0%	82
Six County (a)	3,562,684	4.3%	24,658	2.6%	144
Southeast (c)	3,308,568	4.4%	25,566	2.7%	129
Southwest (c)	7,407,852	9.8%	41,318	4.4%	179
Uintah Basin (a)	1,726,107	1.8%	17,794	1.9%	97
Weber-Morgan (a/c)	18,711,150	24.4%	87,435	9.3%	214
Wasatch Front S (c)	21,422,551	28.5%	426,899	45.2%	50
Statewide	**$76,284,418**	**100.0%**	**945,448**	**100.0%**	**$ 81**

(a) Regions served by ATCs
(c) Regions served by colleges

Figure III shows that even though the Wasatch Front South Region receives more funds than any other region for its adult applied technology programs, it receives much less than other regions when its funding is considered in terms of the population that might be served in the region. This is because the Wasatch Front-South receives only 28% of all funds even though it has 45% of the working age adults in the state. The data also shows that the Davis County Region receives the lowest amount of funding for applied technology education at only $24 for each working age adult.

Figure IV compares current funding levels for each region with the amount of funding each region would receive if funds were appropriated at the statewide average rate of $81 per adult.

Figure IV

Difference Between Actual and State Average Funding For Adult Applied Technology Education
FY 1993

Region	Actual ATE Revenues from All Sources	Appropriations if Based on State Average	Difference
Bear River (a/c)	$4,551,598	$4,659,939	($108,342)
Davis (a)	2,449,887	8,370,769	5,920,822
Mountainland (c)	13,144,022	12,932,272	(211,750)
Six County (a)	3,562,684	1,989,555	(1,573,129)
Southeast (c)	3,308,568	2,062,818	(1,245,750)
Southwest (c)	7,407,852	3,333,784	(4,074,068)
Uintah Basin (a)	1,726,107	1,435,727	290,380
Weber-Morgan (a/c)	18,711,150	7,054,780	(11,656,369)
Wasatch Front S. (c)	21,422,511	34,444,773	13,022,222

(a) regions served by ATCs
(c) regions served by colleges

It is more difficult to draw conclusions about the fairness of the funding levels for adult programs than it is for secondary students. Many adults may already be employed and not require job training; and adults tend to have better access to training programs because they are more mobile. For example, the Davis Region has the lowest per capita spending because it is a region with a large population but no college or university. Within Davis County, the only state source for adult applied technology training is the Davis Applied Technology Center. However, Davis residents also have reasonable access to applied technology programs offered at Weber State University and the Salt Lake Community College. Moreover, it should be noted

that Davis County, the region with the lowest allocation per working adult, is positioned between the region with the highest allocation--Ogden-Weber--and the region with the next lowest funding level--the Wasatch Front South Region. One might conclude that this makes the Weber-Morgan funding levels appear less a problem because they also serve students from Davis County. On the other hand, one might conclude that the situation in the Wasatch Front South may be even worse because they must also serve students from South Davis County.

It is difficult to know whether the adult populations are really being denied adequate services in the Wasatch Front South and Davis Regions. Our analysis does not consider the fact that adults in some regions may have better access to the many private institutions which offer technical training. For example, the Wasatch Front South Region may not need additional applied technology services because a large portion of its adult population is being served by institutions such as ITT Technical College, the LDS Business College and the many other organizations which provided specialized technology training. On the other hand, there are a number of programs at the Salt Lake Community College which are at capacity or have waiting lists. This information, combined with the placement results of individual programs and other job outlook data, should be considered when evaluating the needs of the Wasatch Front South and Davis County Regions.

Our approach also fails to consider the fact that the job market may be better in some parts of the state than others and that this may cause differences in the demand for adult applied technology training. To keep our study simple, we based our analysis on the appropriations per adult worker. We had to assume that the need for publicly funded applied technology training is the same for workers throughout the state. We do not advocate that funds for adult training programs be distributed according to the number of adults people living in each region. Instead, state officials need to develop a method for distributing funds which fairly reflects the need in each region. The next section of this report describes a number of problems with the current funding mechanism which state officials need to be aware of as they consider alternatives to the current funding formula.

Some State Funding Policies Are Not Equitable

In this section, we identify some of the state's funding policies and practices which cause the inequities described in the previous sections of this report. Perhaps the single greatest cause for the imbalance in the funding from region to region is the fact that the state provides funding for full-scale applied technology centers in only five of the nine regions of the state.

Another inequity is caused by a state policy to effectively double-fund secondary student enrollment at ATCs and colleges. We found this policy results in over $2 Million in expenditures which only benefits regions which have good access to applied technology centers and colleges. Finally, we question the practice of using student enrollment as the

only basis for funding because it provides poor incentives and because we found several inconsistencies in the manner in which institutions track student enrollment.

Funding For ATCs Favors "Brick And Mortar" Facilities

One cause for the imbalance in the regional funding for applied technology education is that five regions of the state are served by independent, fully-funded Applied Technology Centers which receive an annual appropriation of roughly $17,000,000. The remaining regions which are not served by ATC facilities are commonly referred to as "unserved regions." The Legislature has directed these regions to provide ATC-type programs at the colleges, district technology centers and high schools within their regions. The programs in these regions are commonly referred to as "unserved region ATCs" even though they lack a facility which could be considered a "center." Although they are supposed to be funded on the same basis as the regular ATCs, the unserved regions ATCs have not been included in the appropriation for traditional applied technology centers. The state's practice of funding the traditional ATCs through one appropriation, and the unserved region ATCs through another separate appropriation, is a major cause for the inequities described in the previous section. Figure V identifies the funding which was provided to the five regular ATCs and the four unserved region ATCs.

Figure V
Funding for Applied Technology Centers
Adult Programs Only

ATC's and Regions	FY 1993 Appropriation
Five Traditional ATCs:	
Bridgerland ATC	$ 3,966,532
Davis ATC	3,926,485
Ogden-Weber ATC	4,674,023
Sevier Valley ATC	2,381,508
Uintah Basin ATC	2,297,740
TOTAL	**$17,246,288**
Four Unserved Region ATCs:	
Southeast Region ATC	$ 75,000
Mountainland Region ATC	155,900
Southwest Region ATC	196,700
Wasatch South ATC	172,400
TOTAL	**$ 600,000**

Figure V demonstrates the disparity in the funding for regions served by the traditional ATC facilities and the applied technology programs in the unserved regions. In fiscal year 1993, the five independent or "brick and mortar" ATCs received a special appropriation of $17,246,288 from the uniform school fund and minimum school program. During the same year, each of the four "unserved regions" which did not have applied technology centers were asked to create programs to provide applied technology-type services at the local colleges and at local school districts facilities.

The creation of unserved region ATCs was considered to be a way to provide advanced training to the four unserved regions without having to build new facilities. However, these ATC-type programs were not funded through the same appropriations bill as the regular

applied technology centers. We question whether this is consistent with the **Utah Code** Section 53A-17-133 (4)(b) which states, when referring to the regions of the state without applied technology centers, that *"Funding for those regions shall be on the same basis as funding for the Applied Technology Centers."* Instead, each of the unserved regions have been funded through an different appropriations process. As a result, the funding for each of the unserved region ATCs has been quite low compared to the amounts appropriated to the regular ATCs. For fiscal year 1993 the four unserved region ATCs received $600,000. In fiscal year 1994, the funding for the unserved region ATCs was increased to $1.2 million.

The unserved regions face a dilemma in that their applied technology centers do not generate sufficient funds because they still have relatively low levels of enrollment. This makes it very difficult for them to cover the cost of developing the new facilities needed to draw larger numbers of students. On the other hand, state officials are reluctant to put large amounts of new money into programs which do not enroll significant numbers of students. When the Legislature considers ways to reformulate the current formula for applied technology education, it should also consider ways to deal with the problem of covering the start up costs for "applied technology centers" in the unserved regions.

State Policy Permits the Double Funding of Secondary Students

Another inequity in the funding formula is caused by a state policy that allows the double funding of high school students attending an ATC or community college. In order to encourage more high school students to attend programs offered at community colleges and ATCs, school districts are allowed to retain their base appropriation for students enrolled at these other institutions. We believe this policy is unfair because it mainly benefits the districts near a community college or applied technology center. If the Legislature wishes to encourage districts to take advantage of the opportunities available at the community colleges and ATCs, we believe there are other more equitable strategies which should be pursued.

Districts Retain The Weighted Pupil Unit for Students Attending ATCs and Colleges. The state code allows districts to continue to receive funding for students enrolled in an applied technology center and community colleges. **Utah Code** Section 53A-17a-114 (3) states:

> *Students served under this section in an applied technology center… shall continue to be counted in the regular school program average daily membership of the sending school district.*

We were told by several sources that school districts had been very reluctant to send their

students to the applied technology centers because in doing so they give up funding. As a result, this policy was adopted in the early 1980s as a means to encourage districts to send their students to the ATCs. The impact of this policy is that the sending district receives approximately $1,500 for each full time equivalent student attending the applied technology center or community college. In some cases, the district does have to pay to for student busing to the other institutions and it is appropriate that the state reimburse them for that cost. However, many high schools are adjacent to a community college or ATC and the students walk to the campus themselves. We also found that many high school students provided transportation for themselves when they do have to travel to the ATC or College. In addition, some ATCs have begun to offer their courses as satellite programs at the high schools. In these cases, the cost to the school districts is minimal. Yet they receive the same $1,500 for every full time equivalent student as if they were enrolled in a regular district course. As a result, a total of $2,075,548 is appropriated to school districts for instruction which they do not have to provide and for a minimal amount of transportation and overhead expenses.

This policy produces a huge benefit for school districts and students near an ATC or college because not only do these students receive their training in better facilities, the school districts also get a financial benefit for sending them to these better facilities. In contrast, some school districts do not have the same access to an ATC or a college because of their location or because their class schedules do not allow students the same access to the more high-tech ATCs and colleges. As a result, they do not get any extra money that may have been used to improve their limited applied technology facilities. This policy creates a disadvantage for those school districts and students that have the least access to high quality technology training.

Districts Benefiting Most are Those Near an ATC. We identified the school districts which benefit most from the policy of allowing districts to retain the weighted pupil unit for the students attending a community college or applied technology center. Figure VI identifies the amount of base funding (WPUs) paid to school districts for students actually taught a college or an ATCs. As the figure shows, the districts receiving the most money from this source are those which have high schools adjacent to an ATC or community college.

FIGURE VI
1993 APPROPRIATIONS FOR CONCURRENT ENROLLMENT IN COLLEGE AND ATC TECHNOLOGY PROGRAMS

	ENROLLMENT			92-93	DOLLARS
DISTRICT	CONCURRENT	TOTAL	PERCENT	WPU	APPROPRIATED
Alpine#	105.2	1,731.4	6%	$1,490	$156,747
Beaver	0.4	93.1	0%	1,490	544
Box Elder*	89.0	515.6	17%	1,490	132,576
Cache*	118.8	607.5	20%	1,490	177,037
Carbon#	81.9	363.4	23%	1,490	121,957
Daggett	0.0	11.0	0%	1,490	0
Davis*	306.2	2,461.5	12%	1,490	456,164
Duchesne*	123.2	277.6	44%	1,490	183,520
Emery	0.0	126.8	0%	1,490	0
Garfield	4.3	79.8	5%	1,490	6,365
Grand	0.0	84.1	0%	1,490	0
Granite	16.8	3,421.5	0%	1,490	24,981
Iron	4.2	229.5	2%	1,490	6,185
Jordan	36.0	2,614.0	1%	1,490	53,852
Juab	0.0	80.1	0%	1,490	0
Kane	1.0	69.0	1%	1,490	1,490
Millard	0.0	199.2	0%	1,490	0
Morgan	6.5	98.4	7%	1,490	9,761
Nebo	21.0	751.8	3%	1,490	31,438
N Sanpete	0.0	109.1	0%	1,490	0
N Summit	0.0	57.8	0%	1,490	0
Park City	0.0	71.5	0%	1,490	0
Piute	1.4	23.3	6%	1,490	2,152
Rich	0.0	26.8	0%	1,490	0
San Juan	0.0	202.4	0%	1,490	0
Sevier*	117.6	302.1	39%	1,490	175,205
So Sanpete	0.0	133.5	0%	1,490	0
So Summit	0.9	72.7	1%	1,490	1,390
Tintic	0.0	8.8	0%	1,490	0
Tooele	0.6	315.7	0%	1,490	994
Uintah	0.0	325.5	0%	1,490	0
Wasatch	4.8	204.3	2%	1,490	7,201
Washington	50.9	573.4	9%	1,490	75,854
Wayne*	8.2	54.0	15%	1,490	12,251
Weber*	107.0	1402.4	8%	1,490	159,451
Salt Lake	10.9	970.0	1%	1,490	16,363
Ogden*	92.9	512.2	18%	1,490	138,501
Provo	21.5	749.8	3%	1,490	32,053
Logan*	54.6	184.2	30%	1,490	81,367
Murray	6.9	205.0	3%	1,490	10,420
TOTAL	1,392	20,319.8	7%	$1,490	$2,075,548

**** Districts with high ATC enrollment***
 # Districts with high Community College enrollemnt

Figure VI identifies the districts that benefit most from the policy allowing them to retain their weighted pupil units for students attending an ATC or community college. Of the $2,075,548 that is appropriated to districts as a result of this policy, $1,516,072 is appropriated to the nine districts which are adjacent to the ATCs. Although they receive 73% of the funding from this policy, they only have 30% of the state's high school population. Another $354,558 (17%) is appropriated to three districts that have community colleges within their district boundaries. As a result, this policy primarily benefits only 12 of the 40 school districts in the state. Among the districts not benefiting from this policy are the districts in Salt Lake County. Although the county has 37% of the state's high school population, it only receives less than 5% of the funds from this source.

The policy which allows the double funding of students was adopted because school districts would not send their student to the ATCs if it meant a loss in their base appropriations. However, we believe it is a policy which the state will not be able to sustain. As more students decide to attend the ATCs and the colleges on a concurrent basis, the policy to allow districts to retain the WPU will eventually become too expensive and will contribute to more inequities among districts. Instead, we believe other measures should be taken to encourage school districts to send their students to more cost effective institutions such as an ATC or community college. For example, in the final section of this report, we recommend that the state require each region to develop a single strategic plan which describes how the funds appropriated to each school district, ATC and/or college in the region will be used. We believe that by linking the use of funds to the strategic planning process will force institutions to maximize the use of their facilities and which will encourage school districts to send their students to the most cost-effective facility available.

Some Regions Draw From Better Funding Sources Than Others

Although we found some inequities in the funding for adult programs, we found the greatest inequities in the funding for secondary programs. The amount of funds appropriated for secondary program in any given region, depends on the set of funding mechanisms a program can draw from. We found that some regions are able to draw from a better set of funding mechanisms than others. As a result, they receive more money for each student enrolled in their programs than other regions do. For example, we identified five different scenarios for funding applied technology education for secondary students. Although the programs and the students are largely the same in each case, the amount of state funds allocated to each situation differs because each program is funded through a different set of funding sources.

Figure VII identifies the total state appropriation for five different scenarios. For each institution we have identified the amount of state funds appropriated for the equivalent of a single full-time secondary student or "average daily membership."

Figure VII
Total State Appropriations
For Five Different Funding Scenarios

Funding Scenario	1993 Appropriation per Full Time Secondary Student
1. A high school student attending an "unserved region" ATC institution	$1,495[1]
2. A high school student attending a college vocational program	5,830[2]
3. A high school student taking a vocational program in the school district	3,606[3]
4. A high school student attending an ATC program at the high school	3,676[4]
5. A high school student attending an ATC program at the ATC facility	3,676[4]

[1] For a full-time secondary student attending an "unserved region" ATC the state appropriates $4.62 per full-time student. In addition, the sending school district is allowed to retain the base weighted pupil unit per full-time student equaling $1,490. Thus, a total appropriation of $1,494.62 per full-time student is made by the state.

[2] On average, a high school student attending a college vocational courses represents $2,224 in appropriations for additional vocational FTEs. In addition, the school districts retain the $1,490 base WPU and receive a vocational add-on of $2,115.80 as long as they are paying a portion of the student's college instruction (usually tuition). The total appropriation per full-time secondary student is $5,829.80.

[3] For a high school student attending an applied technology course at the high school, the state appropriates a base weighted pupil unit plus a vocational add-on for the extra cost of vocational courses. Thus, the total appropriation per full-time student is $1,490 plus $2,115.80 totaling $3,605.80.

[4] ATC courses generate the same appropriation whether they are offered at the ACTs or as satellite courses at the high schools. For these programs, the state appropriates $2,186 per full-time student to the ATC, and the school district retains the base weighted pupil unit appropriation of $1,490. The total appropriation equaling $3,676.

Figure VII shows that the state's current approach for funding secondary applied technology education results in many different funding levels. The examples show that the state's approach for funding applied technology education is neither fair nor is it rational. Each institution may offer the same type of applied technology training to high school students but the state provides a different level of funding for each situation depending on the mechanisms which are applied to the individual situations. For example, a high school student may attend an applied technology course at his or her own high school but it may be sponsored by an applied technology center. This program would be funded through a different set of funding mechanisms than a similar course taught at another high school which is sponsored by the school district not the applied technology center. In another case, a high student may attend a college course on a concurrent enrollment basis with the school district paying for the cost of tuition. However, that scenario will draw a much higher rate of funding from the various funding mechanisms than a similar course taught through a "service region applied technology center" also located at a community college. These examples demonstrate that the level of funding for any given applied technology program can vary tremendously depending on the types of funding mechanisms from which the program can draw.

Current Funding Formulas Over Emphasize Enrollment

Much of the funding for applied technology education is based, either directly or indirectly, on the number of students enrolled at an institution. There are two reasons why the state should not rely on student enrollment as the only basis for funding applied technology education. First, it creates negative incentives for institutions which offer applied technology education. Institutions are rewarded for the number of students they can enroll rather than for accomplishing other more important objectives. Second, any inconsistencies in the reporting of student enrollment of the institutions impacts the appropriation of funds. We recommend that as state policymakers consider developing a more straightforward rationale for funding applied technology education, they use a mechanism which encourages institutions to be more responsive to the needs of the job market. If the objective of applied technology education is to help people get the skills they need to find a good job, then at least a portion of the funding mechanism should reward institutions for how well they accomplish this goal.

Negative Incentives of Enrollment Based-Funding. Secondary programs offered at the high schools and ATCs are funded based on the number of membership hours they generate. The colleges and universities are appropriated funds for student growth based on the number of new full-time equivalent students (FTEs). These "FTEs" are based on the number of credit hours earned by students. If the goal of applied technology education is to place students in meaningful jobs by providing them with marketable skills, these funding mechanisms do not

advance this goal. Instead, institutions are encouraged to offer programs that generate enrollment, rather than offering programs that train students with marketable skills. For example, programs such as cosmetology and business information systems are the anchor courses because they can generate a large number of membership hours at a lower cost. On the other hand, a computerized machining technology course is very expensive to operate and has a low enrollment capacity. Given the incentives of the current funding formula, ATC superintendents and board members have the tough job of having to choose between programs for which there are many high paying jobs available but which are hard to justify financially, and those which may not have as high a demand but which put less of a financial burden on the ATC. In addition, the funding formula encourages institutions to keep students in training even after they have obtained the competencies they need to achieve their career goals. Finally, the funding formula encourages institutions to attract students into training programs that may not have viable market demand. If state officials want to encourage institutions to be more sensitive to the needs of the employer community, they should find ways to link funding to some kind of performance measure such as a student placement rate.

The policy of using student enrollment as the basis for funding also discourages cooperation between the institutions providing applied technology education. One of the benefits of applied technology centers comes from consolidating the resources into a single institution, thereby students in an area are given the opportunity to receive advanced, technical training at a minimal cost. In addition, many of the state's colleges and universities can also serve this same role. However, the policy to use student enrollment as the sole basis for funding applied technology education discourages districts from sending students to the ATCs and community colleges. Even though it may be in the best interest of the students to have them attending programs offered at other institutions, school districts are often reluctant to give up jurisdiction over their students. As mentioned in the previous section, the state needs to develop strategies which encourage school districts, colleges, and ATCs to work together to provide students with the best possible technical training at the lowest cost.

Inconsistencies in Reporting Enrollment. We have identified several inconsistencies in the reporting of both membership hours reported by the ATCs and the credit hours reported by colleges. Because many funding mechanisms are indirectly linked to enrollment measures, these inconsistencies can impact the amount of funds appropriated to these institutions.

We identified several inconsistencies in the way ATCs account for their student enrollments. Some institutions report the actual class time instruction. For example, if class is held for a 50-minute period, institutions are supposed to report the course as 50/60ths of a membership hour. However, some ATCs include the five or ten minutes between classes as part of their regular class period. This makes a difference in how much revenue the institution can generate from state funds because it inflates the amount of membership hours reported by the institution. Membership hours have been used to determine how much of the state's appropriation to ATCs is distributed to each ATC. For example, one ATC holds four 85-minute class periods during the day but reports 1.5 membership hours for each class period. This results in an over reporting of 6% of the membership hours generated for each course on that schedule. This resulted in an over reporting of 15,675 membership hours during 1993. This in turn led to an extra appropriation of $77,119 which the institution would not have received had they complied with State Office of Education policy.

We also identified a few inconsistencies in the manner in which colleges award credit hours for certain courses. The general guideline is that one hour of instruction per week during the term should earn a student one credit hour. For example, a three credit-hour course should be scheduled for three hours of class time a week for ten weeks. This would total thirty hours of instruction time during a quarter. However, we found many programs which did not appear to hold to this rule. It appears to be a problem which is most common among applied technology courses. Unlike academic courses, a majority of the instruction for applied technology courses is given in a laboratory setting such as in a computer lab, a diesel engine shop, or machine shop. Some administrators told us that they will offer more credit hours for a course depending on the number of hours a student will spend in a scheduled lab. However, others told us that lab time is not considered when assigning credit hours to an applied technology course. We were not able to identify the extent to which college enrollment is measured inconsistently. However, if funding is to be based on student enrollment, the higher education system needs to make sure the institutions use a consistent approach for measuring student enrollment.

Legislature Should Consider New Funding Strategies

We do not believe that building more applied technology centers is the best way to make the distribution of funding more equitable. If legislators wish to address the funding problems identified in this report, we recommend that they make further study of this issue and consider

new funding strategies. We also recommend that the budget process be integrated into a larger strategic planning process in which the performance and cost effectiveness of programs are considered at the same time the budgets are prepared for each region. The need for better strategic planning will be discussed in a separate report.

Building New ATCs Would Only Create More Inequities

The inequities in the state's current funding mechanism for applied technology education need to be corrected. However, if the Legislature were to try to solve this problem by building new applied technology centers in each of the service regions, it would only swing the imbalance in the other direction. Besides, building a centralized ATC-type facility may not be the best strategy for providing applied technology education to secondary students, particularly the in rural regions. While there may be a need for additional facilities in some regions of the state, these should be addressed on an individual basis. What is more important is that the state needs to develop a consistent and balanced approach for funding applied technology education which allows each region to use their funds according to a strategy which works best in their area.

Alternative Funding Methods Based On Performance

As mentioned in the previous section, a funding mechanism based on student enrollment alone creates poor incentives. Some measure of student activity could form the basis of a new funding formula. However, if state policymakers wish to encourage institutions to respond to the needs of the customers of the applied technology training programs, at least some portion of the funding formula should be based on measures of programs performance. This will require that state officials first clarify the objectives of the state's applied technology education system. Only then can they devise a means of funding programs which is linked to performance. For example, if the objective of applied technology education is to prepare people for good paying jobs, then at least a portion of the funding formula should be based on some measure of student placements. If, on the other hand, one of the objectives is to provide individuals with certain skills or competencies then institutions should be rewarded for the number of students who achieve certain competency levels.

Other States Link Funding to Job Placements. We found several other states that have linked funding directly to the placement of graduates. One way is to directly tie the amount of funds appropriated to the number of students placed in a job related to the training they received. Another approach indirectly links funding to the placement rates by requiring

programs to reach a certain placement rate. Programs which are not able to remain above a certain placement rate for two or three years are not eligible for state support. If funding for

applied technology education is to be linked to placement rates, we recommend that state officials examine the approaches used by other states.

Missouri, Kansas, and South Carolina all require that at least 50 percent of their vocational education graduates find related jobs or funding may be discontinued. Programs that fail to meet the 50 percent placement rate in any given year are put on probation and have three years to raise their rates. During those three years, if placement rates do not raise above standard, state funding is discontinued. Approximately 40 percent of Missouri's state funds for vocational education have been distributed according to the placement of students in related jobs. Programs that have higher placement rates receive more funding than those with lower placement rates. Hence, creating a financial incentive to place students in related positions. An additional bonus is offered to programs for placing hard-to-serve students.

Ten years ago, Florida's legislature enacted a placement standard requiring that 70 percent of all graduates to find related placement. Programs that fail to meet the standard are automatically reviewed by the Florida State Department of Education, which develops a plan to improve the placement rate for that program. Any program in which the placement rate for graduates was less than 70 percent for 3 consecutive years was ineligible for state funding.

Budgets Should Be Prepared As Part Of A Larger Strategic Planning Process

We support the concept proposed in the 1994-95 Applied Technology Education Master Plan that better regional planning occur and that this be the primary oversight of the planning and delivery of applied technology training. The plan states:

> *To effect more efficient and effective use of both state and federal funds appropriated for applied technology education, a regional applied technology education planning and coordinating committee shall be established in each region for the planning and delivery of technology education programs and services. Wherever applicable capital facilities, equipment, and both credit and non-credit programs should be reviewed to promote articulation, coordination and effective use of state resources.*

We believe that the completion of these regional plans is an essential step toward assuring that each region uses its resources efficiently toward helping students find meaningful jobs. However, as long as the bulk of funding for applied technology education is appropriated to individual institutions within each region, there will be little incentive for them to come

together and use those resources in a combined fashion. For this reason, we recommend that the use of funds for applied technology education in each region be made contingent upon the development of a comprehensive strategic plan. In other words, each institution should not be authorized to use their applied technology funds independent of the regional strategic plan. In addition, regional planning councils should be required to review the performance and cost effectiveness of each program using the tools described in the previous chapters of this report. They should review the placements and wages of past graduates in each program and consider the emerging occupational needs in the region and the state. They should also consider the costs of individual programs as they decide how to maximize the use of the funds available to the region. The planning process should be under the direction of a statewide governing body whose responsibility it is to assure that each region is using its funds efficiently and that individual programs are aimed at the jobs needed most by employers. The Legislature should fund these regional plans using a mechanism which is logical and is applied consistently throughout the state. The basis for funding these programs, whether it be according to enrollment, placement rates, or other measures, is a matter of policy which legislators should decide.

Recommendations:

We recommend that the Legislature study the funding of Applied Technology Education and:

- consider alternative approaches for funding applied technology education which would be applied uniformly throughout the state.
- consider ways to reward institutions for how well they accomplish specific performance objectives.
- make the use of funds for applied technology education by school districts, ATCs and colleges based upon the development of a comprehensive regional strategic plan to be approved by a state governing board.

We hope this letter provides you with the information you need on this issue. A response from the State Office of Education and the Commissioner of Higher Education are attached. If you have any questions or need additional information, please let me know.

Sincerely,

Wayne L. Welsh
Auditor General

WLW:JPB/lm

Attachment A

1993 Applied Technology Revenues from All Sources By Region

Attachment B

Student Enrollment and Work-Age Population By Region

NOTES TO ATTACHMENT A: FY 1993 Applied Technology Revenues by Region

Local Revenue- Local revenue represents sources of applied technology funds that are not state appropriated and raised through local property taxes, fund raisers, donations, etc. This figure is taken from the *F4 Statewide Program Report: Vocational Education (E) Total 1992-1993, State Office of Education*.

Minimum School Program - MSP funds are appropriated by the state for applied technology education based on a weighted pupil unit add-on. The ATCs also receive an MSP appropriation. In FY 93 this appropriation was $2.2 million. These funds were distributed among the five ATCs according to a secondary enrollment hour distribution. In addition, **Utah Code** 53A-17a-131 mandates that there be a MSP appropriation for regions unserved by an ATC. In FY 93 this appropriation was $300,000; it is listed as SOE unserved region fund on the spreadsheet. Sources: *F4 Statewide Program Report for Vocational Education 1992-1993; Utah State Board of Education, FY 95 Form 300B*; *Legislative Fiscal Analyst: Analysis and Recommendations for the fiscal year ending June 30, 1995: State Board of Education Four Service Regions without Applied Technology Centers, 4.0 Tables: Four Service Regions without ATC.*

Federal Revenue- These amounts include federally appropriated funds to the school districts such as Carl Perkins. Source: *F4 Statewide Program Report: Vocational Education 1992-1993*. The State Office of Education supplied the federal revenues for the ATCs and colleges. The federal revenues for the ATCs and colleges were divided to adult and secondary user groups based membership hour and FTE distributions.

Uniform School Fund- The USF is the primary funding source for the ATCs. The USF funds listed under the ATC adult and secondary rows are derived by pro-rating the total USF funds by the number of membership hours for each user group. USF funds come from the *State Board of Education, Form 300B*.

Other- This category includes tuition, transfers, and lapsing funds that are a part of the ATC's appropriation. The amounts are allocated to adult and secondary user groups based on membership hour distribution. Source: *State Board of Education, Form 300B,*

Univ/College General Fund - These figures represent the estimated full cost of instruction based on appropriated dollars for vocational education. Source: *Utah System of Higher Education 1994-95 Data Book, Cost Study Section*. In addition, the Board of Regents contributed $300,000 to the unserved regions for adult applied technology education. These unserved region funds were given in equal $75,000 amounts to the four unserved regions. Source: *Board of Regents*.

Region Total Dollars- This is the summation of the columns for each row.

NOTES TO ATTACHMENT B: Student Enrollment and Work Age Population by Region

Work-Age Population- This figure represents the total number of 18 to 64 year-old adults residing in each region. The numbers are based on 1990 census data. Source: *Labor Market Information, Department of Job Service*.

Percent of State Work-Age Population- These figures show the distribution of the state's work-age population by county and region. The numbers are calculated by dividing each county's work-age population by the state total work-age population.

Total Students Grades 9 to 12- This number represents the total number of enrolled 9th, 10th, 11th, and 12th grade high school students in each district. The figure is included in the attachment as a base population of the potential number of students that could take applied technology education courses and to identify the distribution of students in the state. The figures are taken from the *Utah State Office of Education, Fall Enrollment Summary By Grade October 1, 1993*.

District Percent of Total State Grades 9 to 12- This figure is calculated by dividing the district enrollment by the total state enrollment of 136,462. It is included to capture the distribution of high school students across vocational regions.

Regular Vocational ADM- These numbers are the audited ADM figures for applied technology programs in the school districts. Source: *State Office of Education, S3 Summary Reports*.

ADM for College and ATC- These figures are the audited ADM numbers for high school students that attended a college or ATC for vocational education. Source: *Regular Applied Technology A.D.M. 9-12 1992-93, State Office of Education*.

ATC Membership Hours/ College FTE- An ATC membership hour in FY 93 equalled 60 minutes. The hours are divided into secondary and adult in order that high school and adult enrollment can be separately analyzed. These membership hours do not include Lifeskills hours, Custom Fit hours, or On the Job Training and Leadership hours. The data comes from the *Applied Technology Center FY 1993 Audited Hours by Program, State Office of Education*. The college FTEs represent the number of full-time equivalent adult and secondary students that took vocational education at a college or university. The FTE data was supplied by the Board of Regents.

Attachment B, page 4 of 4

Agency Responses