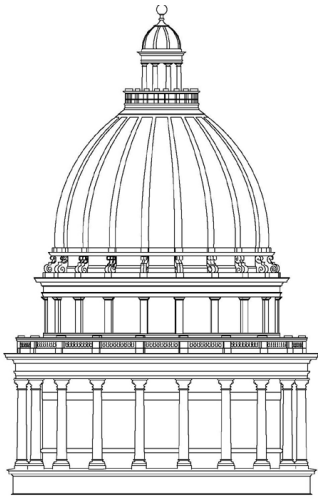
REPORT TO THE

UTAH LEGISLATURE

Number 2014-02



A Review of Best Practices In Utah School Districts

February 2014

Office of the
LEGISLATIVE AUDITOR GENERAL
State of Utah

STATE OF UTAH
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AUDITOR GENERAL

January 30, 2014

TO: THE UTAH STATE LEGISLATURE

Transmitted herewith is our report, A Review of Best Practices in Utah School Districts, (Report #2014-02).

We will be happy to meet with appropriate legislative committees, individual legislators, and other state officials to discuss any item contained in the report in order to facilitate the implementation of the recommendations.

Sincerely,

John M. Schaff

John M. Schaff, CIA
Auditor General

JMS/jb

REPORT TO THE

UTAH LEGISLATURE

Report No. 2014-02

A Review of Best Practices In Utah School Districts

February 2014

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Best Practices in Utah School Districts
Chapter 1. Overview

Best practices are defined as proven, successful methods that lead to high performance. This report describes a three-step process school districts can use to identify and apply best practices: (1) identify high-performing peer institutions, (2) identify the practices that contribute most to that peer's high performance, and (3) adapt those practices to one's own school district when appropriate. To demonstrate the benefits of systematically identifying and adopting best practices, this report applies the above three steps to the following operational areas:

- **Food Services**
- **Pupil Transportation**
- **Energy Use**
- **School Security**
- **Contracted Services**

The process of identifying and adopting best practices can be applied to other areas of public education as well.

What Are Best Practices?

The private sector has long recognized the benefits of seeking out and adopting industry practices that lead to high performance. The methods and techniques used by leading industry organizations are often referred to as best practices. The search for best practices typically begins by identifying peer organizations that perform at a very high level. The high-performing peers may be other firms within the same industry or firms in other industries that perform well in a specific area of concern such as marketing, distribution, warehousing, or manufacturing functions. Beneficial practices of a high-performing peer can then be adapted to the firm's own operations. The expectation is that, by consistently identifying and adopting industry best practices, an organization can move to a higher level of performance.

More recently, the public sector has recognized the benefits of identifying and adopting the best practices used by peer institutions. Best practices reviews first began in the public sector in the 1990s during a push toward reinventing government. At that time, several state legislatures began asking their staff to conduct reviews of best practices in public education. Since then, reviews of best practices have been recognized as a useful tool for promoting greater efficiency within a state public education system.

How Can Best Practices Be Applied to Public Education?

There are several reasons why a focus on best practices is a particularly useful tool for improving public education. School districts are, by design, highly independent organizations. However, school districts face many similar challenges and should be able to learn from one another's successes. By identifying the best practices used by top-performing peer districts and by adapting those methods and techniques to their own situation, school districts should be able to improve their operations.

Utah school districts face two major challenges in applying best practices. First, each district may have its own way of collecting and analyzing data. Non-comparable data is a major problem in making valid district-to-district comparisons. The Utah State Office of Education (USOE) is making inroads towards creating a comparable set of district statistics. Without comparable data, best practice reviews must start with normalizing data to make comparisons possible.

Second, making school district comparisons is challenging due to the differing student populations and the geography of their regions. These demographic and geographic characteristics can be used to identify peer districts that face similar challenges. Furthermore, identifying peer groups for the specific function being examined is critical in establishing what may be possible as a best practice. The key is for each district to weigh the benefits of adopting a best practice and determining how the practice might be best adapted to its unique set of conditions.

Achieving a Basic Level of Performance

Before any discussion can occur regarding the use of best practices, an organization needs to make sure the basic management practices are being applied. If a school district has not mastered the fundamentals of management systems, performance measurement systems, and benchmarking, it will be extremely difficult for that district to identify and adopt best practices.

Establish Key Management Systems. Key management systems are the basic operational techniques used to carry out an organization's mission. They include identifying a district's goals and objectives and establishing an organizational framework necessary to achieve those goals.

Goals and objectives are generally developed through a strategic planning process. During such a process, a district would prepare a clearly defined mission statement, a set of identifiable and measurable long-term goals and objectives, and a plan for achieving those goals.

Once a district creates a vision for the future, it must then develop an organizational framework to achieve its goals and objectives. The framework should include: (1) establishing clear policies and procedures, (2) hiring effective people, (3) placing those people in an organizational structure that provides for proper supervision and training, and (4) providing sufficient financial resources to be used according to a spending plan and financial controls. Without properly implementing these steps, it would be difficult for a district to achieve its goals and objectives.

Measure Performance. A school district must collect the data needed to monitor its performance. Without measuring performance, it is difficult to know whether a school district has achieved its goals. To be effective, performance data needs to provide appropriate and accurate measures of results. Data measurement must also be consistently applied from one period to the next and from one organization to another. Once gathered, performance measures need to be widely disseminated so district leaders and staff can know whether progress has been made toward a goal.

Use Benchmarks to Evaluate Performance. Benchmarks are used to evaluate a district's performance level. A benchmark has been defined as "a standard or point of comparison."[1] Benchmarks are most effectively used when comparing one organization to another organization or to a group of peers. Benchmarks can be used to compare one district or school to other, similar peers. Benchmarking is also a tool that is often associated with best practices. By comparing one's own performance against that of a group of peers, one can identify the best performing peers and, hopefully, the practices that contribute most to their higher level of performance.

Basic Management Systems Can Be Improved

While some districts appear to be well run, other Utah school districts have not yet mastered the basic management systems that are essential for identifying and implementing best practices. For example, the Utah State Office of Education reports that some school districts have not applied basic, required financial controls. A few of these cases have been reported in the press.

During the course of this review, we found instances in which school districts had not properly accounted for their expenses. For example, an expense might be strategically posted to minimize reported administrative or personnel costs. We also observed a lack of accuracy and consistency in some reports submitted to the State Office of Education and other state institutions. The lack of consistent reporting can be attributed, in part, to differences in gathering and reporting information. The state office recognizes these inconsistencies and data flaws but believes it is legally compelled to post the information

[1] Keehley, Patricia, and Neil Abercrombie, *Benchmarking in the Public and Nonprofit Sectors: Best Practices for Achieving Performance Breakthroughs, 2nd Edition,* (Jossey Bass Publishers, San Francisco, 2008), 11.

without modification. We are concerned that the benefits of best practices may be limited by the lack of comparable management data.

The basic management systems described in this chapter, as well as the best practices described in each following chapter, are concepts that appear fairly simple and straightforward on the surface. Our review has found, however, that some districts have not addressed these basic management issues. We believe that greater accountability, enabled by more consistent use of management information, can help motivate districts to improve.

Best Practice Reviews in Other States

Several state legislatures have reviewed public education best practices for over two decades. In the early 1990s, the Texas Legislative Budget Board was the first to develop a set of best practices or audit protocols for reviewing school district operations. Figure 1.1 describes the areas for which they identified best practices.

Figure 1.1 Texas' Best Financial Management Practices. The Texas Legislative Budget Board developed best practices for its public schools in each of the areas shown below.

- District leadership, organization, and management
- Educational service delivery
- Community involvement
- Human resources management
- Facilities construction, use, and management
- Asset and risk management
- Financial management
- Purchasing and warehousing
- Food service
- Transportation
- Computers and technology
- Safety and security

Source: Texas Legislative Budget Board

Today, the Texas Legislative Budget Board has a special school performance review team that conducts regular reviews of school district performance against established best practice protocols. The review protocols, published in a 300-page document, offer step-by-step instructions describing exactly how each district's performance review is to be conducted. The Texas school district reviews are performed by a dedicated legislative staff on an ongoing basis. During 2013 they conducted 20 separate audits of school district related issues.

The Texas performance review team also promotes the use of best practices by listing examples of best practices on their website. If they find a district using a particularly effective strategy, which produces superior results, the strategy will be listed among the "A+ Ideas for Managing Schools." These ideas are posted on the website http://aims.lbb.state.tx.us/?type=ISD. The website lists over 1,800 specific examples of school districts that have applied best practices to their operations.

In 1997, the Florida Legislature began to adapt Texas's best practices methodologies. In 2001, Florida's Office of Program Policy Analysis and Government Accountability (OPPAGA) issued its own set of best practices and protocols for ongoing reviews of school districts. In addition to formal reviews, Florida encourages school districts to perform self-analyses of the use of best practices. Those districts found to be using the best practices can receive a seal from the Florida State Board of Education.

The Arizona Auditor General also has a special unit devoted to auditing school districts. Among other things, Arizona's auditors identify the best practices that school districts use to improve school efficiency. Arizona relies heavily on benchmark comparisons of a school district's performance against that of its peers. A district audit will typically include a state average and peer comparison of per-pupil expenditures in several operational areas. For example, the data in Figure 1.2 was used to describe the performance of the Chino Valley Unified School District against its peers.

Figure 1.2. Arizona Uses Performance Benchmarks. Arizona evaluates each school district's performance by comparing its per-pupil expenditures to that of its peers.

Comparison of Per-Pupil Expenditures by Operational Area for Fiscal Year 2011

Per Pupil	Chino Valley USD	Peer Group Average
Administration	$803	$736
Plant Operations	830	917
Transportation	434	360

Source: Arizona Office of the Auditor General, Report No. 13-06

The Pennsylvania General Assembly is one final example of a state that has reviewed the best practices of its top-performing school districts. Pennsylvania's 2006 General Assembly commissioned an independent group of researchers to identify the state's top-performing schools, using their own modeling techniques. The researchers' report identified a group of 82 top-performing districts. In 2010, the General Assembly directed its own staff to identify the best practices used by those 82 most successful districts. Their report provides a list of best practices found to contribute most to a district's high performance and low cost.

Scope of a Best Practices Review in Utah

Utah's school districts have a high degree of autonomy because Utah chooses to have a higher level of local school district control than other states. This local control is intended to better address local demographic and geographic needs. As a result, we concluded that a high number of prescriptive steps used by the other states would not fit well in Utah's more autonomous system.

While borrowing from the work of other states, we have limited our review to five operational areas that fit best practices models within the Utah public education system. The topics selected include several areas for which legislators have expressed concern. They include:

- Food Services
- Pupil Transportation
- Energy Use
- School Security
- Contracted Services

Our review of these five areas is not intended to be the comprehensive assessment of school districts' best practices conducted by other states. Rather, this review attempts to identify strategies in each listed area that, in the right circumstances, can be applied with some success.

For each of the five operational areas, the best practices were identified by examining some top-performing districts and the best business practices that contributed to those results. When available, benchmark indicators were used to identify top-performing districts. If benchmark indicators were unavailable or inconclusive, we contacted generally recognized local experts to identify which districts perform at a high level in each subject area. The best practices identified by other states and research literature were also considered.

It is our hope that, by highlighting best practices and the districts that use them, district officials can be motivated to consider ways to improve their business practices. Again, it is important to recognize that not every best practice is well suited to every district. For this reason, school officials must be given flexibility to determine whether a best practice is appropriate for the conditions that exist within their school district and whether it can be adapted to the specific challenges they face.

Best Practices in Utah School Districts

Chapter 2. Food Services

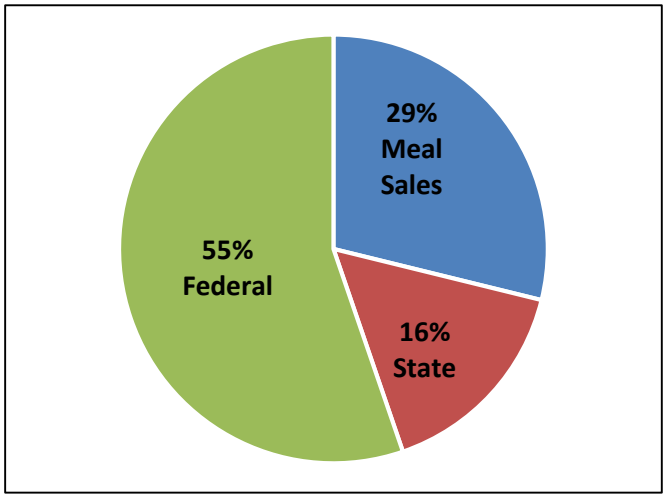
Other states have documented best practices in school district food services programs. These practices address improving the efficiency and effectiveness of food services and operations and are associated with high program performance. These practices can be observed in both Utah and other states' school districts with high-performing food service programs. Among these best practices are the following general food services strategies.

1. **Increase operational efficiency**
2. **Reduce food costs**
3. **Increase student participation**

Background

Utah school districts served over 60 million meals in fiscal year 2012. Districts voluntarily participate in several federal programs related to school meals. These programs reimburse meals served to students from families who qualify under income eligibility guidelines.

Figure 2.1 Sources of Funding for School Lunch Programs. Most of the funding for food services programs in Utah come from the federal government.



Source: USOE CNP Financial Reporting

Utah school districts' food services funding comes from three sources: federal reimbursement, state liquor tax, and meal sales. Figure 2.1 shows the sources of food services revenues, with approximately 55 percent of revenue across all districts coming from the federal government. Federal monies are accompanied by many regulations that dictate operational decisions. For example, the United States Department of Agriculture (USDA) sets stringent nutritional guidelines for meals for each student age group, a factor that may have significant bearing on student participation and food purchases. Among the other federal regulations, food services monies can only be spent on food-services-related expenses. Further, the prices schools charge for a meal must be aligned with the federal meal reimbursement rate.

Measuring Program Performance

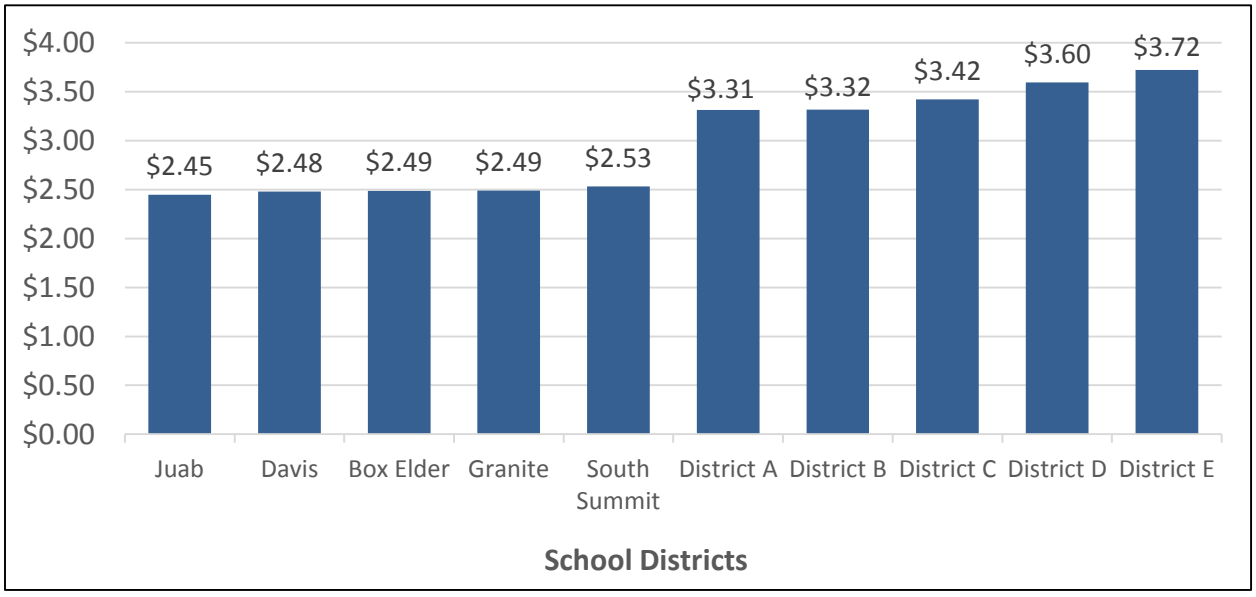
The ability to efficiently and effectively run a food services program depends on the ability to measure performance and use metrics to focus on key areas needing improvement. Performance metrics are the primary input for program evaluation and tie back to a program's mission and objectives. Metrics also enable school districts to benchmark their food service programs against peer districts.

Food Services Efficiency

School districts in Utah and other states are using several efficiency measures to monitor food services program performance. Efficiency measures focus on the relationship of inputs to outputs. The inputs in a food services operation include the labor, food supplies, equipment, and energy usage. Outputs include meals produced and meals eaten. Some school districts in Utah and in other states have used meals per labor hour and cost per meal to measure food services program efficiency. Some districts also use the cost of salaries, benefits, and food supplies per meal to evaluate those subcategories of a food services operation.

To demonstrate the use of efficiency performance measures, the current expense or cost per meal is presented in Figure 2.2 for the most and least efficient district food services programs in Utah. Each district's current expense includes all expenses from the food services fund except capital and indirect costs. Figure 2.2 reveals that there is a substantial difference in operating costs between highly efficient and less efficient school districts.

Figure 2.2. Some Districts Produce Meals at a Low Cost. Cost per meal varies substantially between the five most efficient and five least efficient school district food services programs.



Source: Annual Financial Report (AFR) 2012 and Financial and Statistical Summary of the Child Nutrition Programs 2010-2012.

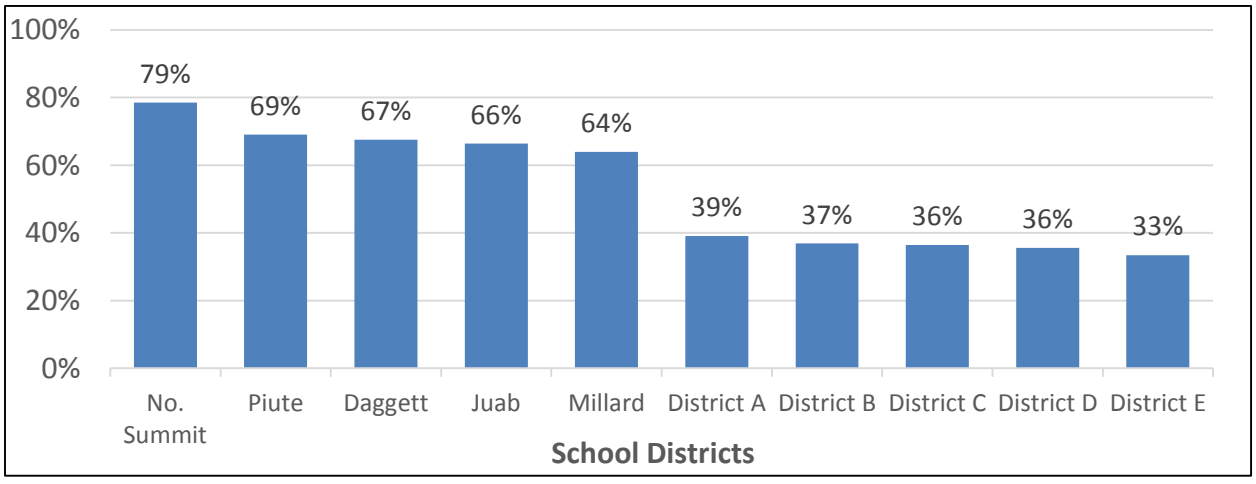
Figure 2.2 shows there are large differences in the cost of school district food services programs. At $2.45, Juab County School District has the lowest cost per meal. It produced meals for 34 percent less than the district with the highest cost per meal. Application of this performance measure across districts should be accompanied by an analysis of peer school districts. Individual school district demographic and geographic characteristics should be considered when determining peer districts. Efficiency measures such as cost per meal should also be accompanied by effectiveness considerations. It is important to note that the focus of this report is on the best practices used by districts that are performing well. For this reason, only the best-performing districts are identified in this report.

Food Services Effectiveness

Measures of program effectiveness identify how well a food services program is meeting its goals and objectives. They measure the ability of a food services program to sell meals that are appealing to students. Two such measures are student participation rates and garbage waste per meal sold. High student participation in school lunch or a low amount of waste, or both, may suggest that a school district is producing quality meals, students have been taught the importance of healthy eating, and the program has successfully marketed its services. The amount of waste per meal in particular has taken on greater importance with the passage of strict federal regulations on meal content and caloric content.

Figure 2.3 demonstrates Utah students' school lunch participation rates for the school districts with the highest and lowest participation rates. Figure 2.3 reveals that the participation rate among students who purchase school lunch varies substantially in Utah. The participation rates include students who purchased meals, excluding participation from those who qualify for free or reduced-price meals.

Figure 2.3. Percent of Students Choosing to Purchase a School Lunch. The student participation rate in a school lunch program is one measure of program effectiveness. The five districts with the highest participation rates are compared to those with the lowest participation.



Source: Annual Financial Report (AFR) 2012 and Financial and Statistical Summary of the Child Nutrition Programs 2011-2012, Free and Reduced Price Survey.

Unlike student participation rates, no statewide data are available for the garbage waste per meal in Utah school districts. The USOE does not coordinate or require the collection of this data. Furthermore, school districts generally do not gather data on food waste per meal sold—the benefits may not exceed the costs of gathering this data. Jordan School District recently measured food waste to help gauge the effect of new federal regulations. The study found that students are disposing of whole fruits and vegetables at high rates; approximately 70 percent of middle school and high school students threw away their produce. This onetime measurement provides insight on student food waste but may be expensive to perform on a regular basis. Other school districts, however, choose to informally monitor waste or monitor the problem of food acceptability through student surveys and test kitchens.

Best Practices in Food Services

The following strategies are recognized best practices. Each of these best practices was observed in either a highly efficient Utah school district, a high-performance school district in another state, or both. The examples in Utah come from the five most efficient districts in the state according to cost per meal (the high-performing districts in Figure 2.2). The examples of high-performing districts demonstrating best practices in other states come from Florida and Texas because these states have formal school district evaluation programs tied to industry best practices.

1. Increase Operational Efficiency

Districts can take several steps to maximize food service program efficiency and minimize labor and operating costs.

Prepare Meals in a Central Kitchen.[2] Some school districts may be able to reduce labor and operating costs by using central kitchens to cook meals for multiple schools. Using this approach, food services staff at a central location prepare meals for multiple schools. To ensure quality of food and prevent foodborne illness, the school serving the food must use temperature controls to keep the food warm (or cold) until it is served. Central kitchens reduce costs by reducing the number of cafeterias that need appliances to refrigerate or cook food and wash dishes and utensils, as well as reduce the number of employees at each cafeteria.

- Davis County and Granite school districts produce most meals at central facilities and ship the prepared food to individual schools. South Summit School District does most of the cooking and preparation at the district's high school and then ships

[2] Office of Program Policy Analysis & Government Accountability (OPPAGA), "Best Practices Could Help School Districts Reduce Their Food Service Program Costs," January 2009, p.7-8, available from http://edocs.dlis.state.fl.us/fldocs/leg/oppaga/2009/0902rpt.pdf.

the food to its other schools for light preparation. Factoring in transportation expenses, these three Utah districts are likely able to decrease total food production and distribution costs by decreasing the number of workers required for food preparation and the number of cooking appliances needed at each school. Total energy usage at the three districts may also be lower than the energy usage if the districts produced meals at each school.

- Corpus Christi Independent School District in Texas uses a central kitchen to prepare food for its 37 elementary schools. This central kitchen reportedly increases employee productivity and reduces food cost while effectively controlling the production process and standardizing food items.

- Calvert Independent School District in Texas saves money by using a central kitchen to cook all meals for the district's two schools. The central kitchen is located at the junior high/high school where the food is prepared and then delivered to the elementary school. This approach reportedly saves the district nine clock hours a day in labor at the elementary school.

Use Outside Contractors for Warehousing and Delivery Services.[3] Districts may be able to lower their operating costs by contracting with an external provider for food storage and delivery services. Contracting the warehousing and delivery of food, commodities, and supplies may be particularly beneficial to districts that have rapidly growing student populations, insufficient funds for capital expenditures, or high property and construction costs. Contracting decisions should be based on an evaluation of current or projected warehousing needs and delivery costs, internal staffing resources, and the local market for suppliers and commercial warehouses. These evaluations should occur periodically because the economics of contracting for warehousing and delivery services can change.

- Box Elder School District contracts with a private operator that warehouses and delivers food for the district's schools. This enables Box Elder to concentrate on other aspects of food services and precludes the need to manage additional capital assets.

- Polk County School District in Florida manages its food and food services paper goods using a combination of direct vendor delivery services and internal warehousing. The district purchases in bulk, stores the items in its warehouse, and distributes high-volume items such as ground beef, chicken patties, canned fruits and vegetables, and most paper goods.

[3] OPPAGA, p.8.

Optimize the Combination of Prepared Foods and Locally Produced Food.[4] School districts may be able to reduce labor costs by increasing their use of commercially prepared foods. For example, districts may be able to reduce preparation and clean-up time as well as improve product consistency by using pre-portioned and ready-to-bake bread dough instead of using scratch cooking. Districts should identify the combination of scratch cooking and prepared foods that leads to the best combination of student participation and costs. Depending on a district's characteristics, scratch cooking or reliance on prepared foods may be more economical.

- Juab County and South Summit school districts use scratch cooking and baking extensively in their meal preparation. These districts rely less heavily on prepared foods because scratch cooking works well as a result of local preferences and low costs of food preparation. Though scratch cooking may be associated with higher labor costs, its food products are relatively more appealing to students in these districts, and scratch cooking may lower the district's overall costs of production.

Establish Clear Lines of Authority.[5] School-based food services personnel (staff and cafeteria managers) are usually under the authority of both the school principal and the district's food services director. In this organizational structure, principals and food services directors often have shared authority for hiring, firing, and evaluating school-based food services managers and employees. This may result in confusion for personnel and conflicts between principals and food services directors regarding who has decision-making authority over performance expectations, staffing levels, and cost-saving strategies. These problems may be avoided if districts clarify and assign specific authority and responsibilities to food service directors, school cafeteria managers, and principals. Functional organizational and job descriptions can help managers and staff understand the organization's structure and avoid conflicts.

- Granite School District contracts with a private food services provider that manages the food services program in its entirety, relieving school principals of meal staff oversight. This clear line of authority may make Granite meal staff more accountable and also better skilled because training is provided in an organized fashion by the private company.

- Santa Rosa County School District in Florida has centralized its food service workers under food service program management, simplifying lines of authority. Principals no longer participate in the hiring and evaluating of food services workers.

[4] OPPAGA, p.8.
[5] OPPAGA, p.5.

Implement Shared Manager Programs.[6] Districts may be able to reduce labor costs, one of the largest food services expenses, by implementing shared manager programs that consolidate cafeteria management for two or more schools under one cafeteria manager. Due to the nature of cafeteria management, shared manager programs are particularly effective when the two schools serve a relatively small number of meals (about 400 or fewer meals served per school) and are close geographically. Likewise, shared manager programs are especially effective at elementary schools because they typically offer set meal plans and few a la carte items. School districts may be able to achieve significant cost savings from implementing such a strategy, depending on the number of schools involved.

- Granite School District contracts with a private company to manage its food services program. Staff who serve meals and staff who produce meals at the central facility are all district employees. These employees are overseen by seven managers who are directly employed with the private company. These seven managers each oversee operations at several schools, likely reducing the total number of higher-paid managers. These savings and the management structure are likely facilitated by the district's high population density with schools built relatively close together.

2. Reduce Food Costs

School districts should adopt strategies to manage the cost of the food used in their meals because it represents a significant portion of total meal cost.

Join Purchasing Cooperatives to Receive Quantity Discounts.[7] Smaller districts have less purchasing power compared to larger districts and often pay higher prices for food items. Smaller districts may be able to reduce costs by joining purchasing cooperatives. Purchasing cooperatives lower per unit food prices for participating districts because the food is bought in bulk. Districts may be able to save as much as 5 percent of total food costs by participating in a purchasing cooperative.

- Box Elder County School District purchases food supplies as part of the Utah Cooperative Acquiring Resources Efficiently (UCARE), likely lowering their food costs due to increased purchasing power. Fourteen other school districts in Utah also purchase food as part of UCARE.

- Hamilton Independent School District in Texas participates in a regional food purchasing cooperative for almost all food purchases. This arrangement likely allows them to buy lower-priced food through increased purchasing power.

[6] OPPAGA, p.7.
[7] OPPAGA, p.4.

Maximize the Use of United States Department of Agriculture (USDA) Commodity Allocations.[8] Districts can reduce food costs by taking advantage of the USDA commodities program. As a supplement to other school meal programs, the commodities program provides food items or credits that can be used to purchase other items at no cost. Food items available through this program include meat, fish, poultry, fruits, cheese, oil, and grains. School districts should maximize their use of USDA commodities by structuring menus to include meals that contain USDA commodities. Whenever possible, districts should select commodities that maximize district savings on food purchases. Districts can further reduce foods by contracting with processing companies that convert commodities into ready-to-serve food items, reducing district labor and storage costs.

- Davis County School District uses its full allotment of USDA resources and contracts with a processor to convert some of them to finished food items such as pizza.

- Salt Lake City and some charter schools ship their USDA commodities to Davis School District for processing—Davis sells the finished food back to the schools and district. Davis likely not only saves money by taking full advantage of its own apportioned USDA resources, but the district also helps surrounding districts to do the same.

- Polk County School District in Florida designs its menus around the available USDA commodities in order to maximize the use of commodities. Recipes for meal items clearly identify the type and amount of USDA commodity that should be used in each recipe. The district monitors changes in available commodities and modifies menus using staff input.

- The Santa Rosa County School District, also in Florida, was able to obtain additional USDA commodities (above its allotment) by accepting commodities offered to, but not used by, other districts. This strategy reportedly saved the district approximately $21,000 in one year.

- Gadsden and Hillsborough school districts in Florida have contracted with food processors to convert USDA commodities into final ready-to-heat-and-serve items for delivery to the district. Contracting with private food processors allows these districts to make more efficient use of their commodities allotments and reduce labor and warehousing costs.

[8] OPPAGA, p.4.

3. Increase Student Participation

Greater student participation will increase food program revenues and may decrease per-meal expenses. Districts benefit from the participation of students who qualify for free and reduced-price meals due to the resulting federal reimbursements. Food service managers and staff should conduct activities to ensure that customer needs are met and services and food quality are improved where needed. In addition to increasing participation, greater student satisfaction may also reduce meal waste.

Consider Student Preferences when Planning Menus.[9] Menu choices should provide for specific student dietary needs and preferences as much as possible. These may include lifestyle (such as vegetarian), local, cultural, and religious preferences. Understanding student tastes, preferences, and satisfaction may help districts offer food that maintains or increases student participation and reduce the amount of food students discard.

- Juab County School District uses information gathered by lunch line workers—who can readily and accurately monitor student preferences—to align meal offerings to student tastes.

- Davis County School District has used a test kitchen to test new meal ideas, and their food services program closely monitors items that do not sell well. Though the test kitchen likely added some additional costs, the district realized benefits related to meal planning from the detailed student taste information.

- Florida's Brevard County School District's food services program uses a test kitchen to evaluate potential new food products. In addition to testing food produced by the district, the test kitchen also evaluates prepackaged foods served a la carte. Additional information is obtained by surveying students and cafeteria managers. Taken together, these efforts help the food program stay abreast of changing student tastes and the availability of new food items.

- Santa Rosa County School District, also in Florida, uses student focus groups to evaluate new food items and eliminates foods from the menu based on student choice and selection. The district identifies elementary school student preferences through a survey about the food services program.

Survey Students to Identify and Reduce Participation Barriers.[10] Possible barriers to high school student participation include poor menu selection, inadequate

[9] School Nutrition Association, "Keys to Excellence: Standards of Practice for Nutrition Integrity," February 2013, p.1-2, available at http://www.schoolnutrition.org.
[10] OPPAGA, p.8.

lunch periods, long lines, insufficient seating, and untimely bus scheduling. Districts can use student surveys of food quality and service to identify these barriers. Districts can also solicit input from parents through online questionnaires. Information from these surveys and questionnaires will help isolate problem areas that are preventing or discouraging student meal participation.

- Juab and Davis County school districts gather information on student preferences and create menus based on those preferences. Reducing food preference barriers likely helps these districts to maintain or increase student participation and orient operations towards student demand.

- Santa Rosa County School District in Florida has taken steps to identify and eliminate specific barriers to student meal participation. For example, the food services program has implemented automated serving systems to reduce long waits in lines, which had previously dissuaded students from buying school lunches.

Use Promotional Campaigns to Increase Student Participation.[11] School districts can use promotional campaigns to increase student participation and awareness of good nutritional habits. These promotional campaigns can use strategies such as distributing newsletters, menus, and nutritional information. Greater participation leads to additional program revenues, while improved student nutritional habits may reduce the amount of food thrown away.

- Brevard County School District in Florida uses promotional materials for its food services and nutrition programs in its cafeterias and provides them directly to parents and students. The district also uses local newspapers and district newsletters to distribute information on its food services program. These efforts have likely helped the district increase student participation.

[11] OPPAGA, p.8.

Best Practices in Utah School Districts

Chapter 3. Pupil Transportation

Other states have documented best practices in school district pupil transportation. These practices address improving efficiency and effectiveness of transportation operations and are, therefore, associated with high program performance. These practices can be observed in both Utah school districts with high-performing pupil transportation programs and high-performing districts in other states. Among these best practices are the following strategies.

1. **Coordinate and Plan Pupil Transportation and Efficient Routing with Long-Term Community Objectives**
2. **Organize and Staff Pupil Transportation Programs to Maximize Efficiency and Effectiveness**
3. **Use Sound Capital Management Principles to Acquire and Maintain Buses**

Background

Many of the state's K-12 students are regularly transported by their school district's pupil transportation program, and buses remain the safest mode of vehicular student transportation. State law requires districts to provide transportation to all students living more than 1.5 miles from an elementary school or 2 miles from a secondary school as well as to special student populations. State funding for student transportation is shared by districts, with the state paying 64 percent of all district to/from transportation costs for fiscal year 2012. Districts spend between 2 and 10 percent of their general funds on pupil transportation. The largest transportation cost categories include staff compensation, fuel, and capital equipment.

All school district transportation programs perform several basic functions. District staff plan bus routes, manage bus drivers, and maintain and purchase school buses. The structure of a transportation program is dependent on the size of the district—large districts have a workload that justifies a transportation office with separate positions for director, staff, mechanics, and bus drivers. Smaller districts combine positions and duties, as well as administrative layers, to save money.

District transportation programs are guided by administrative code and national standards that cover issues such as bus operation, bus driver certification, funding, and reporting requirements. Regulations also cover the structure and approval of bus routes. Staff at the USOE, including the state pupil transportation specialist, collect data from school districts, provide limited audit services, and participate in national organizations that form national pupil transportation policy.

Measuring Program Performance

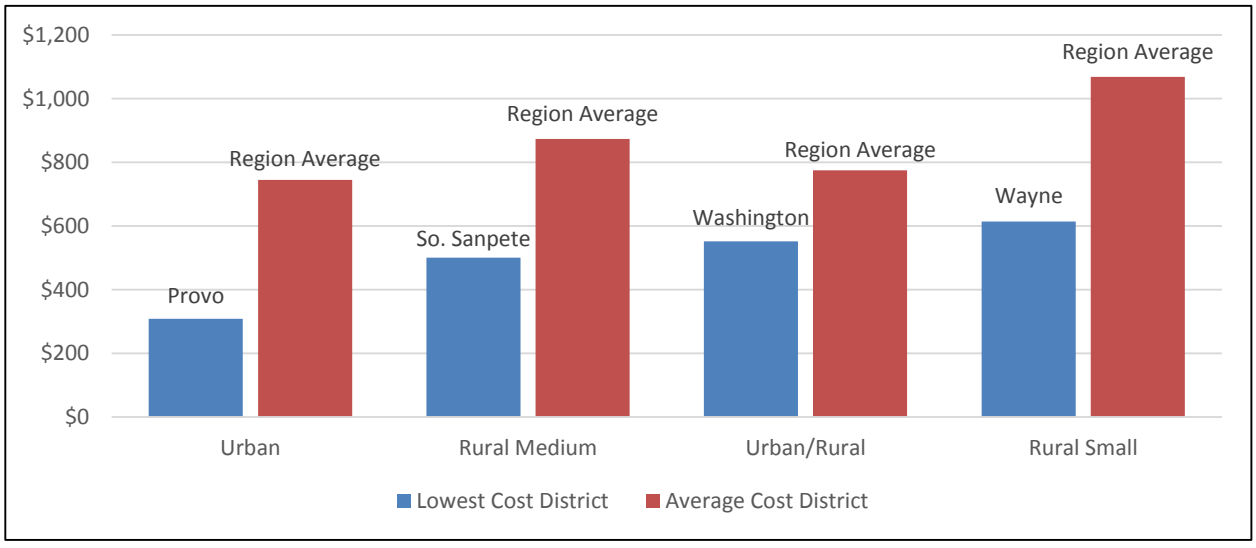
The ability to efficiently and effectively run a pupil transportation program depends on the ability to measure performance and focus on key areas needing improvement. Performance measures are the primary input for program evaluation and tie back to a program's mission and objectives. Performance measures also enable school districts to benchmark their pupil transportation programs against peer districts.

School districts in Utah and other states use several efficiency and effectiveness measures to monitor pupil transportation performance. Efficiency measures focus on the basic relationship of resource inputs to outputs. For pupil transportation, inputs include labor, fuel, equipment, and maintenance. Outputs include students transported and miles driven. USOE and other states have used cost per mile, cost per rider, miles per rider, and bus capacity utilization to measure transportation efficiency and progress toward the outcome of student safety at an efficient and effective cost.

Transportation Efficiency

To demonstrate the use of an efficiency measure, the annual cost per student transported for fiscal year 2012 is presented in Figure 3.1. The figure compares the most efficient district in each transportation region to the region's average cost per student. This metric is calculated by dividing total current expenses by total students transported for a district.

Figure 3.1. Some Districts Transport Their Students at a Much Lower Cost Than Other Districts in Their Region. In each region and between regions, the annual cost per student transported varies substantially between the most efficient district and the region average.



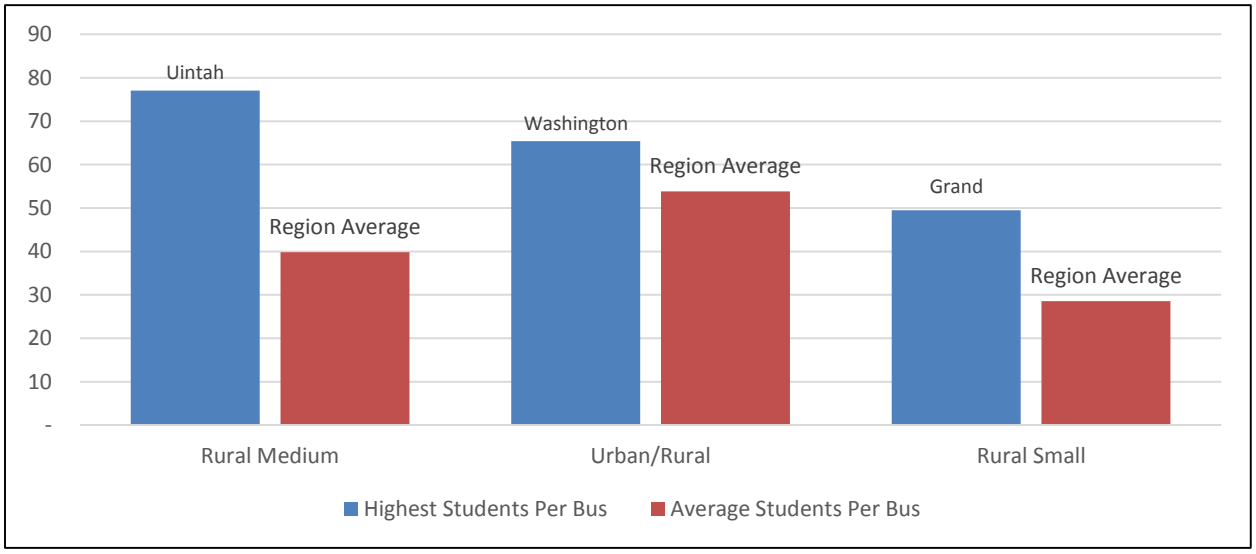
Source: Annual Financial Report (AFR) 2012 and Utah State Office of Education transportation A1 reports

A district's transportation cost includes all pupil transportation current expenses, including major repairs and maintenance, but not bus purchases or equipment. Current

expenses are used because capital purchases can skew analysis when using a single year of data. The four transportation regions, urban, rural medium, urban/rural, and rural small, were developed by USOE staff for district comparisons. The regions represent distinct peer groups that share characteristics (such as population density) relevant to transportation expenses. Because the number of students who ride the bus is generally dependent on factors outside the control of district transportation programs, the cost-per-student-transported metric measures a district's ability to reduce non-capital expenditures in the pupil transportation department.

To demonstrate another efficiency performance measure, number of students transported per bus per day is presented in Figure 3.2. This measure, describing how efficiently school districts use their fleet of buses, is calculated by dividing total students transported by total number of buses. Figure 3.2 displays the school districts with the highest ratio of students per bus per day for fiscal year 2012 and each transportation region's average number of students per bus per day. The most efficient school districts are those that have a greater number of students per bus per day and therefore tend to have lower maintenance, fuel, and personnel costs.

Figure 3.2. Some Districts Utilize Their Bus Fleet More Efficiently than Other Districts in Their Region. The students transported per bus per day varies substantially between the highest ratio district and the region average.



Source: Utah State Office of Education transportation A1 reports and Governor's Bus Statistic Report

Districts can achieve a high student per bus metric if they stagger school bell schedules so that bus routes can be run back to back (also known as tiering). Because the number of students riding school buses is dependent on district characteristics, a district must focus on reducing the number of buses and increasing the use of its existing fleet to improve this metric and overall program performance. However, having reserve buses as a precaution against breakdowns and accidents is not a bad practice.

Transportation Effectiveness

Program effectiveness measures describe the progress made towards achieving program objectives. These metrics focus on a pupil transportation program's ability to address the mission of providing safe and timely student transportation. On-time bus arrival rate, bus accident rate, and bus breakdown rate are useful qualitative measures for pupil transportation programs. These effectiveness metrics complement transportation efficiency metrics—taken together, they provide insight on overall program performance.

With the exception of bus accident data, effectiveness data and examples are generally unavailable for Utah school districts. The USOE does not coordinate or require the collection of all effectiveness metrics in pupil transportation, and school districts generally do not gather these metrics for their own use, though it is possible to do so. Some other states and a few Utah districts do collect and analyze effectiveness measures. As an example, Florida's Department of Education gathers accident rate data in order to calculate the accident rate per million miles for each school district. In Utah, Washington County School District collects some effectiveness data and uses it to make meaningful improvements to its pupil transportation program. The transportation department has a goal of 98 percent on-time service for its morning bus routes and creates relevant metrics using the district's global positioning system (GPS) program.

Best Practices in Pupil Transportation

The following strategies are recognized best practices, observed in a highly efficient Utah school district, a school district in another state, or both. The examples in Utah come from the five most efficient districts in the state according to cost-per-student trip (the high performing districts in Figure 3.1). Although no effectiveness metrics were applied to these school districts, it appears these districts achieve high levels of efficiency without sacrificing acceptable levels of service. All examples of high-performing districts in other states come from Florida and Texas because these states have formal school district evaluation programs tied to industry best practices.

1. Coordinate and Plan Pupil Transportation and Efficient Routing with Long-Term Community Objectives

Many decisions made at the district level can affect the cost of student transportation. The location of schools, occurrence of special programs, and timing of bell schedules and special events all affect the location and timing of bus routes as well as the number of buses necessary to transport students.

Coordinate Pupil Transportation within the Context of District and Community Budgeting and Long-Term Planning.[12] District officials should always consult with their pupil transportation staff before making decisions affecting the operation of the district's school bus system. For example, due to their effect on bus routes, decisions regarding school boundaries and the location of new schools should always include input from the pupil transportation staff. Ideally, the transportation staff should identify how each boundary change or new school location might affect the district's transportation costs and the number of miles driven. Furthermore, decisions regarding school start times, the location of special programs (including magnet, exceptional student program, and alternative schools), the use of courtesy bus stops, and school choice policies, should always be made after obtaining transportation staff input. By considering transportation costs, school officials can make decisions that produce the most efficient routes possible, reduce the bus miles driven, and ultimately minimize a district's operating costs.

- Provo City School District coordinated various programs to reduce transportation costs. Transportation staff successfully advocated the alignment of bell times for professional learning community early dismissal and late start days. Transportation staff also helped in the district's efforts to centralize programs that serve the entire district (alternative high school, preschool, special behavior schools). These efforts, among other program changes, helped the district reduce their fleet size by 17 percent.

- Washington and Wayne County school district transportation programs determine school time and bell schedules for their districts. The ability to coordinate the timing of routes helps these districts lower transportation expenses and miles driven. Washington School District's transportation program also uses transportation cost data to draw school boundaries that contribute to more efficient routing.

- Monroe County School District in Florida has a transportation program that is involved in the district's long-term planning and budgeting process. The transportation staff make assessments of transportation needs, including staffing reviews, and present the results to district managers during the budgeting and planning process. The director is also involved in the gathering of data and presentation of information to senior district staff on areas that can impact pupil transportation, such as school start times and transportation for after-school student activities.

[12] Idaho Department of Education, "Idaho School Transportation Best Practices," November 2005, p.1, available from http://www.sde.idaho.gov/site/transportation/docs/reg_rule/BestPractices.pdf.

Plan, Prepare, Review, and Establish Safe Bus Routes and Bus Stops while Providing Cost-Efficient Student Transportation Services.[13] Through effective planning, school districts can create a set of highly efficient school bus routes that will improve the efficiency of their student transportation services. The most efficient routes are typically those with a reasonably high average bus occupancy and reasonably low cost per mile. Larger school districts often use specialized computer software to optimize their bus routes. However, any school district can improve the efficiency of its bus system by applying the following strategies: (1) use concentrated bus stops to maximize the number of students at each stop, (2) reduce the number of courtesy riders (riders that could walk and are otherwise ineligible), (3) stagger school starting and ending times to allow individual buses to have separate bus runs for multiple schools or grade levels; however, rural school districts may be able to more efficiently bus their students by transporting all grade levels on one route.

- Provo City and Washington County school districts use geographic information systems (GIS) software to draw school bus routes. Though initially they may be quite costly, these systems enable districts to quickly optimize bus routes according to the distribution of eligible students, thus decreasing the time spent drawing routes and increasing the quality of routes. The routing software also allows these districts to maintain a bus-stop-finder program on their district websites.

- While some of the more densely populated school districts in Utah use tiered routes, some of Utah's sparsely populated districts use mixed routes. Wayne and South Sanpete County school districts bus elementary and secondary students simultaneously on the same bus. This busing arrangement decreases total miles driven and associated costs because drivers do not have to drive back to sparsely populated areas until the end of the school day when students are being returned home.

- Kingsville Independent School District in Texas uses a staggered bell schedule to optimize the number of trips made by each bus each day. This tiered system, with the earliest bus route being a high school route that begins at 6:50 AM, makes it possible for a bus to run successive routes serving different schools. Compared to a system without tiered schedules in this district, this district reports tiering uses buses more efficiently.

Evaluate the Location of Bus Terminals in Order to Avoid Excessive Miles Without Riders.[14] The location of terminals, where buses are parked in evenings and weekends, can have a large impact on the number of miles driven without passengers and the cost of operating school buses. Depending on district characteristics, districts

[13] Idaho, p.2-3.
[14] Idaho, p.7-8.

may be able to lower their transportation operating costs by locating bus terminals in strategic areas to reduce the number of "deadhead" miles, miles driven without students. In general, district school buses should be parked in secure compounds at the end of the working day to prevent theft and vandalism. School buses may be taken to the driver's home if it can be shown to be in the district's best financial interests. Factoring in potential vandalism and security concerns, it may be more cost effective for the school district to allow a bus driver to park a bus at home if the district's bus compound is far from a bus route's start and end point. This practice is especially relevant for dispersed districts with low population density.

- Washington County School District has designated storage and parking sites for buses near high schools. Buses that transport students for that high school and all of its feeder elementary and junior high schools are parked at these locations every day. This approach secures buses against theft but also keeps the buses close to the schools and students it services, decreasing total miles driven.

- Tatum and Ysleta Independent school districts in Texas park their buses in secure compounds that promote vehicle safety and security and reduce overall transportation costs. Tatum has decreased its transportation costs through decreased vandalism and more efficient maintenance at the bus compound. The complex used by Ysleta reportedly saves the district nearly $703,000 annually from decreased deadhead miles (relative to the previous arrangement of storing buses at the district service center).

- Wayne and South Sanpete County school districts store some buses at the driver's home overnight. Drivers of these buses run routes that originate and finish close to their homes. This practice has likely helped South Sanpete School District lower its transportation costs—relative to alternative arrangements, deadhead miles are less and the district has not experienced any additional vandalism or theft.

- Cushing Independent School District in Texas allows bus drivers who live near the route's last stop to keep the bus at home overnight to reduce deadhead miles. For example, the driver of one route lives one-quarter of a mile from the last stop of the route and 12 miles from the school. The district reportedly saves $13,824 each year by allowing this one driver to store the bus at home, an amount that could offset the potential costs of theft and vandalism.

2. Organize and Staff Pupil Transportation Programs to Maximize Efficiency and Effectiveness

The effective use and organization of transportation staff can help reduce the cost of a transportation program.

Provide Appropriate Technological and Computer Support for Transportation Functions and Operations.[15] School districts need appropriate information technology to support their transportation systems. Technology can assist school districts in mapping out the most efficient bus routes and reduce the need to manually manipulate data. Though there may be significant upfront costs, use of advanced technology has the potential to lower operating costs through shorter, efficient routes and better managed maintenance. Whenever possible, transportation departments should use automated systems to manage program operations and to track vehicle repair costs, maintenance history, fuel disbursements, vehicle mileage, vehicle use from year to year, and fleet age, which would help in deciding when to replace (or repair) vehicles. Districts may be able to leverage existing information technology resources to create a system that communicates with other departments, such as human resources and payroll. Districts may also need specialized diagnostic tools to accurately troubleshoot bus engine problems.

- Provo City School District integrates technology throughout its transportation program. It uses GPS to reduce costs by monitoring idling and also bus driver behavior—GPS records are compared against driver timecards to determine if there is any unaccounted time. GPS and GIS are integrated in an overall system that includes routing, maintenance, inventory, payroll, and purchasing. GPS data helps the maintenance department determine whether preventative maintenance is due. Purchasing activities are coordinated with maintenance activities and payroll receives inputs from the other functions to calculate employee wages. This comprehensive system allows the district to more effectively coordinate activities, decrease downtime, and decrease administrative and bus operation costs.

- Washington County School District uses GPS to track bus location, fuel mileage by driver, the time buses are actually driving, and total mileage. This system is also used to track maintenance repairs and driver pre/post trip information. Eventually, this system will also be linked to the payroll and timekeeping systems. Connecting these activities reduces the total amount of paperwork, increases program responsiveness, and decreases costs due to more efficient routing.

- Fort Bend Independent School District in Texas uses a routing management system for routing buses and providing student information and other data required for state reporting. The district also uses three other software programs to increase efficiency: Kronos for managing employee timekeeping and payroll data, R.T.A. for bus scheduling and parts inventory, and Gasboy for fueling and pre-maintenance scheduling. These programs have reportedly led to greater program efficiency for Fort Bend Independent School District.

[15] Idaho, p.10.

Train, Supervise, and Assist Bus Drivers to Meet Bus Driving Standards and Maintain Acceptable Student Discipline.[16] School districts need to train, supervise, and assist employees to better perform their duties. As part of training for school bus drivers, school districts generally offer commercial driver license training (a commercial driver license is required to drive a school bus).

Management also has the responsibility to supervise drivers and ensure they are following rules and regulations covering safe bus operation. Supervision responsibilities include observing bus handling, assisting drivers with student bus discipline problems, administering drug and alcohol tests, and enforcing driving policies. Some training benefits include reducing motor vehicle and workers' compensation accidents, insurance premiums, maintenance costs, absenteeism, and employee turnover.

- In Osceola County School District in Florida, prospective bus drivers are given the training they need to earn their commercial driver's licenses. Trainees also receive 75 hours of initial training as well as 12-15 hours of on-bus training, including observations, driving buses without students, and driving buses with students and a trainer onboard. The school district requires drivers to pass an annual physical and dexterity examination. Each bus driver receives 13 hours of annual in-service training prior to the start of the school year, covering topics relevant to bus driver duties. The district also monitors the state traffic violation database for driver infractions and administers periodic drug tests. These policies and practices may assist the district in lowering transportation operating costs, improving quality of service, and preventing disruption of service.

- St. Lucie County School District in Florida works with a local community college to offer classes for prospective bus drivers to earn their commercial driver's licenses. This training includes classroom and behind-the-wheel training. The district requires drivers to pass a physical examination plus annual dexterity testing. Drivers receive three training days each year on topics such as defensive driving, behavior management, emergency procedures, first aid, and fire safety. The district formally monitors bus driver traffic infractions and has a point system that guides district decisions on driver reprimands and firing. Private contractors provide drug screening for prospective and current drivers. Because proper operation of vehicles reduces transportation costs and quality of service largely depends on driver performance, these district policies likely improve efficiency and effectiveness performance measures.

[16] Idaho, p.5-6.

3. Use Sound Capital Management Principles to Acquire and Maintain Buses

A bus fleet represents a significant investment for a school district. Purchasing decisions should be based on analysis of usage and buses should be maintained and stored in a manner that decreases overall pupil transportation costs over the life of the vehicle.

Economically Acquire an Adequate Number of Buses to Meet the District's Current and Future Needs.[17] School districts need to ensure that bus life-cycle decisions (purchasing, maintaining, and selling) meet the district's needs in an economical way. For example, school districts need to buy the right type of bus for the size and type of population served. Districts should monitor the number of spare buses retained to ensure the district has the buses it needs without excess inventory. Before selling its old buses, a district should fix minor cosmetic flaws or other maintenance issues in order to encourage higher bids.

There is evidence that school districts in Utah are not following this best practice. According to a 2008 legislative audit report, many districts are not fully utilizing their buses, leaving many seats empty during normal routes. Utah districts are also purchasing buses that are too large for their transportation needs. Between 2003 and 2008, only 19 percent of large buses (class C or D) manufactured in the United States were class D buses. However, in Utah between 2008 and 2012, 90 percent of large buses purchased by school districts were class D buses. Despite being more expensive and having more space than needed, Utah school districts predominately purchase class D buses. Utah school districts paid $26,000 more on average for class D buses compared to class C buses in 2013.

- Provo City School District has purchased two class C buses and one class D bus since 2008. The district considered cost, fuel type, and bus usage when making these purchasing decisions. Smaller student numbers on certain routes eliminated some of the need for class D buses. The lower cost of class C buses was also an important factor—they cost significantly less and hold marginally fewer students (seven fewer elementary students, five fewer secondary students). Alternative fuel option was another reason the school district purchased more class C than D buses—the district wanted to test a propane bus, which is available only in class C size.

- The school board of Sarasota County School District in Florida has established a Vehicle Replacement Committee to review, evaluate, and make recommendations for replacement of district buses. The committee's decisions to replace vehicles takes into account multiple factors, including the age and condition of each vehicle, capital funds available, reparability, relative costs of

[17] Idaho, p.6.

replacement versus repair, and safety considerations. The district purchases buses using the state's annual contract. This process helps the district acquire buses economically and decrease total transportation costs.

Ensure that Fuel Purchases Are Cost-Effective.[18] School districts need systems and processes in place to ensure that fuel is purchased at the lowest possible cost, prevent unauthorized use of fuel, and fueling stations are accessible to vehicles. Districts can combine with other large users of fuel (such as neighboring districts and local governments) to make cost-effective fuel purchases. Districts that run their own fuel stations should monitor fuel disbursements to prevent theft and know when to reorder supplies. Large districts may be able to use fueling systems to prevent unauthorized fuel disbursements, monitor fuel tank levels, and log the fuel used by vehicle. A variation of a pooled bid is the use of fuel purchasing cards, which may take advantage of state negotiated contracts. These practices increase the efficiency of transportation programs by lowering fuel and other operating costs if fuel stations are conveniently situated.

- Wayne and South Sanpete County school districts use fuel purchasing cards for bus fuel purchases at a state-negotiated rate at many gas stations. The fuel cards simplify the purchasing process for the district and also minimize miles driven—buses can go to a local gas station instead of a central district fuel depot. Because of their small sizes and dispersed populations, these districts would likely not benefit from a bidding process for fuel and associated fuel stations.

- Bradford County School District in Florida uses an automated fueling system that monitors fuel levels at the station and controls disbursement. The system, located within the district's bus compound, requires two cards (a card for each vehicle and a card for each driver), a personal identification number, and an odometer reading for fuel dispensing. This system tracks fuel disbursed to each vehicle, the driver operating the pump, and the rate of fuel consumption.

- Miami-Dade County School District in Florida purchases its fuel through an annual competitive bid process and uses seven fuel stations spread geographically throughout the district. Fuel usage is monitored on a daily basis, and fuel is charged back to each user department. Manual records are regularly reconciled with the computerized tracking system. The district's efforts allow them to purchase large quantities of fuel at a low price and closely track its use at each station.

Ensure that Bus Maintenance Is Properly Managed with Secure and Conveniently Located Maintenance Facilities.[19] Vehicle maintenance costs can represent a significant expense to school districts if they are not monitored and

[18] Idaho, p.7.
[19] Idaho, p.7.

controlled. Districts can reduce maintenance-related costs by placing maintenance shops at locations that minimize the distance vehicles must travel for servicing. Service areas should be equipped for efficient and effective vehicle service and should include parts rooms, administrative areas, specialized tools, and covered and hard-surfaced working areas. Best practices for maintenance facilities may vary by district characteristics such as population density and geographic size. Practices related to maintenance facilities should target lowering total transportation costs, including both capital expenditures (maintenance shops, equipment, buses) and operating costs such as fuel and labor.

- South Sanpete School District uses two private maintenance shops (at either end of the district) in the most populated areas. These locations are reasonably close to the start and stop locations of bus routes and the homes of bus drivers. The locations decrease the number of deadhead miles because buses do not have to drive far for scheduled preventative maintenance. The use of private businesses likely saves the district money because its transportation program may not be large enough to justify maintenance equipment purchases and shop space.

- Wayne County School District performs some preventative maintenance on some buses while they are parked at the homes of bus drivers. Assuming security and vandalism are not major issues, this approach lowers some operating and capital costs for the district because deadhead miles are decreased. The district also uses local mechanic shops as needed for repairs requiring additional expertise or equipment. These locations are likely convenient to driver homes, also minimizing extra miles driven.

- Miami-Dade County School District in Florida uses nine maintenance centers, spread around the geographically large district. Reportedly, these maintenance centers are sufficiently spread out to provide reasonable convenience to district users. The convenience of maintenance shops likely decreases total deadhead miles and makes regular preventative maintenance less costly.

Best Practices in Utah School Districts

Chapter 4: Energy Management

Several states and national organizations have identified best practices in the management of energy systems by school districts. These practices, which can be observed in Utah and other states, can dramatically reduce the cost of operating lighting, heating, cooling, and hot water systems. These best practices can be summarized by the following general strategies.

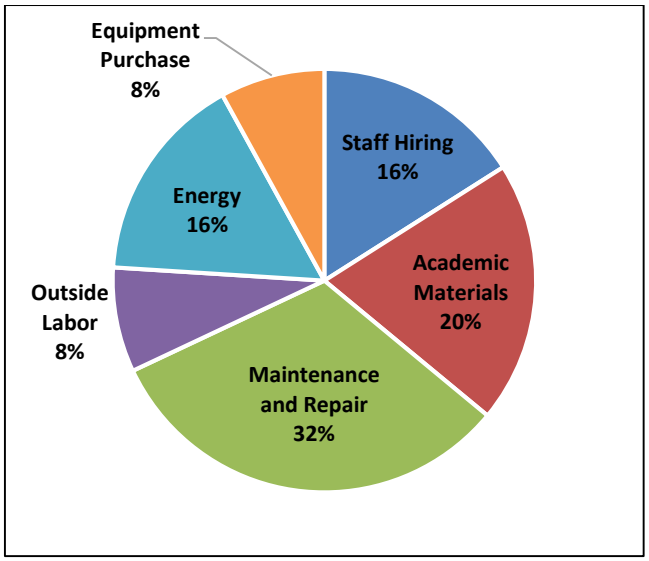
1. **Track Energy Utilization and Monitor Energy Billing**
2. **Encourage Voluntary Energy Awareness Through Education**
3. **Contract with an Energy Services Company as Part of a Shared Savings Program**
4. **Identify and Repair Deferred Energy-Related Maintenance**
5. **Build with Energy Conservation in Mind**

Background

Energy costs are one cost component of operating and maintaining schools. With the increase in energy rates, expansion of environmental legislation, and availability of grants and tax credits, energy management has become increasingly important.

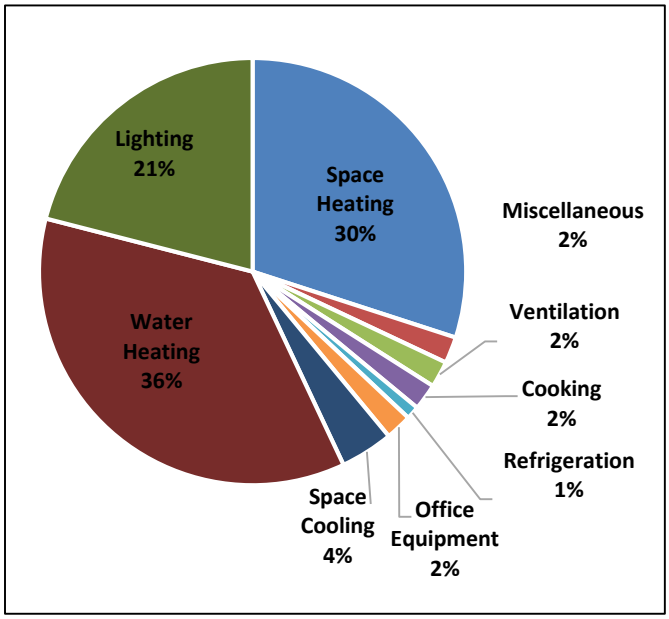
The goal of a district's energy management program should be to minimize energy expenditures while still maintaining a comfortable learning environment. Figure 4.1 shows district costs that are typically controllable. Energy expenditures account for 16 percent, on average, of total controllable costs for United States school districts. Because energy costs are a large controllable cost for school districts, schools and students can benefit from an increased focus on reducing energy consumption. Current research suggests that districts without energy management programs can save as much as 20 percent on their energy bills after implementing an energy management program. In addition to reducing costs,

Figure 4.1. Typical Controllable Costs in United States School Districts. Spending for energy is a cost area that can be controlled through effective management.



Source: School Operations and Maintenance: Best Practices for Controlling Energy Costs

Figure 4.2. Typical Energy Consumption in School Districts within Utah's Climate Zone. Space heating, water heating, and lighting represent 81 percent of all energy consumption.



Source: Website for National Grid, a national energy company

some aspects of an energy management program, such as monitoring the temperature and ventilation in each classroom, can actually improve the learning environment and contribute to better student outcomes.

Energy management relates to many aspects of operating a school because energy is used for many basic functions. Figure 4.2 displays a typical breakdown of school energy consumption for Utah's region of the United States; heating and air conditioning, lighting, and water heating are the four largest areas of energy consumption as a percent of total energy used. Energy management programs can address these areas through a variety of strategies and techniques. For example, they might include behavioral changes such as turning off the lights in unoccupied rooms, and turning down the heating/cooling at night. They might also include systems upgrades such as reconditioning or replacing equipment so it performs efficiently and can be monitored in real time.

Energy management programs vary in size and complexity based on school district needs and the expertise of operations and maintenance (O&M) personnel. Some districts may have existing staff to take on part-time responsibilities in energy management. These programs may focus on smaller projects like energy awareness campaigns to encourage behavioral change. With more resources, larger districts may be able to create an energy management department with responsibility for lowering energy expenditures. The greater potential for energy savings in a large district can justify this additional, specialized expense.

Measuring Program Performance

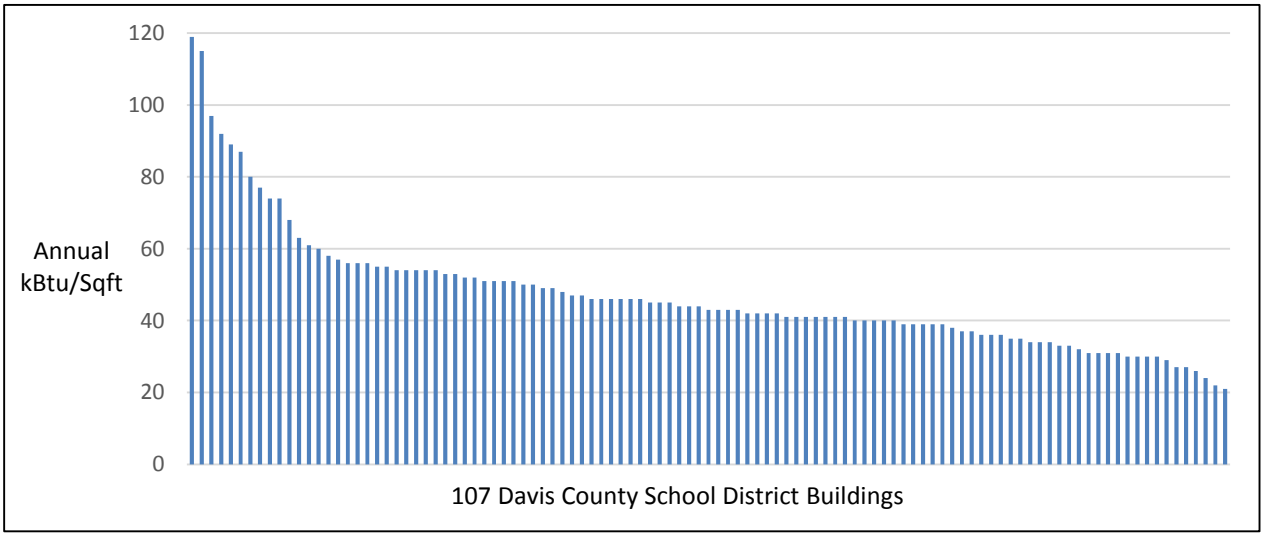
A school district's ability to efficiently and effectively use energy depends, in part, on its ability to measure performance and focus on key areas needing improvement. Performance measures are the primary input for program evaluation and should tie back to a program's mission and objectives. Metrics also enable school districts to benchmark their energy management programs against peer districts.

Energy Efficiency

School districts in Utah and other states use a variety of performance measures to monitor energy management efforts. To measure how efficiently school districts use energy resources, school districts can monitor annual energy usage per square foot (also known as energy use intensity or EUI). This metric is derived by calculating a building's total annual energy consumption from all sources using a single unit of energy such as a kilo British thermal unit (kBtu). This number is then divided by a building's total square footage. Energy usage per square foot shows each building's energy efficiency and can be used to compare schools in one district as well as schools in multiple districts. Both comparisons can be made over time. Focusing on energy use is preferred over energy expenditures because energy rates fluctuate, making dollar comparisons across time periods difficult.

Davis County School District measures the energy usage per square foot for each of its buildings to monitor current energy efficiency and identify malfunctioning equipment. Figure 4.3 illustrates the district's energy usage for fiscal year 2012 and the dramatic differences in energy efficiency among Davis School District's 107 buildings.

Figure 4.3. Davis County School District Measures the Energy Efficiency of Each District Building. This data helps the district identify opportunities for energy efficiency improvements.



Source: Davis School District Site Comparison Report

Some Utah districts may not use this metric if the data necessary for benchmarking and trend analysis are unavailable; for example, this information may not be recorded by accounts payable departments. Districts may be able to address this issue by obtaining past bills from utility companies and creating a system to monitor energy use going forward. Even if a district collects the necessary data, comparisons with other districts may be difficult if data for similar districts is unavailable—the USOE does not collect energy usage or building square footage data for school district buildings.

Energy Effectiveness

Program effectiveness measures quantify the accomplishment of program objectives and whether efforts are having their desired results. These metrics focus on an O&M department's ability to effectively use energy to operate buildings with comfortable environments. Student and faculty comfort can be helpful measures of how effectively O&M departments use energy resources. According to USOE staff, USOE does not collect data on school environmental comfort and schools generally do not gather formal environmental comfort data.

Despite lacking data, Utah school districts still recognize the importance of occupancy comfort as an objective and standard. Logan City School District staff reported reducing energy consumption in recent years, while leaving the teaching and learning environment unaffected. Energy personnel at Davis County School District emphasized the importance of comfort to the learning and teaching experience. Their energy efforts reportedly focus on reducing energy use while making internal environments more comfortable. Individual schools in Utah may be able to survey students and faculty on the school's internal environment to ensure that energy efficiency savings do not come at the expense of student and faculty comfort.

Best Practices in Energy Management

The following strategies are recognized best practices in school district energy management. Each of these best practices was observed in either an energy-efficient Utah school district, an energy-efficient school district in another state, or both. The examples in Utah are districts with energy management programs recognized by state energy development personnel and districts with energy management programs found and evaluated during this review. Many districts employ several of the following strategies for lowering energy expenses.

1. Track Energy Utilization and Monitor Energy Billing[20]

This strategy involves the collecting, recording, and tracking of monthly energy costs in all school district buildings. Using this strategy relies heavily on energy tracking and accounting software to manage monthly energy data from all district buildings. Dedicated energy accounting software allows district staff to identify changes in monthly or seasonal energy consumption, identify billing errors, and produce graphic summaries of facility energy use to communicate energy performance to other district staff and district management. This strategy requires significant staff resources and provides the greatest

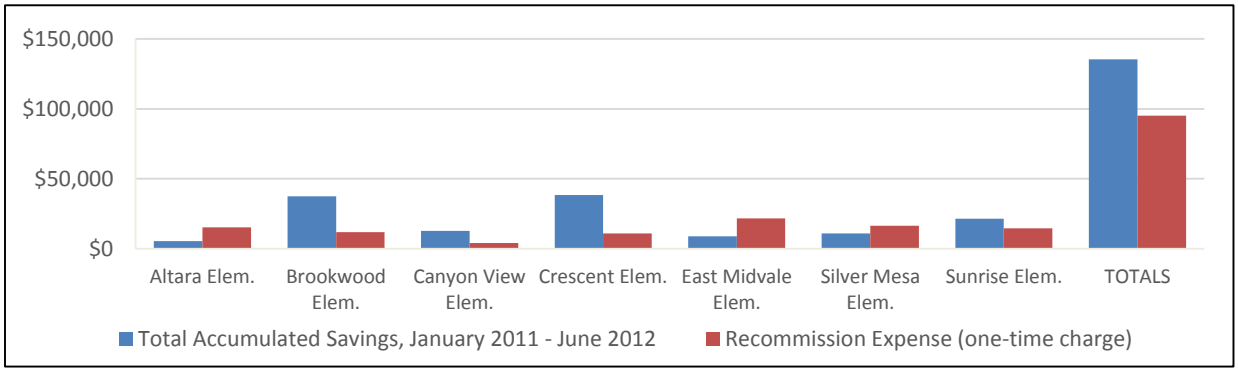
[20] Princeton Energy Resources International, HPowell Energy Associates, and Alliance to Save Energy, "School Operations and Maintenance: Best Practices for Controlling Energy Costs," August 2004, p.48, available from http://www.azdeq.gov/ceh/download/greenguide2.pdf.

opportunity to target energy savings opportunities at individual schools. These savings occur when staff fix malfunctioning systems, adjust system usage levels to fit actual building use, and correct energy billing errors.

- Davis County School District manages energy consumption and energy bills for its large portfolio of buildings through a centralized system that relies on specialized personnel and accurate data. District staff reported upgrading existing buildings with advanced controls that limit usage and allow online, real time monitoring of room temperatures. Staff audit monthly utility bills to detect overbilling and malfunctioning equipment. Reported savings from energy management activities have been substantial: although the district has increased square footage by 17 percent since 2007, total energy consumption has fallen by 4 percent. In addition to cost savings, increased control over room temperatures and energy usage can create a more comfortable learning environment for students.

- Canyons School District tracks its energy use and provides data to the school board. Similar to Davis County School District, Canyons tracks monthly energy use at each school in the district to identify savings, equipment malfunctions, and accomplishment of district objectives. As part of this process, energy bills are recorded and analyzed for reasonableness. Periodically, staff present energy cost savings to the school board to demonstrate program success. Figure 4.4 is an example of energy savings data provided to the district's school board related to recommissioning done in schools in 2011 and 2012, with savings likely to continue into the future. Recommissioning is a process of evaluating and maintaining building systems so they perform according to original building specifications and the district's needs; it includes recalibrating and optimizing energy-consuming systems. According to Canyons' energy manager, a new energy program was installed into the district's Building Automation System (BAS) to heat to 71 and cool to 74 so that neither heating nor cooling occurs between these temperatures.

Figure 4.4. Canyons School District Has Realized Savings That Exceed its Recommissioning Costs. The district tracks energy usage at individual schools in order to monitor energy efficiency and the relationship between costs and benefits of system upgrades.



Source: Canyons School District School Board Energy Presentation

- Salt Lake City School District reports using Utility Manager Pro, a computer software package, to track energy data to monitor monthly costs. The program helps staff flag bills that appear significantly different from expectations based on weather data and bill amounts from the same time period during the previous year. The district publishes a newsletter five times a year on facilities that includes energy achievements, awards, and high-performing schools. Energy usage data is also used to identify schools that are embracing energy reductions. Combined with other initiatives, energy tracking has reportedly helped the district avoid $1 million in energy expenses over the last three years on a 12 percent reduction in energy usage.

- Marion County Public Schools in Florida tracks energy usage and audits energy bills every month. Energy tracking and audits help the district to recognize situations where equipment is malfunctioning and also help identify billing errors. In the first four years of the energy program, staff discovered $35,000 in billing errors. In addition, staff identified an energy meter that was malfunctioning—it was reading 25 percent more energy usage than was actually occurring. The energy company gave the district a rebate check for $294,000 for charging the district for energy it had not actually used.

2. Encourage Voluntary Energy Awareness Through Education[21]

This strategy targets energy savings through the education of faculty, staff, and students on energy awareness including actions that reduce consumption. This education leads to energy savings through voluntary changes in behavior. Because teachers are in the best position to judge environmental comfort, educating them on energy issues will help maintain an adequate level of comfort while potentially saving money. These programs are relatively simple and less costly to implement because these curricular and awareness materials have already been developed by government agencies and nonprofit organizations. However, these education strategies do not address energy billing errors, malfunctioning equipment, or ongoing maintenance issues; therefore, energy savings may be more limited relative to other strategies. Achieved savings may decline if key staff leave the district.

- Logan City School District has reportedly saved over $1 million by motivating staff to change their habits. The district's energy performance contractor helped the district recognize opportunities and challenges in changing the behavior of teachers and custodial staff. The energy manager works with custodians on more energy-efficient cleaning patterns and after-school temperature setbacks. The energy manager also works with teachers to convince them that the changes in energy use would not affect the teaching environment and that they should shut their computers down at lunch and after work. Logan City School District reported savings of $1.3 million in energy expense, a decrease of 23 percent for the period

[21] Princeton, 49-50.

between July 2008 and July 2013. Total energy savings (compared to the baseline year) are likely to increase in the future as long as the district continues its current energy efficiency efforts.

3. Contract with an Energy Services Company as Part of a Shared Savings Program[22]

Districts can contract with energy performance contractors that provide energy management services in exchange for a proportion of the resulting energy savings. A district's monetary obligation is limited when using a performance contractor because fees are generally contingent on future energy savings. Energy company staff provide many services including staff training, technical building assessment, energy cost tracking, and energy audits, which include assistance in identifying energy savings opportunities. School districts should research potential companies before selecting a performance contractor. This research should involve contacting districts that have used performance contractors and using a request for proposal (RFP) process to eliminate questionable performance contractors.

- Weber County School District contracted with an energy performance contractor to immediately start saving money. After a formal RFP process, the district hired a firm that estimated the district could save $5 million over three years at a cost of $215,000 a year with free training and services thereafter. The energy contractor performed an energy audit of district buildings, documenting whether energy-using devices ran during the correct hours of the day and ran efficiently. The audit results led to shutting off a school's systems after 3 p.m. and restarting them in the morning. The contractor also recommended select system upgrades and replacements with short payback periods. Overall, the district has reported savings of approximately $19.5 million in the last decade by turning off systems and making cost-effective upgrades.

- Murray City School District reports it contracted with an energy performance contractor to help the district reduce energy usage and expenditures. This company helped the district realize $2 million in energy savings over five years by performing initial energy audits, helping the district encourage energy efficient behaviors, and suggesting small projects with short payback periods. Consulting engineers evaluated the district's physical plant and operating systems to identify areas in which the district could improve. The company also trained the district's part-time energy manager and provided energy tracking software. The district paid $90,000 a year for four years for these services (contingent on energy savings exceeding this amount), a fraction of the $2 million saved in the five years since the energy program started.

[22] Princeton, 50-51.

- Logan City School District reports it contracted with an energy performance contractor to establish an energy management system that fits the district's needs. The company provided training and software to monitor energy costs, gave input on creating a district energy policy, and prepared district staff for challenges associated with effecting meaningful change in energy use. The company also provided specialized training to a school teacher so that he could function as the district's part-time energy manager. The company offered these services at the cost of $100,000 per year for the first three years of the program, contingent on energy savings exceeding this amount. The district reportedly experienced total energy savings of over $796,000 during the first three years of the contract leading to a positive net savings in energy expense.

- According to a report by ConEdison Solutions, an energy company, Haldane Central School District in New York contracted with an energy performance contractor to reduce energy usage, save money, and improve the learning and working conditions for both students and teachers. The company's energy audits focused on sources of energy consumption and preliminary savings calculations. The company then conducted a comprehensive engineering and economic analysis to determine life-cycle costs, a guaranteed savings calculation, and environmental benefits. These efforts led to basic lighting and building envelope infrastructure upgrades, heating upgrades, and building control improvements that have reportedly saved the district $118,000 annually.

4. Identify and Repair Deferred Energy-Related Maintenance[23]

Districts can improve the energy efficiency of their buildings by identifying and repairing building problems resulting from deferred maintenance. These repairs and modifications may be moderate in cost but have a short payback period. Potential projects can be identified by building users or outside parties such as equipment vendors and consultants. These projects might include replacing all incandescent light bulbs with equivalent compact fluorescent bulbs, repairing malfunctioning dampers on unit ventilators, repairing pipe and vessel insulation for steam and hot water distribution lines, and repairing windows, door glass, and weather stripping. In many cases, districts can use existing custodial and maintenance staff resources to complete these projects.

- Murray City School District reports using energy audits to identify equipment upgrades and reduce energy expenditures. Despite the district's small portfolio of aging buildings, district administration stated the district saved $2 million in energy and utility bills over the five years since it began formally managing its energy consumption. These large energy savings have resulted from replacing thermostats,

[23] Princeton, 52.

valves, heaters, blowers, water connections, boiler parts, and caulking windows. The district employs a part-time energy manager to maintain and monitor the system.

- Canyons School District staff have focused on many potential areas for energy efficiency upgrades, including ballast and lamp replacement for lighting and BAS. Newer fluorescent lamps and reconfiguration of lighting systems reduce energy bills by using less power for an equivalent amount of light. BAS monitors equipment like ventilation fans to ensure they are operating at maximum efficiency given load demands. In addition to the grant and loan money they spent on recommissioning, the district also committed its own resources and has already realized positive returns. Between January 2011 and July 2012, the district had a onetime expense of $95,000 for school upgrades that will reduce energy usage over the life of select elementary schools. Staff reports the upgrades saved the district $135,000 between January 2011 and June 2012.

- According to an Energy Star report, Seaford School District in Delaware has successfully funded numerous upgrades that have reduced energy usage. One obstacle in implementing such equipment upgrades is funding—the costs are up front but the benefits accrue over time. Seaford School District energy staff gathered support for funding based on demonstrations of expected energy savings. The district now reportedly saves $100,000 annually because of upgrades such as cleaning boilers, replacing light bulbs, installing radiant heating systems, and installing on-demand heating of domestic water.

5. Build with Energy Conservation in Mind

In addition to relying on post-construction improvements, school districts should incorporate energy efficiency practices into the design of new schools. Energy-efficient school design is extremely cost effective—efficient schools cost on average almost 2 percent more, or $3 more per square foot, than the average conventional school, but increase total building lifetime benefits by $70 per square foot (including energy, emissions, teacher retention, and health benefits).[24] Most methods currently used for increasing building energy efficiency have focused on minimizing unwanted solar heat gain, maximizing usable natural light and heat, and minimizing building heat loss around windows and ductwork. Some of these methods include passive solar design techniques, thermal storage, daylighting, passive cooling strategies, and using high-performance insulation.[25]

[24] Gregory Kats, "Greening America's Schools: Cost and Benefits," October 2006, p.22, available at http://www.usgbc.org/Docs/Archive/General/Docs2908.pdf.
[25] Legislative Research Commission, "Energy-efficient Building Design and Construction Practices," August 2009, p.43-46, available at http://www.lrc.ky.gov/lrcpubs/rm503.pdf.

- In 2011, **S**alt Lake City School District constructed Hillside Middle School, a Leadership in Energy and Environment Design (LEED) school (an energy efficiency and sustainability rating system created by the United States Green Building Council), that incorporated energy efficiency and environmental principles. This building's environmental sustainability features include lighting controls, daylighting, concrete blocks made from recycled material, and bike racks. Although the focus of a LEED school is broader than energy efficiency, Hillside Middle School is highly energy efficient, reportedly using about 19 percent less energy per square foot compared to a similar school in the district.

- According to an Environmental Protection Agency report, Colorado Springs School District 11 in Colorado developed school design standards more stringent than those required by Colorado building code for indoor air quality, comfort, natural lighting, and acoustics. As part of these standards, facilities must have an annual energy consumption rating of 25 kBtu per square foot. Compared to buildings constructed using previous standards, strict adherence to these guidelines may save the district $12.7 million over the life-cycle of a typical elementary school.

Best Practices in Utah School Districts

Chapter 5: School Security

Other states and several national organizations have identified best practices in school security. These practices are aimed at protecting students, reducing crime, and providing a safe learning environment. Each best practice falls into one of the following three broad strategies.

1. **Use Physical Deterrents to Reduce the Risk of Violence**
2. **Create a Crime Watch Culture that Resists School Violence**
3. **Prepare an Emergency Response Plan and Have Regular Emergency Drills**

Background

In recent years, several highly publicized acts of on-campus violence committed in Utah and around the country have increased public awareness of the need to prevent and be prepared for such events. Creating safe schools requires both effective violence prevention planning and creating response plans for actual threats of violence.

Recognizing the need to promote safer schools, the Utah Legislature has required that schools prepare emergency response plans. ***Utah Code*** 53A-3-402(18)(a) calls for plans to: "prevent and combat violence . . . [including] prevention, intervention, and response components." Historically, school security has been the responsibility of individual principals and staff and, as a result, has been approached in a piecemeal manner. In many schools, fencing and locking doors to limit access has been the norm. As the threat of on-campus violence has increased, so have preventive strategies. Some school districts have hired professional staff to develop a more sophisticated approach to school security. As a result, many schools have adopted an adult check-in policy, increased use of hall passes and other identification systems, use of resource (police) officers, and video monitoring systems. Most recently, school security has become more holistic, with security specialists looking at school security as a total preventive and deterrent system rather than addressing issues as they arise.

Preventing school violence requires the participation of students, teachers, parents, administrators, and emergency responders. When all stakeholders work together, they can develop effective strategies to discourage violence on school campuses. These deterrent measures include (1) making physical modifications to the campus that discourage violent behavior and (2) promoting a culture that helps students realize that violent behavior is not tolerated. In addition to deterrence measures, schools must also have a practiced plan that directs how students and faculty should respond when someone actually threatens on-campus violence. This chapter describes specific approaches for meeting overall security

objectives. Some of these best practices can enhance school security with minimal cost, while others may require a substantial capital investment.

Measuring Program Performance

In most other areas in which we have reviewed best practices, we began by measuring the performance of school districts and identifying the best practices used by those top-performing districts. Currently, it is not possible to measure the progress that Utah school districts have made in creating safe and secure schools. Although districts are required to submit annual reports identifying the incidence of dangerous and violent behavior on school campuses, that data is not reported in a consistent, usable fashion. However, national data does provide some insight into the level of violence in Utah schools. The data suggest that Utah schools face the same challenge as the rest of the country in needing to develop strategies to prevent and respond to school violence.

A Nationwide Survey Included Data on Dangerous Behavior at Utah High Schools. According to a survey conducted in 47 states by the U.S. Center for Disease Control and Prevention (CDC), dangerous behavior and on-campus violence occur at about the same rate at Utah schools as they do nationally. Figure 5.1 describes the results of the CDC's nationwide survey of high school students. Students were asked to identify the frequency in which they engaged in certain dangerous behaviors.

Figure 5.1 Utah Students Demonstrate Dangerous Behaviors at Rates Similar to the Rest of the Nation. Surveys by the U.S. Center for Disease Control and Prevention suggest the number of students demonstrating dangerous behavior at Utah schools is fairly close to national averages.

Dangerous Behavior in Utah High Schools

Percentage of students in grades 9-12 who were involved in dangerous behavior in 2011

Students who:	Utah	U.S.
Carried a weapon on school property on at least 1 day in past 30 days (S)	5.9%	5.4%
Threatened or injured with a weapon on school property 1 or more times in past 12 months (S)	7.0	7.4
In a physical fight on school property 1 or more times in past 12 months (S)	8.1	12.0
Bullied on school property in past 12 months (S)	21.7	20.1
Carried a weapon on at least 1 day in past 30 days (A)	16.8	16.6
Carried a gun on at least 1 day in past 30 days (A)	5.9	5.1
In a physical fight 1 or more times in past 12 months (A)	23.9	32.8

(S) = at school (A) = anywhere

Source: Survey Data Obtained by the U.S. Centers for Disease Control and Prevention

The data in Figure 5.1 raise concerns about the number of students involved in dangerous behavior in Utah schools. In most areas, the level of dangerous behavior is comparable to or even exceeds the levels reported nationally. It suggests that Utah has the

same need as the rest of the nation to reduce dangerous behavior and to prevent and plan for the possibility of a serious threat of violence on campus.

Utah School Districts Also Report On-Campus Violence. The national data above mirror the incident reports that school districts submit each year to the Utah State Office of Education (USOE). During the 2011-12 school year, districts reported a total of 1,700 assaults and 707 cases of weapons being brought to school. We found some inconsistency in the data and it appears that some school districts did not submit a report. If anything, the reports appear to understate the level of dangerous behavior on campus.

Ideally, the annual incident reports should help the public know which schools are making progress in reducing dangerous behavior on campus. Unfortunately, such comparisons are not possible because districts are not consistent in their reporting of dangerous and violent behavior. In fact, the USOE acknowledges that due to "differences in incident recording procedures . . . the data cannot be meaningfully compared across districts." Furthermore, the way data is collected seems to have changed over time. Thus, it is difficult to know whether individual school districts are making progress in reducing violence and other dangerous behavior on campus. The lack of reliable data also makes it difficult to identify which strategies are the most effective in improving school security.

At the very least, the national survey data and Utah's incident reports suggest that on-campus violence is a problem for Utah schools. School districts need to find ways to improve school security by adopting practices that have been recognized as effective in creating safer schools. These best practices are identified in the following section.

Best Practices in School Security

After consulting with Utah school security experts, legislative staff in other states, and the national research literature, we identified a number of widely accepted and used best practices for school security. They fall into three categories: (1) use physical deterrents to reduce the risk of violence, (2) create a crime watch culture that resists school violence, and (3) prepare an emergency response plan and conduct emergency drills.

One useful source for best practices in school security is the Utah Division of Risk Management. This agency employs work site security experts who regularly evaluate the quality of school security plans. The division staff were particularly helpful in identifying practices they have found to be effective in improving school security. Security experts employed by some of Utah's larger school districts also helped us to identify best practices in school security. Several national groups have also identified the best practices in school security, including the Office of Juvenile Justice and Delinquency Prevention within the U.S. Department of Justice and the Centers for Disease Control and Prevention. Finally, several states have done extensive work in identifying the best practices in school security. For example, Florida's Office of Program Policy and Government Accountability

(OPPAGA) issued a set of best practices in school security. The Texas Legislative Budget Board has also identified districts using best practices in school security.

By drawing on these sources, we compiled a list of the strategies that should be of greatest benefit to Utah school districts. Each is described below, along with examples from Utah and other states. Some of these concepts may seem obvious. However, information we obtained from the Division of Risk Management and our own observations indicate that not all Utah school districts are following these procedures.

1. Use Physical Deterrents to Reduce the Risk of Violence

According to several school security experts, schools that use physical deterrents can reduce on-campus violence and discourage serious threats, such as an active shooter. The use of physical deterrents is commonly known as the CPTED approach which stands for Crime Prevention through Environmental Design. The Utah Division of Risk Management applies CPTED principles when it reviews a school's security. CPTED guidelines include three basic steps to provide a secure physical campus environment: (1) control access, (2) provide natural and formal surveillance, and (3) establish territoriality. By following these steps, schools can discourage potential perpetrators from attempting a violent crime while also increasing the likelihood that a perpetrator will be noticed and prevented from carrying out a violent act. The following information describes the three CPTED principles and provides examples of how they are used.

Control Campus Access. Schools should limit and monitor points of entry to and exit from the campus and buildings. For example, locating the school's main office near the school's front entrance ensures that visitors can be observed by administrators and staff as they enter the building. Usually, all adult visitors are required to sign in before entering the school. Additionally, schools can prevent unauthorized entry by locking all but a few exterior doors once school is in session. Finally, controlling access to playgrounds and parking lots are other potential measures.

- Alpine School District has proactively designed school campuses with controlled access in mind by placing the main office of newly constructed schools near the front of the school building. Recognizing the benefit of this crime-deterring design measure, Alpine School District has retrofitted several existing schools to place the main office nearer the school's primary entrance.

- Hunter High School in Granite School District limits access to the building to just two doors after the school bell rings. Adults who visit the school are required to check in at the main office located near the front entrance and obtain a visitor's tag. If an adult visitor is found wandering campus without a visitor tag, faculty and staff are instructed to stop the visitor and see that they go check in at the main office.

- Jordan School District has many older school buildings that were built when concerns for school security were less prevalent than they are today. One of the district's recent deterrence measures has been to add a second set of security doors to its schools. Once the morning bell rings, schools then prevent access through most perimeter doors. Only the main entrance to the school remains accessible. Visitors cannot pass through the second set of security doors without signing in at the main office.

- The Helen M. Knight Elementary in Grand School District includes a number of security features to control access to the building. Most exterior doors require card key access and can be locked or unlocked electronically from the front office. Visitor entry is limited to two front doors which require visitors to check in at one of two administrative offices before entry is allowed into the main building. Visitors must sign in and receive an identification tag before entering the main classroom area.

Provide for Both Natural and Formal Surveillance. Schools can achieve natural surveillance by creating open sight lines through architecture, landscaping, and lighting. Schools can also employ surveillance cameras in high-risk locations that lack natural surveillance. While many schools have lighting and cameras in place, at times these fall into obvious disrepair and indicate that surveillance is not being prioritized.

- Granite School District built the new Granger High School with school security in mind. The prior school had design shortcomings that provided locations where students could avoid surveillance. The new school has several long, wide corridors which are well-lit and provide much greater natural surveillance than the previous school. While the old school would have required dozens of cameras to monitor the building and grounds because of its varied architectural features, the new building's open sight lines provide a great deal of natural surveillance. Experts suggest that such design features help reduce student-on-student violence. The open design also makes it difficult for unauthorized intruders to walk through the school undetected.

- Helen M. Knight Elementary in Grand School District is equipped with video cameras that can be viewed at a computer in the main office or remotely by school officials and local law enforcement through a secured IP address.

Establish Territoriality. Fences, shrubbery, signage, and displays of school pride are all steps schools can take to communicate a sense of ownership. These measures discourage violent acts by suggesting that a space is monitored. They also increase a potential intruder's perception that a space is secure and attempts to carry out criminal acts would be thwarted.

- Although widely described in the national literature as a key design component for safe schools, we were unable to find a school in Utah that has used the concept of

territoriality as a campus design feature. The National Clearinghouse for Educational Facilities describes effective use of territoriality as follows:

> The most straightforward examples of territoriality are signs restricting access, directing visitors to the office, or posting campus closing times. (Gangs understand this concept and use it extensively, claiming turf by posting their own signs, usually recognizable as graffiti.) Defining clear borders is another step that reinforces territoriality. A low fence or hedge around the edge of the school property may not physically stop a trespasser, but it helps identify where public space ends and school space begins. Maintenance further reinforces territoriality—any unkempt part of the campus sends a message that no one is particularly concerned about or possessive of that part of the school.[26]

2. Create a Crime Watch Culture that Resists School Violence

Implementing a crime watch culture is both a deterrent mechanism and a method for intervening in a crime that may be about to take place. The FBI reports that, in about 80 percent of school shootings, at least one person had information that the attacker was thinking about or planning an attack. In nearly two-thirds of the school shootings, more than one person had information about the attack before it occurred. In nearly all of these cases, the person who knew about the risk was a peer, a friend, schoolmate, or sibling. Students should be encouraged to report suspicious comments, emails, text messages, and other communications.

Several districts in Utah and other states have been recognized for reducing school violence through their crime watch programs. The following describes the features of these programs.

Create a Student Crime Watch Program. Patterned after the neighborhood watch concept, crime watch programs encourage students to take responsibility for reducing crime and violence on campus. Among other crime prevention activities, students are encouraged to report actual and potential criminal activity. In order to encourage students to willingly report possible criminal activity, schools must guarantee that the names of students will be kept confidential.

- The Campus Crime Stoppers program in Austin, Texas, has received special recognition from the Texas Legislative Budget Board, which conducts ongoing reviews of best practices in that state's public education system. The crime watch program is jointly sponsored by the Austin School District, the Travis County Sheriff's Office, and the Capital Area Crime Stoppers Inc., a local non-profit

[26] 26. Tod Schneider, "CPTED 101: Crime Prevention Through Environmental Design – The Fundamentals for Schools," 2010, National Clearinghouse for Educational Facilities, http://www.ncef.org/pubs/cpted101.pd (accessed July, 2013).

organization. Students are encouraged to use an established hotline to call in tips for various offenses. Students who submit a tip that leads to an arrest are eligible for a cash reward of up to $500. Students who join the program receive a membership card with the "TIPS" telephone number. The membership card also provides students with discounts to area stores such as bowling alleys and music stores. Since it began in 1995, the program has received 3,214 tips, which have resulted in 692 arrests and 119 weapons recovered.

Encourage School Resource Officers (SRO) to Interact with Students. Law enforcement personnel assigned as resource officers should develop a positive relationship with students in order to become aware of potential criminal activity.

- A recent report by the Utah Division of Risk Management applauds the high level of interaction between the resource officer at Timpview High School and the students attending the school. The report suggests that a healthy and appropriate interaction with students "is a prerequisite for getting knowledge about what might be happening at the school." The officers are required to wear police uniforms to help students be aware that there is a police presence on campus.

- Murray City has resource officers assigned to every school in the district. Resource officers are encouraged to develop relationships with students and faculty to the extent that they can address situations before they become serious problems. The city reports that many crimes have been solved and prevented as a result of the program.

- The Beaver County Sheriff's Office reports that each school resource officer strives to be someone students can turn to if and when they need assistance. By their prevention efforts, the training offered in life skills, and simply providing a police presence, the sheriff's office believes it is making a difference in reducing crime in Beaver County schools.

- Grand County School District reports that it has an excellent relationship with its county sheriff's department. The sheriff covers the cost of a student resource officer who is based in the high school and also covers the middle and elementary schools. The SRO also attends all school activities such as athletic events. The superintendent believes that due to the efforts of the SRO, dangerous and inappropriate behavior has been reduced. The district also has a clinical safety committee to which the SRO reports during its monthly meeting.

Offer Crime Hotlines. Crime-reporting hotlines are used throughout the country with reported success as components of larger crime intervention efforts.

- Granite School District encourages students to anonymously report dangerous behavior. They are asked to report threats of violence, a weapon in school, and other dangerous behaviors. To maintain confidentiality, a hotline is available for students and parents to call. Some schools also offer a "buddy box" where students can leave a note reporting dangerous behavior.

- Mount Pleasant School District in Texas has a student hotline for reporting potential crime. The hotline is one of several school security measures implemented by the district. This hotline helps prevent crime at the district's high school and allows students, teachers, and citizens the opportunity to call anonymously to tell district officials of an alleged violation of district security or discipline rules.

3. Prepare an Emergency Response Plan and Conduct Emergency Drills

Utah state law requires that all schools have an emergency response plan. According to security best practices, effective emergency planning requires three things: (1) the plans address different types of threats and emergencies, (2) they convey simple concepts that can be easily understood, and (3) they are practiced on a regular basis. Experts in the field of school security report that school districts with effective emergency planning will be better prepared to respond if there is an actual threat of violence on campus.

Provide Different Responses for Different Types of Threats. Depending on the threat, students may need to be evacuated or remain in their classroom under "lockdown." Thus, response plans need to account for different types of threats, and students and teachers need to be prepared to respond accordingly.

- Davis School District's emergency response plan is based on the Standard Response Protocol or SRP. It is a response strategy that is used by school districts in many states. Because the SRP is simple in concept, it is easy to communicate to students, parents, faculty, and law enforcement. The SRP, with its various scenarios, is rehearsed through frequent drills.

  The SRP includes four directives and accompanying responses which are described in concise, everyday language and can be employed in a variety of emergency scenarios. They include the following:

  - Lockout means "Secure the Perimeter." It is the protocol used to safeguard students and staff within the building. Teaching continues during a lockout.

  - Lockdown is described as "Locks, Lights, Out of Sight." A lockdown is more severe than a lockout. It is the protocol used to secure individual rooms and keep students quiet and in place. Teaching does not continue during a lockdown.

- Evacuate, when given as an order, is always followed by the name of the location to which evacuation is to take place. This protocol is used to move students and staff from one location to a different location in or out of the building.

- Shelter, when given as an order, is always followed by the type and method of shelter which should be sought. This is the protocol for group and self-protection. A shelter order could also be given in conjunction with a lockdown order (that is, "Lockdown and shelter in place!"), in which case the students would stay in the classroom (shelter) and the classroom would be locked.

Convey Simple Concepts that Are Easily Communicated and Understood. Security experts report that having a voluminous security plan is of little value if it cannot be easily communicated to students, parents, and faculty.

- The Provo City School District provides each classroom with an emergency procedures checklist printed in an easy-to-read format, with one page for each different emergency scenario. The simple format makes it easy to read and understand the different responses required for different emergencies and threats.

Hold Regular Drills to Reinforce Planned Responses. In the same way that schools understand the value of fire drills, schools should also conduct drills that respond to other threats as well. State administrative rules allow schools to substitute fire drills with other types of emergency drills. For example, a school might practice a lockdown drill one month and a lockout drill the next. By practicing different responses, a school can prepare itself for different types of threats. If possible, such drills should involve local emergency responders as well.

- Schools in the Canyons District are expected to hold frequent emergency response drills. In the past, Alta High School has invited local law enforcement to participate during on-campus drills. The drills have included drama students with full theatrical makeup to represent their injuries.

- Provo City School District's emergency response plans are also well-rehearsed. On one occasion, local law enforcement, local businesses, and university representatives all participated in a Provo City School District's active shooter drill. District officials and local community members all recognized that they need to be prepared for such an event. The sounds and sights of a real scenario were recreated during the drill. The responses by staff and first responders were later reviewed for improvement.

Help Early Responders Become Familiar with the Layout of Local School Buildings. As part of their preparation, local law enforcement and fire protection services must become familiar with the layout of local schools. Some districts have made copies of the school floor plan available to local police and fire departments. Some schools also provide early responders with a lock box on the exterior of the school building where the floor plan, keys, and other items are available to the emergency services personnel who are responding to an event.

- The Davis School District has installed lock boxes on the exterior of school buildings which contain master keys that firefighters can use to access locked doors. In addition, local police have been given swipe cards giving them access to a location within each school building where they can obtain a master key to the building. Finally, the chief of police for each city in Davis County was given a compact disk with a copy of the floor plan of each school in the district.

- Uintah County sheriff's deputies have also been given swipe cards that provide access to local school buildings. The use of the swipe cards is strictly controlled. The deputies are not allowed to access the school buildings unless they are responding to an actual call or are otherwise invited to enter the school during off hours.

- Florida's best practices in school security specify that a "district provides floor plans of each educational facility to local law enforcement agencies and fire departments" and that blueprints are "readily available for review during an emergency."

Best Practices in Utah School Districts

Chapter 6: Contracted Services

Although their experience with outside contractors has generally been successful, Utah school districts still prefer to rely on in-house staff to provide most support services. Instead, school districts should look for opportunities to increase their use of outside contractors. As they do, they could consider applying the following best practices.

- **Consider the Costs and Benefits before Contracting Out Support Services**
- **Perform Regular Reviews of Each Vendor's Performance Against the Contract Provisions**

At the end of this chapter we describe many examples of Utah school districts that have used outside contractors effectively.

Background

For many years, the business and manufacturing sectors have effectively used outside contractors to support their internal operations. By combining the skill and expertise of their own in-house staff with that of outside contractors, firms can produce a better end product than they would be able to on their own. The justification for relying on outside contractors is that it is often more difficult and costly to develop in-house expertise for certain functions than it is to rely on outside experts. By combining their core skill set with that of outside experts, businesses are more likely to create a superior end product, reduce their cost of operations, or both.

Additional benefits offered by outside contractors may include: (1) lower labor costs, (2) improved access to specialized technical expertise, (3) more efficient use of personnel because they are employed only when needed and, (4) the ability to obtain capital-intensive services that would otherwise require a large up-front capital investment.

The public sector can receive the same benefits from using outside contractors that the private sector does. Public school districts can use contractors to provide support services in areas in which they have a special expertise. By allowing contractors to do what they do best, school district managers and staff can focus on what they do best—education.

Printing services is the area in which Utah school districts most often rely on an outside service provider. About one-third (13 of 37) of the districts responding to our survey reported that they rely on an outside contractor for at least some printing services. Outside contracting appears to be much less common in other service areas. See Figure 6.1.

Figure 6.1. Districts Describe Their Outside Contracts as Successful, Even Though They Keep Most Services In-House. A survey of Utah school districts suggests the use of outside contractors is quite limited. However, the service agreements that are in place are generally described as successful.

Service Category	Districts Providing Service In-House	Districts Contracting Out Some Aspect of the Service	Outside Contracts Described as Successful
Printing Services	24	13	13
Vehicle Maintenance and Repair	29	8	8
Security Services	29	8	8
Computer Support and Repair	31	6	6
Grounds Maintenance	32	5	4
Transportation	33	4	4
Food Services	34	3	3
Custodial Services	34	3	3

Source: 37 school districts that responded to a written survey by the Utah Legislative Auditor General, July, 2013.

It is interesting that when districts use outside contractors they almost always describe the relationship as successful. Not shown in Figure 6.1 are three former contract relationships which were called unsuccessful. Although most outside contracting is generally described in positive terms, we find it odd that districts do not hire outside contractors more often than they do. One reason may be that school districts seem to have an institutional bias favoring the use of in-house staff. That bias seems to be driven by a desire to keep jobs within the district. Another justification given for keeping services in-house relates to a district's need to have staff who can respond quickly to unscheduled needs. For example, one district's facilities manager said he prefers to keep positions in-house because he has found that district employees are able to respond immediately when an unscheduled need arises. In contrast, he said most outside contractors have agreed to provide services on a fixed schedule and may not be as able to respond as quickly as in-house staff to an unexpected need.

Measuring Program Performance

Some school districts are more active in their use of outside service providers than their peer districts. We identified each school district's total spending for support services, then calculated the percent that was used for outside contracts. That percent of spending on outside contractors is, in our view, the best available indicator of how effectively a district is reaching out to the private contractor community. In addition, we found it useful to compare each district to its group of peer institutions. Figure 6.2 identifies the school districts that spent the largest portion of their administration and support services budgets on services provided by outside vendors. For each peer group, the district with the highest percentage of purchased services is shown and compared to the average for its peers.

Figure 6.2. Some Districts Rely More on Outside Service Providers than Do Their Peers. The data show the percent of administration and support expenses that were provided by outside vendors. The districts shown are those with the greatest reliance on outside service providers when compared to peer districts of similar size.

Peer Group*/Districts	Percent Purchased Services
Very Large Districts	
Alpine School District	7%
Peers	5%
Large Districts	
Nebo School District	8%
Salt Lake School District	8%
Washington School District	8%
Peers	6%
Mid-Size Districts	
Ogden School District	19%
Peers	8%
Small Districts	
Logan School District	22%
Sevier School District	18%
South Sanpete	16%
Peers	9%
Statewide	**8%**

*Number of Students: very large districts: >50,000, large districts: <50,000 and >20,000, mid-sized districts: <20,000 and >10,000, small districts: <10,000.

Figure 6.2 shows that school districts rely on outside vendors for only a relatively small portion of their administrative and support services. We did find a few notable exceptions. The Logan City School District, at 22 percent, is the only district spending more than 20 percent of its support services budget on outside vendors. The Ogden, Sevier, and South Sanpete districts are not far behind, with each spending just under 20 percent of their support services budgets on outside contractors. Statewide, only about 8 percent of district administrative and support services are provided by outside contractors.

It appears a majority of the outside contractors are private businesses. However, some districts do much of their outside contracting with other public institutions. These include contracts with other school districts, local colleges and universities, and local government entities. For example, Logan School District relies on Cache School District for its pupil transportation services.

Due to economies of scale, larger districts find it easier than smaller districts to develop in-house service units. As a result, the larger districts tend to have fewer purchased services than small districts. The irony is that large districts are actually better candidates for outside contracting because large national companies are most interested in the prospect of providing services on a scale that only a large district would require.

Best Practices in Contracting Outside Services

Much can be learned from school districts in Utah and in other states that apply the best practices in outside contractors. The best practices fall into two categories: first, consider the costs and benefits before contracting out support services, and second, once contractors have been hired, perform regular reviews of each vendor's performance against the contract provisions. At the end of this chapter, following a description of best practices, are several examples of Utah school districts that rely on outside contractors to provide support services.

Our list of best practices is largely based on the guidance issued by three states that regularly perform best practice reviews of school districts. These include Arizona's Auditor General, Texas' Legislative Budget Board, and Florida's Office of Public Policy Analysis and Government Accountability. We also rely on some publications by various professional and research groups associated with school administration.

1. Consider the Costs and Benefits before Contracting Out Support Services

The service sector is a changing, dynamic marketplace. Service providers that did not exist a few years ago may now be prepared to offer high quality services at a fair price. For this reason, school districts should periodically consider whether it would be more cost effective to provide services with in-house personnel or to hire an outside service provider. Our survey of school districts reveals that in most support service areas, school districts have not even considered the possibility of hiring outside contractors. For example, in the area of grounds maintenance, 29 school districts of the 37 surveyed report that they never even considered hiring an outside vendor. We question how districts can know whether or not to contract with outside vendors if they have never issued a request for proposals.

The following are the best practices that should be applied when considering whether to employ an outside vendor.

Define Service Needs and Quality Expectations. Before selecting an outside contractor, districts need to clearly define their service needs and require potential contractors to demonstrate they can meet those expectations. There may be vendors interested in providing services, but if they cannot meet the district's expectations in terms of the service quality, they should not be hired.

- Florida suggests that districts should consider whether outside contractors can offer improved services, lower costs, or both. However, Florida also warns that without clearly defining the service objectives, a district will be unable to evaluate a contractor's performance at some later date.

- Texas suggests interviewing board members, district staff, and users of the services to identify the factors critical to success in service areas. That information can then be used to establish the performance objectives to which a contractor will be held.

Identify the District's True Cost of Contracting for a Service. If a school district does not know its full cost of providing an in-house service, it cannot make an informed decision whether to contract for that service. For this reason, a district should identify both the direct and indirect costs that could be avoided by contracting for a service. For example, a district must properly allocate all of its administration and overhead costs to each of its operating units; then, if some overhead costs can be reduced through outside contracts, those costs should be considered in the analysis. If all costs are not included in the analysis, the district may incorrectly assume that a vendor's bid is more expensive than providing the service in-house.

- Florida suggests that if a district's accounting system does not allow it to identify indirect costs, it should estimate those costs.

- Texas suggests a district identify the fully loaded cost for the services provided in-house and, if possible, ensure that the costs are reduced to a per unit measure of output so a fair cost comparison can be made with a vendor's proposal.

- The Arizona Auditor General requires its school districts to evaluate the cost of service before it engages an outside contractor.

Determine if the Local Market Is Competitive. Critical to the success of any effort to contract out services is the availability of multiple contractors with the capacity and experience to provide services. A district should first issue a request for proposals. If only one or two vendors submit bids, or if the bids are not sufficiently competitive, the market may lack sufficient competition. In a non-competitive market, a successful bidder may lack the incentive to maintain a high level of service.

- Florida recommends that districts consult other school districts that already contract out a service and discuss their level of satisfaction with the contractors they employ.

- The Texas Comptroller recommends using the "Yellow Pages Test." That is, districts should do no job as long as there is a business listed in the Yellow Pages that can do

that job better and at a lower cost. Among other things, the Yellow Pages test includes asking vendors to submit an informal, non-binding proposal outlining the cost and range of services they might provide.

Prepare an Agreement with Clear Performance Expectations. Districts must draw up contracts with clear and comprehensive performance expectations. The contracts should incentivize vendors to provide a high level of service and find ways to minimize costs. Furthermore, the agreements should include provisions that allow the district to levy penalties or exit the agreement without harm if performance expectations are not met.

- Florida suggests that contract performance and cost standards be specific and clearly identify minimum performance and quality levels for the contractor. The contract should also specify any consequences for not meeting performance expectations.

- Texas recommends that the contract identify the specific levels of performance the vendor must achieve and remedies in the event the vendor fails to perform.

2. Perform Regular Reviews of Each Vendor's Performance Against the Contract Provisions

Once an outside contractor is hired to provide a service, districts should periodically evaluate whether the service provider is meeting expectations. The following information describes some of the best practices that should be used to evaluate whether a contractor continues to meet a district's service needs.

Review the Contractor's Performance and Fees. At some point, the provider's performance, fees, or both may not meet the original expectations. For this reason, a district should periodically consider whether the performance expectations or fees should be renegotiated.

- Florida recommends that a district employee be assigned to monitor each outside contract. That employee should report to the school board on a quarterly basis on each outside contractor's performance.

- During its review of one school district, the Arizona's Auditor General observed that the cost of the district's facilities maintenance and custodial services, which had been contracted to an outside service provider, were much higher than that of its peer districts. The district was encouraged to reevaluate the costs and benefits of the agreement it had with its outside contractor. At the end of the contract term, the district decided to rebid the contract, stating that it would only award a contract that cost the same or less than that incurred by other, comparable districts.

- Among the Texas protocols for best practice reviews, districts are encouraged to continually evaluate existing contracts to determine if the district is getting the best value possible.

Periodically Reassess the Decision to Hire an Outside Vendor. As conditions change, it may become more cost effective to provide a service with in-house staff. In addition, a district's service needs may change over time. For these reasons, districts should occasionally reassess outside contracts by repeating the original steps taken when deciding whether to contract for a service.

- San Juan County School District reports it once used a private contractor to manage and operate its food services program. However, as conditions changed, the district dropped its outside contractor after a review of the contract revealed the district could provide the service in-house at a reduced cost.

3. School Districts Should Look for Opportunities to Employ Outside Service Providers

We found many examples of Utah school districts that come to rely on outside contractors that have a particular service or expertise needed by the district. These districts have reached out to the service provider community and developed service agreements which the districts themselves describe as successful. Other school districts may be able to improve their use of outside contractors by considering what these districts and others have done to benefit from outside service contracts.

- Granite School District relies on an outside food services firm to manage its food services program. The Granite School District is one of the largest in the state and serves nearly 9 million meals each year. Although the district uses in-house personnel to staff its central kitchen and school lunch rooms, the food services operation is managed by an outside contractor that is one of the world's leading food service management firms. The contractor oversees the menu, food purchases, warehousing, preparation, and transport of the food to each of the district's schools.

  Granite District reports that its food services contractor brings a level of expertise to the food services operation that the district would find difficult to develop on its own. That expertise appears to have contributed to Granite's having one of the most cost-efficient food services operations in the state. Only three districts spend less per meal than the Granite School District.

- Twenty-four districts use a private software development firm to manage their school information and financial management software. Some school districts believe they can handle the development and upkeep of the management information systems with in-house staff. However, 24 school districts have joined together to

form a consortium that contracts for those services under a single agreement with a private information technology services firm. The company maintains and supports the financial and human resources management software used by the 24 districts. The districts' reliance on outside expertise is another example of how districts can benefit from the expertise of private vendors that would be difficult to develop in-house.

- Box Elder School District's reliance on an outside food distributor helps it avoid cost of warehousing. The district reports that it has developed a relationship with a local food services vendor that enables the district to avoid the cost of warehousing of the food items used in its school lunch program. Instead of delivering the food items to a district warehouse, as occurs with other districts, the vendor holds the districts food supplies in its own warehouse and delivers them "on demand" to district locations when and where they are needed.

- Utah County Department of Health provides school nursing services to Alpine, Nebo and Provo districts. Three school districts in Utah County have contracted with the Utah County Department of Health to provide nursing services in the local schools. This arrangement is another example of districts relying on outside experts to provide support services, so the district staff can focus on education.

- Washington County School District relies on Kelly Staffing Services, an outside staffing agency, to provide the district with substitute teachers. The district superintendent reports, "We have better-trained substitutes and better coverage than when we provided the services in-house."

- Several districts report using outside contractors for maintenance and repairs. Although no district has used outside contractors for the entire maintenance and repair of its physical facilities, some districts report relying on private contractors to handle specific maintenance and repair projects. For example, Davis District reports having a base-level maintenance staff to handle much of the repairs and modifications of their physical facilities. However, they regularly request bids for various maintenance projects involving such trades as painting, electrical, plumbing, heating, and air conditioning in order to see if work can be done at a lower cost by outside contractors rather than by the in-house staff. The district reports this strategy allows them to keep their full-time maintenance staff at a minimum while benefitting from the expertise of local contractors.