The Davis School District has invested nearly two billion dollars in facilities acquired over the life of the District. Operating and maintaining that size of an asset is an on-going challenge. Since the money to build and maintain facilities is generated by taxes, the District is very careful of the type of buildings constructed, materials used, and systems used to stretch those tax dollars as far as possible while still adhering to the District motto "Learning First".

Construction Costs

Construction costs are market driven and very difficult to control. Davis School District carefully monitors current construction trends to determine the most economical approach for each building project.

- **The price of building materials and systems fluctuate due to market conditions.** Each building is analyzed to provide the most economical structural system before it is bid. For instance, there will be times that the price for a load bearing masonry structure is less expensive than a steel frame or visa versa.
- **Prototype building plans are used to adapt to high growth conditions where new buildings are needed quickly.** Prototype plans must be changed every decade or so to keep up with the ever changing education field.
- **Construction Manager / General Contractor (Cm/Gc) project delivery method.** Bringing a contractor into the design process early helps maintain the budget, identify more economical building systems, control change orders, and monitor market conditions.
- **Value Engineering.** Every new building prototype plan goes through an extensive value engineering process. Independent architect, engineers, and contractor (cold team) is brought in to review the design. The cold team then identifies alternate solutions, cost saving strategies, and improvements to the plan. All other projects are thoroughly reviewed by the District maintenance, custodial, utilities and technology departments.
- **District facility expertise including inspectors, architects, and other specialists.** This allows the District to get beautiful modern buildings at reasonable costs. It costs just as much to construct an ugly building as a beautiful building.
- **Standardizing building amenities creates parity between schools and keeps costs down.** Unlike other Wasatch Front school districts, Davis School District does not build swimming pools at high schools or auditoriums at junior high schools.
- **School buildings in the State of Utah are well below the national average.** School buildings in the Davis School District are below the State average. See attached *School Planning & Management* article.
- **Award winning buildings are the result of careful planning.** The District does not pay for or seek design awards.

Facility Fun Facts

Davis School District operates 109 sites

1,353 Acres

10,395,420 sq. ft.

High Schools
3,194,145 sq. ft.

Junior High Schools
2,350,504 sq. ft.

Elementary Schools
3,920,564 sq. ft.

Other Buildings
116,343 sq. ft.

Average Building Cost per Square Foot

Davis School District

Elementary School
$ 168.52
(2015)
850 students

Junior High School
$ 168.09
(2017)
1,136 students

High School
$ 154.04
(2016)
2,245 students

Average DSD Utility Cost per Square Foot

Elementary School
$ 0.81

Junior High School
$ 0.65

High School
$ 0.69

Architects, engineers, and construction trades, who all take great pride in their work, apply for building awards on their own at no expense to the tax payer.

Maintainable Buildings

School buildings in the Davis School District are expected to last for sixty to seventy-five years. Over that long life span thousands of children will walk the floors, touch the walls, and open the doors every day. Maintenance and custodial staff have been reduced due to several lean budget years. Life cycle costs are evaluated with every building material that is specified. A school building must be maintainable.

- Concrete masonry block walls double as a structural element as well as a durable interior finish
- Polished concrete floors require very little maintenance yet continue to shine with more traffic.
- Single-ply roofing membrane with a thirty year warranty are specified. The white surface reflects sunlight which helps to keep the building cooler. Leaks are easy to find and repair.
- Carpet tile is installed with less waste than traditional rolled carpet. When a carpet tile gets stained it can be replaced with a new tile.
- Solid phenolic toilet partitions with heavy duty hardware are easily maintained in vandal prone areas of the school.
- Door hardware must withstand the abuse received each day as they are opened and closed over and over again.

Energy Efficient

The District spends over eight million dollars each year to heat, cool, and turn on the lights. The cost of energy, natural gas and electricity, doubles every ten years. It is imperative that we be responsible with the energy we use and look for every way to conserve. Students cannot learn when their environment is too hot or too cold.

- Energy efficient heating and cooling systems such as ground-source heat pumps and thermal air displacement provide better comfort.
- Well insulated walls and roofs prevent heat gain and heat loss through walls and roofs.
- Energy efficient windows with insulated glass, low-E coatings control solar heat gain.
- Sophisticated building controls allows the District to set back the thermostat when buildings are not occupied.
- Building Commissioning ensures that the mechanical systems are installed and operating correctly.
- Energy efficient lighting with controls cut the electricity usage in half.

- Daylighting creates a comfortable environment and when controlled properly reduces the need for the building lights to be turned on. Studies show an increase in test scores when students are in an environment with natural daylighting.
- Reduction of electrical demand charge. Demand is one part of the monthly power bill. It is the peak amount of power required in a building which the power company is required to produce. Controlling the start up each day of the pumps, motors, and fans can drastically reduce the demand charge.
- Net zero electrical use is achieved by generating electricity at the building site through the use of photovoltaic solar panels.
- Drought tolerant landscaping and Xeriscaping is used to reduce water requirements and maintenance.
- Recycling programs are used to conserve natural resources.

Educational Relevancy

One can build the most economical, maintainable, and energy efficient building possible but we need to remember that the purpose is to educate children.

- Building theming allows the building to be used as a learning tool while creating a fun exciting place to be at a relatively low cost.
- Building transparency is used to create a safe environment where children can always be supervised. This reduces incidents of bullying.
- Natural daylight creates a healthy environment, reduces absenteeism, and increases test scores.
- Flexible learning spaces allow students to work individually, in small groups or large groups.
- Flexible furniture that is easily moveable enables a teacher to rearrange a classroom to accommodate their lesson plan.
- Small learning communities are used to make a large school feel like a small school.
- Technology is constantly changing and adapting. Computers are as much of a learning tool as a pencil and paper once were. Electronic text books and library books require a robust wifi network.
- Building safety systems such as fire sprinklers, fire alarm, carbon monoxide alarms, and security alarms are provided to protect students and the assets of the District.
- Commons and other break-out spaces are utilized to maintain a safe environment. Over-crowded schools foster behavior issues. Since schools in the District tend to be “high enrollment” buildings, these spaces are used for gathering by students, assemblies and tutoring.