



UNDER PRESSURE TO REDUCE COSTS.

PASADENA INDEPENDENT SCHOOL DISTRICT | CASE STUDY

Background

Devoted to helping develop the potential of the more than 52,000 students it services, the Pasadena Independent School District has established itself as the International Center for Leadership in Education's 2008 National Model School District. Located southeast of Houston (and serving most of Pasadena, South Houston, a portion of Houston, and a portion of Pearland), PISD encompasses 62 schools and employs more than 7,200 staffers.

Challenge

PISD is the eighth-fastest-growing district in Texas by population. A leader in Texas education, the District leadership recognizes that properly maintained, well-lit school facilities enhance learning for all students. As with most municipal concerns, PISD was under pressure to reduce energy costs—the State of Texas had passed a law mandating school energy reductions (and requiring districts to make public their consumption). In addition to saving PISD (and taxpayers) money, any relight project had to be done without disrupting classroom activities, and needed to be finished before a cracked foundation in one school gym was scheduled to be repaired.

Solution

XtraLight performed an initial lighting audit, fixture design, manufacture, and installation for two PISD schools as a “test.” After the trial period, Tom Swan, the district's Executive Energy Project Manager, immediately knew he had chosen the right firm, and hired XtraLight to relight 36 more schools district-wide. Existing light fixtures included metal halide and older T12 fluorescent systems, which gave insufficient (and high-consumption) light. To increase performance and save costs (energy and maintenance), XtraLight recommended converting T12 fixtures to T8—saving approximately 66 percent on usage—and also replacing the metal halide with T8, which saved more than 50 percent. Maintenance costs saw an immediate savings because the top-tier T8 lamps were rated 16,000 hours more than the old T12 and metal halide lamps. XtraLight's solution resulted in:

- **59.77% in energy savings per year**
- **\$336,615 in total savings per year (energy + maintenance)**
- **Fast installations that were unnoticed and disruption free**

PISD officials are currently pursuing a grant that would allow XtraLight to relight the remainder of the district's facilities.

Operating Data	New System
Lamp Type	T5, T8 & LED Exit Signs
Number of Fixtures	11,971
Annual Energy Savings	
Energy Saved	2,286,825 kWh
Avg. Wattage Reduction	59.77%
Energy Savings	\$292,375
Maintenance Savings	\$44,241
Total Savings	\$336,615
Payback	3.1 yrs
Annual Environmental Savings	
Carbon Dioxide Saved	3,521,711 lbs
Sulfur Dioxide Saved	13,822 lbs
Mercury Saved from Reduced Power	76,069 mg
Nitrogen Oxide Saved	6,785 lbs



This reduction is equivalent to:

- Planting 443 acres of trees every year* **or**
- Removing 307 cars from the road every year

*based on 360 trees per acre



The district's biggest expenses are salaries and energy. When we save energy, we save jobs.

Tom Swan, Executive Energy Project Manager

