



STRATEGIC

2020

VISION

VISION

Embracing Today - Inspiring Tomorrow



MISSION

Arlington Heights School District 25 cultivates innovative learners within a nurturing and collaborative community to thrive in an ever changing world.

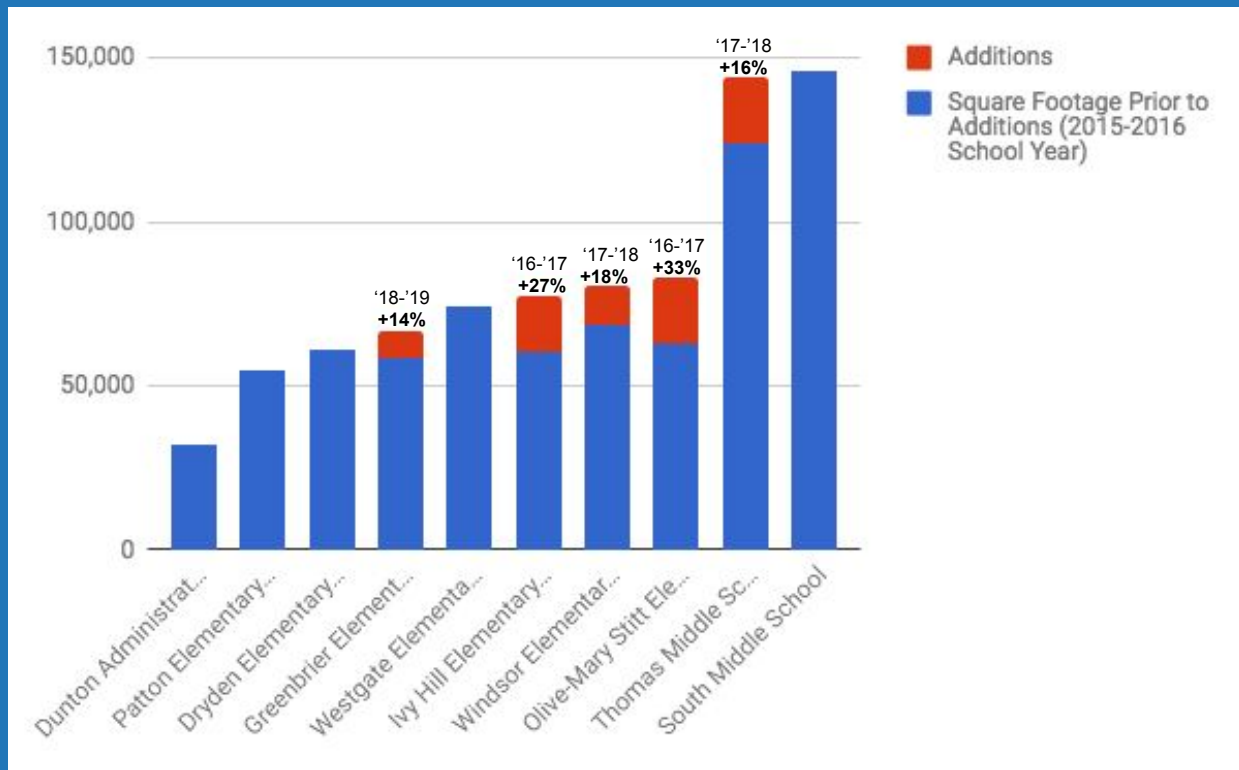
BROAD GOALS

STRATEGIC 2020 VISION



1. BROADEN BEST PRACTICES
2. EXPLORE PROGRAM EXPANSION
3. STRENGTHEN COMMUNITY RELATIONS
4. ENHANCE STAFF SUPPORT
5. MAINTAIN & ENHANCE HIGH QUALITY FACILITIES

Building Portfolio - Square Footage



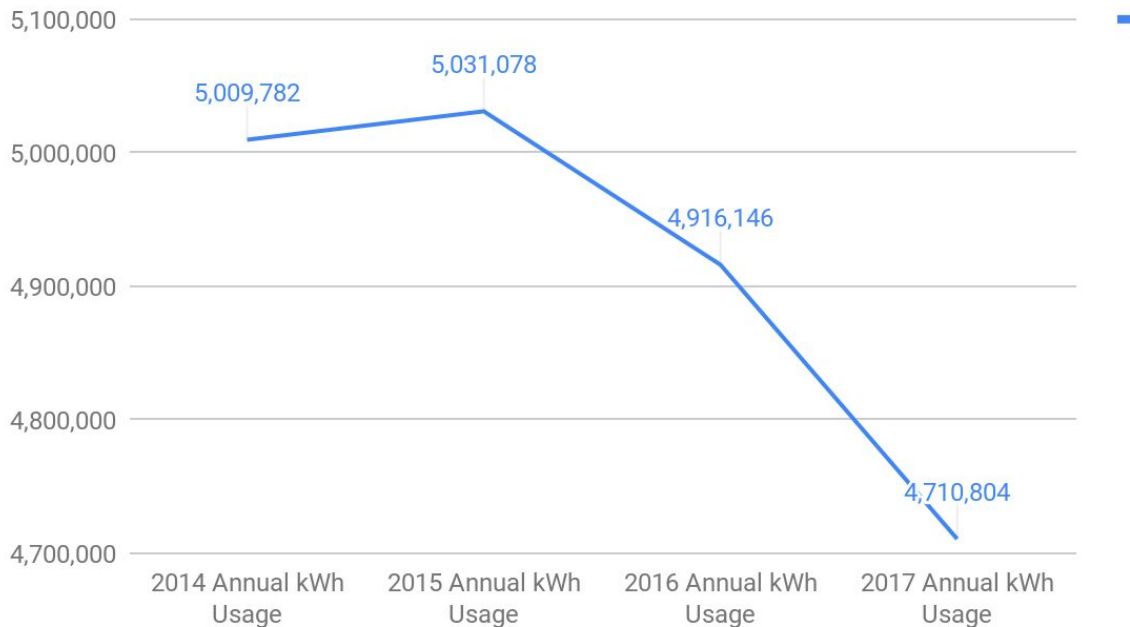
- **10.6% Total Building Square Footage Increase Since 2016-2017 School Year (+78,254sf)**

Growth has caused variability in utility usage at buildings with additions.

- Construction Project Usage / Shutdowns
- Additional Building Square Footage and Equipment

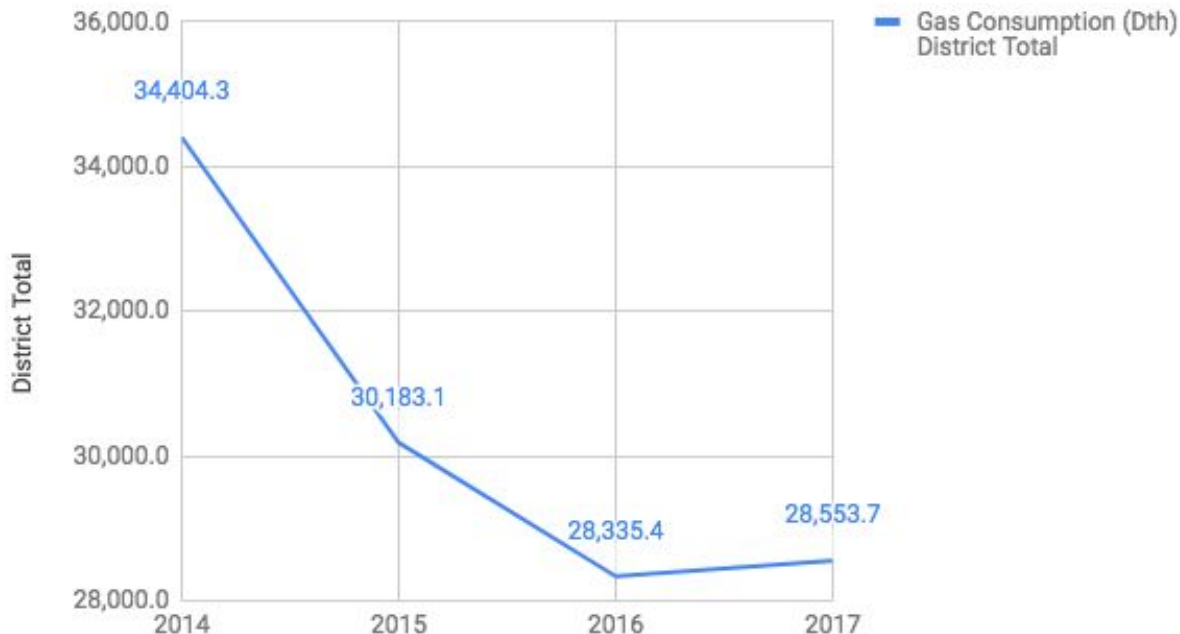
District Electricity Consumption (kWh)

Electricity Consumption



District Natural Gas Consumption

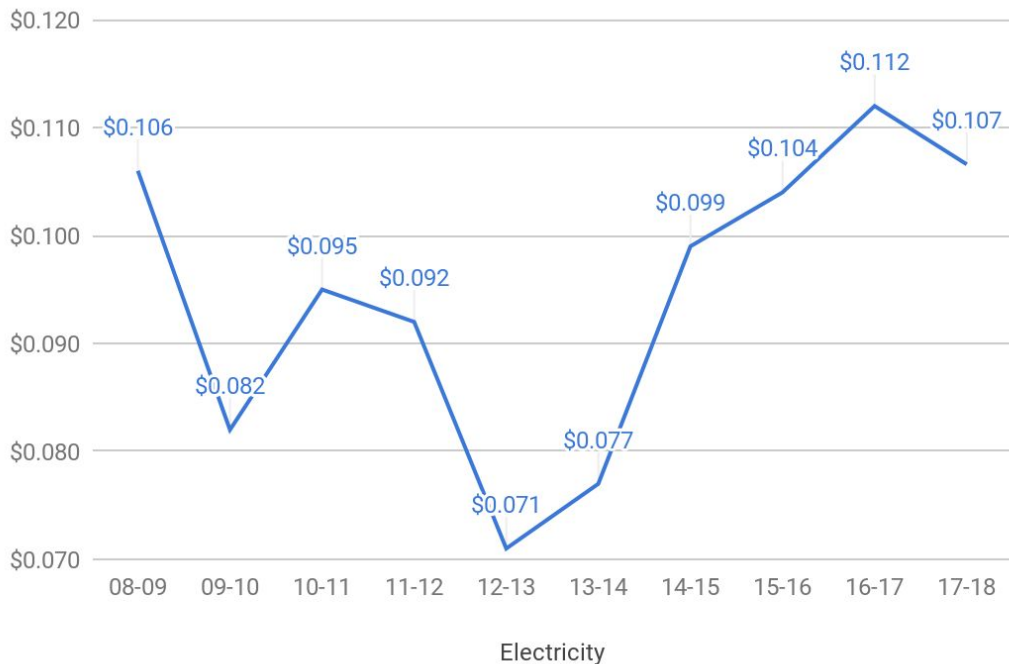
Gas Consumption



Average Annual Temperature

- 2017: 53°F
- 2016: 52°F
- 2015: 50°F
- 2014: 48°F

Historical Electricity Rates

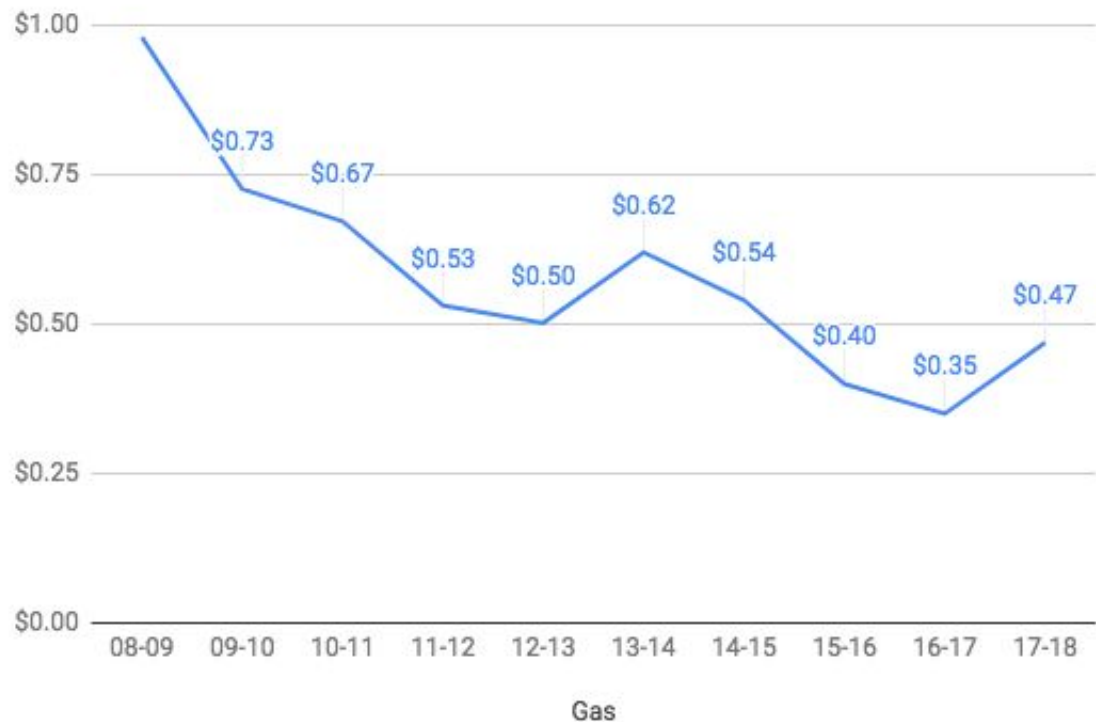


Current Breakdown

\$ 0.06571 kWh - Electricity Supply
(AEP Through May 2020)

\$ 0.04129 kWh - Distribution Charges
(Variable with ComEd and ICC)

Historical Natural Gas Rates



Current Breakdown

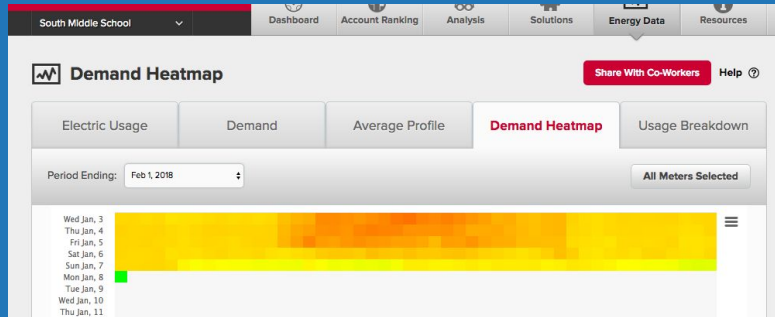
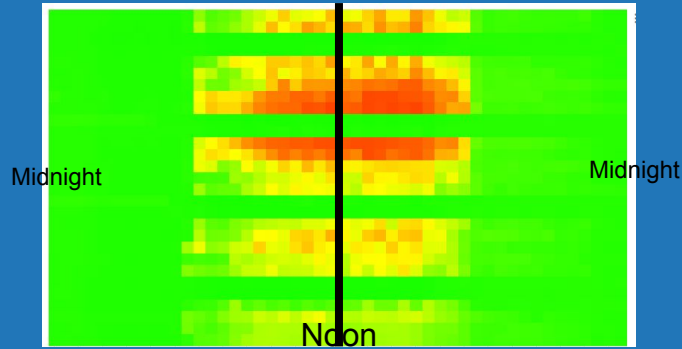
\$ 0.29850 - Gas Supply
(Constellation Energy)

\$ 0.171 - Distribution Charges
(Nicor Gas with ICC)

Ongoing Energy Efficiency Measures

- **Occupancy Sensors in Rooms**
 - Turns off Lights when no activity
 - Closes HVAC Outside Air Damper to Re-circulate Room Air
- **Building Automation System**
 - Sets Room Temperatures
 - Time of Day System Operates
 - Sequences of Equipment
- **Enhanced Commissioning Study with ComEd and DLR**
 - No cost study to evaluate HVAC building operation sequences
 - Provide Recommendations and Anticipated Energy Savings
 - Implement equipment optimization strategy
- **AirCare Plus - Cleaning and Tune Up**
 - ComEd program for detailed maintenance on Air Conditioning Units
- **Preventative Maintenance of Equipment**
 - Internal - Routine Schedule
- **AEP - PowerPerks**
 - Reduce Energy During Hot Weather Events
 - District 25 will receive a check in December for the amount of energy saved during these events (\$500 /MWh)
- **ComEd Business Analyzer Program**

Business Energy Analyzer



Discover and Correct Operational Problems



Verify Operational Changes Are Having The Desired Impact

Business Energy Analyzer

Account Ranking

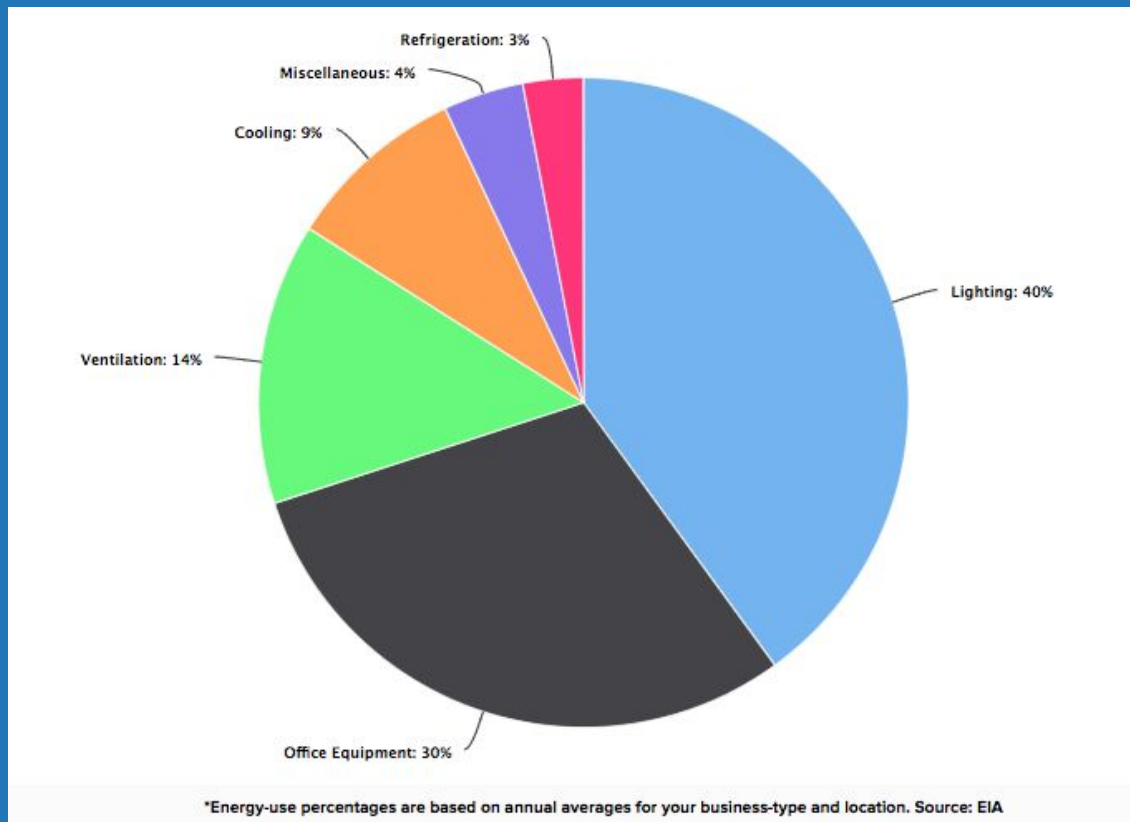
- Relative Ranking Based on Input Information (not the electricity bill)
- Annual Estimated Cost per SF
- Off Hour Energy Reduction
 - Need to review further to determine differences between buildings

Close relationship between building square footage and account ranking

Account Ranking

Account Annual Cost	Annual cost per sq ft.	Off-hour reduction
South Middle School \$ 90,633	\$0.62 / sq ft.	Reduces 58%
Thomas Middle School \$ 88,876	\$0.62 / sq ft.	Reduces 64%
Westgate School \$ 39,448	\$0.49 / sq ft.	Reduces 66%
Futabakai (Rand) \$ 39,290	\$0.47 / sq ft.	Reduces 56%
Dryden School \$ 39,106	\$0.64 / sq ft.	Reduces 39%
Windsor School \$ 39,080	\$0.48 / sq ft.	Reduces 82%
Ivy Hill School \$ 38,092	\$0.49 / sq ft.	Reduces 81%
Olive Mary Stitt School \$ 36,610	\$0.44 / sq ft.	Reduces 69%
Greenbrier School \$ 33,773	\$0.58 / sq ft.	Reduces 52%
Patton School \$ 31,591	\$0.58 / sq ft.	Reduces 56%
Dunton Administration \$ 14,891	\$0.47 / sq ft.	Reduces 57%
Miner School \$ 13,537	\$0.17 / sq ft.	Reduces 62%

Typical Annual Energy Usage Breakdown



Energy Star Scorecard



- Compares each building against similar buildings across the U.S.
- Rated on a scale of 1 - 100

Building	Energy Star Rating 2007	Energy Star Rating 2016
Windsor	57	98
Westgate	45	98
Thomas	50	98
Dryden	47	96
Olive	64	96
Miner	87	96
Patton	49	96
South	46	95
Dunton	70	93
Greenbrier	37	91
Ivy	49	85

Energy Efficiency Improvements

- **Recent Projects**

- **South Middle School Lighting Replacement** 3rd (2016), 2nd (2017), 1st (2018)
- **Boiler Replacements** at Windsor and Olive

- **Building Additions**

- LED Lighting
- Energy Efficient Condensing Boilers
- Roofs meet R-30 Throughout System

- **Future Considerations**

- Re-Lamping or Replacement of Lights with LED bulbs or fixtures
- Implement findings from ComEd / DLR Enhanced Commissioning Study
- Replacement of Watertube boilers with high efficiency condensing boilers as condition warrants
- Replacement of Dunton Thermostats with smart thermostats to provide automation for time of day schedules
- Continue to monitor market conditions for pricing opportunities

Goals - Electricity

1. Improve High Performers and Reduce Annual kWh at Elementary Schools to 5.65 kWh/sf
2. Improve Thomas and Reduce Annual kWh at South Middle School to below 6.00 kWh/sf

Facility	2017 Annual kWh Usage	Square Footage	Annual kWh / SF	Type
Windsor School	373,353	80,602	4.63	Elementary
Olive Mary Stitt School	403,709	83,293	4.85	Elementary
Westgate School	403,859	80,300	5.03	Elementary
Dryden School	369,712	61,101	6.05	Elementary
Patton School	339,276	54,934	6.18	Elementary
Ivy Hill School	485,862	77,088	6.30	Elementary
Greenbrier School	377,788	58,207	6.49	Elementary

South Middle School	937,248	146,013	6.42	Middle School
Thomas Middle School	863,000	144,270	5.98	Middle School

Goals - Gas

1. Improve High Performers and Reduce Annual (Thm) at Elementary Schools to 0.354 Thm/sf
2. Improve Thomas and Reduce Annual (Thm) at South Middle School to below 0.354 Thm/sf
 - a. Need to Review South in More Detail to Determine Higher Usage

Building	2017 Gas Usage (Thm)	Square Footage	Annual Thm / SF
Olive-Mary Stitt	24,576	83,293	0.295
Windsor	24,207	80,602	0.300
Westgate	27,413	80,300	0.341
Dryden	21,861	61,101	0.358
Patton	19,838	54,934	0.361
Greenbrier	23,334	58,207	0.401
Ivy Hill	32,387	77,088	0.420

South Middle School	58,745	146,013	0.402
Thomas Middle School	39,398	144,270	0.273