

# Energy Efficiency Program

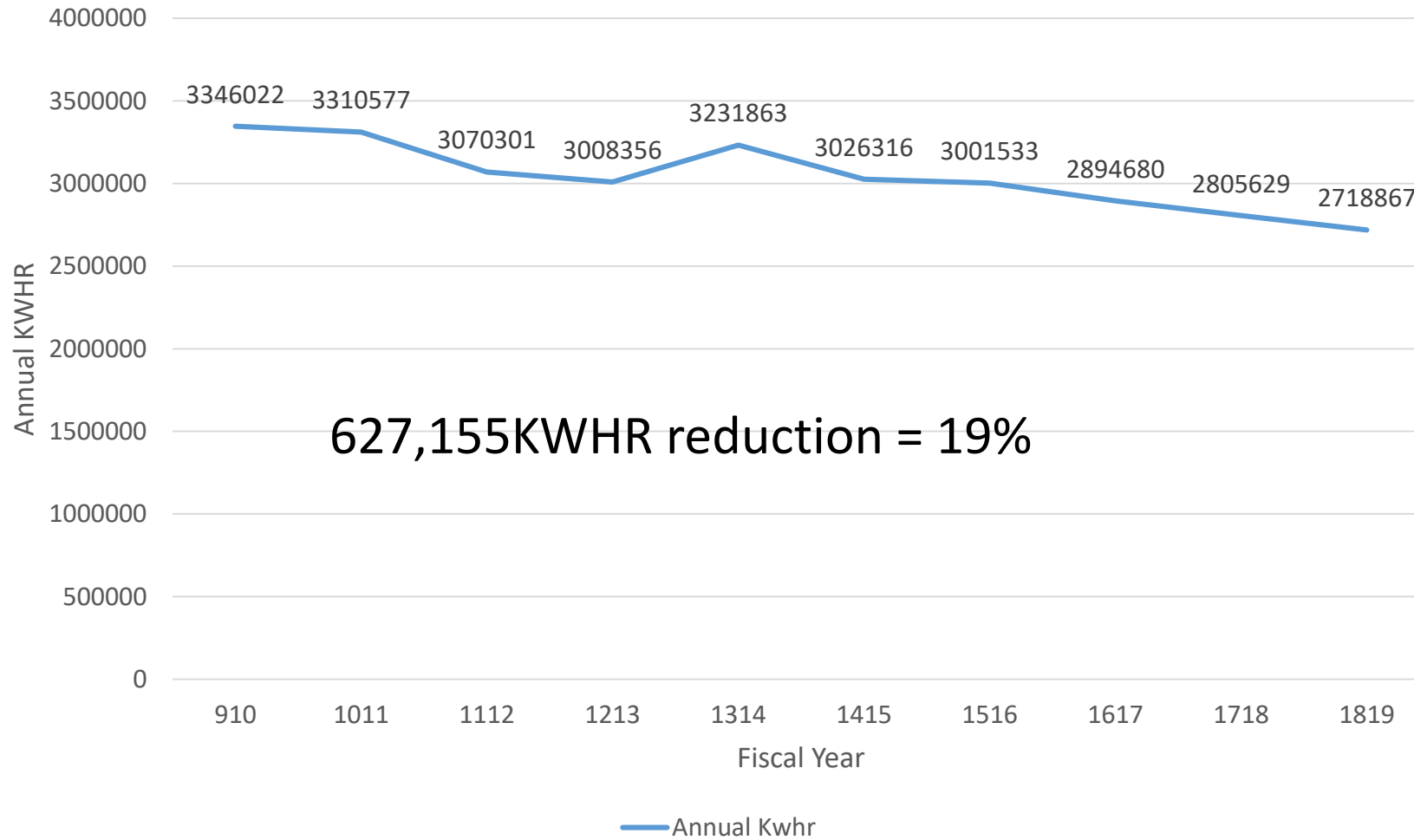
## Lyme – Old Lyme Schools

March 4, 2020

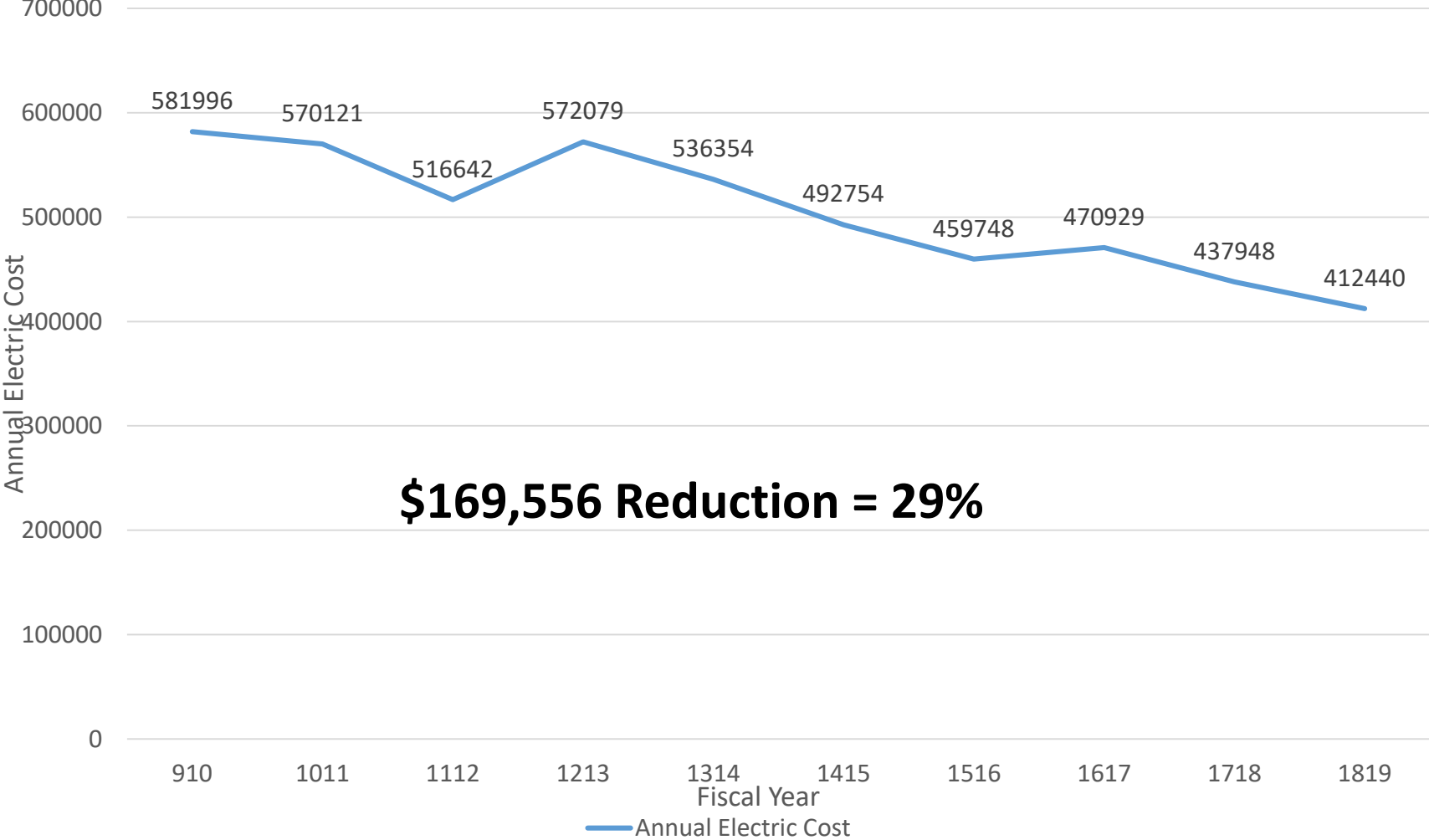
# District Energy Efficiency Program

- Improvements have been made since early 2000's
- Improvements have reduced our annual electric usage
- Improvement have reduced our annual electric cost
- Reduction in fuel oil usage continues to be a challenge

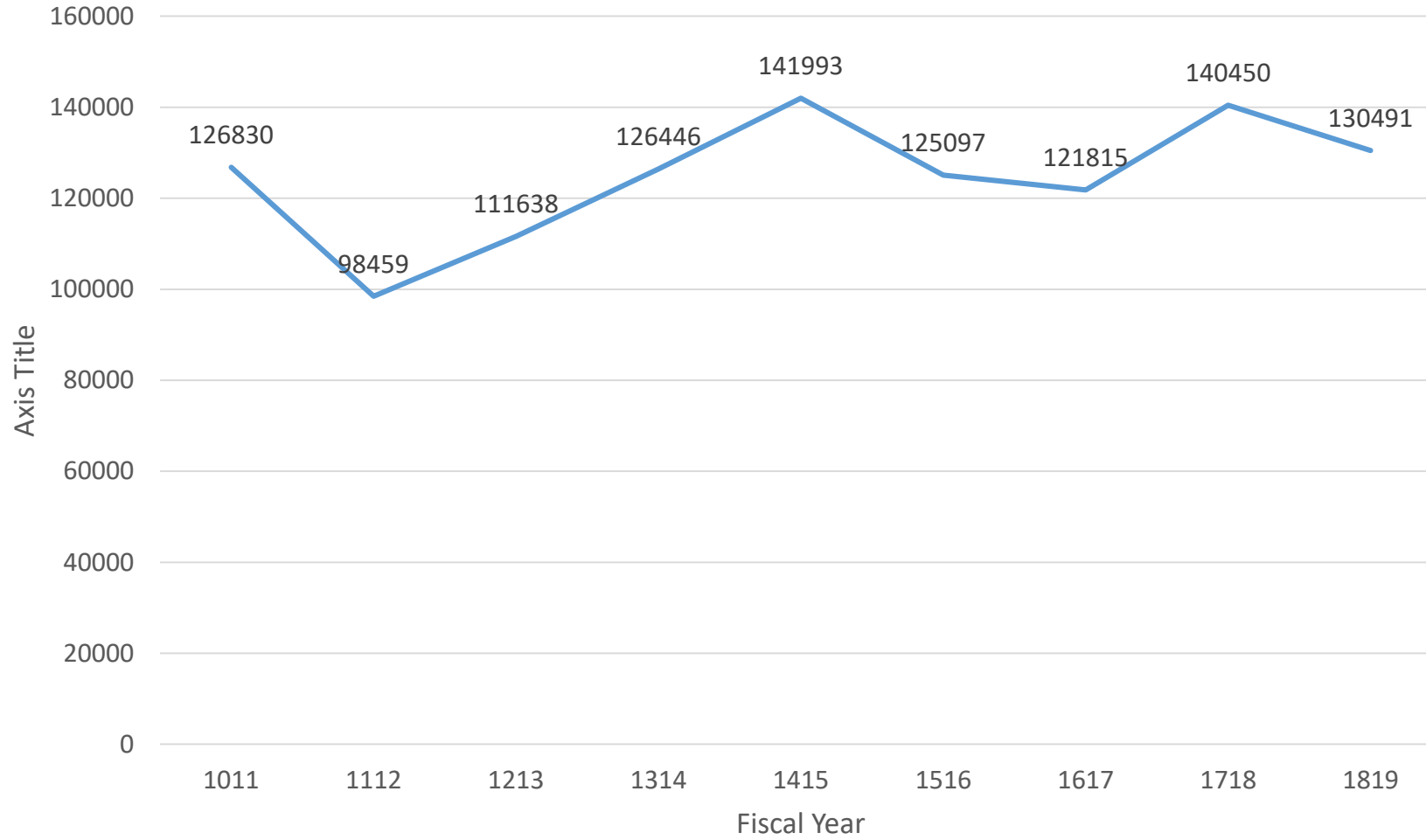
# Annual District KWHR USAGE



# Annual Electric Cost



# District Fuel Oil Usage



# Energy Efficiency Improvements

- LED lighting conversion district wide
- Roof project insulation
- Window replacement
- District wide digital energy management of all HVAC system integrated with facility scheduling
- Variable speed motor drives
- Heat pump/energy recovery unit introduction in LC gym project
- High School project
  - Geo thermal heating, cooling and ventilation
  - Energy recovery ventilation
  - Light harvesting
- Solar arrays at Lyme Consolidated, Middle School and High School

# District Solar Program

- First year solar performance (HS, MS & LC)
  - Annual district KWHR contribution 25%
  - First year savings \$75,363
- Solar program expansion projections (MS phase 2 & CS)
  - MS operational April 2020
  - CS operational April 2021
  - Projected district KWHR total contribution 31%
  - Estimated total annual savings \$95,294
- Future possible solar expansion
  - Lyme Street campus
  - Mile Creek roof
  - Virtual net metering

# Future Opportunities

- Solar expansion
- New State or Federal incentives
- Heat pump and electric storage development
- HVAC upgrades – MC, LC, MS & CS
  - Eliminate all unit ventilators, hot water heating and window AC units
  - Heating and cooling using either geothermal or cold climate heat pumps
  - Ventilation air using energy recovery units
  - 30% minimum cost savings over oil based heating
  - Significant fuel oil/carbon foot print reduction
  - Engineering building study budgeted for 21/22 fiscal year