



Northeast Energy Efficiency Partnerships

# **LED Street Lighting:** Opportunities and Challenges

The Climate Group- Utility Roundtable  
9.22.16

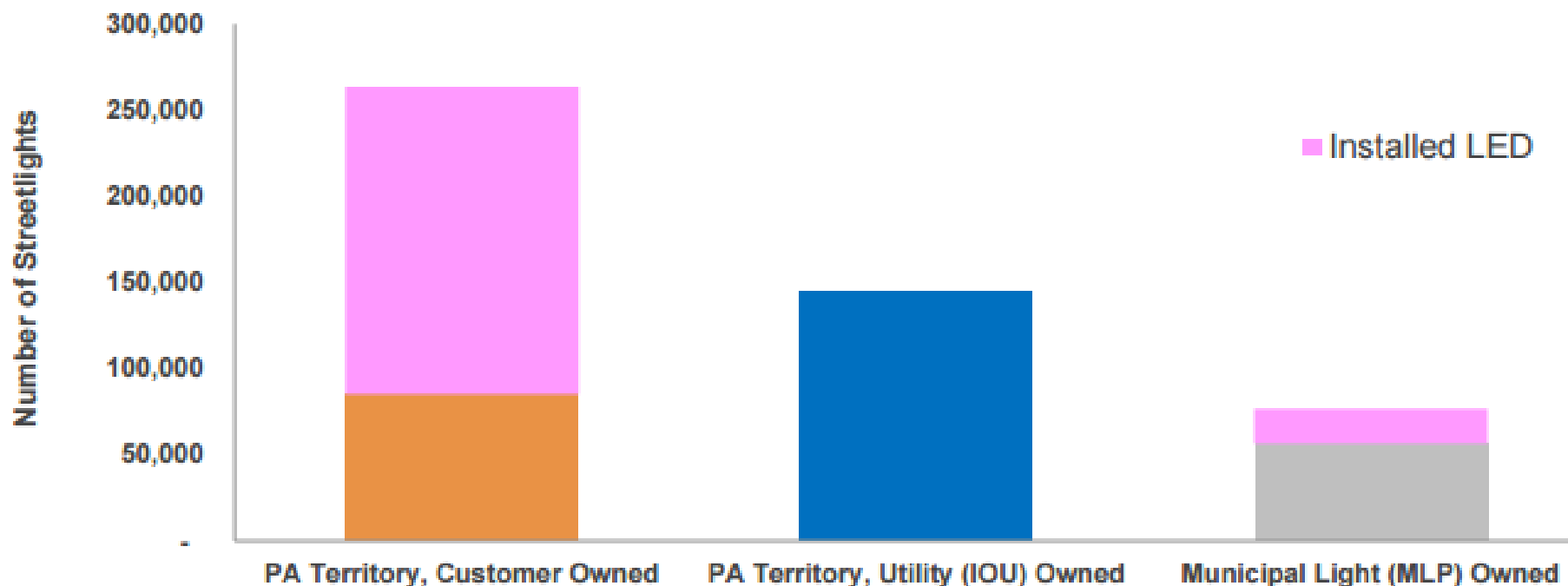
# Conversion Considerations: Navigating Barriers



# Street Lighting Inventories: Massachusetts



Potential for LED Conversions in the Commonwealth,  
by Streetlight Ownership



Ownership	PA Territory, Customer Owned	PA Territory, Utility (IOU) Owned	Municipal Light (MLP) Owned	Total
Potential	84,967	145,222	56,538	286,727
Installed LED	178,549	0	19,937	198,486
Total	263,516	145,222	76,475	485,213

Source: [MA EEAC](#)

# Navigating Barriers: Company-Owned Tariffs



Table A7: Central Maine Power HPS/LED Rate Comparison

Central Maine Power (Maine) <sup>68</sup>							
HPS Rate				LED Rate			
Lumen Rating	Watts (Nominal)	Input Watts	Annual Rate Per Light	Lumens Rating	Watts (Nominal)	Input Watts	Annual Rate Per Light
3,600	50W	65	\$131.88	4190	50	50	\$248.64
5,670	70W	95	\$130.68				
8,550	100W	130	\$140.04				
14,400	150W	195	\$166.32				
25,600	250W	300	\$228.96				
45,000	400W	465	\$290.76				

Table A12: Until HPS/LED Rate Comparison

Unitil (Massachusetts) <sup>93</sup>			
HPS Rate		LED Rate	
Lumen Rating	Annual Rate Per Light	Lumen Rating	Annual Rate Per Light
3,300	\$117.48	3,850	\$101.64
9,500	\$139.80	6,100	\$120.48
20,000	\$208.20	10,680	\$150.96
50,000	\$295.92	20,000	\$243.24
140,000	\$607.08		



# Case Study:

## City of Pittsburgh, Pennsylvania



kWh

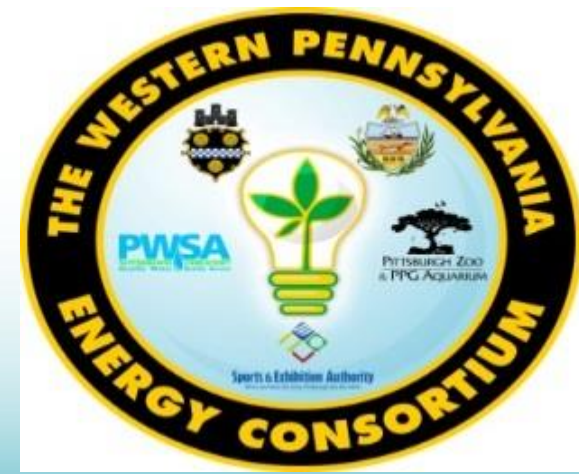
- Projected savings nearly 14 million kWh per year

Maintenance

- Reduce yearly maintenance contract by 90%

Savings

- kWh = \$1,000,000
- Maintenance = \$1,100,000



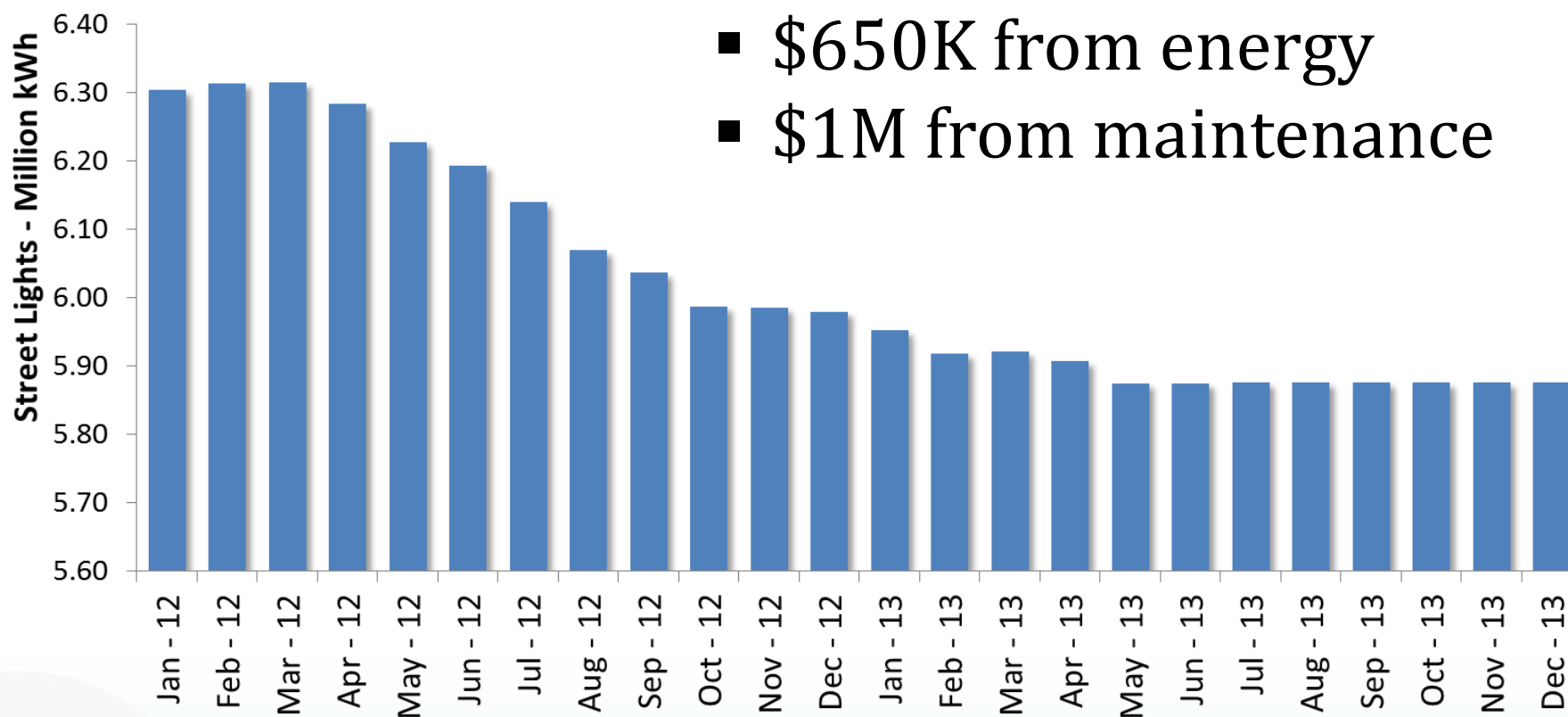
# Case Study:

## City of Baltimore, Maryland



Replaced **11,115** street lights with LEDs

- Annual savings:
  - \$650K from energy
  - \$1M from maintenance



Baltimore City Department of Public Works



# Case Study:

## City of Cambridge, Massachusetts

- Study to Completion= 6 yrs
- 7,000 Street Lights
- Uses adaptive controls, neighborhood specific dimming
- 80 percent reduction in energy usage
- \$500,000 annual energy savings
- 4.36 year payback
- 20 year useful life



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