

List of Tables

Table 1 - O&R LED Replacement Wattages Within Optimal Efficiency Ranges	24
Table 2 - Per Fixture Savings from LED Conversion: O&R ⁴⁷	25
Table 3 - Central Hudson LED Replacement Within Optimal Efficiency Ranges	26
Table 4 - Per Fixture Savings from LED Conversion: Central Hudson(July 2017-July 2018) ⁵⁶	27
Table 5 - NYSEG LED Replacement Wattages Within Optimal Efficiency Ranges	29
Table 6 - Per Fixture Savings from LED Conversion: NYSEG (May 2017-May 2018) ⁶⁰	30
Table 7 - Utility-Owned vs. Customer-Owned Lights: Rates and Charges (2017)	35
Table 8 - One-time Costs of Street Light System Transfer (2017)	41
Table 9 - Utility Pole Attachment Fees for 2017 (annual costs per light)	44
Table 10 - 15-year Net Present Value Costs and Savings for 100-light Portfolio	62
Table 11 - 15-year Electricity Consumption and Savings for 100-light Portfolio	62
Table 12 - Central Hudson Fixture Portfolio	65
Table 13 - O&R Fixture Portfolio	65
Table 14 - NYSEG Fixture Portfolio	66
Table 15 - Projected Seven-year Fixture Replacements for Central Hudson Portfolio	67
Table 16 - Upfront Cost Assumptions for Municipally-owned Conversion	68
Table 17 - Municipally-Owned LED Fixture Purchase Cost Estimates	69
Table 18 - Annual Costs for Municipally-owned LEDs	71
Table 19 - Central Hudson Annual Savings (costs) by Pathway	73
Table 20 - Central Hudson 15-year Cumulative Costs, Energy, and Emissions (100-light Portfolio).....	73
Table 21 - Annual Savings (costs) by Pathway	74
Table 22 - O&R 15-year Cumulative Costs, Energy, and Emissions (100-light Portfolio)	75
Table 23 - NYSEG Annual Savings (costs) by Pathway.....	76
Table 24 - NYSEG 15-year Cumulative Costs, Energy, and Emissions (100-light Portfolio)	76

List of Figures

Figure 1 - A Los Angeles street illuminated by 200w HPS, just prior to LED conversion.....	14
Figure 2 - The same street converted to 64-watt LED street lights.....	14
Figure 3 - A street in Los Angeles, California, in the process of street light conversion	15
Figure 4 - A view of Los Angeles in 2002, before the LED street light conversion	16
Figure 5 - The same view in 2012, after the conversion ²⁹	16
Figure 6 - Mid-Hudson region map.....	20
Figure 7- An HPS fixture doubling as a home for a nest on Main Street in the town of Rosendale	21
Figure 8 - Anatomy of a bill for utility-owned lights	23
Figure 9 - Yonkers LED street light installation	58
Figure 10 - Cost comparison for Central Hudson	72
Figure 11 - Cost comparison for O&R	74
Figure 12 - Cost comparison for NYSEG	76