City of Portsmouth

LED Streetlights
(Light Emitting Diode)

Presentation to City Council
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City of Portsmouth
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LED Streetlights

- Current Lighting Technology and Cost
- Savings by Converting to LED Equipment
- Benefits of LED lighting
Portsmouth’s Current Streetlights
Portsmouth’s Current Streetlights

- 1,687 total streetlights in Portsmouth
- Audit completed of streetlight inventory
- All High Pressure Sodium (HPS) lights
- Mostly 50 Watt bulbs
Portsmouth’s Current Streetlights

• How Kilowatt Hours (kWh) are calculated

\[
\text{Watts} \times \text{Time} \div 1000
\]

– Portsmouth’s HPS streetlights annually consume 817,794 kWh
  • 500 tons of CO2 emissions
– $272,513 annual cost to City
LED Streetlight Solution

- LED streetlight equipment uses less than half the power to produce light
- Full LED conversion will reduce our annual kWh consumption and equipment costs
  - LED streetlights will annually consume 325,441 kWh
    - 200 tons of CO2 emissions
  - $150,265 annual cost to operate
LED Streetlight Solution

- Annual savings by converting HPS light equipment to LED light equipment:
  - 492,353 kWh of energy consumption reduced
  - 300 tons of CO2 emissions prevented
  - $122,248 savings from reduced electricity rates
LED Streetlight Solution

• Environmental Benefits
• Lower Energy Cost Benefits
• Improved quality of light
  – More Accurate Color Rendering
  – Pedestrian Safety
  – Night sky compliant – reduced light pollution
LED Streetlights

The future is bright