

# Street Light Replacement in Chelan County-Update

Safety and Savings

Chelan County PUD  
Board Meeting Presentation  
2/21/2017

# What we'll cover today

- Benefits of LED (Light Emitting Diode) streetlights
- History
- Project by the numbers
- Project risks
- Decision Criteria Review

*For information only & Board feedback*

# Benefits of LED Streetlights

## Safety



# Benefits of LED Streetlights

## Financial

- Lower operation and maintenance cost
- Lower energy use
- Grant funding available
- Replacing as one project is more efficient and cost-effective



# Benefits of LED Streetlights

- Environment-Decreased light pollution
- Responding to feedback (Cities and Chelan Co.)
- Proactive approach-Operational Excellence

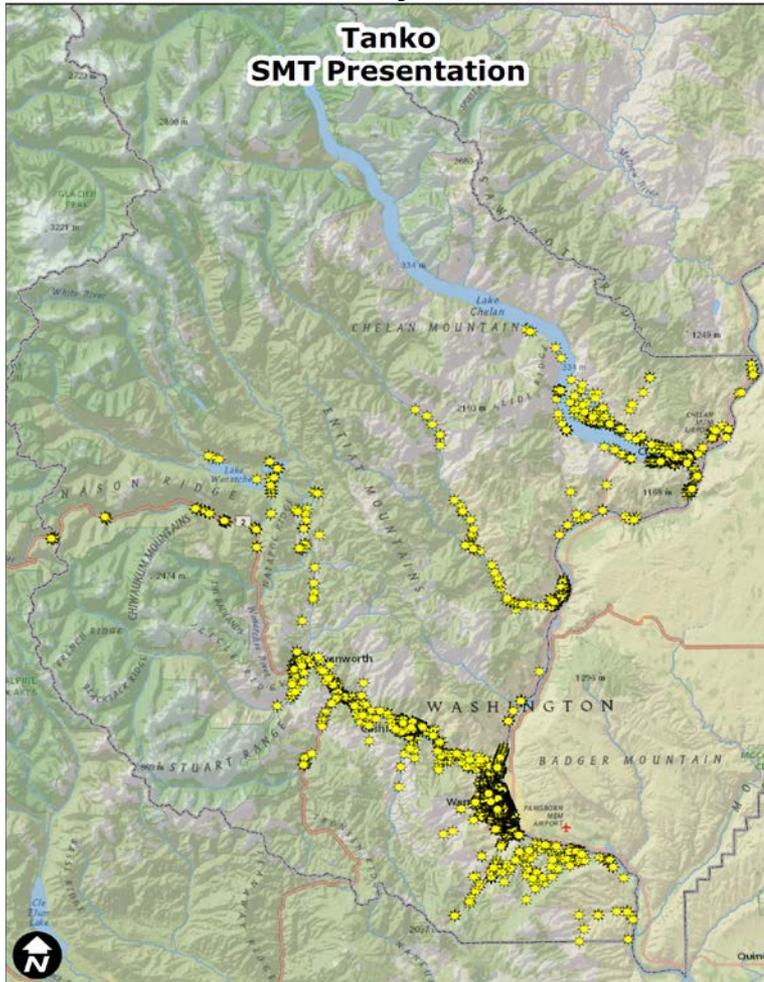


# Project History

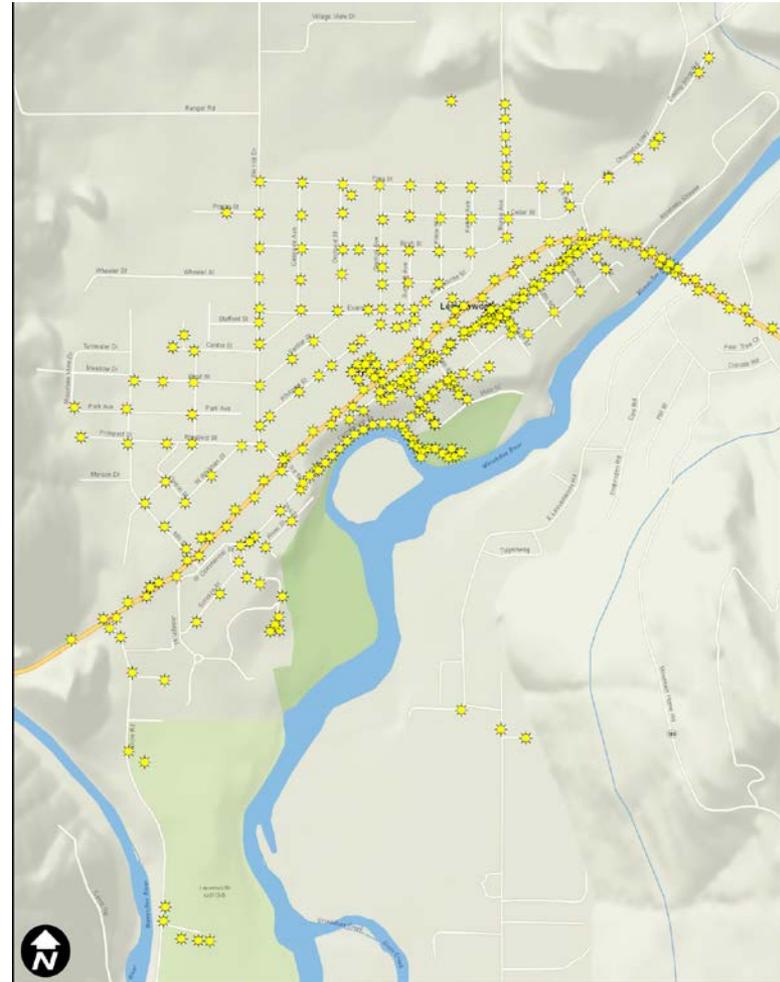
- 2014-LED Streetlight Symposium with Local Governments
- 2015-Selected contractor to conduct survey/design
- 2016-Survey and design completed
- 2016-Outreach
  - Pilot Project
  - Outreach to the community
  - Identified state funding
  - Coordinated with Chelan PUD work groups
- 2017 – Meetings with each local government

# Streetlight Inventory Results

County-wide



Leavenworth



# Estimated Energy Savings and Project Cost

Streetlights	Current kWh	Proposed kWh	Estimated kWh Saved	Total Estimated Cost
4,250	4,120,000	943,000	3,177,000	\$ 1,900,000

# Funding Sources

(estimated)

Funding Source	Amount
Transportation Improvement Board	\$ 570,000
WA Dept. of Commerce*	\$ 150,000
Chelan PUD Energy Efficiency Incentives	\$ 1,180,000
<b>Total</b>	<b>\$ 1,900,000</b>

\*Staff intends to apply for an additional \$200k from Commerce

# Project Financial Results

(Based on Current Assumptions)

Scenario	Definition of Scenario's	20 Year NPV (7% Discount)	IRR	Payback (Years)	Benefit/Cost Ratio	Cost(\$/mWh) (includes estimated internal labor)
Base	Streetlight inventory numbers	\$360,000	10.2%	15	1.31	\$ 18.59
2	15% Cost Increase	\$90,000	7.7%	19	1.06	\$ 22.88
3	Value of Energy/Carbon decreases 25%	\$57,000	7.5%	19	1.05	\$ 18.59
4	Base lighting number plus 2 and 3	(\$216,000)	5.3%	Exceeds service life	0.85	\$ 22.88
5	Base lighting number, CPUD No Grants Received	(\$355,000)	4.8%	Exceeds service life	0.81	\$ 29.90

# Project Risks

Risk	Mitigation
Grant Funding	<p>Secured \$150k from Commerce already.            Applying for \$200k more from Commerce in March.            Secure TIB funding prior to contract execution.</p>
Resources required to engage stakeholders	<p>Project plan includes some internal resource time for stakeholder engagement.            Staff has also received confirmation that the cities and the County are willing to partner with the District to be the leads on customer/continuant engagement within their territory.</p>
Customer lighting issues after installation, light shining in house for example	<p>Potentially hire a contractor to act as construction manager and outreach coordinator with Cities.            The position would coordinate resolutions while installation contractor is still on site as issues are easier to resolve while enabling adjustments to be made while contractor is here.</p>
Key Resources unavailable when needed.	<p>Developed flexibility in schedule to accommodate key resources that are particularly loaded during the project timeline. Identified and built into the plan back-up resources that can be utilized to fill in gaps for some of the work.</p>



# Decision Criteria

- Impact to Customers
  - Positive Net Present Value and Benefit/Cost
  - Improves customer safety
- Resource Stewardship
  - Physical environment is improved through dark skies
  - Energy is more efficiently used, providing more carbon free hydro
- Legal Implications
  - We have legal authority
  - Will need to work closely with legal on procurement (bids, grant funding, etc.)  
Time is set aside in the schedule for this
- Workforce implications
  - 1300 hours spread over 2017-2019
  - Majority of install work, etc. will be completed by contractor



# Decision Criteria

- Stakeholder implications
  - Mostly positive
  - Cities and Chelan Co. will be spending less money on streetlight energy and maintenance costs. This can be spent on other programs that benefit their constituents who also are our customers
  - Cities and Chelan Co. could save up to 30% of project cost if we manage project. Other option is for them to use an energy services company to manage the project and install the lights.
  - State agencies are excited to work with a PUD to retrofit a whole county
- Supports Values
  - This supports our strategy to provide ***the best, for the most, for the longest***
    - Bringing the latest and best streetlight technology to the whole county, with an expected life of 20 years.
  - Safety - enhanced night-time vision
  - Stewardship – reduce light pollution while meeting financial tests
  - Trustworthiness - working with stakeholders to improve the Chelan Co.
  - Operational Excellence - leveraging grant funding with conservation incentives to bring the latest lighting solutions to the our customers

# Moving Forward

- Secure additional Commerce funds, March 2017
- Standards agreed upon by stakeholders, Q2 2017
- New streetlight agreements w/ local govt., Q2 2017
  - Board action required
- Secure TIB Funds, Q2 2017
- Go out to bid, Q4 2017
  - Board action required
- Award contract for installation, Q1 2018
  - Board action required
- Contractor installs lights, 2018



# Summary

- There is a unique and time-sensitive opportunity to leverage grant funding and Chelan PUD energy efficiency incentives to relight the county
- Chelan PUD will use its project and contracting expertise to manage the project
- Chelan PUD will support cities and Chelan Co. as they take the lead in engaging their communities

# Board Feedback

