



Leveraging the Full Potential of Outdoor Lighting and Controls

A Public Sector Perspective

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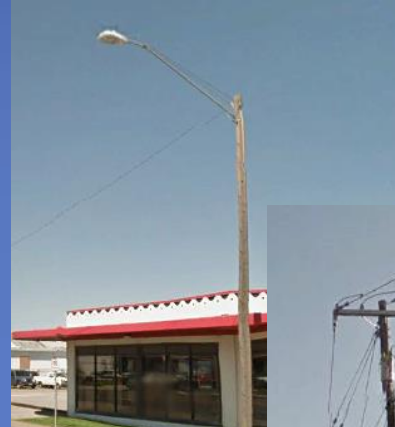
How did a traffic engineer end up doing street lighting?

- 2008: Center Street Lighting, Salem, OR
- 2010-2012: Salem Bond Projects, Salem, OR
- 2012: Myra Road Lighting, Walla Walla, WA
- 2013: Minto Pedestrian Bridge, Salem, OR
- 2014: WSU Vancouver North Parking Lot Lighting
- 2015: Spokane Street Lighting Guidelines
- 2016: Wall Street Lighting, Spokane, WA
- (2017): Division Street Gateway, Spokane, WA

Essentially, I have been designing street lighting my entire career to date!

Public Agency Hurdles

- Ownership, control, and configuration of existing lighting system
- Interoperability with existing municipal systems
- Liability



Ownership, Control, and Configuration

Spokane Street Lighting Ownership/Control	Quantity of Lights
Utility Provided (Capital, O&M, Flat Rate Power)	9,872
City Provided (Utility Flat Rate Power)	670
City Provided (Metered Power)	1,290
Total	11,832

The City of Spokane does not have the ability to unilaterally incorporate dimming in 89% of the City based on the current configuration.

Ownership, Control, and Configuration

- What about utility commissions and rate cases?
- Is the utility commission allowing the utility to make a 'controls'-friendly rate case?
- Will a utility operate the dimming in conformance with a City's dimming policy?
- Does the utility operate the dimming controls and set the appropriate lighting levels?
- If the City needs an adjustment to the controls, does it need utility approval?

Interoperability

- Existing traffic signal system (vehicle detection)



- Existing central management systems (CMS) and communications
 - Hardline: fiber, copper
 - Wireless: cell drop, yagi antenna
 - Numerous vendors of CMS and signal controller software
- Existing power to metered installations

Interoperability

- Systems need to be brought together for a coherent, controlled lighting system to function at its best.
- Can we leverage the existing citywide traffic signal network to provide the data backbone for a dimming policy?
- Can the controls operate over multiple platforms depending on use?

Liability

- From a Utility: “Are we liable if we dim a cities’ lights? We’re not policy makers, we’re energy providers.”
- From a City: “If we light a roadway to the industry standard and install dimming controls, what happens if the light is too dim for conditions and someone gets hit?”