Presentation to City Council
August 17, 2020

Billings 2030

Energy & Conservation Commission Roadmap

A community that harnesses the power of natural capital and human innovation for a vibrant, resilient, and **sustainable** economy.

Sustainable =

Economically

- Life-cycle cost effective
- Operational cost reductions
- Build capacity now for future (NPV)
- Demonstrate returns on investment ($$, quality of life)
- Resilient to future costs, needs, and harms

Environmentally

- Avoid resource depletion
- Reduce environmental harms
- Value natural capital
- Wise, innovative use of resources

Ethically

- Benefits shared by all
- Reduce barriers to social mobility – e.g. quality housing, accessible transportation, new job growth, reduced tax burden, equitable land use planning

Commission Purpose

- Coordinate the City of Billings' current policies and practices regarding energy consumption and resource conservation.
- Consider ways to conserve resources including areas where the city can reduce the amount of money it spends.
- Recommend additional areas where city government could assist citizens in minimizing pollution and energy consumption.
- Conduct an inventory of resource use by city-managed facilities and assets.
- Cost will always be a consideration but not the only one.

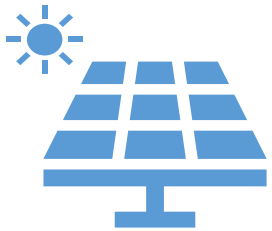
Building on a Strong Foundation

- **7 LEED Platinum Certified Buildings in Downtown Billings (Most in MT)**
- **Biogas collection system at landfill (Only one in MT)**
  - **Conversion of 14 garbage trucks to use CNG; 8 additional projected ($10k/veh/yr savings)**
  - **Collects enough gas to heat >1700 homes annually**
- **New Landfill Transfer Center & possible Material Recovery Facility (MRF) (1st in MT)**
- **West End Water Treatment Plant (in design) which is projected to save $200k per year in pumping electricity costs (Coolest reuse of old gravel mine in MT)**
- **72 Electrical Efficiency projects since 2009 (saving $650,000/yr)**
  - **Equivalent to energy required for 630 homes/yr**
- **Centennial Park irrigated off of reclaimed ditch water**

Building on a Strong Foundation (cont)

- **City awarded $25,000 for 6 Level II Electric Vehicle chargers in downtown Billings**
- **2020 Energy Efficiency Project at Wastewater Plant (saving $54,000/yr)**
- **Composting facility (in design) at the Landfill to reuse nutrients and divert waste from the landfill**
- **Upgraded energy management system at airport**
  - **Changed 1,800 lights to LEDs - reduces energy and improves safety with brighter lighting and integrated lighting controls**
  - **Airport renovations are focused on maximizing energy & water savings**
- **40kW in solar installations: Fire Stations, Parks & Rec, Met Transfer, Library**

Areas of Priority Focus



Buildings/Efficiency /Renewables

Water & Wastewater

Solid Waste

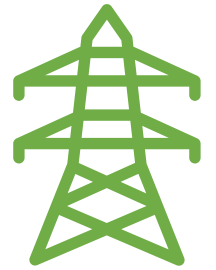
Transportation

Policy, Communications, & Education

Approaches

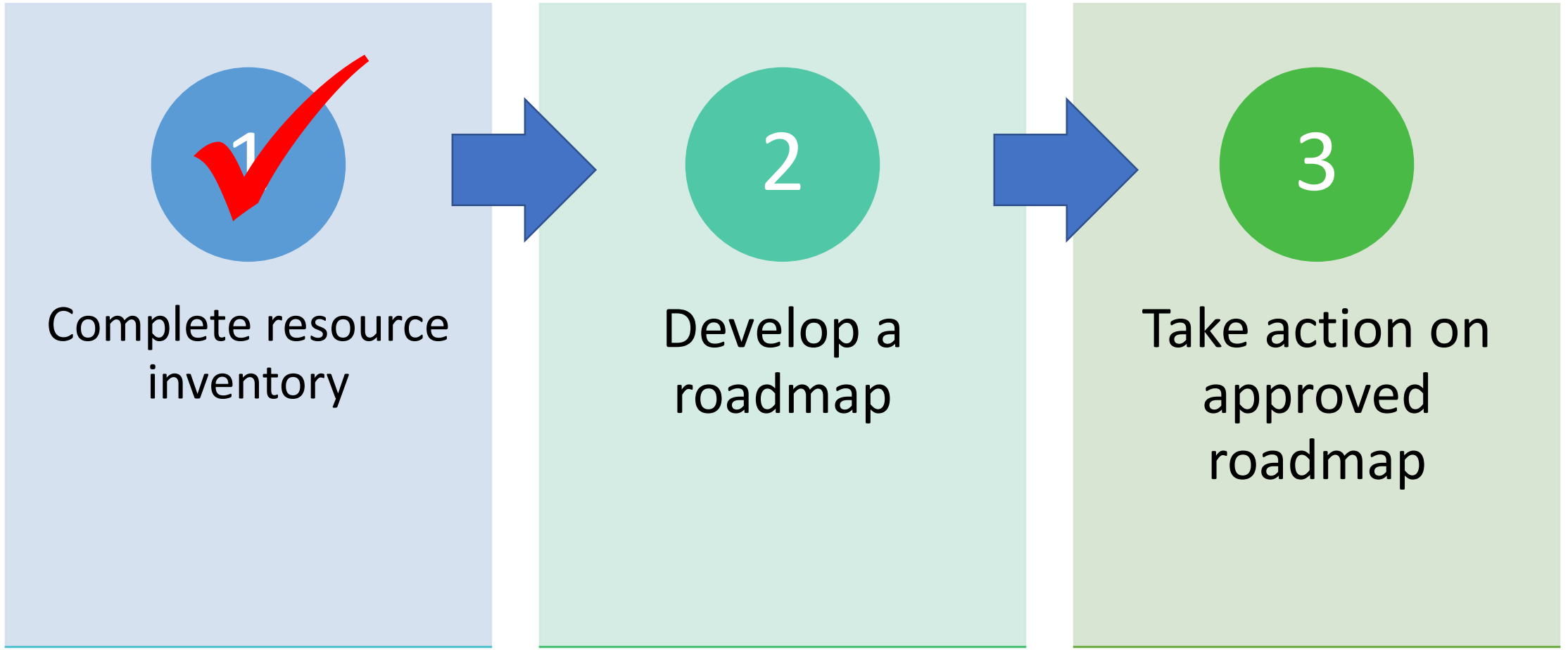
Conservation

Efficiency



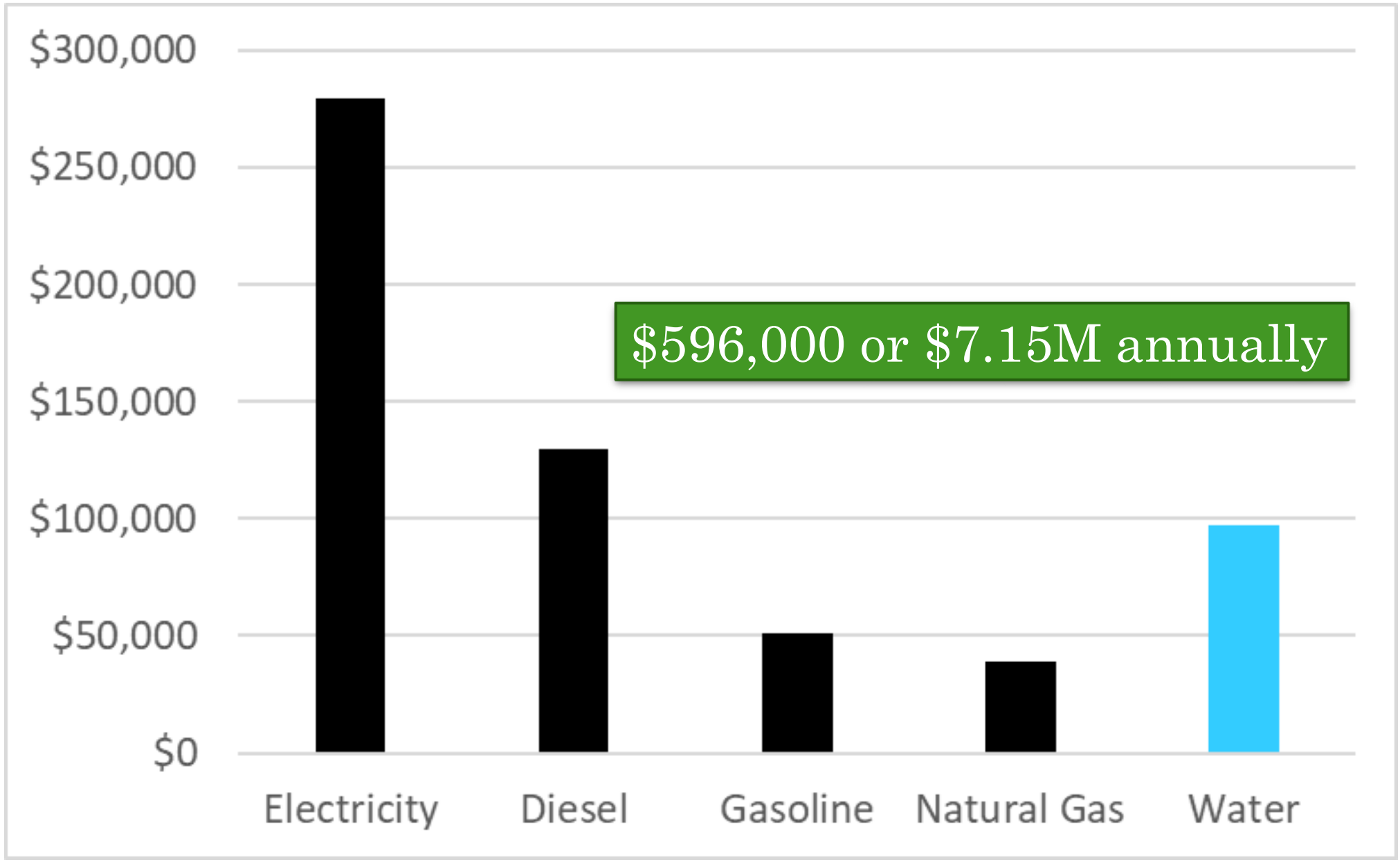
Supply

Overarching Goals

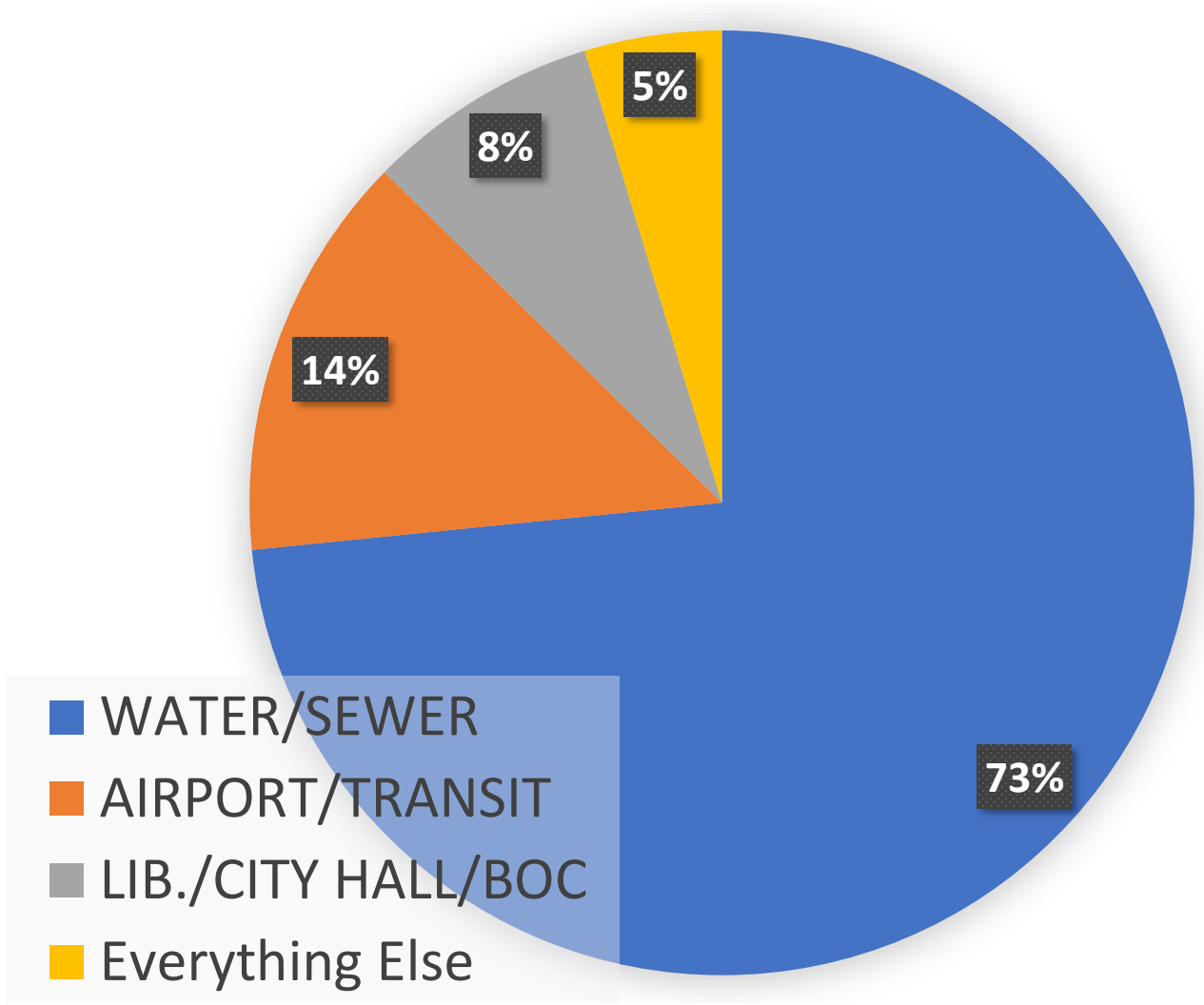


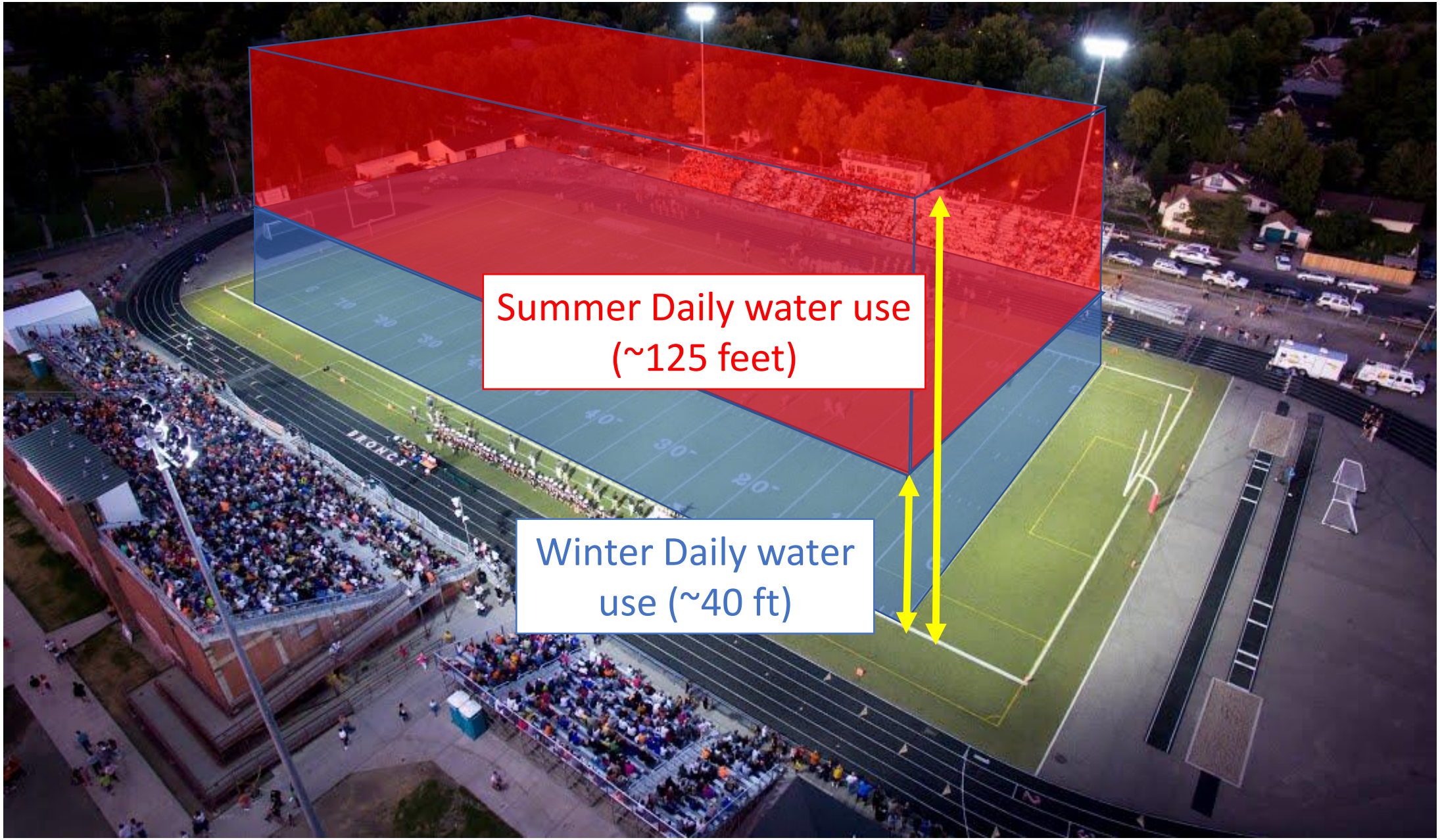
Resource Inventory: Overview

Your Monthly Utility Bill



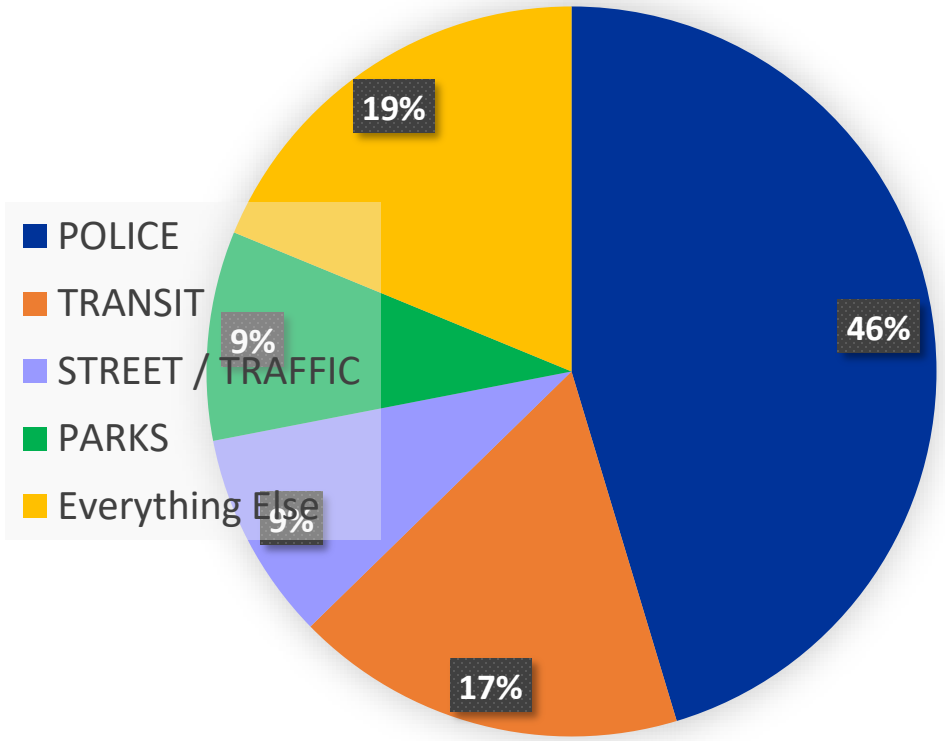
Electricity Monthly Bill = $280K



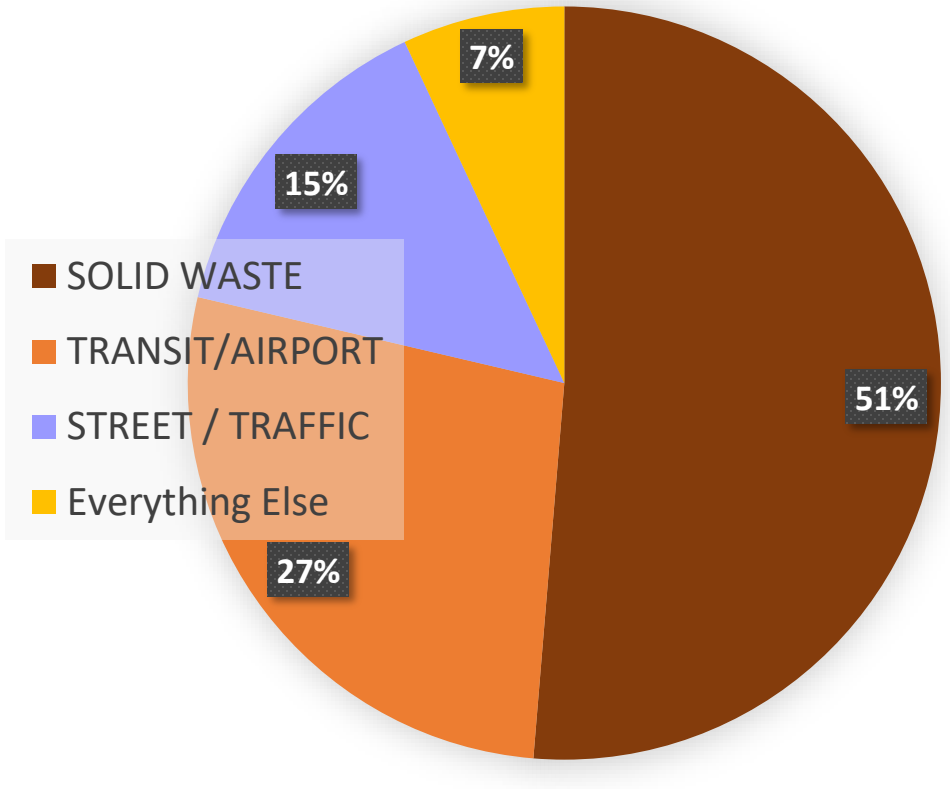

Summer Daily water use (~125 feet)
Winter Daily water use (~40 ft)

Liquid Fuels

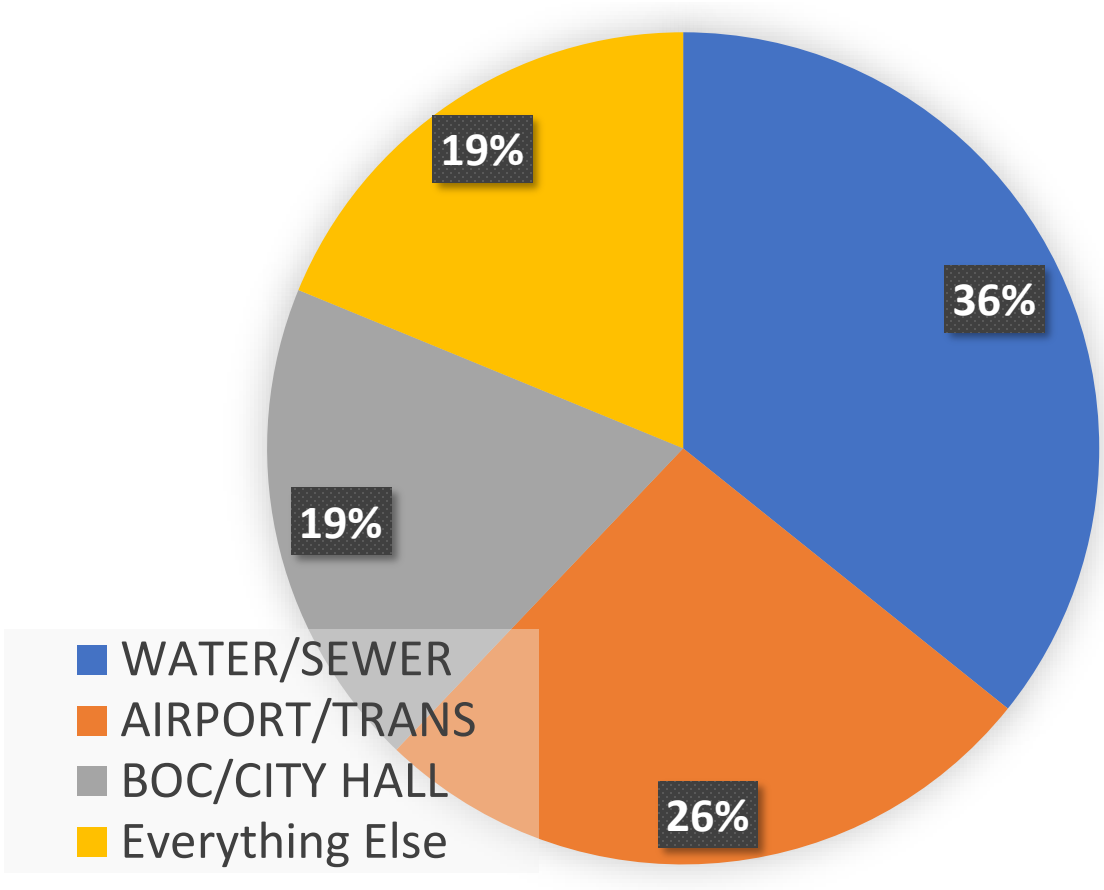
Gasoline Monthly Bill = $51K



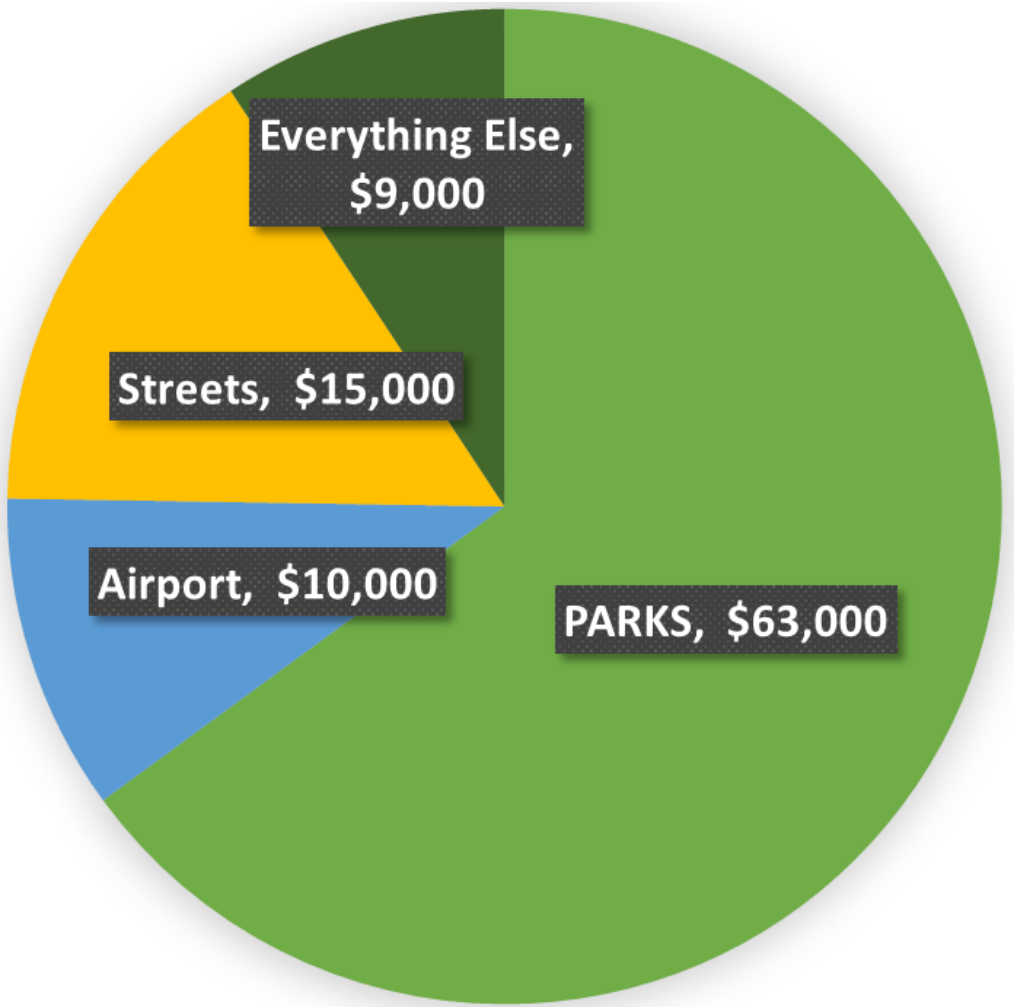
Diesel Monthly Bill = $130K



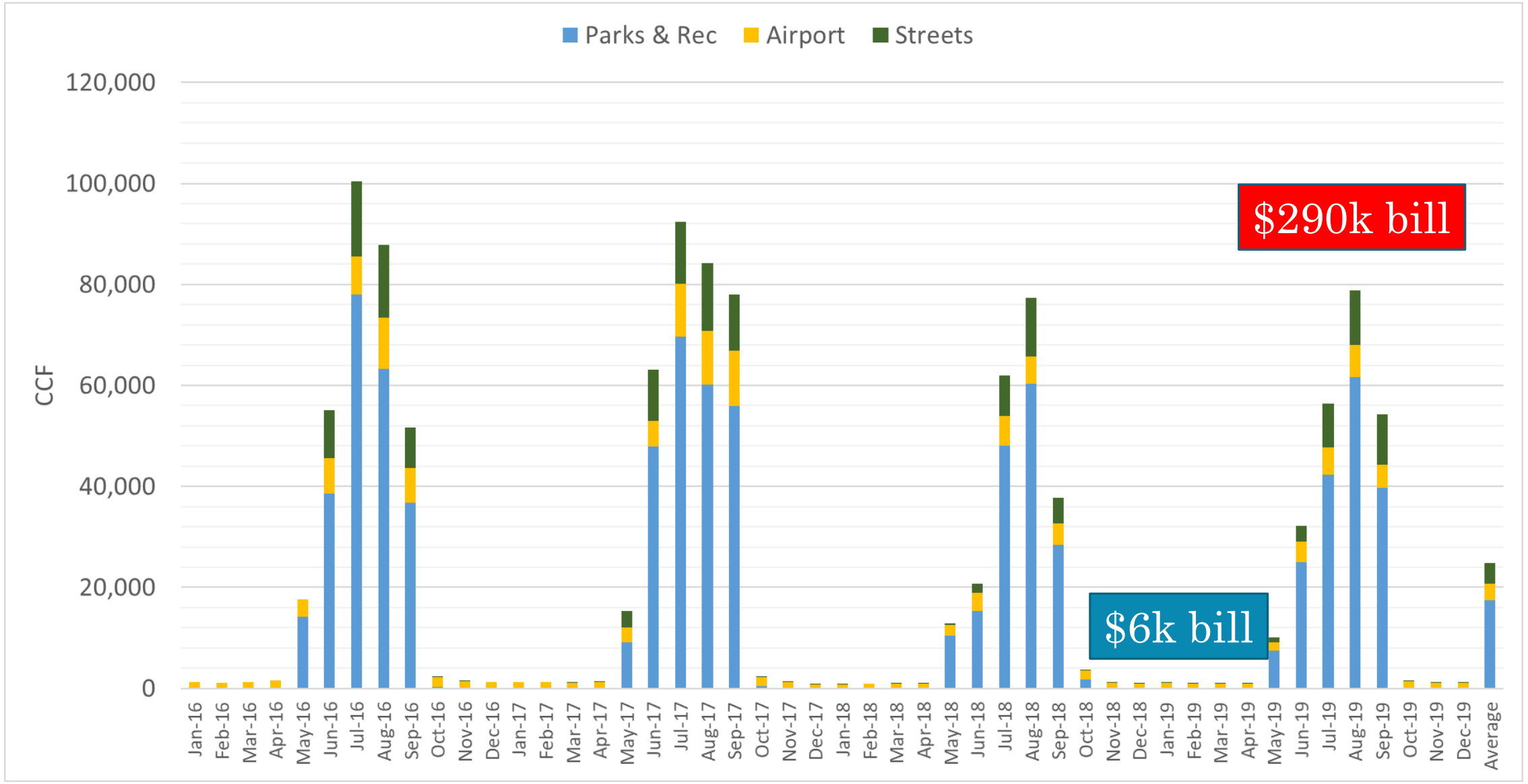
Natural Gas Monthly Bill = $39K



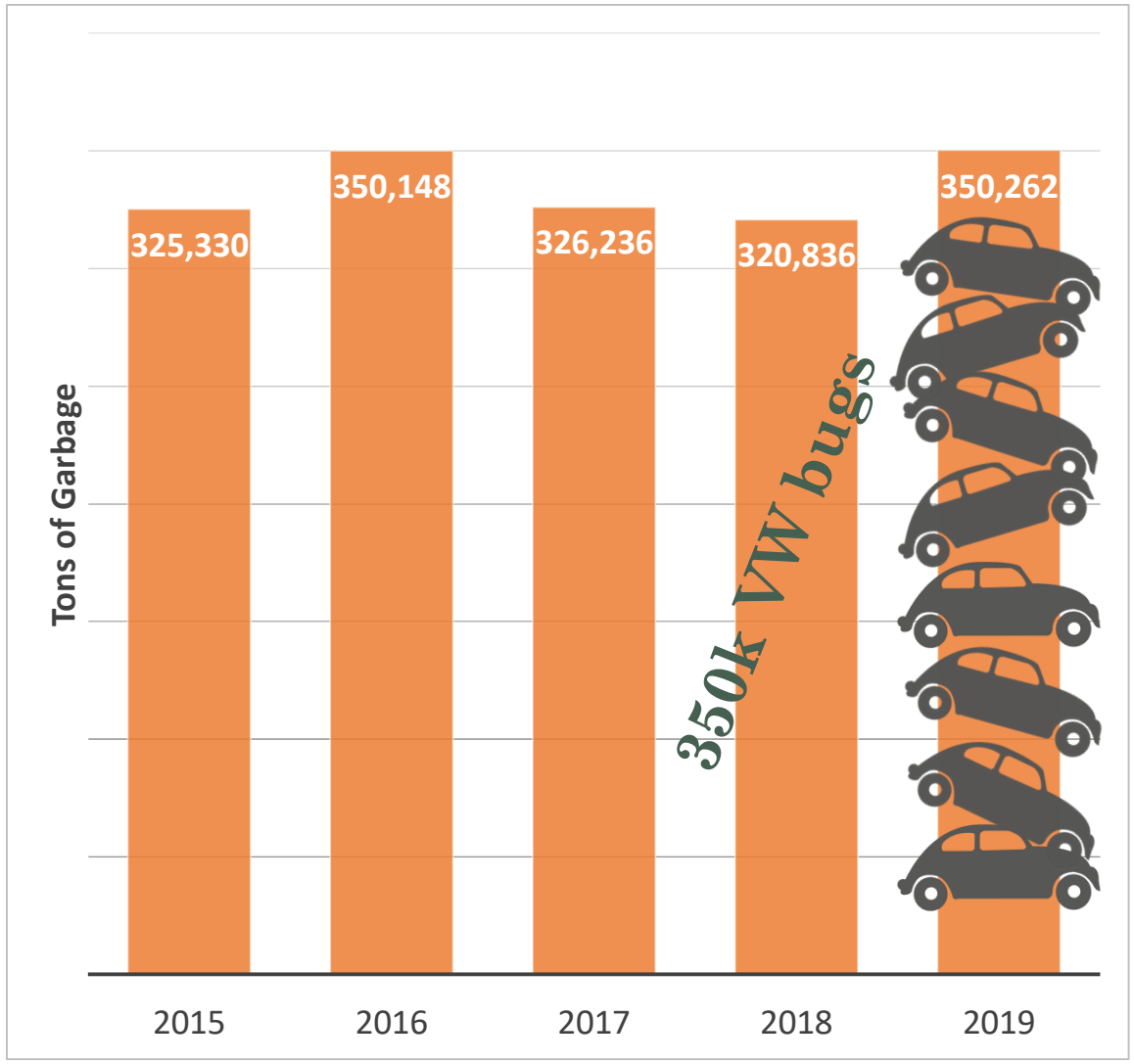
Water Monthly Bill = $97K



Winter vs Summer Water Bill



Solid Waste



Avg. Savings = $10,000/Year/Vehicle
CNG Fueling Station Payback= 6.4 yrs

Produce > 140,304 MCF of pipeline quality gas or enough to heat over 1700 homes!

Initial Assessments & Opportunities

- Billings has built a great foundation
  - Need to tell our story better and more often
  - Move into next phase of sustainability for the community
- Opportunities:
  - Continue expanding electrical and CNG fueled fleet
  - Reduce potable water going to parks
  - Support composting and the Material Recovery Facility (MRF) at the Landfill
  - Support biogas reuse at the Wastewater Plant
  - Support ReCode changes that encourage sustainability
  - New Buildings/Remodels should incorporate energy efficient design strategies
  - Complete the West End Reservoir and Water Plant
  - Continue with electrical utility rebate programs
  - Utilize life cycle costing for capital investments
  - Evaluate fee structures for solid waste

Resolution Details

- The Commission will coordinate the City of Billings' current policies and practices regarding energy consumption and resource conservation, to make recommendations to the City Council and City Administrator for future action.
- The purpose of the Commission will be to consider ways to conserve energy including areas where the city can reduce the amount of money it spends on energy and ways to limit the city's impact on the environment.
- The Commission may also recommend additional areas where city government could assist citizens in minimizing pollution and energy consumption.
- The Commission will be responsible for conducting an inventory of water and wastewater consumption, waste removal and disposal, pollution and energy efficiency of city-owned and city-managed facilities, vehicles and equipment.
- The cost of implementing energy conservation strategies will always be a consideration but should not necessarily limit the discussion, which could include water conservation, recycling, alternate fuels, alternate transportation, alternate energy sources, building and road construction, etc.

Overarching Goals

1

Complete resource inventory, as directed in the Commission Charter

2

Develop a roadmap for meaningful and measurable energy & water savings, waste and pollution reduction, and implementation of innovative technologies and practices.

3

Take action on approved roadmap and develop dashboard for transparency and accountability over time.