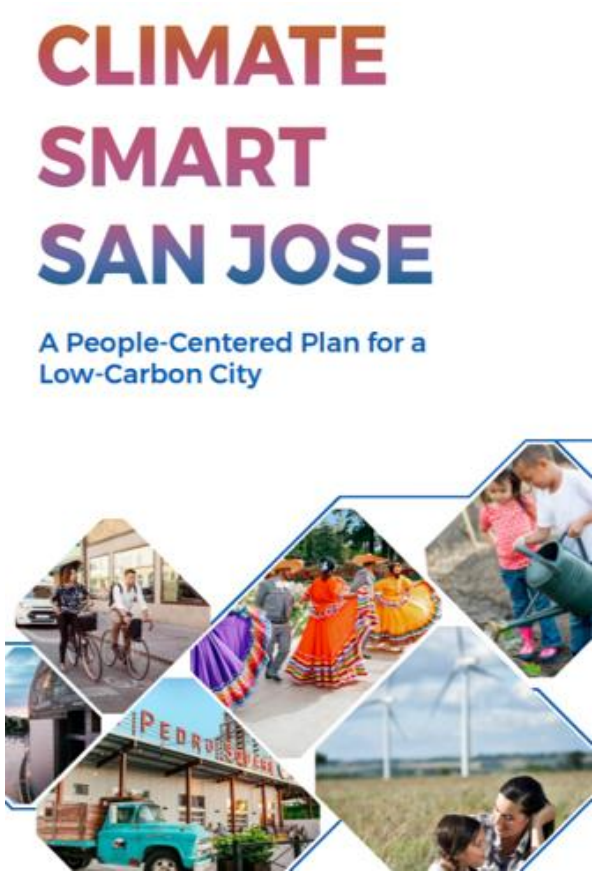
San José Reach Code

Community and Economic Development Committee
June 24, 2019

IDeAs Z2 DesIgn FAcIlIty, San Jose (Credit: David Wakely)

CLIMATE SMART
SAN JOSE
LIVING BETTER TODAY FOR TOMORROW

Why Pursue a Reach Code?



2030 Goals:

- GHG reductions = Good!
- The Good Life 2.0!
- 47% of homes are all-electric
- 37,975 zero net carbon (ZNC) homes
- 70M sq. ft. of ZNC commercial buildings
- 61% of all passenger vehicles are electric
- 668 MW of solar installed

CLIMATE SMART
SAN JOSE

Carbon Impact of San José Growth

Building Type	Sq. Ft.	CO2/ Yr.		Units/ Yr.		Years in Service		Years in Code Cycle		Total CO2
Single- Family	2,700	2 tons	X	350	X	50	X	3	=	**105,000 tons**
Multi-Family	1,000	1 ton	X	2400	X	50	X	3	=	**360,000 tons**
Commercial/ Industrial	100,000	120 tons	X	24	X	50	X	3	=	**432,000 tons**
										1.7 trillion car miles

Courtesy TRC, Peninsula Clean Energy (PCE) & Silicon Valley Clean Energy (SJCE)

CLIMATE SMART SAN JOSE

What is a Reach Code?

Base Code

- Sets minimum levels of efficiency for building design and construction

Reach Code

- Overlays the Base Code
- Includes additional requirements, such as
  - Energy Efficiency
  - Water Efficiency
  - Renewable Energy
  - EV Charging Infrastructure
  - Building Electrification

Base Code Requirements

	2016	2019
Building Electrification	None	Electrification-ready water heating for residential
Electric Vehicle Charging Infrastructure	”EV Capable” parking requirements for single family, multifamily and commercial (San Jose CALGreen)	Same
Solar PV	Solar readiness for single-family, multi-family (up to 10 stories) & low-rise commercial (except healthcare)	+ Mandatory PV for low-rise residential

CLIMATE SMART SAN JOSE

Regional Reach Code Efforts

Reach Codes in the 2016 Building Code Cycle		
City/Jurisdiction	**Year**	**Measures**
Alameda County	2018	Solar PV
City of Brisbane	2017	Cool Roof, Solar PV
City of Chula Vista	2018	Outdoor Lighting
City of Del Mar	2018	Energy Efficiency
City of Davis	2017	Energy Efficiency, Solar PV
City of Fremont	2017	Lighting, Solar PV
City of Healdsburg	2017	Energy Efficiency
City of Lancaster	2018	Solar PV
Marin County	2017/8	Energy Efficiency
Mill Valley	2017	Energy Efficiency
City of Novato	2017	Energy Efficiency
City of Palo Alto	2016	Energy Efficiency, Solar PV, EV
Town of Portola Valley	2017	Energy Efficiency
City of San Francisco	2016	Solar PV or Solar Thermal
City of San Mateo	2016	Cool Roofs, Solar

- For 2019 code cycle, over 40 communities considering reach codes
- Focus on building electrification and EV infrastructure
- Coordination to ensure consistency, particularly regionally

CLIMATE SMART SAN JOSE

Regional Reach Code Effort

SILICON VALLEY CLEAN ENERGY

EAST BAY COMMUNITY ENERGY

PENINSULA CLEAN ENERGY

BAYREN

BUILDING DECARBONIZATION COALITION

NRDC NATURAL RESOURCES DEFENSE COUNCIL

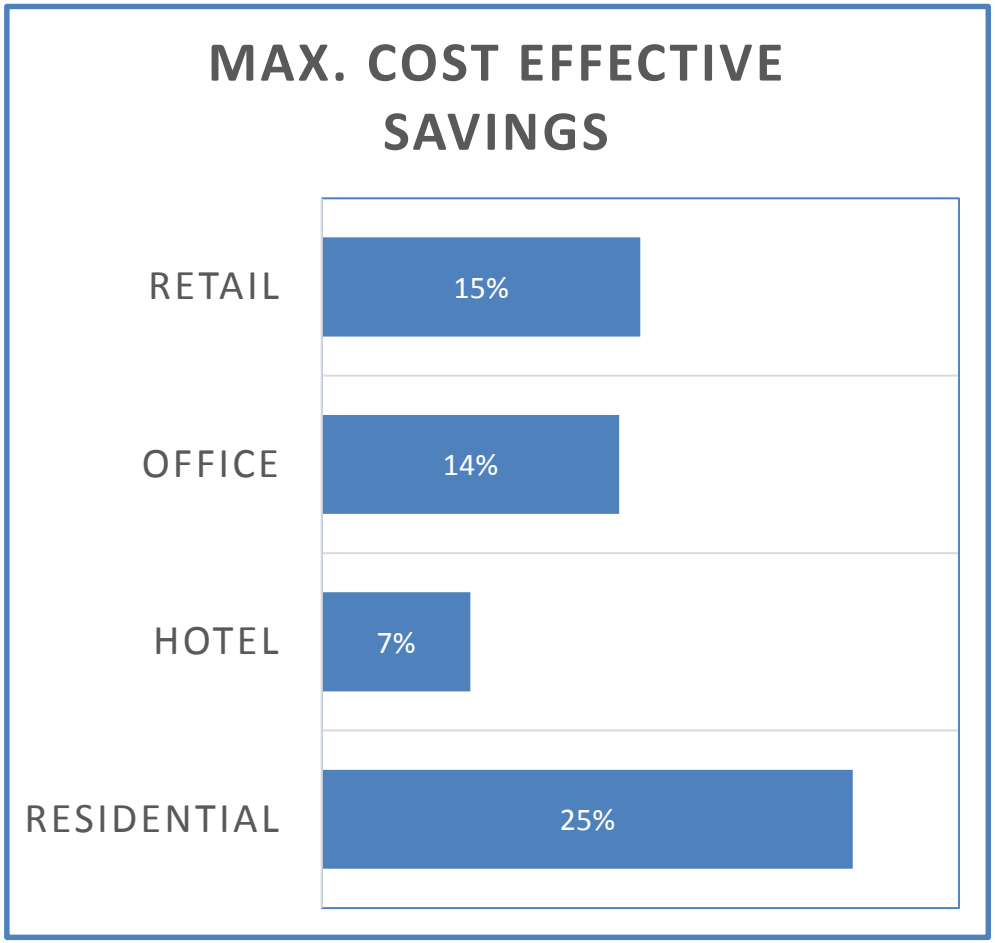
TRC Results you can rely on

nbi new buildings institute

CLIMATE SMART SAN JOSE

Building Electrification Options

- Require "electrification readiness" for mixed-fuel buildings
- Require above-code performance for mixed-fuel buildings



"Local Energy Efficiency Ordinances: Reach Code Cost Effectiveness Study"
Courtesy TRC, PCE & SVCE

CLIMATE SMART SAN JOSE

EV Charging Infrastructure Options

EV Capable: Conduit, breaker space

EV Ready: conduit, breakers space, overcurrent protection, wire, outlet

EVSE: All equipment needed to deliver electrical energy from electricity source to EV

- Increase the percentage of EV Capable, EV Ready and EV Supply Equipment Parking Spaces
- Facilitate EV uptake with low-income residents for cost-saving and air quality benefits

CLIMATE SMART SAN JOSE

Solar Reach Code Options

- Solar readiness for all buildings
- Promote PV by requiring increased efficiency
- Require PV:
  - To meet code
  - In addition to code

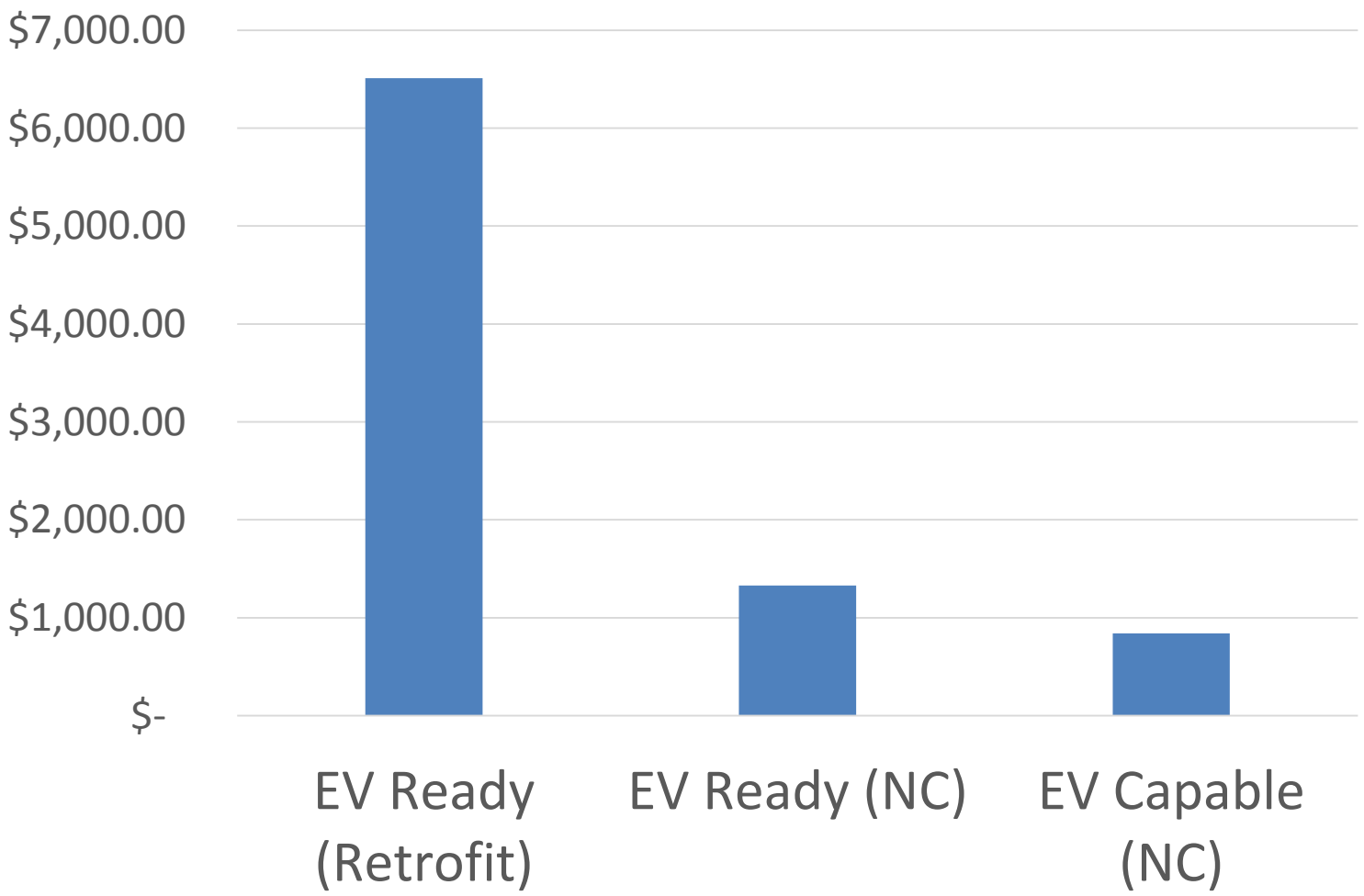
CLIMATE SMART SAN JOSE

First Construction Costs: All Electric vs. Mixed Fuel

Building Type	Incremental First Cost of All-Electric Building
Medium Office Prototype	-$1.45/sf
Medium Retail Prototype	+$0.21/sf
Small Hotel	-$30.16/sf
Single-Family Home	-$5,349/unit
Low-Rise Multifamily Dwelling Unit	-$2,337/unit
High-Rise Multifamily Dwelling Unit	TBD

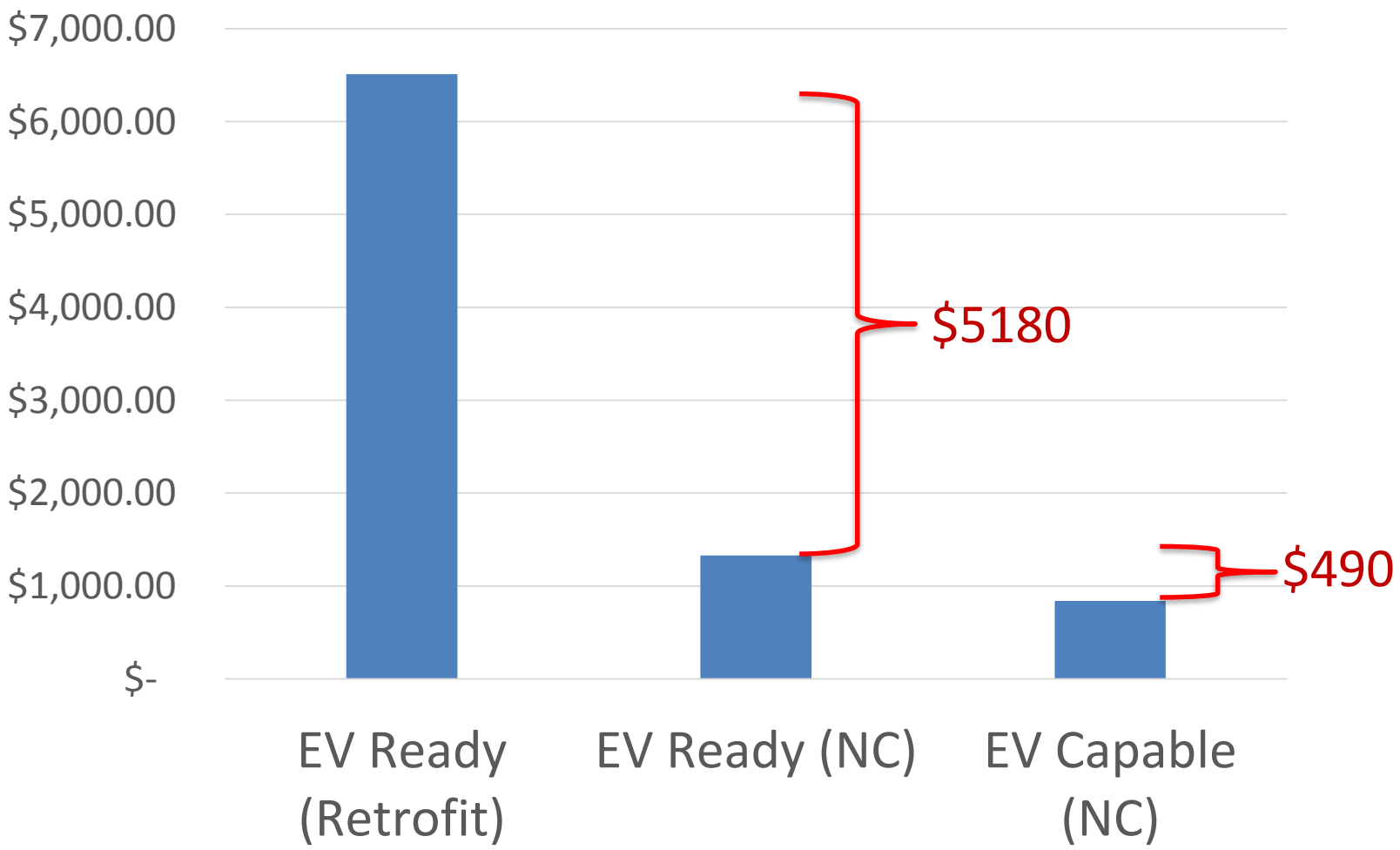
"Local Energy Efficiency Ordinances: Reach Code Cost Effectiveness Study"
Courtesy TRC, PCE & SVCE

EV Retrofit Cost Comparison



Courtesy TRC, PCE & SVCE

EV Retrofit Cost Comparison



Courtesy TRC, PCE & SVCE

Stakeholder Outreach

Invited:

- 60+ stakeholder contacts
- 200+ Neighborhood Associations contacts for all ten Council Districts.

Completed:

- City Reach Code webpage
- Workshop #1: Introduction to reach codes (May 29, 2019)
- Workshop #2: Non-residential new construction (June 4, 2019)
- Presentation to Silicon Valley Organization Housing & Development Policy Committee (June 13, 2019)
- Developers and Construction Roundtable Presentation (June 21, 2019)

Planned:

- Workshop #3: Residential new construction (June 25, 2019)
- Workshop #4: Draft reach code concept (July 10, 2019)

CLIMATE SMART SAN JOSE

Questions?

CLIMATE SMART
SAN JOSE