



Richmond Homeowner Energy Efficiency Workshop

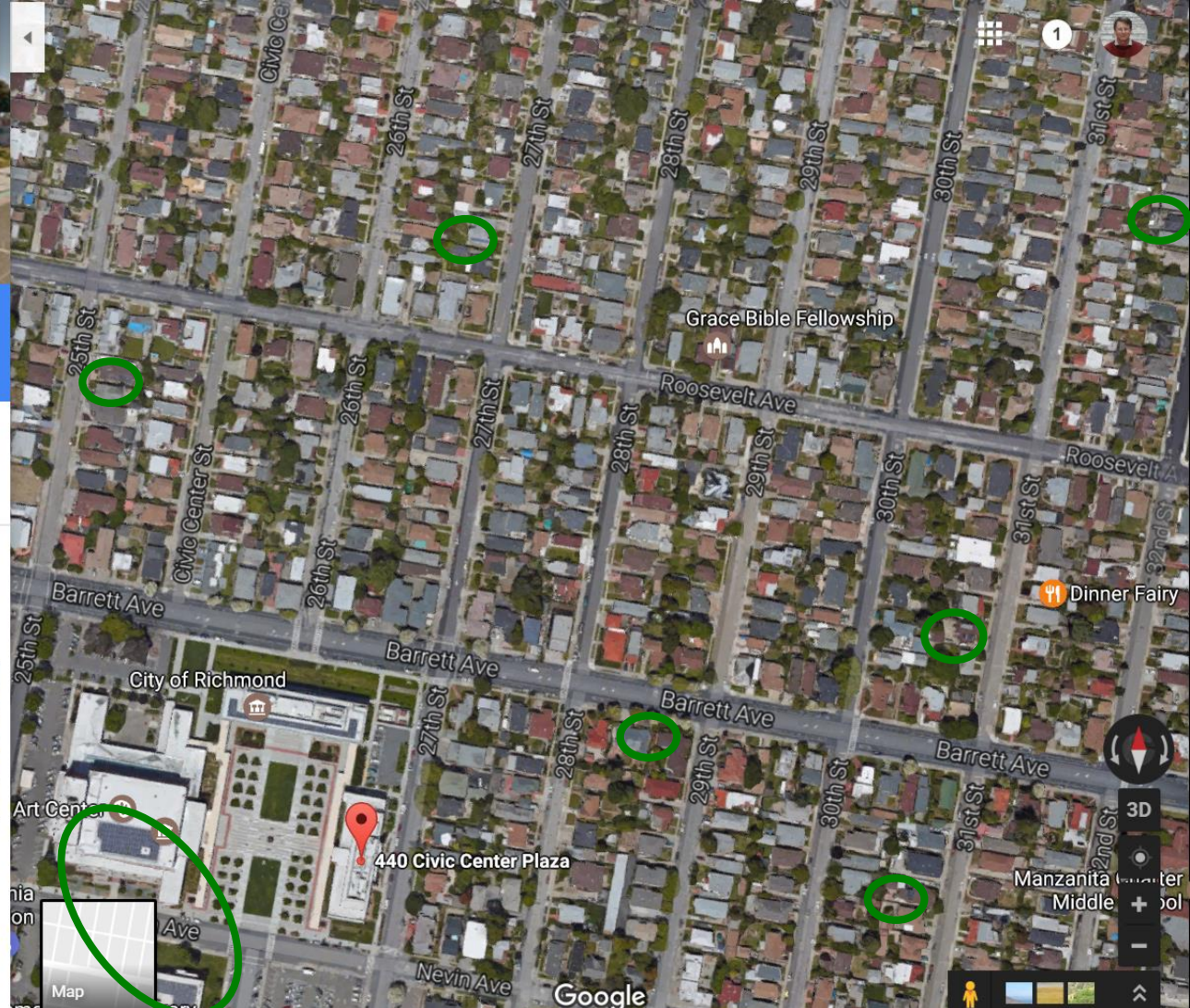
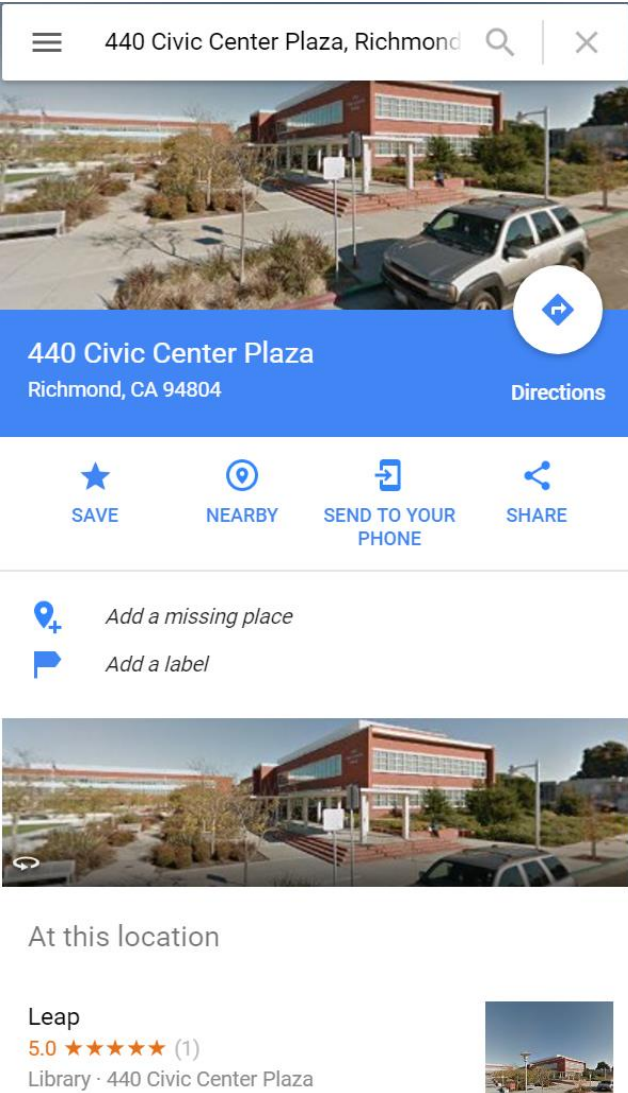
Does Solar Make Sense For You?

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Making Sense of Solar



Only 6 out of ~350 homes have solar. Why so few?

Making Sense of Solar

Reasons not to install solar yet

Too much shade



Roof is too old



Some energy efficiency improvements come first
(insulation, LED lights, fix leaky furnace ducts)

Making Sense of Solar

Reasons to install solar now

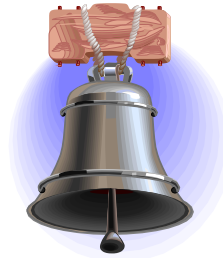
- Environmental Benefits



- Economics



- Independence



New inverter allows access to energy from solar panels (up to 2000 Watts) when grid is down

- Technology Interest



Making Sense of Solar

Solar Economics Example

- \$75/mo. avg electric bill (MCE or PG&E)

Annual usage: ~4050 kWh/year

- Average electricity cost: ~\$.22/kWh

- 2.6 kW (DC) solar system

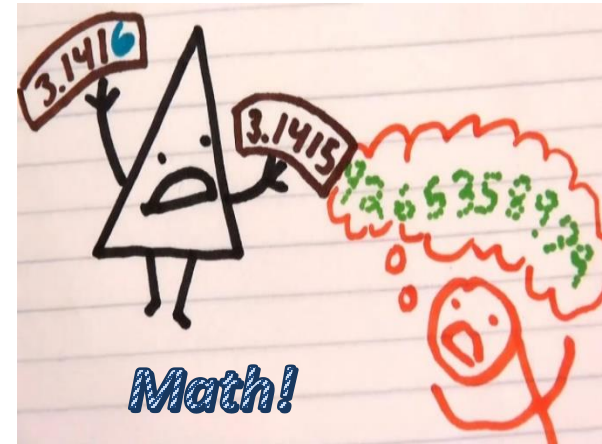
- Cost: \$7500 to \$11,500 (\$2.90-\$4.25/watt*)
- \$792 savings per year (3600 kWh times \$.22/kWh)
- 9.5 year simple payback at \$7500 (\$7500/\$792)
- 14.5 year payback at \$11,500 (\$11,500/\$792)

After 30% tax credit: 6.6 year & 10.1 year paybacks

- 6.6 year payback = **15% ROI**
- 10.1 year payback = **9.9% ROI**



Not Taxable!



* DC watts, *before* receiving the 30% federal tax credit

Making Sense of Solar

Two ways to install solar

Homeowner owns the system

- Cash purchase
- Home Equity Loan
- Unsecured Solar Loan
- Property-Tax Loan (PACE – Property Assessed Clean Energy)

Homeowner does not own the system

- Power Purchase Agreement (PPA)
- Lease

Making Sense of Solar

Install solar and watch your meter go backwards!



Making Sense of Solar

*Homeowner **owns** the system – pros and cons*

Pros: Eligible for the 30% federal tax credit on total cost. Know price of electricity for 25+ years. Probably don't need separate insurance (check with your insurer)

Con: Homeowner is responsible for system production, maintenance & repairs*

Cash purchase

- Excellent return on investment
- High upfront cost

Home Equity Loan

- Good interest rate (4-8%) = good ROI. Can be minimal upfront cost
- Low interest rate depends on good credit score. Home may be at risk on default

Unsecured Solar Loan

- Home is not at risk on default. Can be minimal upfront cost
- Need good credit. High interest rates (~7-14%)** = lower ROI

Property-Tax Loan (PACE - Property Assessed Clean Energy)

- Minimal upfront cost. Good credit is not needed. Repayment transfers to new owners***
- Higher interest rates (5 year: ~6.75% ... 20 year: ~8.4%*** = lower ROI

* However, all installers should provide at least a 10 year workmanship warranty

** One source (Lightstream): <https://www.lightstream.com/solar-financing>

*** Some realtors say PACE complicates home sale

**** ABAG: http://abag.ca.gov/bayren/pace/pdfs/PACEcomparison_060315.pdf

Making Sense of Solar

Homeowner **does not own** the system – pros and cons

- Power Purchase Agreement (PPA): Pay per kWh for energy generated by the system (monthly payment is not fixed)
- Lease: Pay a set monthly fee for energy generated by the system
- PPAs and Leases may be \$0 down, fully pre-paid, or partial-down

Pros (PPAs and Leases)

- Not responsible for any system maintenance
- Can be zero upfront cost to go solar
- Payback for lower cost of electricity is immediate (for \$0 down systems)

Cons (PPAs and Leases)

- Not eligible for the 30% federal tax credit
- Home is encumbered with a lien*
- May complicate sale of home
- Beware fine print (e.g. “escalator” clause)

* May be called a “fixture filing.” Whether this is actually a lien is controversial