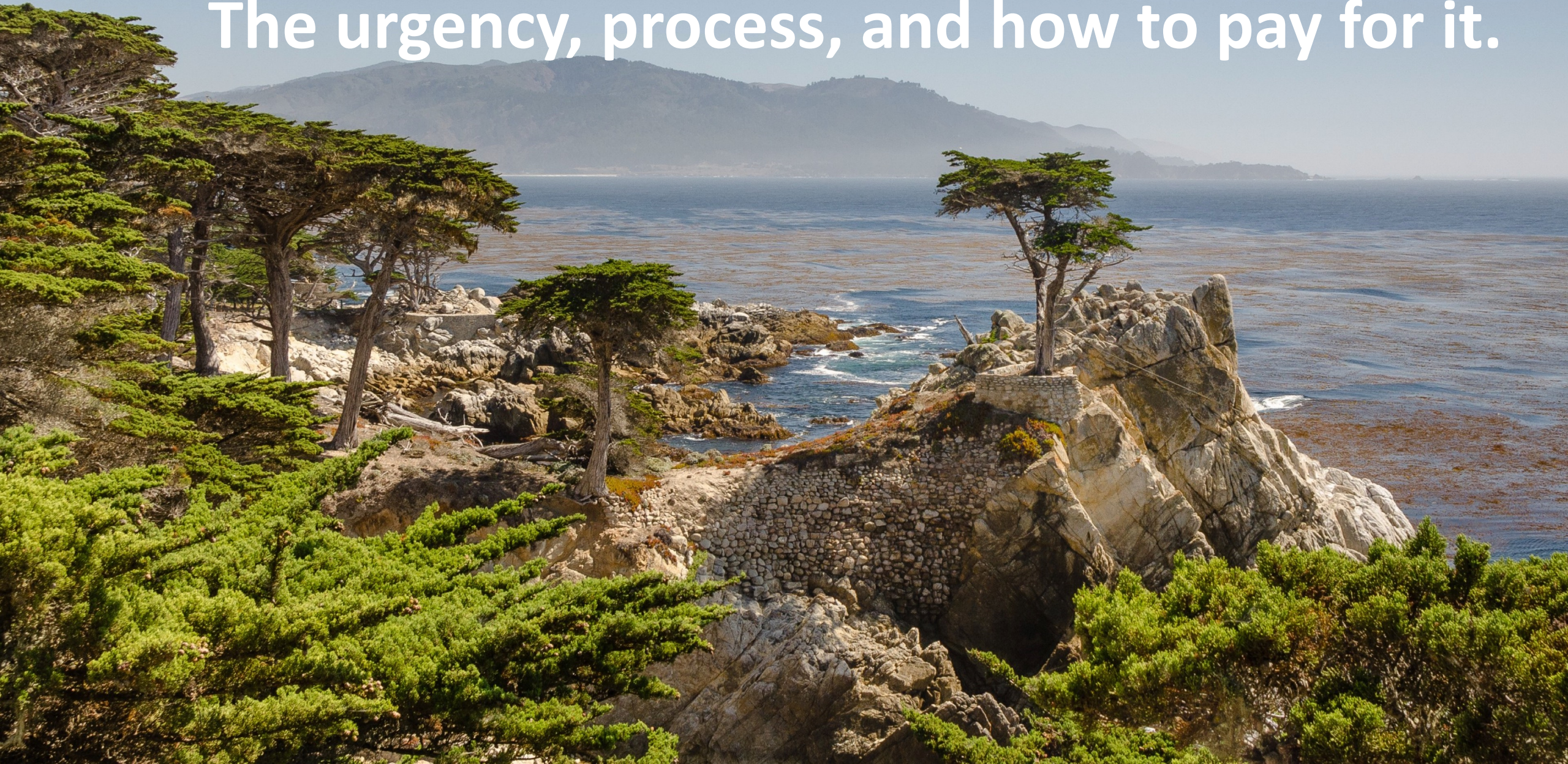


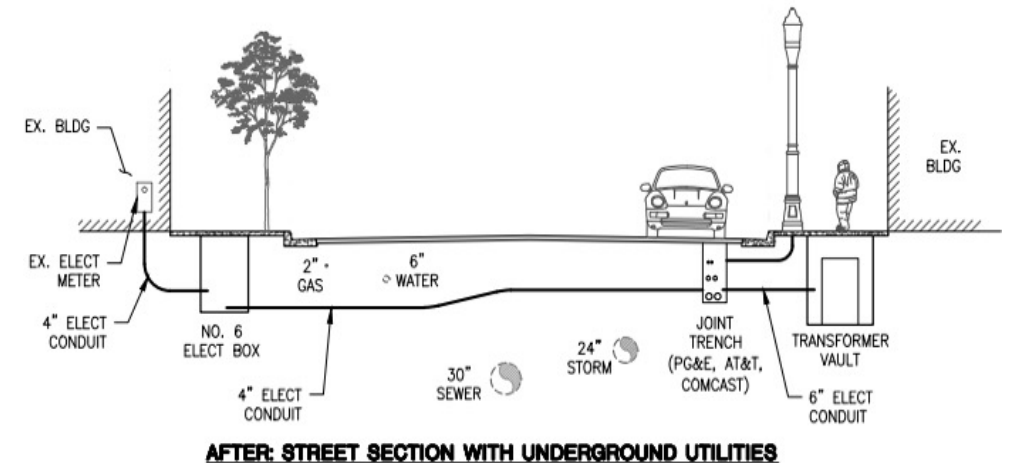
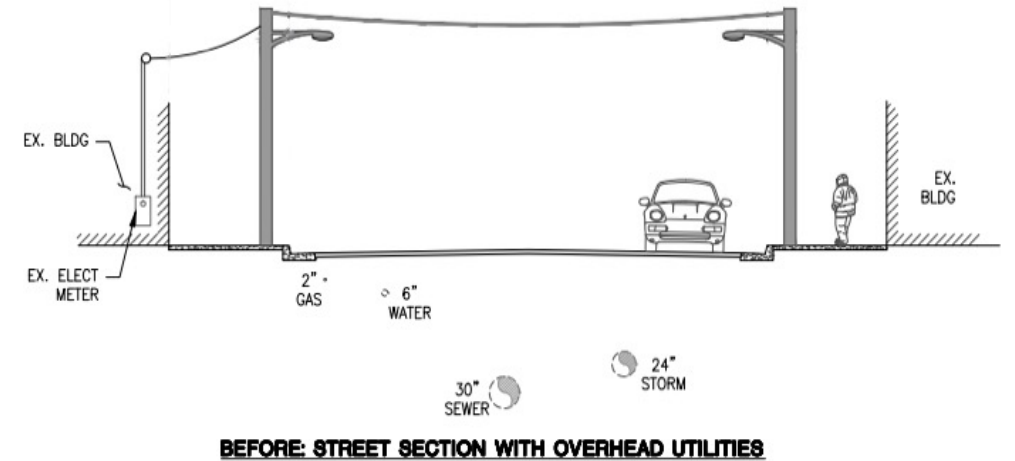
# Undergrounding Monterey Utilities

The urgency, process, and how to pay for it.



# What is Utility Undergrounding?

Utility undergrounding is the process of removing existing overhead utilities, such as phone, cable, tv, internet and electricity, and replacing them with a system that is essentially underground.



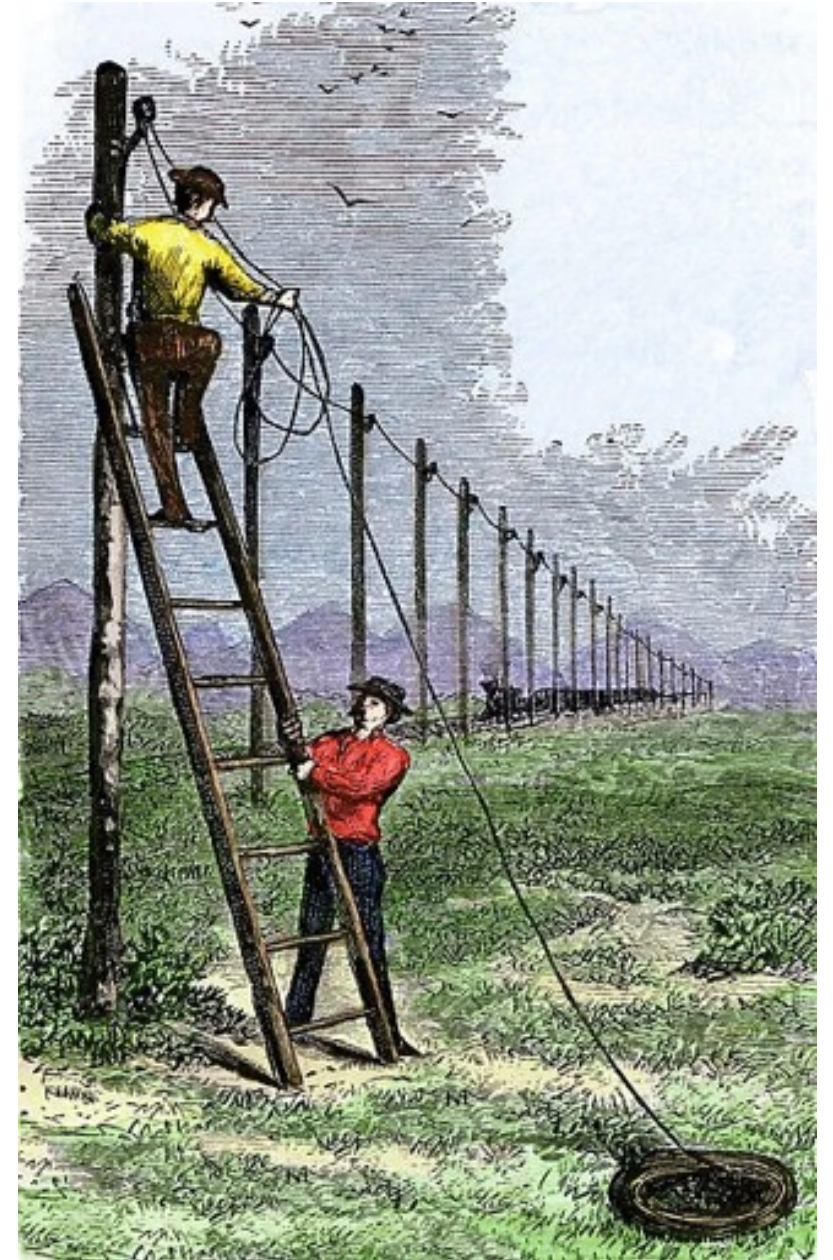
## Utility Poles Started Out Due to Bad Wire

- Samuel Morse in 1843 was awarded \$30,000 to connect his new telegraph system 40 miles from Baltimore to Washington, DC
- Plans were to bury insulated conductors, but defective wires forced Morse to string the wires on trees and overhead poles
- The utility pole was born because of bad insulation



# Beginning of New Era

- Telegraph lines soon went coast-to-coast with companies such as Western Union. Telephone lines and electric power were naturally adapted going straight to homes and businesses. Today Internet and cellular facilities also use these poles.
- In 1889 the NY Times reported many people across the US violently opposing these poles, calling it a, “War on Telephone Poles”
- People vowed to cut them down as fast as they were being put up, because they were “...ugly and a nuisance to the eye...”



# Why Underground Utilities?

- By undergrounding our utilities we will improve the safety and beauty of our city, and address the sustainability and reliability issue, which is an immediate and bold move to take on a significant long-term problem.
- Ultimately the entire city will benefit from a safer, more secure, and more resilient utility and communication grid, all while preserving our city's natural beauty and charm.

# What are the Pros and Cons of Undergrounding Utilities?

There are definite arguments to both sides of this issue, and we will discuss the strengths and limitations of each aspect. Our group, however, believes that the advantages of undergrounding most utilities significantly outweigh the problems of our current antiquated overhead distribution system.

## PROS:

- Esthetics
- Reliability
- Safety
- Economic Impacts



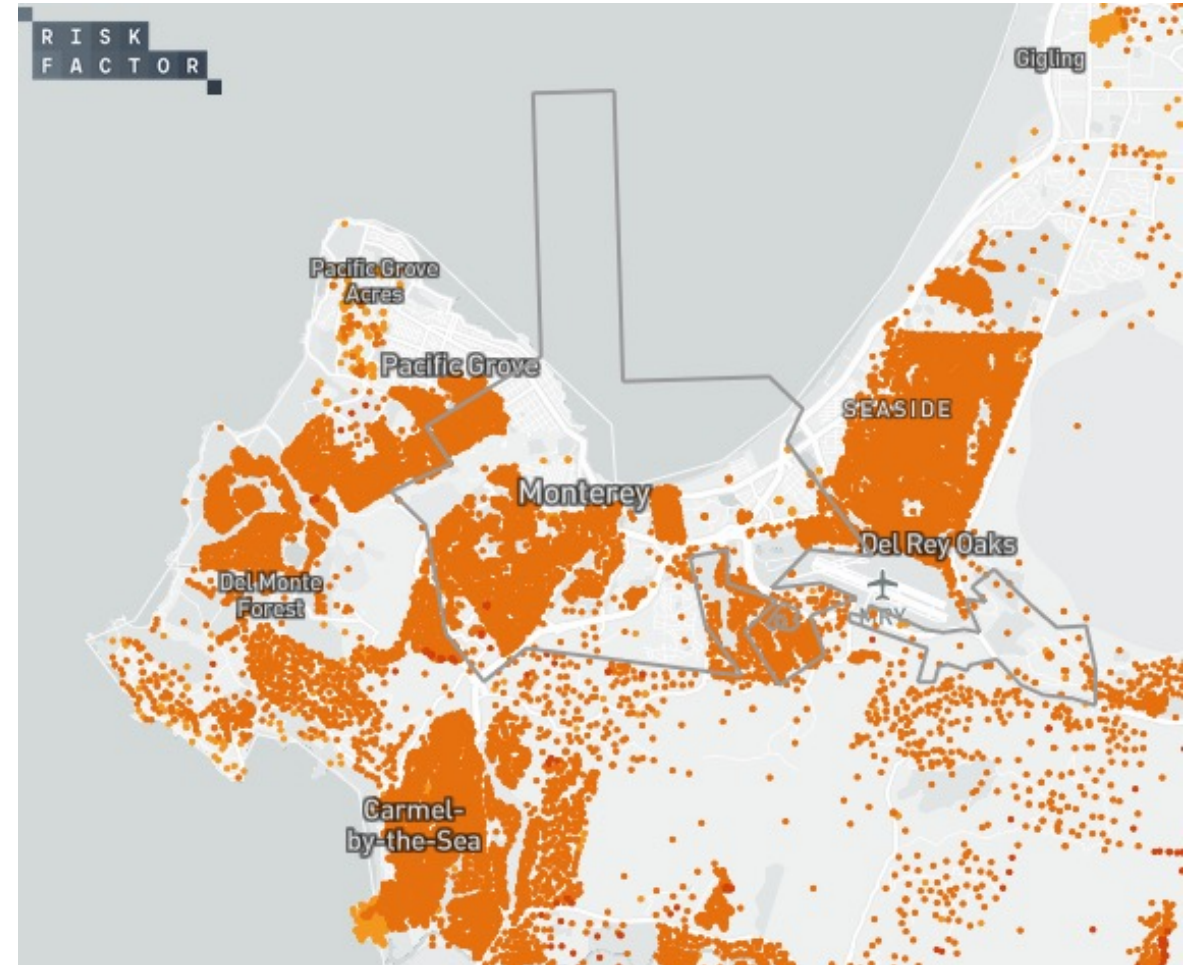
## CONS:

- Costs

Adding local renewable energy to the plan will compliment and add resiliency to undergrounding.

# How Vulnerable is the Monterey Peninsula to a Wildfire?

- 63% of all properties in Monterey are at risk of being affected by wildfire over the next 30 years - First Street Technology, 2024
- Underground power lines don't sway in the wind. Trees ... can't hit them. They don't sit on wooden poles that can fall down. - The San Francisco Chronicle, October 21, 2017
- Could a major fire hit Monterey? Falling trees and branches can easily bring down live electrical cables that have caused many of California's largest wildfires.



# Other Safety Issues

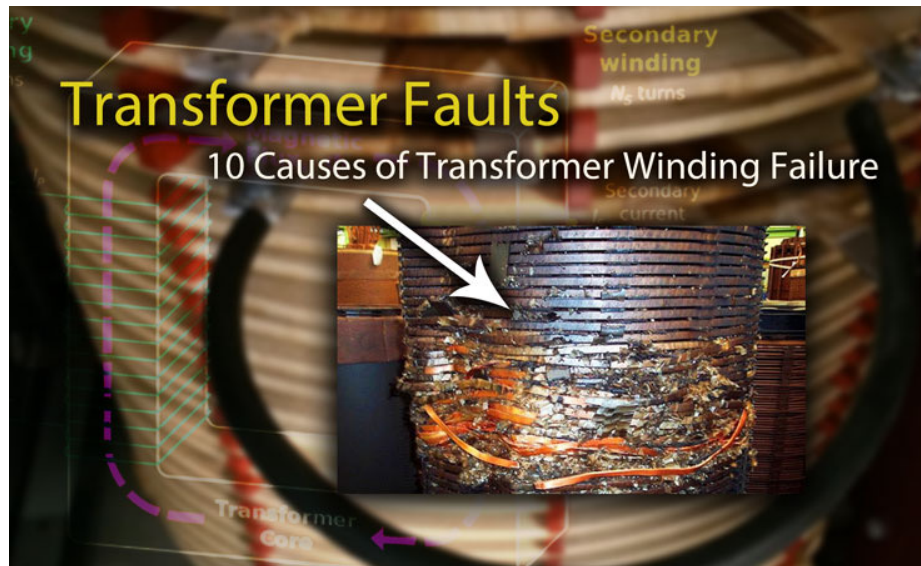
- **Emergency access:** Downed wires and utility poles can block emergency access during critical times like storms and after earthquakes.
- **Escape routes** get blocked with downed wires and utility poles, putting people in even more danger. This is how many folks died in the Paradise fire.
- **Rescue access:** Fire truck ladders can't be used to access upper stories if power lines are live.
- **Auto accidents:** are often made more serious by vehicles running into power poles.





# Reliability Issues

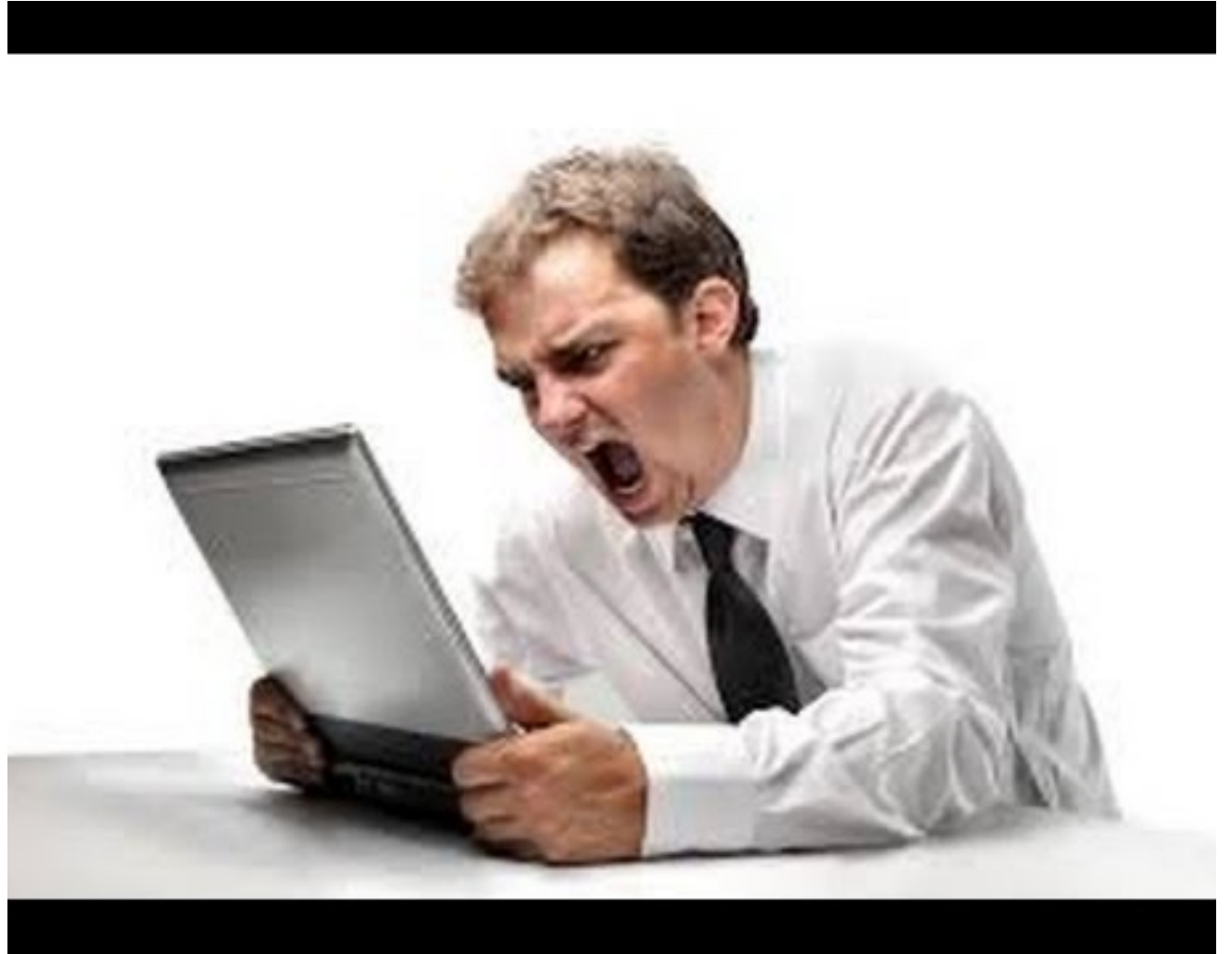
- Poorly maintained infrastructure
- Deteriorated telephone poles and rusting transformers have caused many outages and fires
- Typical Life of Utility Poles is 20-50 years.
- Many of our utility poles in service were put into service in the 1950's



# Reliability

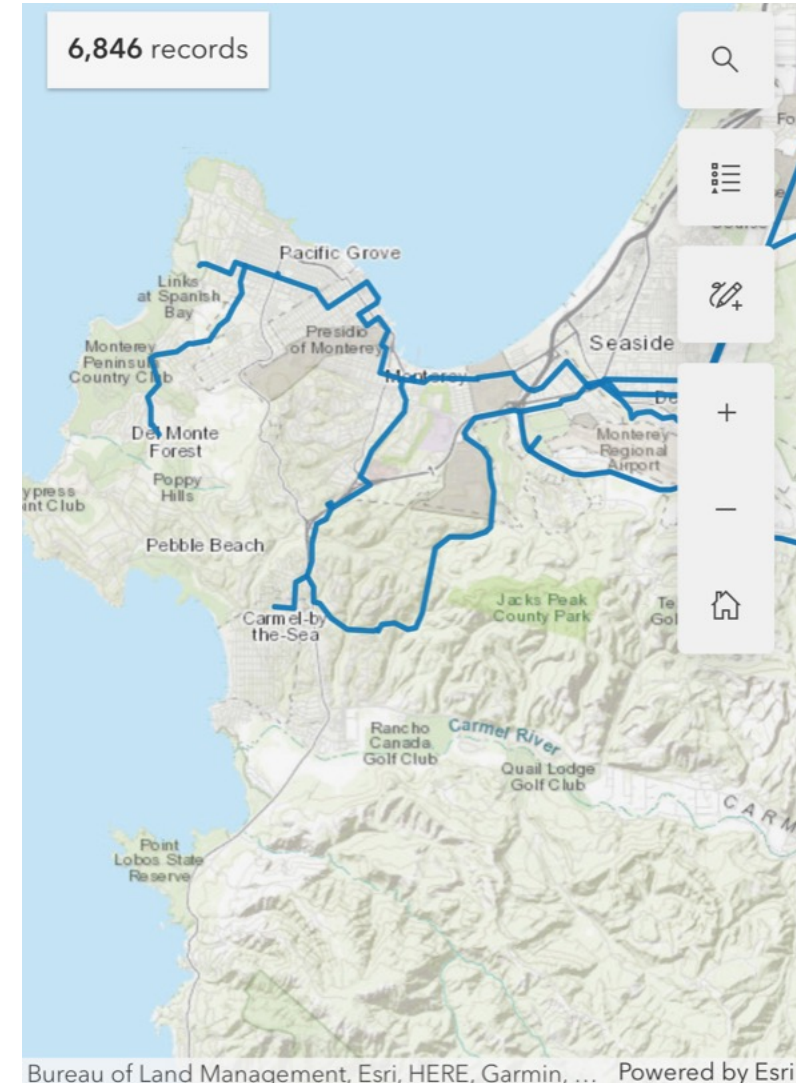
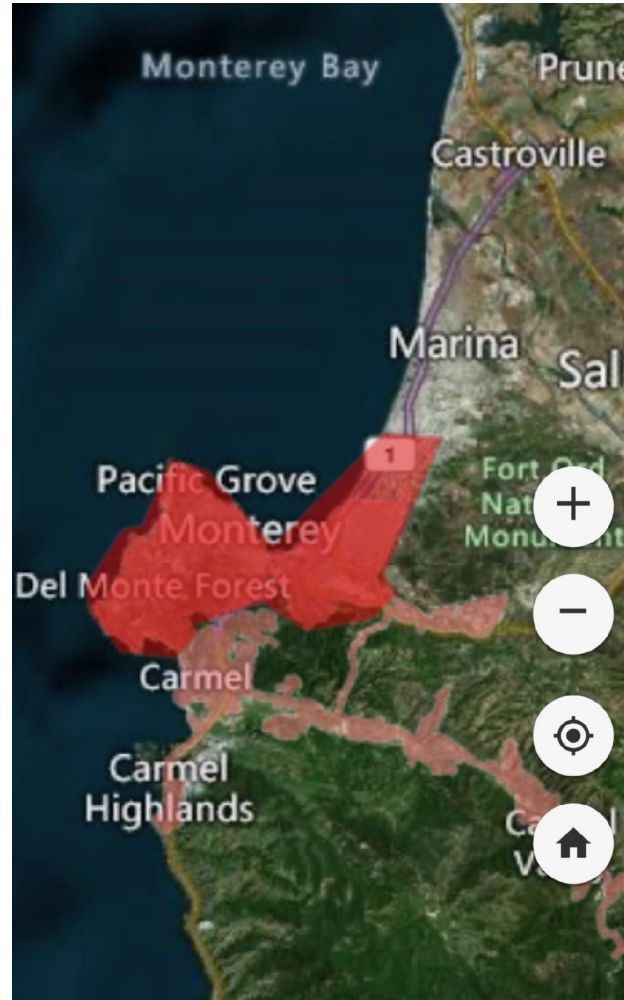
## ... More Issues

- Public Safety Power Shut Offs
- Storms
- Loss of Internet, broadband and cellular due to downed utility poles



# One Tree Goes Down and Takes Out Much of the Peninsula

- Depending on where the power failures occur, underground streets or neighborhoods are still vulnerable to failures from outside causes
- The grid can fail and take out all power that is downstream of the failure, even if it is underground
- Example of Single Outage on Del Monte Avenue of 60kV line, March 10, 2023 caused power failures in Monterey, Pacific Grove and Pebble Beach



Tree falls on 60kV power line feeding power to multiple cities

# Beauty

We live in a world-renowned beautiful coastal setting,



# Beauty

We live in a world-renowned beautiful coastal setting,  
and shouldn't have poles and wires cluttering our views.



# Beauty

## Aggressive tree/vegetation trimming

After recent lawsuits, PG&E now often over-trims around power lines, leaving unsightly and crippled trees.



# Economic Impacts of Power Loss

**Businesses:** Extended power outages due to either downed equipment or PSPSs have serious consequences for businesses. Pew Research and DOE estimate that electricity blackouts cost U.S. Businesses \$150 billion each year

**Residents:** Outages have serious consequences: spoiled food, inability to work at home, medical equipment

**Fire insurance:** Rates have been increasing as insurance companies take fire danger areas into account. Likely new actuarial models will take utility poles into account.

**Property Values:** Most studies conclude that utility poles decrease property values

## Electric Utility Bills:

- PG&C CEO states that \$5.7 billion will be saved in annual tree trimming just by PG&E program to bury 2000 miles by 2026
- Robert A. Johnson, UC Davis Environmental Planning, estimates it would cost the electric utilities less to underground their distribution lines over the next 30 years (\$87 billion) than to continue their fire prevention policies (\$174 billion) in rural areas

# Arguments Against Undergrounding

## ... There is really only one

**Installation Costs – Significant:** We do need to find sources of money, which can be tough in these times with so many other needs. It may take more wildfires, but in the long run, undergrounding has proven to be cost-effective compared to the costs lost from power failures and wildfires caused by overhead utility failure.

**Maintenance Costs – More or Less the Same:** Underground utility repairs generally cost more and take longer to repair than overhead wires, but experience has shown that the *much lower failure rate of underground utilities* results in lower maintenance costs and less vulnerability to the elements than overhead lines.

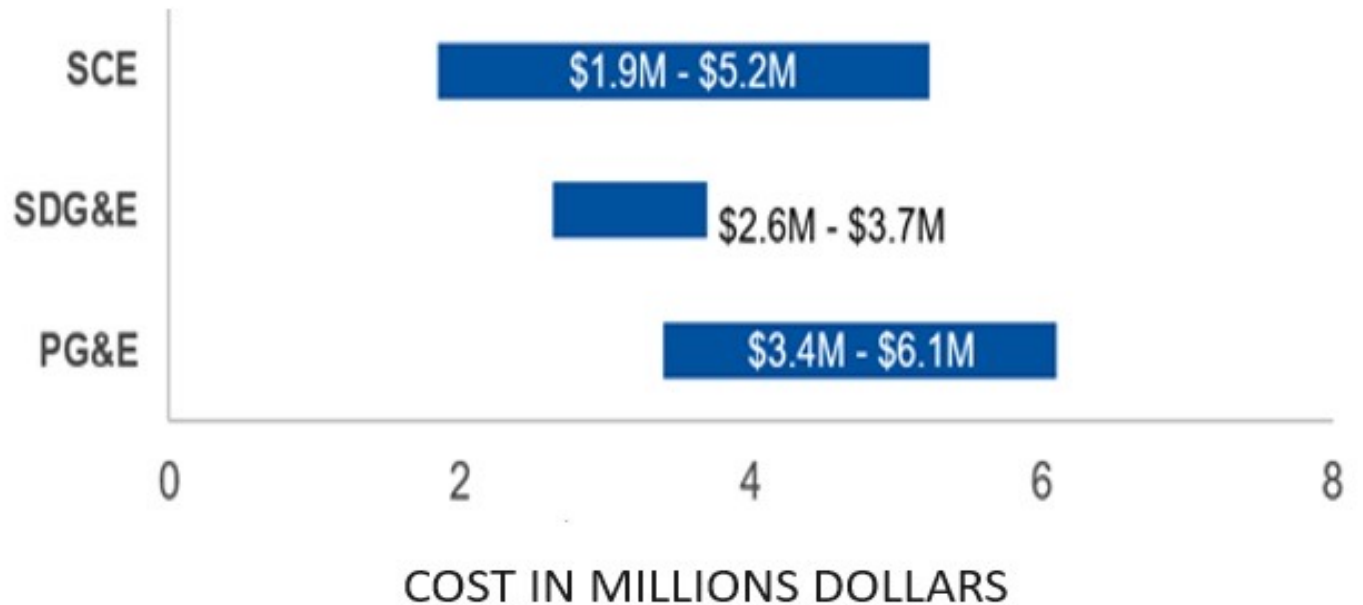


# Process and Funding



## How Much Does it Cost Overall to Underground Monterey Citywide?

- Undergrounding citywide in Monterey will require approximately 90 miles to complete. According to the most recent PG&E estimates, the average cost is \$3.75 million per mile to convert overhead lines to underground.
- If done during road reconstruction or with other infrastructure projects with trench work, the savings may be as high as 80 percent.

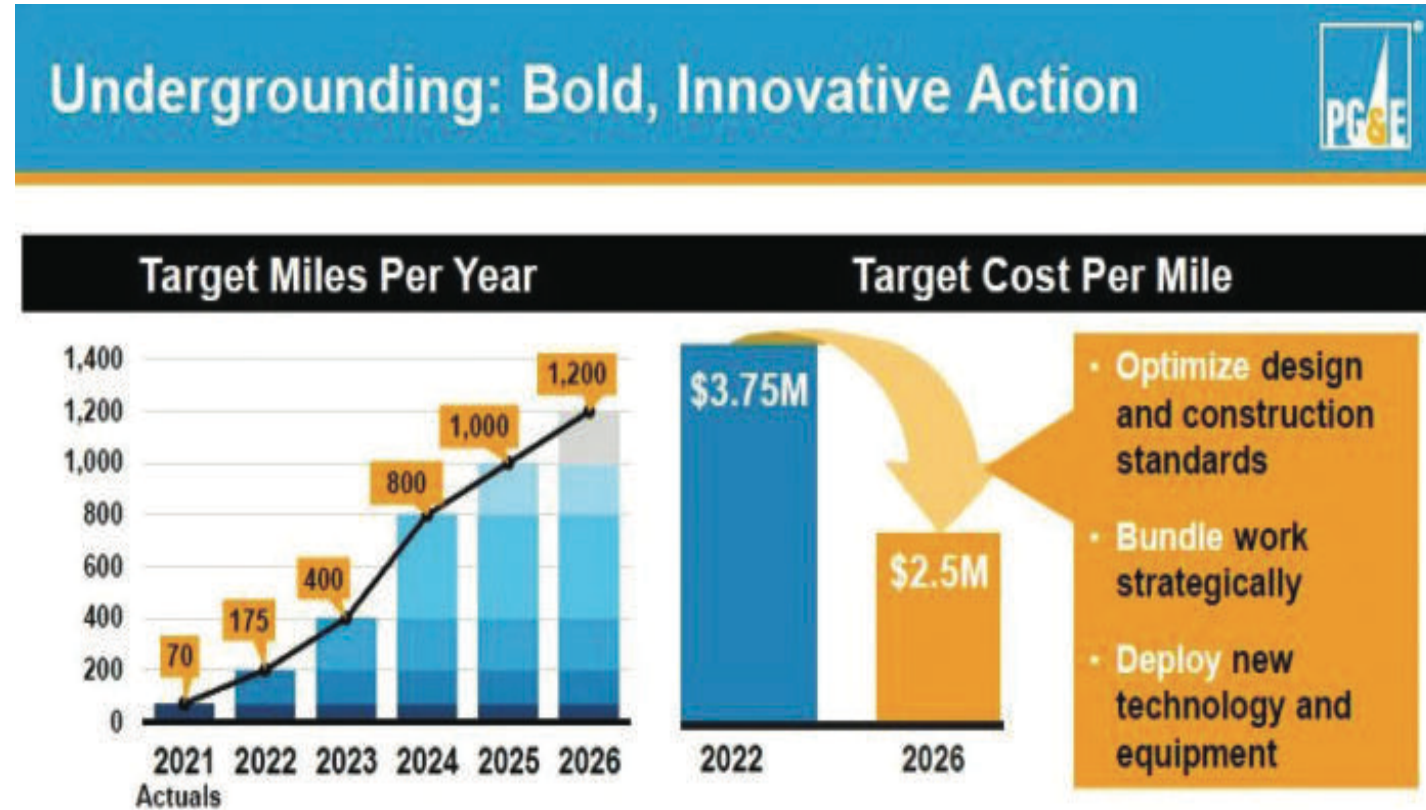


**Current cost averages are \$3.75 to \$7.5 million x 90 miles = \$337.5 million to \$675 million to Underground Monterey Citywide**

# PG&E Predicts Undergrounding Cost to Come Down with New Savings Methods

PG&E states, *“We continue to apply new construction methodologies, design standards, materials and other measures to underground lines as efficiently and cost effectively as possible.”*

PG&E has already realized efficiencies in recent undergrounding projects that have reduced the average cost per mile in certain areas. They anticipate the undergrounding cost per mile will continue to decrease as the scale of the project increases, from approximately \$3.75 million per mile in 2022 to approximately \$2.5 million per mile in 2026.



- Optimize design standards
- Bundle similar work projects
- Deploy new tech and equipment

# Creative Ways to Underground...



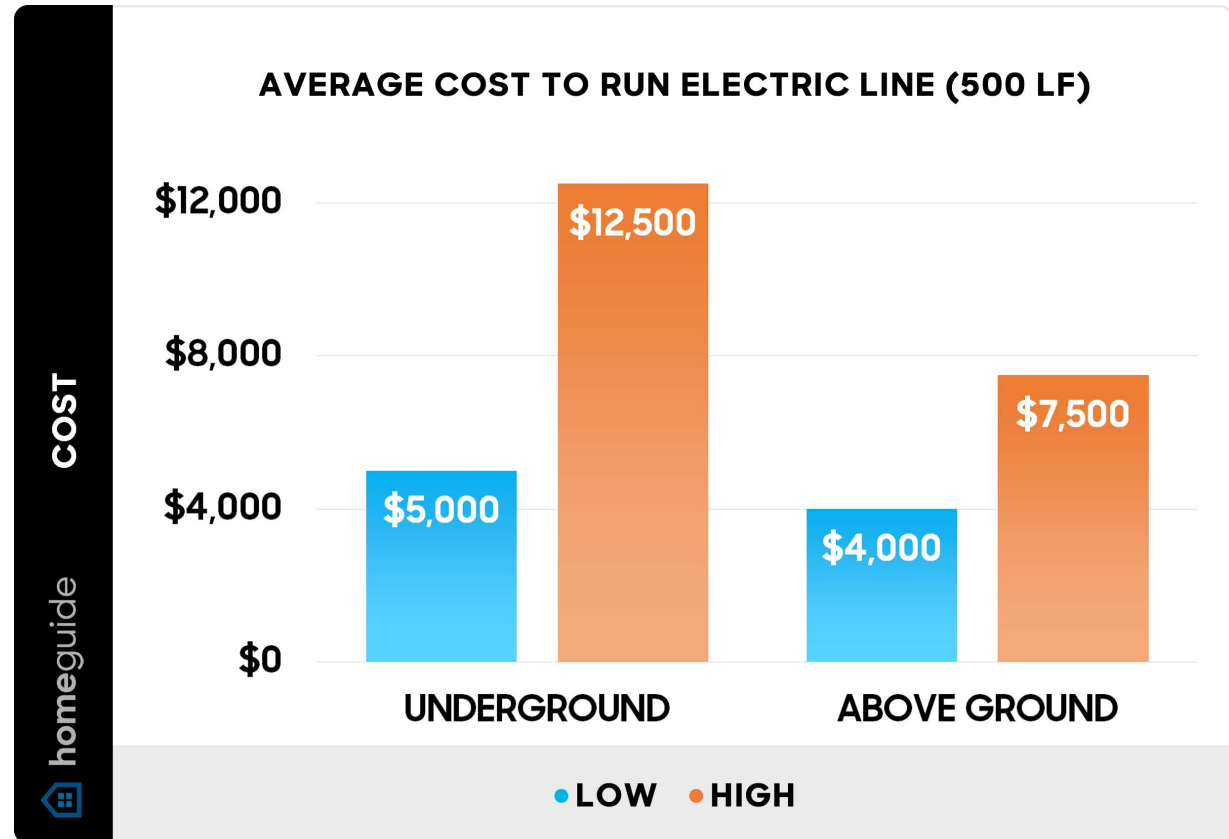
**Ground Level Distribution Systems (GLDS)  
Neither Overhead nor Underground, PG&E  
Pilot Program Evaluates the Benefits of  
Putting Powerlines Right on the Ground**



**Directional Boring allows  
undergrounding without digging  
trenches**

# What is the cost to the home owner?

- Most undergrounding program estimates do not include the lateral lines from the street to your home electrical meters.
- This cost may vary from \$5,000 to \$15,000 depending upon your landscaping, driveways, etc., and the distance from the street to the meter on your home.
- Most city underground programs have rebates or financing options for residents.
- Some cities, such as San Diego include these lateral line costs in their undergrounding program.



# Funding Options for Undergrounding

- Sales Tax
- User Utility Tax (or UUT)
- Property Taxes
- Neighborhood and Community Improvement Program (NCIP)
- Grants
- Other Funding (Rule 20)

# Overview of Funding Options for Undergrounding

Since 1996, due to Proposition 218, any change in methodology or rates of taxes must be voter approved. Most general fund measures require a majority vote and taxes for specific use require a 2/3 voter approval. Parcel Tax and assessment districts place the burden of cost directly to the home owners.

- **Sales Tax** increases have been the vehicle that most cities have used to increase funds for special or general fund projects. Monterey recently passed Measure P to increase the local sales tax to 1 percent for road construction that is set to expire in March 31, 2027. Most recently the City of Monterey also passed Measure G to add another .5 percent increase in the sales tax under an emergency declaration for general funds set to expire June 30, 2029, which brings the total sales tax up to 9.25 percent, among the upper levels within the county. Currently, 60% of sales tax is paid for by tourists.

## Overview of Funding Options for Undergrounding (cont.)

**User Utility Tax (or UUT)** is a tax imposed by a city on the use of utility services, most commonly electricity, gas, telephone and cable television. An increase in this tax has the advantage of a nexus with the undergrounding of utilities.

- The City of Monterey currently imposes a UUT on water, telephone (including cell phones), gas and electricity. Monterey is one of only three cities to charge a different rate for UUT for its residents (2 percent) and commercial users (5 percent).
- The average UUT (both residents and commercial) in California cities is currently 5.4%. By comparison with other local cities, Santa Cruz collects 8.5%, Seaside 6%, Watsonville 6%, Pacific Grove 8.75%, Salinas 6% and Sand City 5%. The City of Monterey is composed of 85 percent residential utility meters and 15 percent commercial meters.



# Overview of Funding Options for Undergrounding

**Property Taxes** are paid by the property owner. They are based on the assessed value of the benefit received (assessment districts) or on the characteristics of a parcel (parcel tax). If no city involvement, the costs for self-funding residents can be between \$30,000 to \$50,000 per parcel as a property tax assessment, plus the cost of the lateral connection to the home electrical panel, which averages \$5,000 to \$15,000.

With Assessment Districts, each property within an *assessment district* (minimum 600 ft) is assessed an amount sufficient to cover the proportional cost of the benefit received. A fixed lien is recorded as a district is formed. District approval requires a simple majority of property owners, weighted by assessment amount.

A Parcel Tax is City-wide and requires a 2/3rds vote. The rate can differ based on the type of property. For instance, improved and unimproved properties may have different rates, and residential and commercial properties may also have different rates.

**Grants:** Federal, state and county grants for undergrounding projects will likely become more available as the risks of wild fires increase. Having well-planned shovel ready projects will help with successfully bringing in needed funds without a significant tax burden on us.

**Neighborhood and Community Improvement Program (NCIP)** is a program locally funded by 16% of transient occupancy tax (TOT or “hotel tax”). There are currently three projects now under NCIP consideration for undergrounding up to \$2 million.

# Rule 20: The Devil is in the Details...

Category	Responsible Party	Payment (s) Due
Rule 20A	Ratepayers are responsible for the full project cost. OR The city/county can elect to cost share the project for costs exceeding available work credits. NEW RULES: 20A no longer issuing new credits. The remaining 20A funds (approx. \$78 million) will be distributed between city “active” projects now in process. Monterey has approx. \$4.5 million in “active” status for Fremont Street, with an estimated project cost of approx. \$5.3 million.	Work credits are deducted from the community’s balance when the project is closed and the final cost of the project is known. If a project is cancelled prior to completion, work credits equal to the actual expenditures are deducted from the community work credit balance.
Rule 20B	Applicants are responsible installation of the underground system, or pay PG&E to do so. Ratepayers are responsible for the project cost equal to building a new equivalent overhead system. Applicants are responsible for the project costs that exceed the cost of a new equivalent overhead system. PG&E is responsible for the costs of removal of the overhead poles, lines, and facilities.	Payments to underground facilities are due prior to construction.
Rule 20C	Applicants are responsible for the project cost to remove the overhead facilities and replace with underground facilities, less the net salvage value and depreciation of the replaced overhead facilities. Underground services will be installed and maintained as provided in PG&E's rules applicable thereto.	An engineering advance is due prior to the beginning of the Engineering and Design phase. Payments to underground facilities are due prior to construction

# Bonds or Pay-As-You-Go?

- Construction can either be done as funds are collected, or the City can buy Bonds that are secured by the expected income for any new taxes.
- **Build as we go:** Advantages of undergrounding as funds are collected are more affordable since no interest would be collected. However, it would take much longer to complete.
- **Buying Bonds** has the advantage of being able to underground Monterey much faster, but would cost more due to interest and fees.



# What is a Typical Timeline for Undergrounding?

## **Project initiation**

- A. Letter for interest 1-2 months
- B. Prelim cost estimate 2-4 months
- C. Re-confirm interest 1-2 months

## **Forming an assessment district**

- A. Boundary confirmation and Petitioning 4-6 months
- B. City Council action
- C. Payment for assessment 4-6 months

## **Design and construction**

- A. Design 18-24 months
- B. Construction and private Conversions 36-48 months



**Total time from start to finish could be over 6 years**

# How Do We Plan On Undergrounding?

- Underground utilities are already required in new construction, but existing pole infrastructure is aging. Nationally and state-wide there is mounting discussion on how to convert the existing aboveground utilities.
- As funding programs become available, the cities that have their underground conversion plans ready to implement will be at a great advantage to qualify for these funds.
- To take maximum advantage of these opportunities, cities should consider establishing a UG Conversion Master Plan, UG Conversion Planning Committee, and a UG Conversion Plan

# Monterey Elects to Lead the Way...The Key to Success Starts with Well Designed Plans!

## Establish a City Sponsored Underground Conversion Planning Committee

- **City staff (e.g. planners, engineers, finance department, economic development representatives)**
- **Elected and/or appointed officials (e.g. residents, council members, planning commissioners, design review)**
- **Utility representatives, including electric, telephone, and cable company representatives**

The utility representative on the Underground ***Conversion Planning Committee*** can play an important role in helping to identify projects that qualify for utility funding and the current status of such funding. Moreover, the utility companies periodically revise their labor and material costs, and the utility representatives would play an important role in helping the committee update the Underground ***Conversion Master Plan***.

# Start with a Underground Conversion Master Plan

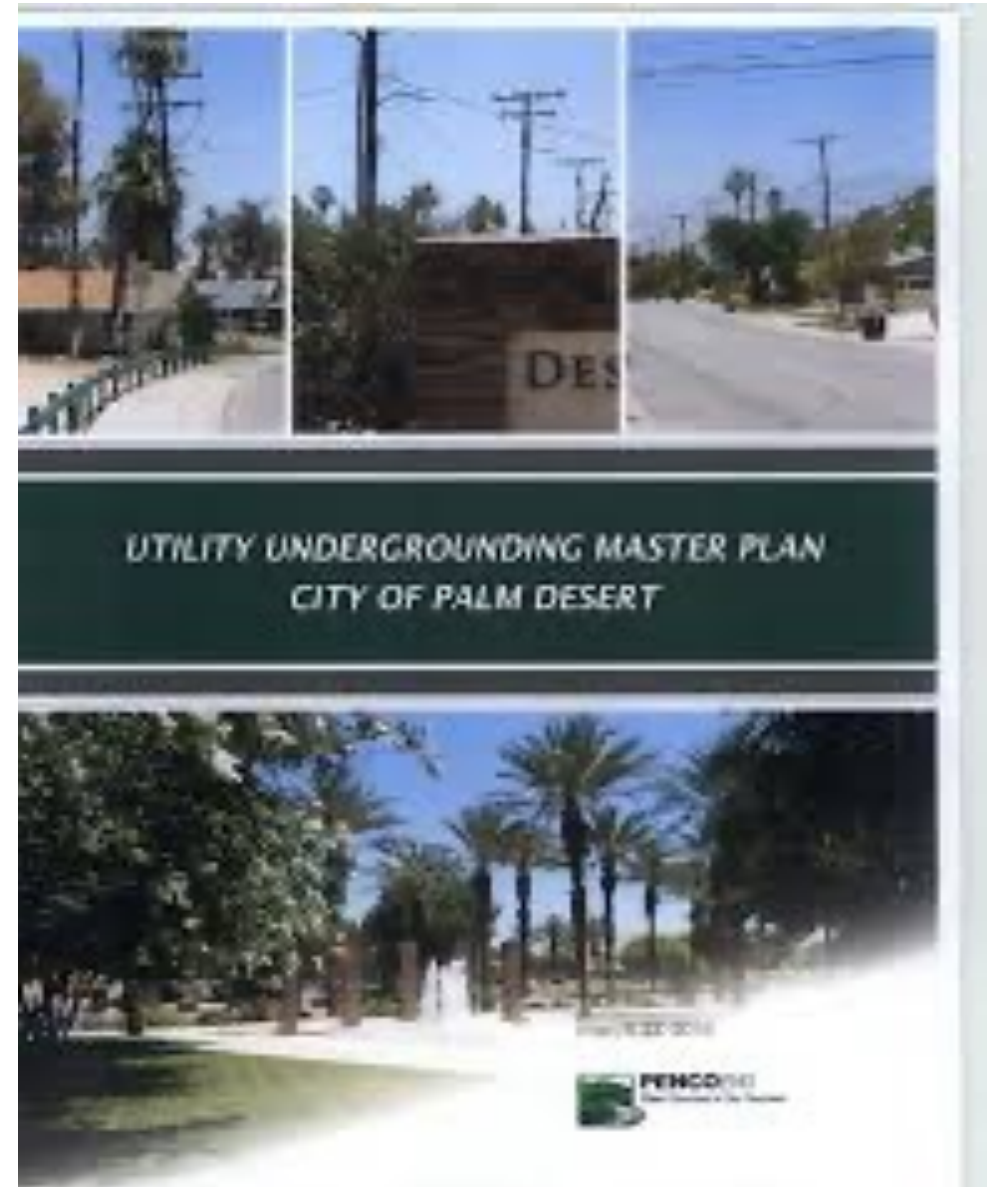
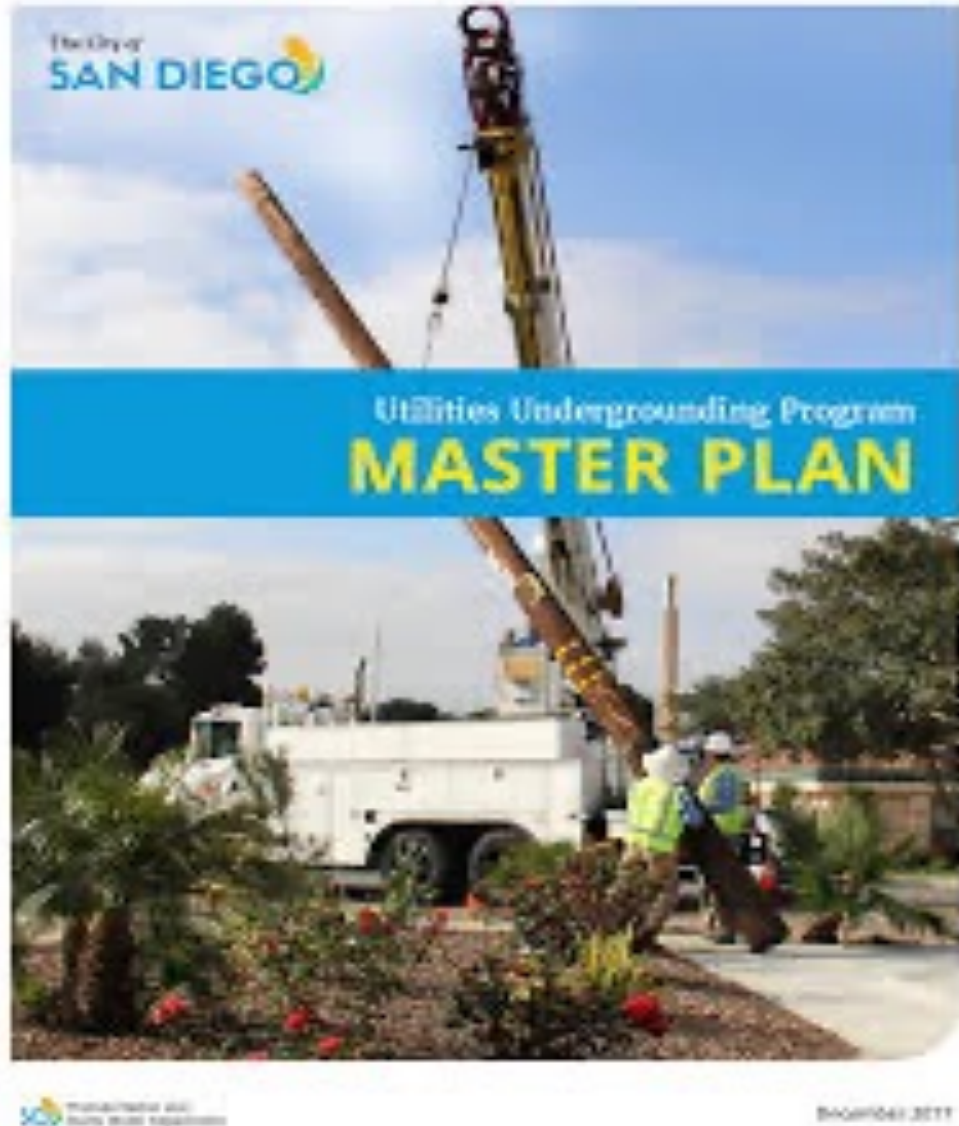
The Underground ***Conversion Master Plan*** is used as a means of laying out a long-term vision and building consensus among city leaders, business owners and citizens. A local government can create an Underground ***Conversion Master Plan*** as a standalone document or it can be a part of the agency's General Plan.

- **A statement of objectives**
- **The manner in which priorities are to be set for conversion projects**
- **A map showing all currently proposed conversion projects (updated regularly)**
- **A ranking of project priorities**

Basic information about each project, including the purpose of each project. Project-specific information should include such basics as:

- **The measured length of the project**
- **The approximate project costs based on periodically updated unit costs for a similar, recently completed project**
- **The Underground *Conversion Master Plan* will not be realistic if it attempts to precisely define the timetable for each conversion project. This should be included in the *Utilities Conversion Plan*. However, sharing the city basic project information with the utility companies will help facilitate the exchange of critical planning information between the utilities and city planners.**

# Underground Conversion Master Plans





# Utilities Conversion Plan

To begin a utilities undergrounding “conversion” process, every city is encouraged to develop a ***Utilities Conversion Plan*** covering at least five projects.

This is a short-range plan for use in assigning conversion priorities, cost estimates, and project schedules on the basis of a city’s current planning assumptions.

The Underground ***Conversion Planning Committee*** should be tasked with directing a city’s ***Utilities Conversion Plan*** and recommending flexible project timetables. Over time, a well-functioning Committee will help to assure the logical progression of conversion projects and be instrumental in minimizing construction delays and maximize the use of conversion funds.

A ***Utilities Conversion Plan*** should include

- Set of objectives, project priorities, and rough cost estimate provided by PG&E, flexible for each project and based on sound planning assumptions.
- Since utility conversions are often triggered by other improvement activities (such as street reconstruction), a ***Utilities Conversion Plan*** will be extremely useful to a city when trying to accurately budget the total costs of an improvement project, which includes underground conversion. Such a plan is best developed through the collaborative effort of a Underground ***Conversion Planning Committee***.

# Where Do We Go From Here?

## Get the City Involved

- Advise the City Council, Mayor and City Manager to establish an Underground Conversion Committee to create a Master Underground Conversion Plan.

## Educate on Undergrounding and Local Energy Resources

- Be an advocate for undergrounding by helping get the word out through your Neighborhood Association or social media platforms. Educate about the importance of undergrounding, and provide the facts on what we gain vs. the costs of doing nothing, so as to move undergrounding up the City Project Priority List.

## Public Participation

- Participate in NCIP public comments when underground projects are under consideration. (May 9<sup>th</sup>, 6PM, NCIP meeting)

We cannot wait and rely on the company that created this mess of poles and wires to fix it, because they simply do not have to. We need to channel the can-do-spirit of our ancestors, who overcame many obstacles to give us the modern conveniences we enjoy today, and invest in our future... ensure our safety, update and modernize our infrastructure, and preserve the natural beauty of our beautiful City of Monterey. This is a long-term investment that can be done one block, and one neighborhood at a time, but only with strong leadership and smart planning.

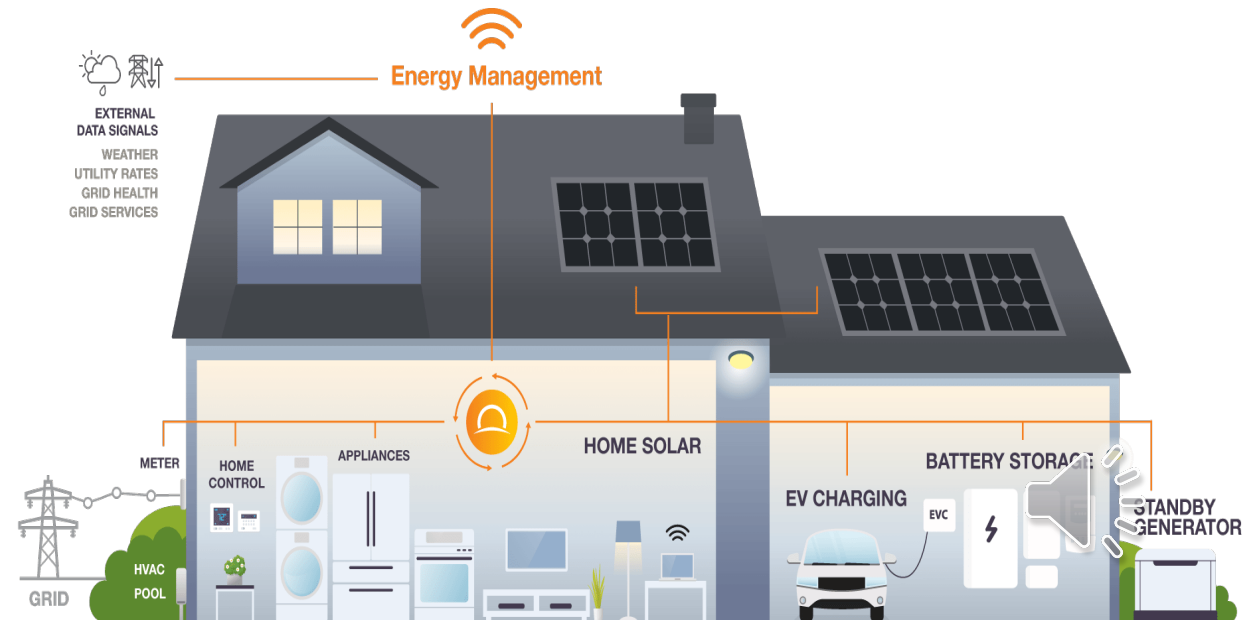
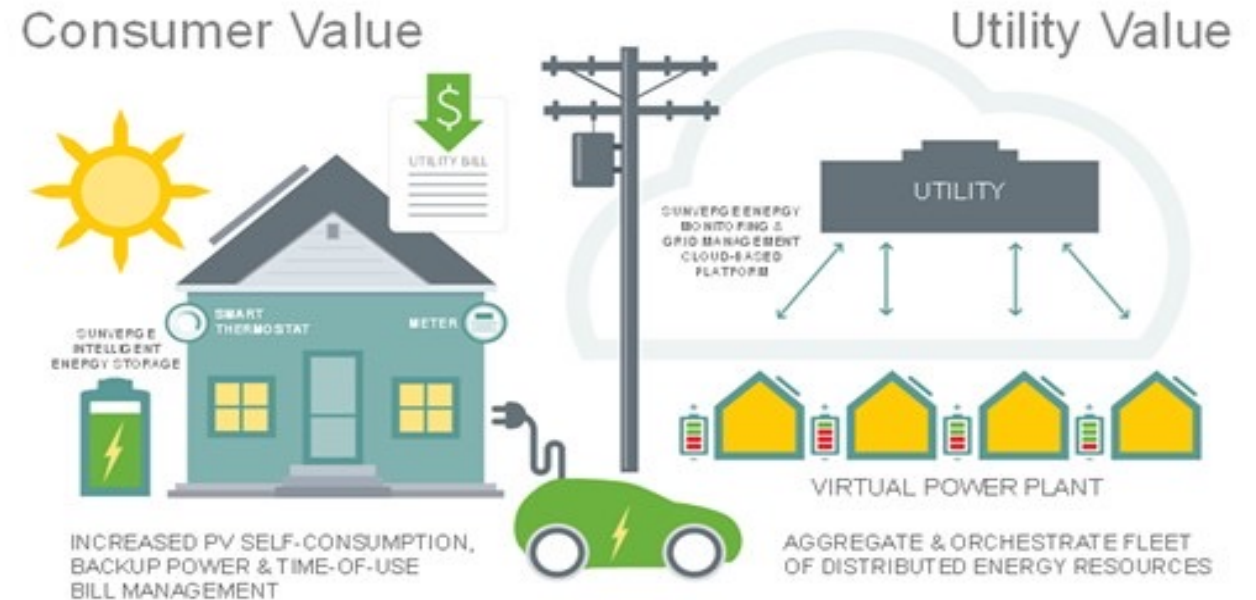
# Undergrounding Monterey Utilities Questions and Answers



# Appendix

# Why Combine Local Energy Resources with Undergrounding?

- Localizing energy resources allows us to address other energy needs that undergrounding does not address or only partially addresses.
- Undergrounding does not reduce our carbon footprint or help control rising energy costs.
- Localizing energy resources does help reduce our carbon footprint and does help reduce and control rising energy rates.
- Locating energy resources at point-of-use is the key to success for attaining sustainability and resiliency
- With both undergrounding and localizing energy resources, we can potentially mount a full-frontal assault on the entire scope of problems confronting our energy sources, energy distribution and inter linked climate change



# Resident are able to Establish Underground Assessment District Projects

- At least 5 parcels and 600 linear feet of overhead wire or one block, whichever is less, must be placed underground
- The owners of at least 60% of the properties within the proposed boundary and subject to the assessment for the proposed improvements must sign a written petition indicating support for the project
- Property owners who sign the petition must deposit an initial fee to cover a portion of the assessment engineering and utility design costs. Some cities cover this upfront costs and are reimbursed if the district is ultimately formed

## Residents Initiating the Project (cont.)

- Once the boundary is defined, the City will verify the proposed boundary with the utility companies
- Once the district boundaries are accepted by all parties, the utility companies and the City will provide a preliminary cost estimate for the design and construction of the undergrounding project
- Based on the preliminary cost estimates from utility companies, associated City costs and accounting for bonded interest costs, the committee will determine preliminary costs per household and evaluate if there is continued support to pursue an assessment district. A petition with 60 percent of vote must again be taken.

## Residents Initiating the Project (cont.)

- If a majority (50% + 1) of the returned assessment ballots are in favor of the project, as weighted by each assessment amount, the City Council will approve a resolution forming of the assessment district.
- 30-Day Cash Payment Period: Thirty (30) days after the close of the public hearing, the property owners have the option to pay the full or a portion of the assessment amount.
- If the property owner elects to not pay during the 30-Day Cash Payment Period, the unpaid Assessment will be financed through the issuance of bonds with the Assessments payable in annual installments. Bonds are typically amortized over a 15-20 year period but can be amortized over as many as 30 years.



## Combining Programs to Address the Energy Issues of Safety, Reliability, Sustainability and Aesthetics that confront the city of Monterey

(Positive Impacts Rated Low, Medium and High)

<u>Motivation for Change</u>	<u>Underground Utilities</u>	<u>Local/Clean Distributed Power</u>
Safety-Wildfire Risk	Medium (High if completed citywide)	Low
Safety-Escape Routes	Medium (Trees can still fall)	Low
Safety- Auto Accidents	Medium (reduces collision sites)	Low
Reliability-Poor Infrastructure	Medium (reduces upstream failure)	High (local power backup)
Reliability-Weather/Disasters	Low-Medium (High if citywide)	High (local power backup)
Reliability-Public Power Shutoffs	Low (Total grid shuts off)	High (local power backup)
Reliability-Communications	Medium (High if completed citywide)	Medium (local power backup)
Economy- Reduce Energy Costs	Low (Savings to Utilities Maintenance)	High (Solar and batteries)
Economy- Cost for Program	High (\$60,000/home plus laterals)	Low-Med (\$10-20,000/home)
Economy- Time for Changes	Low (40 years or more citywide)	High (Scalable/Immediate)
Economy-Financial Incentives	Low (Loss of Rule 20A funds)	High (Several Tax Incentives)
Beauty- View Impacts	High (Monterey Priority)	Low
Beauty- Tree Trimming	High (Monterey Priority)	Low
Economic- Business Loss	Low-Medium	High (local power backup)
Economics- Residents Loss	Low-Medium	High (local power backup)
Clean Energy- Lower Carbon	Low	High (Renewable Energy)



# Overview of Underground Funding: Electric Rule 20

In response to local government interest in enhancing the aesthetics of their communities, the California Public Utilities Commission (CPUC) in 1967 established Electric Tariff Rule 20 (Electric Rule 20). It contains three separate programs that provide for the undergrounding of existing overhead utility lines.

## **Electric Rule 20A**

- **Funded by ratepayers, but only for projects deemed to create a general public benefit by satisfying at least one qualifying criterion.**

## **Electric Rule 20B**

- **Funded by both ratepayers and property owners. Provides limited ratepayer subsidies for undergrounding utility lines in areas that do not qualify under Rule 20A.**

## **Electric Rule 20C**

- **Funded almost entirely by those requesting the underground conversion. Enables property owners to pay for the cost of undergrounding utility lines which do not qualify under Rule 20A or 20B.**



# Summary of Funding Options (cont.)

Funding Method	Who Pays	Project Size	Required to Pass	Assessment Determination	Costs	Funds Generated	Miles/Year Underground	Pay-As-Go or Bond Issued
<b>NCIP (Neighborhood Community Improv.)</b>	hotel guests	City-wide	NCIP Board vote	10.5 % TOT (Transit Occupancy Tax) City Council (<16% of TOT)	based upon project size (design only)	total NCIP budget 2022-23 \$4.9 million	n/a	Pay-As-Go (design only)
<b>Parcel Tax Valuation<sup>3</sup></b>	property owners	City-Wide	2/3 vote	parcel type sq ft basis typical on structures	percent x sq ft of structures based on project costs (payment on property tax)	determined by project costs (rate adjusted yearly)	n/a	Pay-As -Go
<b>Assessment District Valuation</b>	property owners benefitting in assessment district	600 linear feet minimum	simple majority vote in proposed district	based on benefit received by owners	Typically \$30-50,000 per parcel (Cash payment with discount or bond payment with interest typically \$150-250 month)	determined by assessment district	n/a	Bonds or cash payment
<b>Mello-Roos Method Valuation</b>	property owners benefitting in assessment district	600 linear feet minimum	2/3 registered voters casting ballots in proposed district	tax formula not based upon benefit	Typically \$30-50,000 per parcel (Cash payment with discount or bond payment with interest typically \$150-250 month)	determined by assessment district	n/a	Bonds or cash payment

# Example of Savings on Monroe Street with Street Reconstruction

## *Per household Undergrounding Cost Calculations hwj; 7/28/2023*

Harris total cost estimate \$ 1,400 per foot Planning, permitting and building

Savings if done during restructuring 30% Estimate (Harris and Associates 7/28/23 Zoom Meeting)

Cost during restructuring \$ 980 per foot, Lineal feet (Monroe St) **1,030** feet, 600 ft minimum

Total Cost \$ 1,009,400 Total add-on to street restructuring, NCIP contribution **\$ 250,000**, % NCIP contribution 25%

Adjusted Cost \$ 759,400, Number of households **40**, Cost per household \$ 18,985 to \$ 25,235 Not including on property trenching

Property trenching & electrical upgrade, Min **\$ 5,000**, Max **\$ 20,000** w/NCIP w/o NCIP

## **Total per Property Cost**

Min \$ 23,985 to \$ 30,235

Max \$ 38,985 to \$ 45,235

## **Monthly Installments**

Interest **5%**

Years **15**

Min \$189.67 to \$239.10

Max \$308.29 to \$357.72



# What Does Monterey City Code say about forming an Underground District Project?

- The City Council may, from time to time, call public hearings to ascertain whether the public necessity, health or safety requires the removal of poles and overhead wires and associated overhead structures from the public streets, alleys or ways, within designated areas of the City, and requires the underground installation of wires and facilities for supplying electric, communication or similar or associated service.
- The City Clerk shall notify all affected property owners and utilities by mail of the time and place of such hearings, at least thirty (30) days prior to the date thereof.
- If after any such public hearing the City Council finds that the public necessity, health or safety requires such removal and such underground installation within any such area, the City Council shall, by ordinance, declare such area an underground utility district. Such ordinance shall include a description of the area comprising such district and shall fix the time within which such poles and overhead wires and associated overhead structures shall be removed and within which affected property owners shall be ready to receive underground service.

# Take the Undergrounding Survey

- Go to [Montereyundergrounding.net/survey](https://montereyundergrounding.net/survey)

This survey will help Monterey Undergrounding understand more fully how folks feel about undergrounding and the level of support they are willing to participate in moving forward.

Thanks for your interest.

