

DOCUMENTS IN THIS PACKET INCLUDE:

LETTERS FROM CITIZENS TO THE
UTILITIES ADVISORY COMMISSION

From: [David Coale](#)
To: [Lait, Jonathan](#)
Cc: [UAC](#); [Shikada, Ed](#); [Batchelor, Dean](#); [Gennady Sheyner](#); [Council, City](#); [Abendschein, Jonathan](#)
Subject: Re: Permitting in Palo Alto
Date: Wednesday, June 16, 2021 3:55:39 PM
Attachments: [Solar activists wield hammer in city fixated on being greenest.pdf](#)
[Permitting in Palo Alto, Palo Alto Weekly.pdf](#)
[Comments to Palo Alto Weekly article.pdf](#)
[In the Public Interest: Solar Permitting In Palo Alto by City of Palo Alto PaloAltoConnect May, 2021 Medium.pdf](#)

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Hi Jonathan,

Thanks for the link explaining how you will be addressing the permitting problem. I did see this as a friend of mine that used to be on the UAC sent it to me.

I am very disappointed with this. This is similar to what happened the last time this was addressed with Peter Pirnejed, the last director of Planning seven years ago. Peter had an even larger group of stakeholders and had on-going meetings for many months. The final solution was to remove Rhonda from residential PV inspections and permitting. This was after survey results of stakeholder showed just how bad it was and only when the results were made semi-public. Peter promised the solar contractors that Rhonda would not do residential inspections any more. But, even before he left, Peter broke his promise to the solar installing community and Rhonda was back on the job.

Now, seven years later, you are doing the same thing and expecting different results. But it is even worse than that. You are having the inspector that is causing all the problems, to train all the other inspectors how to be just like her! This is an about face and running fast in the wrong direction!

I think the only way to really fix this, is to take out all the Palo Alto only solar requirements and then outsource the permitting and inspections to 4Leaf Inc. The City already uses 4Leaf Inc, in this capacity for inspections and permitting so this is nothing new and is a known pathway for the City. This will also probably be cheaper as well so this will give all sides immediate relief in this area. I think this is the only way you will ever get contractors to return to Palo Alto.

This should happen with all electrification projects/permits. As we start to really address our 80 by 30 CO2 reduction goals, there will be a lot more inspections required and right now the City is already behind in this, especially for solar PV and storage.

So instead of going down the business as usual and applying the Palo Alto process that will likely take a lot of time to produce results that fall far short of what is needed to really address the problem and meet our 80 by 30 goals, I would suggest you should be working on how to outsource this to 4Leaf. This will be faster, cheaper and is the only way to get contractors to return to Palo Alto. It will also help to address the City's scofflaw approach to expedited PV and EVSE permitting as required by state law.

Sincerely,

David Coale

PS. I have attached an article about what happened seven years ago. Note, Pat Bert was in on the stakeholders meetings so he knows what happened then.

PPS. Should you decide to keep the permitting and inspections in house, there is another possible solution that could get contractors to return to Palo Alto and streamline the permitting and inspection processes.

NREL, the National Renew Energy Labs, has come up with a web site to do just that. All the data is entered into the web site for the solar PV system to be built. Once the submittal process is complete, and any errors are addressed, the solar design is correct and code compliant by design. This takes the place of the plan check and is completely automated. This also means that the contractors can submit plans 24/7 and are not limited to normal working hours.

The web site then produces a checklist to be used by the inspector for inspection. This ensures that all inspections are the same and relevant to the PV system design. By eliminating the plan check and producing a checklist for the inspector to use, this should really streamline the process and reduce cost at the same time as well as speeding up the process. Since this was developed by NREL, you know it will be code complaint and will be constant across jurisdictions such that it should be familiar to contractors once this is widely used and accepted.

And, what's more, this is free to jurisdictions. Pleasant Hill is already using this and it will also do EVSE permits and more. See: https://solarapp.nrel.gov/jurisdictions/learn_more for more info on this.

You can also view the presentation done by BayREN on Building permits and Clean Technology. They had a great half-day session on this and best practices from many different jurisdictions. Go to:

<https://www.bayrencodes.org/events/> and scroll down to the June 9th event to view this. There is also a session on the Solar App from NREL there as well. Here is a presentation by NREL on how the Solar APP works: <https://www.youtube.com/watch?v=UE4TbjgVAjs>

On Jun 9, 2021, at 9:34 AM, Lait, Jonathan <Jonathan.Lait@CityofPaloAlto.org> wrote:

David –

Thanks for including in me in your message below. I know we have long way to go to convince you and others with actions that we can turn this around but we are making progress. I'll return to the UAC on August 4th with a more complete update but in the meantime, please take a few minutes to read what we have been up to since our last conversation:<https://medium.com/paloaltoconnect/in-the-public-interest-245aff70bafb>.

Jonathan

<image002.png> **JONATHAN LAIT**

Director

Planning and Development Services

(650) 329-2679 | jonathan.lait@cityofpaloalto.org

www.cityofpaloalto.org

<image003.png> <image004.png> <image005.jpg>

<image006.jpg> <image007.png>

From: David Coale <david@evcl.com>

Sent: Wednesday, June 2, 2021 2:42 PM

To: UAC Public Meetings <UACPublicMeetings@CityofPaloAlto.org>; Shikada, Ed <Ed.Shikada@CityofPaloAlto.org>; Lait, Jonathan <Jonathan.Lait@CityofPaloAlto.org>

Subject: Permitting in Palo Alto

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Hi UAC,

I am including the May 21 article that appeared in the Palo Alto Weekly about permitting and inspections in Palo Alto and the comments that followed, here in this e-mail, so that there is a record on this important issue. This article and comments are akin to a study session and public comment on these issues.

This article and comments can also be found at this link as well:

<https://www.paloaltoonline.com/news/2021/05/21/palo-alto-takes-heat-over-solar-permitting>

I look forward to hearing the response from staff on the UAC meeting of April 7th where this issue was discussed.

Sincerely,

David Coale

Comments

Ev charger

Registered user
Midtown
11 hours ago

Thx for this article. My contractor called twice for a final inspection for EV charger and never got one. Frustrating for people trying to follow rules.

Allen Akin

Registered user
Professorville
11 hours ago

Good story. Based on my experience installing two PV systems with backup in Palo Alto, it's quite thorough and accurate. Here's hoping it helps motivate improvement in City personnel and processes.

Neal

Registered user
Community Center
10 hours ago

The permitting process is totally broken. It's not just about solar installations. I recently remodeled my kitchen and bathroom and had a unconditioned storage shed built in my back yard. Time and time again inspectors made unreasonable requests. The electrician had to deal with Rhonda Parkhurst and I totally agree with following comments made about inspector Rhonda Parkhurst.

>In recent interviews, Coale was one of several contractors who singled out inspector Rhonda Parkhurst, a national expert in electric systems whose passion for imposing requirements that don't exist anywhere else has helped drive contractors out of the city. Some inspectors, Coale said, won't leave a job unless they find something wrong and make you fix it. Parkhurst, he said, seems to go out of her way to make things difficult for solar installers. (Several other contractors echoed that assessment.)

Other inspectors are also over zealous and relish the power they have over the contractors and homeowners. When I protested a unreasonable \$2,700.00 requirement to the head of the building department I was told he wasn't going to question the inspectors judgement. I whole heartedly agree with the following statement.

>"The city stands by their people no matter what, to the end," Coale said. "There's no downside to the city if they make it more difficult for contractors, no downside if a contractor charges extra \$2,500 for permitting. They don't get dinged in any way.

I hope I never have to deal with the building department again.

Rhodoreae

Registered user
Ventura
10 hours ago

I concur with the statements expressed in this article.

The solar permitting and especially inspection issues have been going on for many many years.

Council needs require that Palo Alto's Development Center's performance should be modeled after the best jurisdictions in the Bay Area!

Online Name*Registered user*

Embarcadero Oaks/Leland

10 hours ago

Love how Mr. Lait blames the problems on working remotely due to the pandemic for problems that pre-date the pandemic and go back years and often decades because systems apparently aren't tested before going live and the city doesn't communicate with its highly paid contractors like those administering the RPP program.

Examples abound but a few include hundreds of people complaining about the parking permit renewal process, my old plumber trying for hours to file for the rebate for a new water heater -- does the city have a clue what plumbers cost with hourly rates WAY more than the promised rebate?? -- the password reset on city surveys, the roadwork/ construction alert app to help drivers avoid traffic backups in the obviously pre-pandemic era ...

Weifeng Pan*Registered user*

Midtown

10 hours ago

My permitting process went smoothly and quickly earlier this year without me aware of anything because LA Solar handled it.

jguislin*Registered user*

Crescent Park

9 hours ago

Great article that really just lays out the tip of the problem. We have multiple neighbors who are dealing with extensive delays because of Palo Alto's permitting office. It has discouraged us from installing solar at our home.

Jonathan Lait says, "Rolling out solar energy in the city is a council priority," implying that our Council has coherent policies to achieve priority goals; that is a mischaracterization of what really occurs. Council should be suffering severe cognitive dissonance since much of what they say is contrary to the actions they take - reduce car traffic / build a new parking garage, discourage SOV commuting / reduce parking permit costs, etc. Leadership falters and we all pay the price.

Solar Renegade*Registered user*

another community

9 hours ago

We purchased our solar panels privately and had them installed ourselves with no building permits or inept municipal bureaucracies to deal with.

My brother is a building contractor in the Central Valley and along with his crew of undocumented workers, our panels were completely mounted and aligned with the grid within two days.

We don't waste our time with City Hall and the City of PA has absolutely no knowledge or whereabouts of our doings.

Just go rogue and thumb your nose at these useless paper pushers.

Local Resident*Registered user*

Duveneck/St. Francis

9 hours ago

Gennady, great reporting and article! My electrical contractor (who is great) also reported having problems specifically with Palo Alto Building Permitting & Inspection and specifically cited Rhonda Parkhurst and her torque test. No other department on the peninsula does that. Please stop imposing requirements on contractors that none of the other jurisdictions around us have. Also, please dramatically improve the response times.

commonsense

Registered user

Professorville

8 hours ago

The building and planning departments have talked every few years about fixing their problems. It now takes almost two years to get a building permit for a new house. Planning is so unpredictable that it may add another year before you can even submit for the building permit. So far nobody has been willing to take this project on, fixing planning and building, and unless someone does, and has the full support of staff and the city council, the problems will persist and continue to worsen.

Annie B

Registered user

Midtown

8 hours ago

This is so spot on. We have had three different solar systems over the past 20 years, first panels, then battery backed up panels, then more efficient panels. We had to go through many contractors to find someone who would do it. Luckily Cobalt took us on. The requirements are completely over the top, and especially for a city that prides itself on being green. There is no reason it should be so onerous. The Building department is supposed to make sure that houses are safe so the insurance companies can count on our houses being up to code and not burning down and giving us better rates as a result. Instead, it's some weird power process where we are charged the maximum we can be, for poor service. Rhonda P did not provide ANY extra expertise, but instead cost us an extra twenty thousand dollars and 100 extra hours of labor by us and our contractors. For what benefit? She didn't understand basic electrical processes, and it in no way made our system any better than what we submitted. If you're going to be so onerous, at least you could add benefit. The documentation requirements were laughable if they weren't so time consuming. We also had to submit documentation on screws, tools, manuals... it's all over the counter stuff used all across the country. Twice she lost what she had and we had to resubmit. Ugh!!!! It made us completely lose faith in the building department. I miss Bud Starmer, former lead of the department. At least he had reasons for his careful rules and could articulate them.

Bert

Registered user

Another Palo Alto neighborhood

8 hours ago

Yep, this article seems to reflect the experiences of a lot of residents who have gone through the PV and/or energy storage process. My PV system was installed several years ago, and there must have been at least 3 rounds of inspections, with the "failures" being largely trivial things, like fixing the orientation of the "map" showing the house and location of various pieces, adding more labeling (the count is now 15+ separate bright red "caution" and description labels on the various pieces of equipment), etc. Three disconnect switches for PV and storage (not including the main breaker). Not to mention how long the inspection / re-inspection process takes. As a customer, it just takes a lot longer, and there are more visits by the contractors and for inspections - but in speaking with the contractors, they consistently talk about our "unique" requirements.

Bystander

Registered user

Another Palo Alto neighborhood

8 hours ago

We did a remodel about 10 years ago. Our contractors estimated 10 months to do the work. The remodel was completed in almost 2 years due to waiting for inspections and various other permitting problems.

It was so bad that I doubt we will ever want to do any more home improvements. The City wants people to upgrade but makes it very difficult to do so. I have been told that some contractors are refusing to work in Palo Alto.

This needs to be taken up with Council, although they will probably make it worse!

Online Name

Registered user

Embarcadero Oaks/Leland

7 hours ago

A friend who used to build one nice spec house a year for the last few decades refused to build again in PA after a horrible and costly experience with the PA Planning Dept and then concentrated on building in Los Altos, Menlo Park and Los Altos Hills instead.

Consider Your Options.

Registered user

Another Palo Alto neighborhood

7 hours ago

City Manager Shikada, everyone I know with a project is complaining about permitting and inspection difficulties. It got worse under Hillary Gitelman, and has since devolved into a management problem that needs your attention.

My family tried to get an estimate for solar installation and some electrical upgrades for energy efficiency. The estimates were all were crazy high compared to what friends got in nearby towns because contractors said that they were planning for delays caused by Palo Alto Planning. We decided we couldn't afford the project at the "Palo Alto premium." Not everyone in our town is rich. In fact, many people are struggling to make ends meet.

Mr. Shikada, good managers connect with the people who work for them at every level and they actively connect with customers to understand their perspective. Customer outreach and skilled staff management is needed here. The system is broken. Mr. Lait either does not prioritize or does not know how to fix these fundamental problems in the Planning Department. Some supervisory investigation and guidance appears to be required to fully understand the problems and find a path to fixing them. Please come down for your ivory tower and work the problem. Talk with some customers and contractors who have had problems. Talk with counter staff and inspectors to understand their perspective. Talk with Mr. Lait to understand his perspective and work out a solution. This really cannot continue. The present situation is awful for everyone.

Garry Wyndham

Registered user

Midtown

6 hours ago

My wife and I had been very keen to add an ADU to our property in midtown Palo Alto. She had been one of the last teachers able to live in our neighborhood. We imagined our ADU enabling a young teacher to live nearby. Then we recalled our prior experiences with the Palo Alto planning authorities. We concluded that life is too short for foolish and unnecessary bureaucratic grief. No ADU for us.

Left of Boom

Registered user

Another Palo Alto neighborhood

6 hours ago

It took SIX MONTHS to get permission to connect to the grid from Rhonda after our 3.3kwh system was complete. Palo Alto is one of the least green cities in the area because of this ridiculous process.

Andrew Boone

Registered user
another community
6 hours ago

It would be interesting to see just how far behind Palo Alto is falling on solar power compared to neighboring cities. 115 installations per year sounds like a very low number for a city the size and wealth of Palo Alto. Bring some data on installations in other cities to the City Council and perhaps they'll change their anti-solar policies. Thank you David Coale for your long-term efforts advocating for sensible reforms. This type of work is super frustrating when the city is so unreasonable and so uncommitted to its own stated environmental goals.

Bearded Solar User

Registered user
Old Palo Alto
5 hours ago

Beard - I got so frustrated with the Palo Alto inspection situation that I decided to let my beard grow while waiting for inspection delays. I had a smallish system (14 panels) installed by a great contractor starting in late 2018. When the system was not finished by the estimated date (due to exactly what is described in the article - multiple City inspection issues), I decided to let my beard grow as a way of marking time (and my frustration). Several months of delay (and several thousand dollars of increased cost for me) resulted in a vigorous beard growth. (With pictures to document it!). I even remember personally calling some of the City of PA managers named in the article to see what the delays were being caused by. Luckily, my excellent contractor persisted and the job was eventually completed (in a new tax year...) and continues to do well (and charge my car) today.

I heartily endorse the recommendations to change the 'culture' of that office - I remember concluding that they were seemed capricious and rather inept at the time but my system was complete and I moved on to other things.

And, I finally shaved my beard when my solar system was done in 2019. (Pictures available on request.)

Carol Scott

Registered user
Evergreen Park
5 hours ago

Something must be wrong with the culture among City Staff. One would think that a City of this kind would create strong morale among the City staff based on a culture of excellence. It is fun to work around smart colleagues who get things done and are proud of being good at what they do. I wish we had that in our City. The sad part is that a lot of City staff I talk to would like to do a better job, but they are stymied by those above them in the hierarchy. Many would like to treat residents better, but the 'tone at the top' is that the City is controlled by a few large property owners and developers. All else is unimportant. So, the willing Staff are demoralized instead of energized to do their best work. As in any organization, the direction is set at the top -- from Council to City Manager to Senior Staff on down.

Online Name

Registered user
Embarcadero Oaks/Leland
4 hours ago

@Carol Scott, absolutely!

It would be special for the highly paid City Manager to respond substantively on the city's their inability to manage programs like this and/or the RPP program that's generating so many posts on Next Door.

It's especially timely now before they rush to "streamline" the now \$98,000,000 Fiber-to-the-Home project AND/or embark on a new initiative for the community to talk to each other!! (as per #9 on Monday's City Council agenda). [Web Link](#)

While communicating with each other is ducky and something many of us have already mastered individually and via neighborhood assns etc. -- it would be preferable to get Mr. Shikada and his direct reports to communicate WITH US in a forum where they actually responded to our questions.

Thoughts? Too radical? Too soon? Too late?

Mark

Registered user
Old Palo Alto
3 hours ago

This article accurately reflects my experience. Palo Alto was responsive, reasonable and timely in permitting and inspections overall, except for the solar panel. It was very hard to convince the installer to agree to work in Palo Alto, and we did run into long response times for permits and inspections, as were required to undertake additional work. For example, we were required to have a structural engineer conduct and document wind shear calculations to confirm that the stand-downs, frame and panels would not fly off in a windstorm. Electrical panels are supposed to be torque set, so that is not in and of itself unreasonable. But, in speaking to several in the electrical trades, they felt that the mentioned inspector treats them on a demeaning way -- i.e., a hostile work environment -- so they don't want to work in Palo Alto and don't need to.

Separately, I would urge the Palo Alto utility department to offer electrical usage meters that display clearly whether the solar panels on the roof are operating or not. (Sometime the inverters go offline.) It was easy to see which way the meter was spinning on the old meters. It is almost impossible to see via the digital ones Palo Alto spec'd. I would have thought that Palo Alto Utility would have specified meters that are designed specifically to display both street power and solar power clearly. (And, our billing should as well.)

Anna

Registered user
Green Acres
2 hours ago

This echoes an experience I had with a solar installation. 1000% agree that the city should outsource the entire permitting department. That my tax dollars fund such smug, inept, bureaucrats who's own agendas and power issues are legitimately impeding people trying to do the right thing and do some good for the planet is absolutely maddening.

Would the council just take a straight vote on this? Do we need a ballot initiative? The latter sure sounds like a lot of work just to get out of a hole we shouldn't be standing in in the first place.

>> Lait assured the commission that he is taking the report's recommendations and the contractors' comments "very seriously."

Why am I not reassured by Mr. Lait's platitudes? In the private sector he'd be long fired before t. but to be fair he may be unable to purge his department of toxic actors so even if he wants results he cannot get them.

Thanks for the article and please keep this in the public eye.

Seer

Registered user
Greenmeadow
on May 22, 2021 at 1:15 am

The entire planning department and approval is a mess in Palo Alto. It's slow, they lost our plans, want everything in paper. Paper.

But solar is the worst. We had to work with Cobalt because they're one of the few games in town and so they can charge lots for it. I mean substantially more expensive above and beyond the \$2500 extra fee.

Outsource of the department already It will be cheaper for both the city and the residence.

Bob Wenzlau

Registered user
Crescent Park
on May 22, 2021 at 7:42 am

Correcting this approval process would do more toward the goals of our Sustainability / Climate Action Plan than scheming new goals and programs. We might have lofty goals, but if we have a broken process, we can never achieve to good work our community desires to achieve on climate.

Bravo to David Coale for taking the risk to call this to our attention, and to the Weekly for investing the time to help the City move forward on climate.

(An equivalent climate obstacle is the process of shifting from gas water heaters to heat-pump electric based water heaters. The "switch" to these heaters occurs when the old one breaks, yet the City can require up to 8 weeks to permit and inspect a replacement heat pump water heater - not a viable option when the heater is broken. The City needs to partner with their contractors to enable a switch that can occur in a manageable timeframe, otherwise we will never get off gas. Imagine the climate impact if 1,000 water heaters a year upon failure are replaced in Palo Alto by heat pump water heaters. A huge opportunity on climate progress we miss by precluding the switch due to our careful Palo Alto "process".)

Chris C.

Registered user
Community Center
on May 22, 2021 at 9:24 am

I wish this was fixed. I want to upgrade the solar system on my house (add more panels), but I can't even get a contractor to quote me on it, let alone get to permitting. I can only assume this is because of a lack of contractors willing to work in our city (and the huge runaround our original contractor got when they installed the system I have...).

Anonymous

Registered user
Charleston Meadows
on May 22, 2021 at 10:56 am

Rhonda Parkhurst wrote a manual called: Photovoltaic Power Systems for Inspectors & Plan Reviewers.

When you literally write the book on how to do inspections, you probably hold yourself to a higher standard.

People would do well to buy the book and follow it exactly. Then at least you can quote Rhonda back to Rhonda when she argues with you.

Local Resident

Registered user
Community Center
on May 22, 2021 at 11:48 am

@Anonymous "Rhonda Parkhurst wrote a manual called: Photovoltaic Power Systems for Inspectors & Plan Reviewers."

Actually that manual was written by John Wiles. Search Google or Amazon. A simple search shows she did not write a publication with that title or if she did then it is obscure.

Me 2

Registered user
Old Palo Alto
on May 22, 2021 at 2:16 pm

"The nine most terrifying words in the English language are: I'm from the Government, and I'm here to help. "

Steve Dabrowski

Registered user
Duveneck/St. Francis
on May 22, 2021 at 6:00 pm

Part of the issue stems from inspector's fears of being held responsible for anything going wrong after the work is approved. Many inspectors are called on to sign off on things that are beyond their expertise and to compensate resort to over the top requirements in order to feel safe.

I recall an instance when my company was installing a microwave radio link in another city and an inspection was required on an antenna placed on an existing radio tower. This was a small dish antenna and a pipe mount attached to one of the tower legs using commercial components long common in the industry. I had scheduled the inspection and had driven about halfway to the site for the appointment when I got a call from the city inspector who informed me that I would have to get an engineering firm to certify the installation was done properly because he was not an expert. I replied that I had paid his city for the inspection and that I expected it to be done. He showed up and admitted he had gotten stuck with a job for which he had no knowledge. I showed him how it all went together and he checked the grounding and signed it off-but it just shows that permitting is little more than a cash cow for cities-it adds little value.

In years past inspectors were willing to help by just pointing out issues that might go unnoticed, but power has gone to their heads. The city manager and the managers in the building department should be severely taken to task for this, but don't hold your breath.

Online Name

Registered user
Embarcadero Oaks/Leland
on May 22, 2021 at 7:08 pm

"The city declined to make Parkhurst available for an interview for this article. Planning Director Jonathan Lait said he is unable to discuss personnel issues involving individual employees, though he noted that the city has recently made moves to reform and improve its inspection process. Under one recently adopted procedure, building inspectors now work in pairs — an approach that allows them to learn from each other and that aims to "reinforce a common approach to customer service.""

1) Why is Parkhurst still employed there? 2) What else could Mr. Lait possibly need to "manage" his employees? 3) How much does /will this double-teaming of staff cost applicants? 4) What does it take to

make the city improve and hold them accountable -- lawsuits for the extra incurred costs? 5) Does Mr. Lait's boss Mr. Shikada have any comments? 6) What's City Council doing about this?

Neal

Registered user
Community Center
on May 24, 2021 at 6:40 am

The question is.....will the building department fire RP or will they circle the wagons?

Banes

Registered user
Palo Alto Hills
on May 24, 2021 at 11:24 am

Alert! Warning Signs! Does anyone know where these over zealous inspectors came from? I will tell you first hand that there are some county's & city inspectors where their entire departments are corrupted and takes bribes or you get no permit sign off. Little ever gets done because the Permit Resource management inspectors expect major bribes from the local contractors and homeowners. Sonoma County for well known for this practice.

Don't waste your time going to their Supervisors, they are probably getting their share also. Go to the elected County or City Supervisors. Collect stories through Social media, Nextdoor, FB or begin a searchable FB page for communicating these crimes of the permit inspectors.

Once it gets out of control, there is no going back. Sonoma County is the most corrupt I have ever seen as their Supervisors and the county sheriff department are all part of it. They issue liens if you have not paid them off (But how do you ask what's your bribe number right up front) after you have done everything possible to comply jumping through their hoops, getting expensive, unnecessary surveys they still harass you. They probably issued several thousand abatement liens during 2020, a worldwide no work year, rendering as many homes uninsured, un replaceable in wake of the next fire season (or floods) — For which they have no problem calling the federal government for financial assistance, Fema and the national guard routinely every year.

Don't let pristine Palo Alto turn into "Deliverance" Sonoma County.

Don't take this, start searchable social media pages. Ask Them right up front what their bribe cost is and make sure you have a recorder on you ha ha.

It is very easy for them to turn corrupt when they are given God like unquestionable powers. Law suits are expensive and so are "experts" but communicating this before it goes entirely south is essential!

DUI in Sonoma County? The sheriffs park in wait for visitors at wine events,

Bystander

Registered user
Another Palo Alto neighborhood
on May 24, 2021 at 12:12 pm

Over the weekend I heard of one place that has been waiting for inspection/permit to be granted to upgrade and make more safe a children's play area.

It is completely mind boggling that upgrading safety and outdated children's play areas are being prevented by red tape. Palo Alto, get your planning department sorted out!

Online Name

Registered user

Embarcadero Oaks/Leland
on May 24, 2021 at 12:14 pm

How wonderful that Palo Alto can afford to double-team inspectors to cover up for a poorly performing staffer when we can't "afford" to open our libraries with a full schedule. (I just checked Rinconada hours and found it's totally closed THREE full days a week and only partially open the rest of the time and only open ONE evening a week and ONE weekend day. So much for working families!)

I'd love to see a salary comparison of the librarians and the "Planning" Dept and the solar permitting team that have cost so many people so much time and money!

I also wonder if they're slow-walking those permits to keep the CPAU's coffers full by delaying the transition to solar.

The Facts

Registered user
Crescent Park
on May 24, 2021 at 1:11 pm

"Power Play. Adversarial. Extraordinary demands not in the Code. Etc."

The neighboring City of Los Altos recently saw the following City agents dismissed the past couple+ years: City Manager Chris Jordan, Asst City Manager Jon Biggs, Building Official Kirk Ballard, Planning Directors David Kornfield and Zach Dahl, City Attorney Chris Diaz. That's just a start as there are several more that were fired. On Council former Mayor Jean Mordo was booted out as was Bruins, Prochnow, etc.

Why?

City agents engaged in power play tinged with racism, bigotry and such against a homeowner. The homeowner was prohibited from what was permitted in the Code, required to comply with extraordinary demands NOT in the Code and penalized for failure to comply immediately, etc. Meanwhile the City granted permits to (white) homeowners that were prohibited by the Code, approved fraudulent project plans misrepresenting setbacks, overlooked failures to comply with the Fire Code, and retaliated against those who filed complaints concerning those violations. All this was endorsed and approved by four (white) Council members and given legal cover by the City Attorney and his law firm, evidence of which is available via the City's own records and thus irrefutable. Add to that fraud on the Court committed by the City's officials abetted by the City's attorneys (all now former, having been terminated) to which the Building Official admitted: perjury, false testimony, fraudulent evidence, etc.

A Federal Judge stripped the City Manager and Building Official of immunity. i.e., those two are now personally liable. At trial we can expect Mayor Mordo and former Council members and the former City Attorneys, including white homeowners that were part of this conspiracy, to be questioned and held to answer, under penalty of perjury.

All it takes is for one person to stand up and hold the bad actors to account. And that is happening in Los Altos. When would it happen in Palo Alto? Or other cities? And as long as we don't do something these City officials and those we entrust to oversee them (i.e., Council members) would continue to operate with complete disregard for us and our rights.

Craig

Registered user
Barron Park
on May 24, 2021 at 6:32 pm

The department was a nightmare, inventing requirements in 1992 when I did an addition. Two years ago when I put in an EV charger, permitting took hours of my time and weeks of delay. And, yes, there was the

infamous torque requirement that's unique to Palo Alto! I'm quite confident the electrician charged me more for the hassle.

DTN Paul

Registered user
Downtown North
on May 25, 2021 at 3:15 pm

I have to agree with the commenter from Embarcadero Oaks/Leland who was commenting about the absurdity of having two inspectors do inspections together when the issue is that inspections take too long. I'm not a genius, but cutting capacity in half is rarely the answer for increasing throughput.

Larry

Registered user
Downtown North
on May 25, 2021 at 8:13 pm

Sounds like we need to change the Planning Department staff and management compensation to minimum wage plus a hefty bonus for each completed project. That will change their culture overnight, guaranteed.

David

Registered user
Crescent Park
on May 26, 2021 at 7:05 am

I am trying to reduce my energy consumption from the grid and decarbonize my house and cars. I feel like CPAU's renewable electricity program is not good enough since it ties into PG&E's grid which is supplied with mixed energy sources. While the city contributes clean energy and tries to do its part, this still feels like greenwashing to me. Accordingly, I was really excited to install solar panels to offset almost all of my electricity needs and Powerwall units to buffer my usage during peak hours. I was even willing to pay an energy premium even after taking the Federal solar tax credit into account. However, after waiting an entire year from when I signed with my solar installer and being stalled in the permitting process for 6+ months, I gave up and cancelled the project (and forfeited my deposit). Despite my desire to significantly reduce my emissions, I don't know if I have the stomach to try again here in Palo Alto. I would love to see statistics on how many solar permits are requested but end up being cancelled, rather than how many were approved. That would show how badly our permitting process is hurting the City Council's goal for an 80% reduction by 2030.

The man

Registered user
Old Palo Alto
on May 26, 2021 at 12:31 pm

Speaking from Extensive Experience with the Building Dept
There's 2 basic kinds of Inspectors

The inspectors that want to help and to try really hard to assure a great job is done and are not looking for excuses to fail or insist on work not legally required

The inspectors that is always trying to prove that they are knowledgeable about being able to read the code book but have little or no actual real work experience on the work itself and want to fail so they can return again and again

Unfortunately the inspectors are NOT liable for any inconvenience and or mistakes they make costing the contractor/homeowners more money when they do make mistakes and they do make mistakes requiring extra materials and labor not legally required by code

It's NOT their money
they only make the following
most inspectors make between \$140,000
&
\$200,000

The man

Registered user
Old Palo Alto
on May 26, 2021 at 10:42 pm

Costing
Taxpayers over \$196,000
Last year RP
Rhonda Parkhurst is just one example of
How insane the Building Dept has become while the city is cutting our children Theater & library hours
Wow I'm sure \$200,000 could certainly provide better services to our children
& replace her with outside contract inspectors several individuals have already expressed doubts about her
in particular
Why is she still on the payroll
Just curious

Seer

Registered user
Barron Park
on May 27, 2021 at 1:20 pm

I think I said before. The planning department lost our plans. Their attitude is "FU, your problem", so we replaced the plans and added a couple weeks while they trundled them through + more than a hundred dollars for new paper. Who cares right?

Citizens have no power to complain because they'll stick it to you and we talked to the then-mayor -- he wouldn't touch the issue.

During the pandemic, the city planner came up with the brilliant idea of cutting inspectors. Not only do we pay for inspectors by fees, pay extra via delays ... but the delays cause tax revenues to be lost. Brilliant!

Solar is a whole other issue, but our over-regulated minded, slow and sloppy department increases the cost by thousands to tens of thousands of dollars. The department and city planner could give a rats arse. The city council is responsible for this. FIX IT!

SKGFM

Registered user
Palo Verde
on May 27, 2021 at 6:48 pm

100% agree with this article. I recently had Tesla Solar out and the guy told me the city has basically made it impossible to find a suitable location to put a Tesla Powerwall - has to be so many inches from a window, door, electric panel etc. Tesla told me they will not take on the project. The city is forcing us to burn more fossil fuels with these burdensome regulations. At least we have low electricity rates so let's just keep consuming those non renewable resources.

Common Sense Speaks

Registered user
Another Palo Alto neighborhood
on May 28, 2021 at 7:24 pm

My Experience with inspectors is that they face pressure from industry and the "The Facts from Crescent" is a bully.

As someone who has dealt with unscrupulous 1 to 10 level of 10 contractors, they all buck at following the minimal rules required to keep our county safe and homeowners safe. Just think of the homeowners who would have bought home unknowingly and/or trustingly over a wetland drained swamp with unstable soil and sea level rise.

The rules are the minimum for safety: fire, earthquake.... They are doable. Loss of documents in underfunded departments happens. Guess what paying fair progressive equitable taxes means a better working government administration. They need to be held accountable but also be given the resources they need.

Firing these people I hope was done hesitantly.

Pursuing individual inspectors for liability is abusing the judicial system 90% of the time.

Knowing how people in the peninsula can throw their money bag weight around - this is all shenanigans trying to get away with lower quality and safety in building.

Other advanced countries have more rules. Which road the high road or the low road.

GB all those who stand up to bullies esp the city inspectors, and elected officials.

Chris brown

Registered user
Community Center
on May 29, 2021 at 7:39 am

I agree 100% with these comments. We had a furnace/AC unit installed and many contractors we contacted refused to bid in Palo Alto due to the city reputation for being difficult to work with. The city's poor reputation probably adds 10-20% to the cost of any construction project due to lesser amount of contractors willing to bid the project.

The city was difficult on our project too. A garden variety furnace/AC installation, they wanted special fuses to be installed that were not required by the California building code. Resulted in a delay in the project which was a pain as it was cold in the winter and we had no heat for additional 5 days.

The head of the inspection department should be fired for his poor customer service attitude. So should the City Council.

Online Name

Registered user
Embarcadero Oaks/Leland
on May 29, 2021 at 10:42 am

"The head of the inspection department should be fired for his poor customer service attitude. So should the City Council."

So should the City Manager and head of Planning. As for the City Council, it was the previous Council under former Mayor Liz Kniss who insisted that the present City Manager be the ONLY candidate interviewed AND that he be granted an extra year's salary, benefits and pension vesting if he were to be fired for cause or forced to resign under pressure. (Look it up!)

With that kind of money on the table, he's got absolutely no incentive to perform well.

In the Public Interest

Solar Permitting In Palo Alto



City of Palo Alto [Follow](#)

May 28 · 7 min read

Learn more about recent changes made and what's in the works to streamline the process and increase customer service

By Jonathan Lait, Palo Alto Planning and Development Services Director



CITY OF
PALO ALTO

I take the recent concerns raised about the City of Palo Alto's solar permitting processes seriously and through this communication, would like to both acknowledge several issues raised through a recent article and also directly to me, and share my commitment to customer service and safety as key areas of focus looking forward.

Solar installations are an important aspect of the City's overall focus on sustainability and addressing climate change. The City's Utilities, Planning, Building and Fire departments have key roles implementing this priority. Together we are making changes to our permit and inspection procedures to streamline our review, offer consistent guidance, and balance our obligation to ensure these systems are installed safely while supporting the expansion of solar energy throughout the City.

Below I share specific changes we have made and are working on to reaffirm our commitment to customer service and improve our solar permitting and inspection

efforts. I provide an email address where customers can connect with me directly on issues they are faced with or ask questions and lastly, offer a look forward on other areas of focus.

RECENT CHANGES IMPLEMENTED, MORE TO COME

Solar energy is a rapidly changing field and we are doing our best to keep up with technology despite declining budgets and reduced staff levels. The pandemic has exacerbated existing issues with our approach to permitting and our efforts to stand up a remote permitting operation, while largely successful, created new problems. Some of the problems included onerous requirements for applicants to 'bookmark' electronic plan sets. Another technical glitch resulted in some plans being relegated into a digital black hole where the application was not visible to staff. Though the bookmarking practice has since been abandoned and technical issue resolved, for many applicants this created significant delays and understandable frustration.

We are making other changes to our permitting process and have recently reduced and recommitted to our plan review timelines for electrification-related permits, which include solar panels, energy storage systems, vehicle chargers, heat pump water heaters, and heat pump furnaces. Residential electrification permit applications filed today will receive an initial response from the City within 14 days and some within five days. Larger installations greater than 10kw or commercial installations are reviewed within 30 days. We have also improved our internal performance tracking of these permits to ensure we meet these targets.

SHORTENING PERMITTING PROCESSING, INCREASING CONSISTENCY & MINIMIZING WAIT TIMES

We have heard complaints about excessive resubmittals to obtain a building permit, which adds time and costs to solar permit processing. I agree, and here is how we will address this. For starters, we are offering virtual meetings with applicants and any City department that has outstanding corrections after the second resubmittal. The intent of these meetings is to shortcut further resubmittals and focus our efforts on building permit issuance, when feasible.

Additionally, we are currently working on a consolidated plan review checklist for each residential and commercial electrification project type. This checklist will include requirements from each reviewing department and posted online so homeowners and contractors know in advance what is required to obtain an electrification permit. We will

review these requirements and reference them to applicable State and local codes to verify what we are asking for is supported by a regulatory framework. A similar process is underway for our inspection program.

Our aim with inspections is to clearly share with contractors what we are going to look at in the field. For installations that meet these basic minimum safety requirements, no further inspection will be required. A failed inspection will specifically focus on those items that did not pass. However, as a regulatory agency committed to public safety, our inspectors will continue to exercise their professional judgement when needed to address other obvious compliance deficiencies. We will continue to strive to balance the need for safety, quality craftsmanship and the efficient processing of these electrification permits.

To improve consistency in our approach to inspections we are, for a limited duration, pairing up inspectors for technical cross training purposes and to reinforce a culture of professionalism and a commitment to customer service that reflects our shared interest to advance solar energy solutions in our community. Moreover, our building inspectors are now being trained by Utility and Fire department staff to verify compliance with certain residential solar projects to consolidate inspections and minimize the time a contractor needs to be onsite for these projects. For larger projects we are exploring opportunities to coordinate City inspection times for the same purpose of minimizing wait times.

IMPLEMENTING STATE CODES & SURVEYING OTHER JURISDICTIONS

Another complaint we hear is that Palo Alto has different requirements than other jurisdictions. All California jurisdictions are expected to follow the State's International Building (Fire and Residential) Codes and Uniform Mechanical (Plumbing) Codes and National Electric Codes. Municipalities can adopt local amendments to the State codes and Palo Alto has done that in the past with its aggressive energy reach and green building codes. These amendments reflect local policy interests in the area of sustainability to reduce our carbon footprint. To the extent our local amendments are different from other jurisdictions in this regard reflects local policy direction.

Palo Alto is also different from most jurisdictions in that it provides its own utility service where most properties within the City are not served by Pacific Gas & Electric. This comparison to PG&E, which does have different requirements for alternating current

disconnects, it does present an opportunity for evaluation of our local requirements. The City's Utility department is conducting a survey of other utility providers to better understand ways the City's requirements differ. We intend to present those findings and make any recommendations to the City's Utility Advisory Commission (UAC) on August 4, 2021. At the UAC meeting, we also intend to identify other locally unique regulations or policies and recommend possible changes to the City's zoning regulations to facilitate the installation of electrification equipment.

COMMITMENT TO IMPROVE

Criticism that Palo Alto's permitting and inspection services have driven away solar contractors and increased the cost to Palo Altans to install solar infrastructure is a significant concern. I am committed to improving these processes to facilitate the installation of all electrification equipment, including solar energy, vehicle charging stations, battery storage and heat pump installations. While the profit margin for some solar installers may be too low to work in Palo Alto due to the City's lower user utility rates compared to PG&E, additional costs associated with protracted permit processing times and unpredictable inspection services are mitigable and should not be a barrier to those interested in doing work in the City. To those contractors who now decline work in Palo Alto, I encourage you to reconsider this decision and give us another chance to show our commitment to the industry and our commitment to the Palo Alto owners and occupants who we ultimately serve.

While we have made progress implementing several changes, there remains much work still to do. We are in transition and working every day to improve our service delivery, ensure safe systems and streamline our processes. To help us achieve continued improvement, we are finalizing an online survey to gain real time service level feedback. In addition, I have set up a dedicated email address to answer questions about our program, the changes we are making and to follow-up on concerns regarding any active, pending or anticipated installation, including concerns about excessive inspections. Please email me at pdsdirector@cityofpaloalto.org.

LOOKING FORWARD

Until we are able to demonstrate improvement to our permitting and inspection process, our performance understandably will remain vulnerable to criticism. This does not mean however that we will compromise our integrity, accept poor quality construction or fail to inspect minimum safety or performance standards. This is a responsibility we

have to our profession, Palo Altans, and installers doing work in this City. We can make changes to streamline our operations and also set reasonable expectations for contractors to perform at their best in Palo Alto.

Feedback on our performance is an area we will continue to expand upon for all customer touchpoints and this information will be shared online. After we have established some of the changes noted above, we will reach out to solar contractors and others involved in electrification efforts to encourage their work in Palo Alto and we will review our performance and feedback regularly and adjust. We will continue to check in with the UAC through next Spring to report on our efforts, successes, and continued opportunities for improvement.

Further, we have some upgrades to make to our website to centralize information online, including technical details that aid contractors in meeting certain requirements. We will explore technological solutions and applications that facilitate permitting and participate with regional entities focused on electrification efforts at the local level.

In the nearer term, our permitting process will soon transition into a hybrid in-person and remote service offering customers a choice in how they want to engage with our permitting staff. We currently offer virtual appointments for application submittal, which based on early survey results, has been a positive experience for our users. We hope to expand this service.

In closing, it is my goal to implement sustained reforms that make it clear what it takes to pull an electrification permit in Palo Alto, provide a measure of predictability in our inspection procedures and transparency in our performance to reach and maintain our review timelines. As we roll out new changes soon, I would appreciate hearing from the community and contractors working with us to learn how it is going.

- Jonathan Lait

Silicon Valley Construction Solar Climate Change Community

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Palo Alto takes heat over solar permitting

As contractors opt out, city looks to tame its unruly process

by **Gennady Sheyner** / Palo Alto Weekly

Uploaded: Fri, May 21, 2021, 6:59 am

Barry Cinnamon is a true believer when it comes to solar power.

For the past 20 years, his Campbell-based company, Cinnamon Energy Systems, has been installing solar panels and energy storage systems all over the Peninsula — with one notable exception. About 10 years ago, he decided to stop working in Palo Alto — stifled by the high costs and city's chronic permitting delays.

"Palo Alto is so bad with solar permitting that every single reputable solar company has basically abandoned and refused to do solar and solar storage work in Palo Alto," Cinnamon told this news organization in a recent interview. "It's so expensive, time consuming and frustrating."

He recalled the 2010 incident that made him throw in the towel. First, the city requested that he provide them with a printed installation manual for the solar inverter that his company was installing, even though it was available online. After he submitted one — and waited more than three weeks for a response — the city requested a specification for a bracket he would use to attach the inverter to the wall. He provided that and waited a few more weeks. Then he was asked to provide engineering drawings for the screws he would use to attach the bracket that affixes the inverter to the wall. Then more waiting.

By the time Cinnamon was asked for specifications for the torque tool his company was using to drill in the screws for the bracket, he had accumulated a 5-inch-thick loose-leaf notebook of engineering plans and supporting documents.

And he'd had enough.

"I called the customer and said, 'We're done.' We walked away and gave the customer's deposit back," Cinnamon said. "We saw that this is never going to end."

Cinnamon is hardly alone. Contractors and Palo Alto residents are awash with horror stories about the city's permitting process, whether for solar systems, generators or electric vehicle chargers. Some companies, like Cinnamon's, now stay away from Palo Alto altogether. Others, like Cobalt Power, add a \$2,500 surcharge when installing in Palo Alto, according to emails from the company that the Utilities Advisory Commission saw last month.

"It's a shame because Palo Alto has so many residents who really care about the environment, are concerned about climate change and want to do something to help," Cobalt CEO Mark Byington told this news organization in an email.

Cobalt, he noted, has "hung in there" and continues to work in the city. There are people in Development Services who really care about what they do and try to serve the community, Byington said.

"But other times personalities get in the way, and it seems to take on a life of its own, and becomes a power play or an adversarial situation," he said.

While Palo Alto's permitting snafus are far from new, they have become more pronounced as more residents switch to electric vehicles, put up solar panels and install energy solar systems like Tesla's Powerwall — a trend that the city ostensibly encourages. The City Council's plan to reduce carbon emissions by 80% by 2030, with 1990 as the baseline, banks on widespread electrification of cars and buildings. The city's implementation plan includes the policy: "Increase energy resilience by assessing opportunities for local distributed energy resources, energy storage, microgrid installations, and home-to-grid." The goal, already viewed by many as aspirational, will be practically impossible if the cost of going electric remains prohibitively high for potential customers and area contractors.

The Utilities Advisory Commission acknowledged that at its [April 7 meeting](#) when it discussed the city's permitting process and generally agreed that it needs to be reformed.

"This issue does appear to be acute at this point," Chair Lisa Forssell said. "Taken specifically in light of the city's sustainability goals — 80x30, (with) electrification being a major component of that — it's really important to make it as streamlined as possible."

Contractors and residents offer a variety of reasons for the delays: confusing rules; uniquely rigorous requirements; and inspectors who seem to go out of their way to make the process as long and as painful as possible.

Several contractors, including Cinnamon, speculate that the city has a financial incentive not to approve solar installations. Palo Alto, after all, owns its own municipal utility, which sells electricity to customers. More solar panels and energy storage systems, the thinking goes, means less reliance by local homeowners on the city's utilities.

"I have to hand it to the city. It's commendable that electric rates in Palo Alto are cheaper than electric rates in PG&E. That's great. But the city makes money by selling electricity, and that money goes to support everything going on in the city," Cinnamon said.

David Coale, a solar installer and board member in the advocacy group Carbon Free Palo Alto, thinks the issues have more to do with City Hall culture. Coale has been advocating for reforms to Palo Alto's permitting process for nearly two decades. He suggested at the April 7 meeting of the utilities panel that it's time for the city to simply outsource permitting. The city, he said, has proven that it either doesn't want to — or can't — fix the problems.

"It will be difficult to fix it with the same culture and same personnel that are still there," Coale said at the hearing. "And it's an ongoing problem. It's a proven problem that's long overdue to be fixed."

In recent interviews, Coale was one of several contractors who singled out inspector Rhonda Parkhurst, a national expert in electric systems whose passion for imposing requirements that don't exist anywhere else has helped drive contractors out of the city. Some inspectors, Coale said, won't leave a job unless they find something wrong and make you fix it. Parkhurst, he said, seems to go out of her way to make things difficult for solar installers. (Several other contractors echoed that assessment.)

"The torque test that they do on mechanical and electrical systems — no other jurisdiction does that. And if you have Rhonda as an inspector, she'll point at the most difficult panel to reach 100% of the time," Coale said.

The city declined to make Parkhurst available for an interview for this article. Planning Director Jonathan Lait said he is unable to discuss personnel issues involving individual employees, though he noted that the city has recently made moves to reform and improve its inspection process. Under one recently adopted procedure, building inspectors now work in pairs — an approach that allows them to learn from each other and that aims to "reinforce a common approach to customer service."

The city has also taken steps to improve coordination between inspectors from different departments. For smaller projects, a building inspector can now perform inspections that previously required separate visits from Development Services, Fire and Utilities. For larger and more complex ones, the departments are coordinating their visits to avoid having to perform inspections at different times of the day — a move that he said will save customers time.

"We want to perform this work with a focus on customer service that is consistent, professional and respectful of our time and their time," Lait said.

Lait also rejected any insinuation that the city's status as a seller of electricity creates an incentive for its inspectors to slow down solar panel installations. Delaying installations, he said, would run completely against the city's values and its focus on sustainability, he said.

"Rolling out solar energy in the city is a council priority. It's a priority shared by Utilities and the Planning and Development Services departments, and we're committed to serving these efforts."

But environmental activists like Coale, who is working with Palo Alto to help reform its permitting process, say the city has historically made it hard to even broach the subject of easing some of the existing requirements.

"When you start, they immediately go to, 'You want us to make it more unsafe?' That's the type of conversations they hold. At one meeting I was called an arsonist — like I wanted to burn houses down," Coale said.

That conversation, however, is starting to evolve. Last month, city staff and the Utilities Advisory Commission acknowledged that Palo Alto's requirements for solar installations are indeed tougher than they are elsewhere and that the city needs to reform — and speed up — its permitting process.

There's little doubt, however, that the city's ownership of its utilities contributes to the permitting snags that customers often experience. Permit approvals in Palo Alto require coordination between the Development Services, Fire and Utilities departments, which until recently often entailed multiple inspections by representatives from the different departments.

In addition to the building permit application, Palo Alto customers are required to submit an interconnection agreement with detailed information about the photovoltaic system for review by the Utilities Department. This review includes confirmation by Utilities that the system meets a long list of requirements, including the ability to shut off the power in each battery or powerwall and a dedicated disconnect system for the photovoltaic system — requirements that do not exist in neighboring jurisdictions.

Don Jackson, who concluded his term on the Utilities Advisory Commission last week, compared the experience of installing a solar installation in Palo Alto and meeting all the interconnection requirements to refinancing a mortgage. At the April 7 discussion, Jackson urged the city to take a close look at these requirements and revise them so as to "optimize the cost of complexity of electrification projects."

"We're really trying to push the envelope on electrification," Jackson said. "We have aggressive goals. We're trying to be a leader to the region, to the rest of the state, to the rest of the country, and our interconnection requirements and code have to support that. ... We're really shooting ourselves and our residents in the feet here."

For Jackson, the issue hits particularly close to home. In a recent interview, he recalled his own experience in looking for a contractor to install an electric storage system at his home.

Alto because we don't serve Palo Alto," said Jackson, who was speaking as an individual and not as a representative of the commission. "They don't go into a lot of reasons why, but when you put that experience with what you've heard, it's easy to see why they're saying that. There are easier places for them to do business and they prefer to do business in those areas."

To be sure, customer experiences aren't uniformly bad. Permits to install small photovoltaic systems — up to 10 kilowatts — can be obtained quickly through an over-the-counter process. Larger and more complex systems, however, have to go through the "express" or "regular" process, with the latter reserved for more complex projects, including those that contain multiple systems (such as solar panels, electric vehicle charging stations and storage systems). And despite the procedural maze that contractors are often forced to run through, many residents remain committed to electrifying their homes, cars and appliances and to install solar panels.

According to a [report](#) from TRC, a firm that the city commissioned to review its permitting process, the city approved 115 permits for photovoltaic systems in 2020, up from 99 in 2019 and 100 in 2018. The report does not list the number of permits it has approved for electric storage systems, though Jackson estimated that there are about 20 such installations in Palo Alto.

Nancy Cohen, a resident of Barron Park, said she was able to get through the permitting process for solar panels at her home in just a few weeks. The process was so easy that the only problem she had encountered with her system was when one of her grandchildren hit the GFCI button, which knocked off power. Cohen, who installed her panels in 2017, said enjoys both the environmental and economical benefits of generating electricity at her own home.

"I go many months of the year with no electric bill," Cohen said.

Jackson also noted that he had no problems with the city's permitting process when undertaking other projects — namely, installations of an electric HVAC unit and an electric water heater — but things became more opaque and difficult when he began to plan out his solar project, which includes panels and a storage system.

Much of the difficulty, he said, stems from the fact that both solar panels and electric storage systems are relatively new technologies. The building code is "outmoded" and does not keep up with the latest advances, he suggested.

"Rapidly evolving space is not something that building codes are optimized around," Jackson said in an interview.

The report from TRC, which surveyed 13 county jurisdictions, largely supports the prevalent view that Palo Alto's permitting process is longer, more complex and more difficult than it is elsewhere. It includes a "pre-application" phase, which other cities lack, and a host of requirements that go "above and beyond neighboring jurisdictions," the report states.

These include a dedicated AC disconnect for photovoltaic systems; separate shutoffs for photovoltaics and energy storage systems in projects that include both components; and a requirement that utility applications be submitted during the building permit process, even though key details of the new system — including size and specification — may not yet be finalized.

The TRC report notes that the city's inspection checklists are also "longer than (in) other jurisdictions" and include requirements for a placard diagramming where all the shutoffs are located. The report concluded that while Palo Alto's "over-the-counter" process is comparable to that in other jurisdictions, its timelines for both "express" and "regular" plan reviews are generally longer by comparison.

Contractors who were interviewed by TRC "consistently reported that inspections for residential PV, EV charging, and ESS were excessively detailed and onerous compared to other jurisdictions, including requirements such as torquing all connections," the report states.

"Because of those detailed inspection procedures, contractors also reported that the electrical inspector often splits inspections for PV systems into two separate visits (not counting re-inspection for correcting errors), contrary to the state mandates requiring a single inspection for small residential PV systems," the report states, alluding to [Assembly Bill 2188](#), a 2014 law that requires a streamlined, over-the-counter process with a single inspection for solar installations with up to 10 kilowatts. (The law still provides for longer time-frames when larger systems are involved.)

The pandemic has only worsened the city's permitting problems by forcing Development Services to close its counters and shift its services online, according to city staff and TRC. Removing face-to-face counter hours, the report noted, "inevitably slows the review process for some permit types and limits opportunities for collaboration and problem solving with customers, within the department, and with other departments such as Utilities."

Lait also suggested at the April 7 meeting that the pandemic has made the process more complicated.

"For the kind of work we would've done in office, we have to do three times as much remotely," Lait said during the April 7 discussion.

Now, in response to complaints from customers — some of whom had been trapped in the permitting system for six months or longer — and commissioners, the city is trying to avoid the pitfalls by encouraging more interactions between inspectors and contractors. Under a new procedure, the city now schedules virtual meetings with contractors whose applications require more than one submission, with the goal of resolving any snag early in the process.

Lait said the city is also reviewing the plan-check requirements from all of the departments and will be posting them online so that contractors "will not get caught off guard."

complaining about the fact that three different departments required him to include a disconnect on his system — which resulted in him having three disconnects. After a conversation that involved the chief building official and building inspectors, the city determined that the project actually requires just one disconnect, though another one may be needed in the future if the system is redesigned.

"These are the kinds of things we're working out," Lait said. "We're at a place where we're not out of the woods yet, but over time — and not over a long period of time — I'd expect the system to be a lot smoother than it has been, certainly over the past year, but even better than it was before. Because we expect a lot more applications to come in."

While COVID-19 exacerbated the city's permitting problems, numerous contractors have maintained that many of the issues — namely, the city's onerous requirements and rigid City Hall culture — precede the pandemic and will likely outlive it. The TRC report concluded that Development Services staff "lack clean guidance on plan review for new electrification technologies" and that Palo Alto's excessive inspection practices fail to comply with the state's inspection mandates for photovoltaic systems.

TRC recommended that the city "comply with state-mandated single inspection for PV systems and reduce the burden of electrical inspection by limiting the scope of the inspection to what is accessible at the time of inspection." It also urged the city to "eliminate requirements that exceed code or ordinance requirements" and that the city "improve communications with customers and contractors by consolidating information documents in a more accessible location."

Lait assured the commission that he is taking the report's recommendations and the contractors' comments "very seriously." He said he is working with the Utilities and Fire departments to eliminate the delays that continue to plague the process. He also pledged to talk to managers in the various departments about "what their responsibilities and authorities are" and suggested that recently hired inspectors will help address the cultural issues cited by Coale and others.

"While I acknowledge we still have a lot of familiar faces that are part of our program for a number of years — we also have some new people who are engaged in this and are motivated to make some changes," Lait said. "I'm a little bit more optimistic, but I understand why others might not be, about our ability to make some changes in this regard."

The Utilities Advisory Commission overwhelmingly agreed that the Palo Alto permitting process needs an overhaul, with numerous commissioners recommending that the city bring its requirements for photovoltaic systems into alignment with other cities'. Jackson suggested that the TRC report may have underplayed the city's permitting problems.

"It's not in the best interest of contractors to criticize the Palo Alto planning department on the record," Jackson said. "The report, as decent and good as it is — it's pretty seriously underestimating the size of the issue here."

Michael Danaher, who like Jackson concluded his commission tenure last week, recommended that the city "immediately suspend any requirements that aren't enforced by neighboring jurisdictions." The city, he said, should have "a high bar" for reinstating those requirements, or any new ones that aren't in place anywhere else.

"We need a procedural way to counterbalance institutional tendencies to be extra cautious," Danaher said.

Commissioner A.C. Johnston concurred and said the city should have a procedure for requiring the Utilities Department to "justify" any requirements that are not imposed by other jurisdictions. Commissioner Lauren Smith made a similar point.

"If it's OK in nearby jurisdictions, it should be OK in Palo Alto," Smith said. "That mostly makes sense to me. There's no reason to think that safety is no more of a priority in other local communities."

Lait committed to returning to the commission in about four months with a report about the progress the city has made in streamlining its permitting process. He also assured the commission that the city will address the "truly outrageous" turnaround times of four to five months that some customers have reportedly experienced over the past year.

"If we're asking for requirements that go above and beyond state law, clearly there's an area there that we need to take a look at and see why we're doing that," Lait said.

While Palo Alto is working to speed up its internal process, state legislators are also exploring ways to speed up permitting for solar installations across the Golden State — a key component in California's ambitious goal to cut greenhouse-gas emissions by 40% by 2030, with 1990 as the baseline. [Senate Bill 617](#), which is authored by State Sen. Scott Wiener, D-San Francisco, would require cities and counties to establish online systems that instantaneously issue permits for solar energy systems no larger than 38.4 kilowatts. Under the proposed legislation, cities with populations of 50,000 and higher would need to adopt such platforms by Sept. 30, 2022. Wiener noted in a statement that numerous Bay Area cities, including Pleasant Hill and San Jose, already use online permitting for solar installations. According to Wiener's office, San Jose has seen a 600% increase in approvals since it upgraded its permitting system in 2016.

During an April 26 hearing of the Committee on Energy, Utilities and Communications, Wiener argued that SB 617 is above all "a climate bill" and suggested that automated permitting systems are needed to help California achieve its climate goals.

"Currently only 10% of ratepayers have solar energy. That number needs to triple in the next decade if we expect to meet our clean energy goals," Wiener said before the committee voted 12-2 to support the legislation and forward it to the Appropriation Committee.

process. Conceptually, he said, doing online permitting for small projects is a good idea, provided that the system can address the city's safety concerns.

"I think the idea of leveraging our permitting system in that manner is positive," Lait said.

While the utilities commission lauded staff's ongoing push to speed up the process, neither Cinnamon nor Coale are entirely convinced that these efforts will bear fruit any time soon. Last summer, Cinnamon returned to Palo Alto to perform a solar installation after a nearly decadelong hiatus to see if anything had changed. To his chagrin, the application was still making its way through city permitting as of last week.

He compared the process to San Jose, where his company has completed entire installations within a week. Both San Jose and Saratoga, he said, take between two and three hours to approve a solar battery permit. All Palo Alto has to do if it wants to improve the situation is copy what those cities are doing.

"I have very little confidence that this admirable (reform) effort will be successful," Cinnamon said. "Simplifying the process is something every surrounding community has done. All they have to do is adopt best practices."

Lait said the city is doing exactly that. Staff is now surveying other utilities to see what kinds of requirements they have for things like AC disconnects. Energy storage, he noted, "is a rapidly changing field," and the city wants to make sure that any new systems have proper safeguards to ensure that they can be switched off when employees are checking meters or performing maintenance on its electric system.

"We're doing our best to keep up with technology to make sure we have safe energy systems," Lait said.

Some problems, he noted, had already been fixed. The TRC report cited Palo Alto's peculiar practice of requiring contractors to follow stringent formatting requirements when submitting documents, which includes bookmarking and indexing. Lait said that the city has already scuttled these requirements.

Building officials are also looking at easing some zoning rules to encourage electrification, which may include relaxing setback requirements from property lines to allow electric storage systems and heat pump water heaters in side yards, Lait said.

The city is also committing to getting things done faster, he said. Its newly adopted timelines call for completing small projects within two weeks and to get larger ones approved within 30 days. He encouraged contractors who face complications to email him (pdsdirector@cityofpaloalto.org). He also suggested that contractors who tried to apply during the pandemic and experienced massive delays try again. They will see that "it's a different story" now.

"If it's not, then I've got a bigger problem," Lait added.

Coale, for his part, believes that the city must improve the culture within the Development Services department as part of the reform process. Even if the city follows the commission's direction to require staff to "justify" Palo Alto-only requirements, expert inspectors will always find ways to justify even the most useless requirements. To do otherwise, Coale said, would be to imply that employees had been wrong to impose those requirements. That, he suggested, is unlikely to happen at City Hall.

"The city stands by their people no matter what, to the end," Coale said. "There's no downside to the city if they make it more difficult for contractors, no downside if a contractor charges extra \$2,500 for permitting. They don't get dinged in any way.

"The ding comes to contractors or installers and homeowners. They have to pay the price — in time and money."

The Government Watchdog

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Solar activists wield hammer in city fixated on being greenest

By [Tori Richards](#) / June 17, 2014 / News / [3 Comments](#)



Part 9 of 11 in the series [SolarCity](http://watchdog.org/series/solarcity/) (<http://watchdog.org/series/solarcity/>)

By [Tori Richards](#) | [Watchdog.org](#)



<http://watchdog.wpengine.netdna-cdn.com/wp-content/blogs.dir>

The solar energy industry, led by billionaire Elon Musk's SolarCity, has been dictating the building codes of a Silicon Valley city hell-bent on being the greenest city in America, a Watchdog investigation has revealed.

This was spurred on by the powerful solar lobby, which threatened to withhold a Green Power Conference award from a top Palo Alto city official unless something drastic was done to change its permit process, according to emails between city officials and the solar industry.

During the past six months, the city of Palo Alto has started signin

[/1/files/2014/06/Musk-shrugging-AP100629118199_3.jpg\)](#)

Elon Musk

SOLARCITY RULES: Owner Elon Musk's car company, Tesla, is located in Palo Alto where the solar bloc dictated building code policy and who gets to inspect its panels.

"Is this dangerous? Absolutely," said Rick McManus, who worked as a Palo Alto building inspector before resigning in November and going to work for the city of East Palo Alto. "It was such a disaster and they had so many complaints, they pulled in another inspector."

McManus said the complaints came from other building department employees who felt the permits were just pushed through with no thought, and even a few customers who said the critical onsite inspection lasted only a few minutes.



<http://watchdog.wpengine.netdna-cdn.com/wp-content/blogs.dir/1/files/2014/06/Palo-Alto-sign.jpg>

THIS WAY TO HEAVEN: Palo Alto loves its reputation for clean and green

g off on solar panel building inspections with lightning speed after removing an electrical expert from those duties and replacing her with an inspector with less expertise, a former employee said.

All of this was done to placate the solar energy industry, which complained of cumbersome inspection processes.

Going green — recycling, solar, the whole eco-sensitive agenda — is a kind of civil religion in Palo Alto. Five months ago, the city hired a chief sustainability officer to lead that quest (http://transformgov.org/en/Article/104003/Palo_Alto_CA_Names_First_Chief_Sustainability_Officer). The City Council has adopted mandatory green building requirements (http://www.cityofpaloalto.org/gov/depts/ds/green_building/default.asp) for new homes and businesses regarding energy efficiency, landscaping and materials usage.

And the U.S. Environmental Protection Agency has designated it a Green Power Community (<http://www.epa.gov/greenpower/communities/communities/paloaltocacommunity.htm>), meaning Palo Alto's publicly owned electric utility emits zero carbon dioxide while some 5,000 homes and businesses here operate 100 percent on solar energy.

You would think Palo Alto's vision of a green utopia meant that every home had a green light to install pricey solar energy systems. In fact, the opposite was true.

Disgruntled solar companies were either charging customers inflated rates or refusing to work in Palo Alto altogether, claiming the city's solar building inspector was impossibly meticulous and created huge delays.

"They had overly burdensome and unreasonable plan checks and inspections that were out of keeping with other jurisdictions," said Mark Byington, founder of Cobalt Power Systems Inc., a leading solar provider in the San Francisco Bay area. "They were known far and wide as the most difficult jurisdiction. We had to charge more to work there." SolarCity spokesman Jonathan Bass offered this:

"Palo Alto was one of the most difficult solar-permitting environments in the country for many years. The entire local industry has been asking the city for years to reconsider its processes to streamline permitting requirements. Given that the state of California doesn't even require a permit for an oil derrick, this seems like an extremely reasonable ask.

"To the city's credit, I think they honestly took a hard look at their processes and realized the problem was 'systemic,' as the

y said in a recent article, and was unnecessarily preventing people from going solar, and they decided to make the process more straightforward, to more closely resemble the process in many other cities and towns in California,” Bass said.

SolarCity grew to be one of the nation’s largest solar contractors on the basis of an innovative business model — installation of pricey solar systems for little or no money down with a 20-year lease.

The company has never earned a profit in its eight-year history, but has kept afloat with approximately \$1 billion in state and federal subsidies and tax incentives, [SEC filings show](http://watchdog.org/133536/solarcity-lapses-166m/) (<http://watchdog.org/133536/solarcity-lapses-166m/>). Those subsidies are scheduled to dramatically decrease, and in two years may disappear altogether if a [congressional bill is enacted](http://watchdog.org/134336/solar-industry-faces-disaster/#sthash.yDWui2bf.dpbs) (<http://watchdog.org/134336/solar-industry-faces-disaster/#sthash.yDWui2bf.dpbs>).

[A Watchdog investigation revealed](http://watchdog.org/130098/solarcity-horror-stories/) (<http://watchdog.org/130098/solarcity-horror-stories/>) that SolarCity’s installation process is surrounded by criticism. A top-ranking building official in a neighboring county declared, “SolarCity seems to be the biggest offender” among solar providers.

You can fight city hall

Situated 35 miles south of San Francisco near the bay, Palo Alto is prime real estate. It has been home for billionaire inventors and entrepreneurs like Steve Jobs, Mark Zuckerberg and Google’s Larry Page. With homes pushing a [median of \\$1 million](http://www.city-data.com/city/Palo-Alto-California.html) and [family income median at \\$119,124](http://www.city-data.com/city/Palo-Alto-California.html) (<http://www.city-data.com/city/Palo-Alto-California.html>), Palo Alto is one of the richest cities in America.



(http://watchdog.wpengine.netdna-cdn.com/wp-content/blogs.dir/1/files/2014/06/Solar-Panels-shutterstock_145099798.jpg)

NEW RELIGION: City leaders in Palo Alto want to win the title of greenest city in America

of the complaints. Pirnejad said the committee included “homeowners, PV advocates, and a full range of installers to create online tools, forms, checklists, and flowcharts to help customers through the building permit process.”



(http://watchdog.wpengine.netdna-cdn.com/wp-content/blogs.dir/1/files/2014/06/Musk-at-Nasdaq-w-partners-AP214917535919_1.jpg)

GREEN DOMINATION: SolarCity officers Peter Rive, Elon Musk, Lyndon Rive at the New York Stock Exchange in 2012. SolarCity is traded on NASDAQ

It’s easy to see how 5,000 homes and businesses operate 100 percent on solar energy.

The transformation of Palo Alto’s building department began at the end of 2012, when [Peter Pirnejad](https://www.linkedin.com/profile/view?id=96774830&authType=NAME_SEARCH&authToken=5x75&locale=en_US&srchid=545154841399324715816&srchindex=2&srchtotat=2&trk=vsrp_people_res_name&trkInfo=VSRPsearchId%3A545154841399324715816%2CVSRPtargetId%3A96774830%2CVSRPcmpt%3Aprimary) (https://www.linkedin.com/profile/view?id=96774830&authType=NAME_SEARCH&authToken=5x75&locale=en_US&srchid=545154841399324715816&srchindex=2&srchtotat=2&trk=vsrp_people_res_name&trkInfo=VSRPsearchId%3A545154841399324715816%2CVSRPtargetId%3A96774830%2CVSRPcmpt%3Aprimary) was hired to serve as director of Development Services.

Pirnejad immediately took on the battle between his building inspection department and the solar-energy businesses that hated it.

He created the Solar Photovoltaic Committee to get to the bottom

The committee worked to find ways to shorten the review process, then averaging 122 days. Ultimately, they'd slash the process to five days.

The committee included five solar contractors, the advocacy group Clean Coalition, an architect and a nationally renowned solar energy expert.

"The stakeholders in this effort took great strides to ensure the process was fair, transparent and code-compliant," Pirnejad said. "Meanwhile we improved the efficiency of our service-delivery model by posting information on the web and in handouts, as well as having qualified inspectors at hand to assist our applicants."

It appeared Palo Alto's new process was a success after just a few months. A June 3, 2013, city news release was turned into an [article on the consumer site SolarReviews](http://www.solarreviews.com/news/Palo-Alto-Streamlines-Permitting-Process-Solar-6-3-13/) (<http://www.solarreviews.com/news/Palo-Alto-Streamlines-Permitting-Process-Solar-6-3-13/>) heralding the achievements of the new, streamlined process. "The city has made impressive reforms in expediting ... approvals," Kurt Newick, system designer with Cobalt Power Systems, was quoted as saying.

But a month later, the solar energy bloc was upset again, their ire focused on a single building inspector. That inspector, Rhonda Parkhurst, is an electrical engineer widely regarded as among the nation's best.

President of the southwestern section of the [International Association of Electrical Inspectors](http://iaeisw.com/about_us) (http://iaeisw.com/about_us) and an instructor with the [International Code Council](http://www.iccsafe.org/Education/Courses/Documents/2014-EduCode.pdf) (<http://www.iccsafe.org/Education/Courses/Documents/2014-EduCode.pdf>), Parkhurst was meticulous — maybe extremely meticulous — in her job as Palo Alto's solar building inspector.

"Sometimes she can be too picky. Sometimes she can drill it down to the most finite point," said McManus, the East Palo Alto chief building official.

He said he saw this firsthand while working with her as a building inspector in the city of Palo Alto before resigning in November.

"Like the height of a disconnect handle is supposed to be 6-feet 7-inches, and in one case it was an inch too high. In another case, it was not the right attachment screw," McManus said. "Whether the screw is brass or stainless steel, it still creates the same amount of bonding."

That sort of attention to detail frustrated solar rooftop installers.

"First there is the plan check and then there is the inspection," said Gary Gerber, founder of Sun Light & Power, a Berkeley-based solar provider. "We had to do it two or three times to get it through. We would follow the code and wouldn't be getting our permits. It makes it impossible to do business."

The United States has a uniform electrical code that changes every three years as technology evolves. It is partially written by [John Wiles](http://solarprofessional.com/articles/industry-interviews/john-wiles-southwest-technology-development-institute) (<http://solarprofessional.com/articles/industry-interviews/john-wiles-southwest-technology-development-institute>), arguably among of the nation's leading electrical engineers and program manager at the Southwest Technology Development Institute at New Mexico State University.

Wiles said Parkhurst likely drew unwanted industry attention because



installers have never seen anyone like her.

(<http://watchdog.wpengine.netdna-cdn.com/wp-content/blogs.dir>

</1/files/2014/06/Palo-Alto-greenery.jpg>)

“Rhonda Parkhurst is probably one of the top inspectors in the nation for knowing codes and standards to be enforced,” Wiles said. “When he asks those questions that no one else is asking, it slows things down because those contractors have never had to answer those questions” in other jurisdictions.

PALO ALTO STREET: Typical of what you find in the San Francisco-area dot com bastion

Wiles, who said he followed the controversy in Palo Alto, said Parkhurst was “trying to protect public safety and contractor hate that. It delays their contract. It delays their installation.”

The solar industry has only been around about a decade. Wiles said he is starting to see power failures due to poor installation by contractors who don’t keep up with the codes.

“Rhonda holds them to a higher standard so people don’t get shocked, electrocuted or their house doesn’t burn down,” Wiles said.

Despite Pirnejad’s best efforts to appease them with a streamlined inspection process, solar rooftop installers remained miffed that Parkhurst remained on the job.

She might be there still if not for that award.

Palo Alto was on tap to receive the solar industry’s [best collaboration award](http://esnews.wapa.gov/wordpress/category/events-funding-opportunities/) (<http://esnews.wapa.gov/wordpress/category/events-funding-opportunities/>), an honor bestowed upon city officials who work well with industry.

Pirnejad was also offered a high-profile gig, heading a panel discussion at the February [Green Power Conference](http://www.greenpowerconferences.com/home/aboutus) (<http://www.greenpowerconferences.com/home/aboutus>) in San Diego.

Appearing at Green Power would be a marketing score for Pirnejad and the City of the Future, a global clearinghouse for green market intelligence and training organization with 27,500 members in 161 countries.

Pirnejad attempted to plan the panel discussion with an email chain that included the solar industry lobby and contractors such as SolarCity. Then trouble emerged.

David Coale, a board member at the Palo Alto-based [healthy planet group Acterra](http://www.acterra.org) (<http://www.acterra.org>), was first to lower the boom.

“I would not want the (Palo Alto inspection) process to be upheld for others to see as a standard to be aimed for,” Coale wrote in a July 15, 2013, email. “At this time the Palo Alto PV process is not yet an award-winning process for others to follow.”

Bruce Gordon, owner of contractor Horizon Solar Power, chimed in with all caps, saying Parkhurst “is still on the same program She is still using the PALO ALTO CHECKLIST, which DOES NOT exist in any other jurisdiction.”

Next, SolarCity operations manager Gregory Starke blasted Palo Alto’s efforts with a lengthy follow-up email.

“We let Peter know that things were not changing in the trenches about one and a half months ago,” he wrote. “We have pretty much given up here at SolarCity and will just continue to charge more for now, however there is discussion about pullin

g out of Palo Alto entirely. We all know that one person is the main problem ...

“We all want quality and a safe installation ... any and every detail that can be found will result in comments for rejection no matter how minor ... It is smoke and mirrors to give the illusion of progress,” Starke said.

One of the groups included in the email discussion was Vote Solar, a nonprofit dedicated to bringing solar energy into the mainstream by lobbying efforts. Its yearly fundraiser in February featured California Gov. Jerry Brown (<http://www.renewableenergyworld.com/rea/blog/post/2014/02/9-great-reasons-why-vote-solars-equinox-party-is-a-must-attend-for-anyone-in-solar>), a huge supporter of green energy.

A few months after receiving the emails, Pirnejad removed Parkhurst from her duties involving solar installations.

These days, plan checks are signed off immediately at a walk-in counter, McManus said, and site inspections are rushed through.

Pirnejad characterized the changes as business efficiencies. An inspector with less experience was handling the workload, but two months later another inspector with 20 years of experience was hired to handle the solar projects.

When asked why he had to hire someone else when he had an expert in house, Pirnejad said, “I cannot comment on specific personnel.”

The past six months have been happy times for the solar industry, as Palo Alto has been rapidly approving solar installations given that Parkhurst was reassigned. But one veteran building inspector who asked not to be named said painstaking reviews protect the consumer from fire hazards and electrocution.

“You have a huge amount of electricity flowing unchecked across a roof,” the inspector said. “If it’s not done correctly it could burn your house down. And I’ve seen a house with bad wiring where the entire roof became electrically charged during a rainstorm and could’ve electrocuted someone.”

Apparently the solar lobby was placated. When Feb. 4-5 rolled around this year, Pirnejad traveled to San Diego to pick up his award on behalf of Palo Alto.

Only one industry provider contributed to the [city news release trumpeting Palo Alto’s 2014 Best Solar Collaboration Award](http://www.cityofpaloalto.org/civicax/filebank/documents/39289) (<http://www.cityofpaloalto.org/civicax/filebank/documents/39289>) at the Annual Solar Power Generation USA Congress in San Diego: SolarCity.

“The City of Palo Alto deserves a tremendous amount of credit for listening to the needs of solar customers and making direct changes based on those needs,” said Jefferson Silver, senior commercial project manager for SolarCity. “Palo Alto has made the most dramatic improvements to its permitting process of any of the jurisdictions we work in.”

Contact *Tori Richards* at tori@watchdog.org (<mailto:tori@watchdog.org>) and on twitter [@newswriter2](#).

Part 9 of 11 in the series [SolarCity](http://watchdog.org/series/solarcity/) (<http://watchdog.org/series/solarcity/>)



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[Tori Richards](#)

Tori formerly served as staff reporter for Watchdog.org.

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From: [Jeff Hoel](#)
To: [Council, City: UAC](#)
Cc: [Hoel, Jeff \(external\)](#)
Subject: TRANSCRIPT & COMMENTS (Part 0) -- 05-24-21 Council mtg -- FTTP
Date: Wednesday, June 16, 2021 5:14:57 PM

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Council members and UAC commissioners,

Thanks, Council, for voting unanimously at your 05-24-21 meeting to make further progress on bringing citywide municipal FTTP to Palo Alto.

Here's a transcript of the meeting, Item 8, which was about FTTP and related issues. Due to the limitations of my environment, I have broken the message into three email parts. Part 0 is my top-level comments. Parts 1 and 2 are the actual transcript (with my detailed comments).

Please see more comments below.

Thanks.

Jeff

=====
Jeff Hoel
731 Colorado Avenue
Palo Alto, CA 94303
=====

#####

GENERAL COMMENTS:

1. On 09-28-15, a staff report and presentation told Council that citywide municipal FTTP in Palo Alto was not feasible because the take rate required to pay for it was not achievable (72 percent, with no "subsidy" from the Fiber Fund, or 57 percent with a \$20 million "subsidy" from the Fiber Fund). So, Council asked staff to come up with another idea. And staff came up with the idea of doing fiber-to-the-node (FTTN) and hoping that could lead to FTTP. And that led to the idea of making FTTN (a.k.a. the backbone) do lots of things besides just supporting FTTP, just in case FTTP never happened.

On 05-24-21, a staff report and presentation told Council that citywide municipal FTTP in Palo Alto was feasible after all. (The take rate required to pay for itself was something like 24 percent, and municipalities often see a take rates of 40-50 percent, so a 32 percent take rate was "conservative.") I think that's an opportunity to reassess what functions should be done in the backbone network and what functions should be done in the FTTP network.

2. In 2004, staff told Council that there were no viable ways to finance citywide municipal FTTP in Palo Alto.

The 05-24-21 staff report sort of assumes that there are viable ways finance citywide municipal FTTP in Palo Alto, but staff hasn't studied the subject in detail yet. So, what's different between 2004 and now? Was staff just wrong in 2004? The Fiber Fund is much larger now. Is that the difference?

Staff did propose a specific way to finance the new backbone (Fiber Fund plus ESPR loan), but did not explain that choice. I want Council to make sure that that doesn't make financing FTTP harder.

3. Several Council members seemed to be open to the idea that FTTP ought to be used as a cash cow, to

fund other City projects. I don't agree. It ought to work like Palo Alto's other utilities: run to provide services at the lowest cost to customers. Even though state law doesn't (yet) require it.

4. I think that "open access" is a great idea in principle, but I take seriously the consultant's view that it's harder to make work financially. Can we design the FTTP network so that it can be "upgraded" easily to open access at a later date?

5. I was disappointed by the presentation of what other communities are doing about municipal FTTP (Slides 11 and 12). See my detailed comments in Part 1 (starting at 2:27:02). But, overall, staff seems to be missing the big-picture point that providing FTTP is better than just providing dark fiber.

6. Council directed staff to go ahead with a detailed design of the backbone and FTTP networks, without even considering how many FTTP substations there should be, and where they should be.

7. Up to now, there hasn't been a public discussion of whether the electronics should be point-to-point (active Ethernet) or point-to-multipoint (PON). It's commonly thought that PON is less expensive, but this article claims active Ethernet is "much cheaper than PON."

<https://www.bbcmag.com/multifamily-broadband/gigabit-fiber-comes-to-los-altos-hills>

I think it's also more futureproof.

From: [Jeff Hoel](#)
To: [Council, City: UAC](#)
Cc: [Hoel, Jeff \(external\)](#)
Subject: TRANSCRIPT & COMMENTS (part 1) -- 05-24-21 Council mtg -- FTTP
Date: Wednesday, June 16, 2021 5:15:34 PM

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Council members and UAC Commissioners,

This is the beginning of a transcript of the FTTP item (item 8) in Council's 05-24-21 meeting. With my comments (paragraphs in red beginning with "###").

Thanks.

Jeff

=====
Jeff Hoel
731 Colorado Avenue
Palo Alto, CA 94303
=====

#####

Audio:
<https://midpenmedia.org/city-council-152-5242021/>

Presentation slides (56):
<https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/reports/city-manager-reports-cmr/attachments/05-24-2021-id-12117-presentation.pdf>

#####

2:05:46:

Mayor DuBois: Let's move on to Item number 8, which is a review of the fiber network expansion plan and fiber-to-the-home business case. I believe staff has a pretty lengthy presentation on this tonight.

2:06:02:

Dean Batchelor: We do ...

2:06:03:

City Manager Shikada: Oh, go ahead, Director Batchelor.

2:06:05:

Dean Batchelor: Oh, sorry. Thank you. Good evening, Mayor DuBois, Council. Dean Batchelor, Director of Utilities. Tonight, staff, along with President and CEO of Magellan Advisors, John Honker, and VP of Digital Innovations, Jory Wolf, will present the completion of Phases 1 and 3, which you all approved. Which included a high-level design of the FTTH network, expansion of the fiber backbone, a broadband market assessment. And they also developed the cost and revenue models, and different deployment scenarios. John has over 20 years of experience in the broadband ISP market, and is a key founder of Magellan Advisors. They are the "go-to" firm in municipalities, which is over 400 clients, 50 networks, over 100 -- or, 1 million fiber connections. Mr. Wolf has over 35 years of experience in the information technology, and is moving to -- prior to Magellan, worked for the City of Santa Monica, where he launched citywide Wi-Fi for free internet services to the public, and to most of the major commercial transit corridors of the city. He created the Santa Monica City Net. And 100 gigawatt -- megabyte --

He probably means 100 Gbps.

<https://www.magellan-advisors.com/leadership/jory-wolf.html>

to support the environment for local business and the economy. And, with that, I'm going to turn it over to John, to start the presentation. And we'll go from there. So, John.

2:07:06:

John Honker: Great. Thank you, Director Batchelor.

2:07:31:

Slide 1 -- cover

And it's a pleasure to see you, Mayor, and members of City Council. My name is John Honker. And with me I have Jory Wolf. Thanks for the introductions, again, Director Batchelor. And what I thought I'd do tonight is work through the presentation of the fiber business case and the fiber backbone development. Which really is a combined effort, to accelerate our work and our analysis over the last 6-7 months. Which -- The result of which you will see tonight in our presentation. We're going to try to keep this relatively short, because I know there's going to be a lot of questions. This is a large -- large undertaking. It's a big topic. And I want to leave plenty of room for -- time for questions from members of Council.

2:08:17:

Slide 2 -- AGENDA

So, what we're going to cover tonight is -- Really, Section 1 of the presentation talks about the fiber backbone expansion. And what do I mean when I say "fiber backbone"? I'm really talking about the core infrastructure -- core fiber infrastructure, that the City has owned and operated over the past 25 years. And which has done, frankly, amazing things for the City of Palo Alto. We have a lot of exposure to California local government. So, other cities that have either built or are building. As well as have built throughout the country. And you are one of the leaders in the industry. So, congratulations for that. You've had the ins- -- foresight to build that network over time. And it's done amazing things for the City. And the community.

So, Section 1, we'll talk about how -- The analysis that we've done. And the way that you can expand that network to deliver more value to the community.

Section 2, we'll talk about fiber-to-the-home. So, whenever you see this -- the FTTH -- is short for fiber-to-the-home. And that will really inform you of the business case analysis that Magellan's completed for expanding the network and bringing broadband to the greater population of Palo Alto.

We'll then move into recommendations and next steps. Which are, really, looking to move forward with the fiber backbone engineering and construction. Developing a -- sort of a full business case for fiber-to-the-home. Or, a full business plan for fiber-to-the-home, where the City is potentially operating, and is the provider of fiber-to-the-home services. Completing the community education and engagement. This is a big topic. And it's an important citywide topic. So, we will be engaging with your staff to drive the education down to the residents and the businesses of Palo Alto. Listen to them. Understand their needs. And then, basically, come back to you with a -- a very detailed understanding of broadband demand. The needs of businesses and residents in Palo Alto for high-speed internet and related services. Completing the engineering design for the backbone, and for fiber-to-the-home. A detailed plan for the City-operated ISP model. And, finally, as part of that community engagement, the broadband surveys, which really drive the overall business plan for broadband.

2:11:02:

Slide 3 --- FIBER BACKBONE EXPANSION

So, we'll tackle the fiber backbone expansion first, because it's a little shorter, and it's a little more concise.

2:11:12:

Slide 4 -- THE ORIGINAL FIBER BACKBONE

So, let's look back 25 years, when the City's backbone was originally built. To connect City facilities and provide SOME fiber out there for leasing. You know, the backbone was never envisioned for the uses that you have today.

Twenty-five years later, the backbone is creating great benefit for the City, which you can see here on the right-hand side. What was originally intended to just connect City facilities,

Not true. From the beginning, Council intended it for external customers too.

now generates almost \$4 million in annual revenue.

How much annual net revenue -- i.e., revenue minus expenses?

Has netted the City an almost \$30 million reserve Fiber Fund. Connects all City facilities, and all CPAU substations, as well as water, traffic signals, schools, business parks, and you have over 220 business customers.

Not true. This Utilities Quarterly Report for the 1st and 2nd quarters of FY 2021

<https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/reports/uac-informational-reports/2021-informational-reports/6-02-2021/06-02-2021-id-12099-info-item.pdf>

says there are only 92 "commercial" accounts, plus 1 City account. And there are 191 active connections. (Some customers have multiple active connections.) The report doesn't say how many active connections are for commercial accounts.

The Utilities Quarterly Report for 4Q2020

<https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/reports/uac-informational-reports/2021-informational-reports/02-03-2021/id-11731.pdf>

says there are 94 "commercial" accounts, plus 1 City account. And there are 201 active connections.

The Utilities Quarterly Report for 3Q2020

<https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/reports/uac-informational-reports/2020-informational-reports/5-08-2020/id-11370.pdf>

says there are 93 "commercial" accounts, plus 1 City account. And there are 205 active connections.

The Utilities Quarterly Report for 3Q2016

https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/reports/city-manager-reports-cmrs/year-archive/2016/final-staff-report-id-6990_utilities-quarterly-update.pdf

says there are 105 "commercial" accounts. And there are 234 active connections.

So, when we look at the benefit that it's brought to the City, it's far beyond what was originally envisioned.

2:12:04:

Slide 5 -- BENEFITS OF THE NEW FIBER BACKBONE

And now, it's an opportunity for you to reinvest in that asset, and expand that asset, for new opportunities, to -- As we know, the requirements for cities to connect more things in their -- in their communities is growing ever so fast. So, our scope was really to help you understand how this network could be utilized, as you look at expansion. Where are the City's needs? And what are the City's needs for fiber? And how do we look at that going forward, to really equip the City with the right kind of communications infrastructure that will support its service to the citizens.

And we put these in four buckets.

Utility Modernization. And -- I'm sorry. Through this process, we met with all of your departments, to really understand each one of their needs, and really build a map. That's what we do. Build a comprehensive map of all the locations that need fiber connectivity, and then design the network based on that.

So, we put this into four buckets.

1) Utility Modernization. So, the new network will really help support smart grid, and energy, and electricity -- reliability and resiliency overall. It's -- It will support your current AMI efforts. So, as you're looking to now deploy AMI, -- The fiber backbone will become a major factor in helping you reduce cost. And also getting connectivity closer to the end user. Closer to the resident and the meter. And, finally, being able to manage, generally, your electric plant resources.

[2]) Smart City Infrastructure. Right? When we look at cities that are building fiber networks on their own, they use them for a million different things. So, when we look at the city's infrastructure, and the expansion, there's opportunities to connect City IT, parks. We have opportunities for emergency preparedness. Expansion of access to

education. Right? For residents that might not have access. Or for neighborhoods around schools. Access could always be enabled very, very easily. For public safety, transportation, and smart parking. So, these, really, we all call smart city applications. And we see those growing daily. And have really inventoried the programs that Palo Alto's looking at. In the future.

[3)] Commercial Fiber Leasing is the third bucket. Right? You have -- like I mentioned before -- over 220 customers on dark fiber now.

Like I mentioned before, it's 92, not over 220.

This gives you an expanded capacity, and expanded fiber, to be able to support more fiber leasing for businesses, to help you drive economic development. And, frankly, to lower the cost of doing business in Palo Alto. Right? It creates an opportunity to bring more fiber, **at lower cost**, to potential -- EXISTING commercial tenants and new commercial tenants.

Does Honker mean that the City would have the opportunity to lower its prices to dark fiber customers? What would that do to revenues? As far as I know, the City hasn't done a business case analysis of the dark fiber network business for a while.

And then, finally, [4)] fiber to the home. Right? We look at the opportunities to use and leverage this new fiber backbone, to lower your costs of building out for fiber-to-the-home. They're significant. Almost -- Investing in the fiber backbone, we see a \$4 [million] to \$5 million reduction in the FUTURE costs of bringing fiber-to-the-home to your residents.

I object to the rhetoric. If we build a \$22 million (or, worse, a \$28 million) all-singing-all-dancing backbone now, then we won't have to build a \$4 million to \$5 million lean-and-mean backbone to support FTTP later?

2:15:27:

Slide 6 -- what new fiber backbone could lead to

And this is what we think about. So, when you're designing a fiber backbone, you're expanding. And this is -- For example, in Boulder, Colorado, where I live, this is what we're helping the city do right now. Right? They're build- -- they're overbuilding -- called "overbuilding" -- or expanding their existing backbone. And they want -- They're optimizing it for broadband. To be able to provide fiber-to-the-home at lower costs. Similar to what Boulder's doing, your new backbone will create a new foundation for fiber-to-the-home that gives you **flexibility** on how you deploy. **If you decide to deploy.**

I object. The City should be figuring out HOW to deploy citywide municipal FTTP, not whether to deploy it.

And it also gives you flexibility of how you do this in an incremental fashion.

UAC strongly objected to the incremental approach proposed in the staff report, because it took too long and wasn't citywide.

Versus without having this network available.

So, this is always an important slide, because the fiber backbone becomes a foundation, which, as you add capital to it, it allows you to grow your fiber-to-the-home services as you want to. And then, it also allows you to develop the right business model for actually providing that service out to the community.

2:16:35:

Slide 7 -- NEW FIBER BACKBONE DESIGN

So, this is just a snapshot of the new fiber to the backbone -- or, new fiber backbone expansion. So, the white outline is the City of Palo Alto. The red lines are the fiber backbone. The new fiber backbone that will be built. So, as you can see, it penetrates pretty evenly throughout the major corridors of the City. And it was designed this way on purpose, because it really helps -- 1) it helps you -- all of your departments have access along major thoroughfares. To connect more sensors. To connect more applications. But then, it also brings much-needed capacity to -- of the electric -- or CPAU -- to connect all of the substations -- smart switches -- AMI -- everything in the field that they have to manage the electric utility. So, this is about a 43 mile backbone total. With **dedicated fibers** for every department.

This sounds like a last-century architecture.

For -- Also, for fiber leasing. And a reserve of fiber connectivity for fiber-to-the-home, if you choose to do that in the future.

Again, I object to the "if."

And that reserve comes at almost -- a very small marginal cost -- that's built into the overall costs for the backbone.

2:17:53:

Slide 8 -- FIBER BACKBONE COSTS

So, this is an overview of the costs. As we went through this with the UAC, in our last -- April 21st -- presentation, we reviewed the costs in detail. And agreed that these were relevant costs for Palo Alto. Construction is expensive in Palo Alto. That is a known fact. And we spent significant time vetting your construction costs for both the underground and the aerial components of the network, as well as fiber construction, conduits and structures, patch panels, and so on. Our total -- Our subtotal on labor is about \$17 million. With about \$1 million in materials. Leading to about an \$18 million total capital investment for the 43-mile fiber backbone. That will connect about different 200 devices out in the field from day one. And it will also, then, be able to incrementally connect more City sites, facilities, and devices, as you grow, over time. And as you need to connect more. We've also included about a 20 percent construction contingency on the build. We feel that's very reasonable, given the deep level of due diligence we did on the costing. So, the total backbone cost is about \$22 million, with that \$3 and a -- \$3.7 million contingency. So, this really represents the first piece of the network.

2:19:27:

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And as we look back at this -- So, for the \$22 million, effectively, the City would be getting its entire back -- its entire existing backbone effectively rebuilt. But also diverse from that backbone. And it would then -- what we call "densify" fiber access across Palo Alto. Meaning it's easier to connect businesses. Easier to connect residents, when the time comes. It's easier to connect CPAU's substations and other devices to the network. So this really becomes a very, very long-term asset, that the City can potentially use for, like, again, another 25 years, if we start projecting into the future.

2:20:10:

Back to Slide 8

So, this covers the first portion of the presentation. I wanted to stop there, if it makes sense. Just to ask any immediate questions. We'll have plenty of time for Q&A at the end. But before we leave the backbone, are there any questions we can answer, Mayor and members of Council?

2:20:28:

Mayor DuBois: Does anybody have a quick question on the backbone? I guess I have just one. Is: What if we didn't do any work? Like, what's the state of the current backbone?

2:20:38:

John Honker: So, the current backbone is really running low on capacity.

No doubt, some routes have fewer remaining available strands than others.

We did a full inventory of your network with the CPAU staff.

Would Council be interested in viewing that full inventory in detail? I would.

And we found that, to -- 1) there's congestion on the network. You know, when we say "congestion," there's very few fiber strands left. There's very little fiber capacity left. So, if you want to do anything new, it's very difficult to do that. And it also creates a risk to the current services that are out there today. So, for example, if you wanted to go connect a new business to the network, you would run the risk of actually potentially disrupting services on the existing network, if -- Because there's so little capacity. And because it's so congested. And so tight.

I don't understand. Is Honker saying that to add a new dark fiber customer, the City might ("potentially") have to change the fiber strands that existing dark fiber customers are using?

So, we want to be very careful, you know, adding any new services to the network. And the goal of this backbone would be to re- -- sort of build "fidelity" into the existing network. Remove some of those capacity constraints. And then give you new capacity, that you can use for the future.

2:21:40:

Mayor DuBois: Vice Mayor Burt.

2:21:41:

Vice Mayor Burt: Yeah. Um. Two questions on the backbone. I'm particularly interested on what you've talked about on how this would essentially strengthen the backbone of our EXISTING dark fiber network. Which is to serve businesses.

The existing dark fiber network is available to serve whoever is willing to pay the City's dark fiber prices. That includes a few residences.

2:21:59:

Slide 9 -- FTTH BUSINESS CASE

And, primarily, larger businesses. And I hadn't appreciated until reading this report that we're nearing the capacity of that system.

2:22:07:

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So, is there a -- Is there a revenue likelihood -- increasing revenue -- from this backbone, from being able, in the near term, to provide greater capacity on the commercial side, even before we're able to then use that as the basis to build out to the premises -- fiber-to-the-home, as you've described it?

2:22:34:

Back to Slide 7

John Honker: Yeah. Absolutely, Vice Mayor Burt. And there's -- Basically, anywhere there's fiber -- new fiber coming in, that's an opportunity to be able to sell into the business community, along those routes, **at a lower cost**.

Again, what does "at a lower cost" mean? Is Honker think about reducing the City's dark fiber pricing?

So, we were very conservative when we projected the financial. And we only looked at growing your revenue 2 percent a year. Right? On top of what you're getting today.

The staff report didn't do an actual analysis of what the dark fiber network's financials would look like in the future. So, I think it's very risky to count on it.

So, it's a very modest amount. But over 10-15 years, you know, it compounds. And that creates a great revenue stream for the City, on top of what you're getting today. So -- Absolutely. It gives you -- It gives you the ability to serve more customers, at a lower cost, even before considering fiber-to-the-home.

2:23:11:

Vice Mayor Burt: And my next question -- I don't know if it's you or Utilities Director Batchelor can best answer this. But what you described about enabling essentially smart-grid-related enhancements to our electric utility, do we have the potential to increase the reliability of our electric utility system as a result of having this **broader band capability**?

The main point of the proposed new backbone fiber network seems to have nothing to do with increasing bandwidth, but rather providing dedicated fiber connections to lots of things that don't really need a dedicated connection.

2:23:47:

Dean Batchelor: John, do you want me to go? Or, you go first?

2:23:50:

John Honker: Yeah. I can go -- I can talk about the reliability. So, as we look at the network, it creates -- You know, part of our -- the design, Vice Mayor Burt, is really to fortify the substation connectivity, to make sure that substations are totally connected to each one.

Is this saying that each of the nine electric substations would have a dedicated connection (of perhaps multiple fiber strands) to each of the other eight electric substations? What purpose would be served by that?

And there's really a very high level of redundancy. So that if there was a fiber cut or a communications failure at one, you would have almost instant restoration of service. Versus, what today you may have lower levels of reliability. But, absolutely. We would see that as being an opportunity to improve reliability.

2:24:34:

Dean Batchelor: Vice Mayor Burt, if I could add to that, please. Also, too, is that, as John mentioned earlier, you know, getting fiber deeper into the neighborhood portions of it would allow us to start looking at some of these new technologies around smart transformers. Also, too, the launching of smart grid is going to help us with our reliability, since, now, we'll be able to look at everybody's meter. We'll know exactly where the outage occurs, within a block -- period of time.

Why wouldn't AMI allow you to determine the extent of an outage down to each individual electric customer, within seconds?

If we decide not to re-do the backbone, we would end up having to do some cellular backhauling, then, at that period of time, that would cost us some additional dollars.

Why not do what Chattanooga does -- use FTTP to do AMI?

Where if we utilized the backbone -- the new backbone portion of it, the **five** collectors that have been identified that will need to be put into the systems could be ran off of those new fiber portions.

If five collectors are all staff thinks they need to do AMI, then AMI shouldn't be determining network architecture. Does the existing dark fiber network have enough strands remaining to support them? (I still think Chattanooga's approach would be better.)

2:25:27:

Mayor DuBois: Thank you. Let's continue.

2:25:33:

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2:25:34:

Back to Slide 9

John Honker: OK. Great. So, we're going to switch gears a bit and talk through the fiber-to-the-home business case. So, when we say "fiber-to-the-home," we can use that synonymously with "broadband" and "high-speed internet," for the purposes of today's -- tonight's meeting.

This invites ongoing obfuscation by opponents of municipal FTTP, who say other technologies are good enough.

For purposes of tonight's meeting, can we assume "high-speed" means that the very first generation of electronics would be capable of supporting speeds of 10 Gbps in both directions?

For purposes of tonight's meeting, can we assume that internet service is the only service needed in order to

meet the financials?

2:25:47:

Slide 10 -- HOW WE GOT HERE -- THE PROBLEM

So, how did we get here? And what are the problems? And I think, you know, as we work with cities, we see this has become such an important issue, as COVID's changed the way that we live, work, and play. Right? I mean, we see this in almost every city that we work with now, where they have -- um -- sort of come to the realization that, hey, this is not a luxury anymore. Our residents and our businesses have to have equitable access to high-speed internet. And they have to have it across the city. Right? And the question becomes, then, 1) is that equitable access available? 2) do they have choice? And 3) are the prices affordable, given the fact that there are only a very small amount of providers, and, in SOME cases, a monopoly? And, finally, what are some additional benefits that **citizens** and businesses WOULD derive from "broadband" in Palo Alto?

It would be more accurate, and more politically correct, to say "residents," rather than "citizens."

These are all questions that WE wanted to answer in the business case, and we think are very, very important for you to consider, as you're -- as you're evaluating the opportunities for fiber-to-the-home.

2:27:02:

Slide 11 -- WHAT ARE OTHER COMMUNITIES DOING ABOUT IT?

So, if we look on a national scale -- and this map was just updated in November of last year --

MuniNetworks publishes a map that looks like the map on Slide 11, so I assume it's the same map.

<https://muninetworks.org/communitymap>

It says "(updated January 2020)" -- not November 2020. This source is interactive. You can choose which icons to view. You can pan and zoom. Etc.

this is what the market looks like right now for fiber-to-the-home. And cities that are -- that have some type of fiber-to-the-home service. The icons in yellow illustrate cities that have provided -- are providing fiber-to-the-home today. The icons in blue and purple show areas like Palo Alto, where today are providing a dark fiber network. Right?

Wrong. See comments about Slide 12 below.

Fiber to businesses. To commercial entities. But you're not providing retail services over them.

2:27:47:

Slide 12 -- WHAT ARE OTHER COMMUNITIES DOING ABOUT IT? (CONTINUED)

So, if you look at the distribution of those networks, as I mentioned, 63 of them, in the market today, the city is providing ISP services directly.

That's NOT what the MuniNetworks map says. It says the yellow icons represent "63 municipal networks serving 125 communities with a publicly owned FTTH citywide network." The Map doesn't say exactly what "citywide" means, but a related article says it means that "The network must cover at least 80% of a city."

<https://muninetworks.org/content/new-resource-map-list-citywide-ftth-munis>

It doesn't say anything about who's providing services on the network. It could be the municipality. Or it could be a partner. Or, for "open access" networks, it could be private-sector ISPs.

These are cities like Fort Collins, in Colorado; Chattanooga, in Tennessee; BrightRidge -- or Johnson City Energy, in Tennessee, as well; and Longmont, in Colorado. The city provides all the services, and provides, you know, customer support, operations management of retail internet services. There are 286 where the city is a wholesale provider, similar to Palo Alto.

That's NOT what the MuniNetworks map says. It says the blue icons represent "237 communities with some publicly owned fiber service available to parts of the community (often a business district)." (In this quote, I believe that "fiber" means FTTP.)

Again, it doesn't say anything about who's providing the services on the network. (So, no, Palo Alto's icon isn't

blue. Check it out. Go to the map and zoom in on Palo Alto.)

And there are 71 partner ISPs, meaning where the city owns fiber infrastructure, and the partner is providing SOME internet services, but not -- let's say, not citywide.

That's NOT what the MuniNetworks map says. It says that the purple icons represent "More than 120 communities with publicly owned dark fiber available." It doesn't say anything about whether there's a partner or not, or about whether the partner offers services. It doesn't explicitly say whether the dark fiber network is citywide or not. (Palo Alto's icon is purple.)

And, in a lot of partnership models we've seen, there's a limited amount of the city that internet's being provided. Meaning that it's not citywide generally.

Summary: The Map shows 300 municipal networks that offer FTTP services (63 citywide plus 237 that are not citywide). The Map shows "more than 120" municipal networks that offer dark fiber (but not FTTP services).

2:28:45:

Slide 13 -- WHAT DOES THE BUSINESS CASE ANSWER?

So, what does the business case answer? What were we trying to solve? What was the problem we were trying to solve in the business case? 1), obviously, understanding the benefits. What are the costs? And what advantages and disadvantages drive those costs? Are there ways that we can reduce the costs for broadband? To bring fiber-to-the-home to Palo Alto? What are the minimum take rates needed? Meaning, how many Palo Altans need to sign up for service to make it sustainable? And then, what scenarios would result in a feasible business case for you? So, over the past 6 months, we've worked with your staff and the UAC, to really vet the number of different business cases, which we'll present here in the next 15-20 minutes. And what the summary of those business cases were, and how we've all really come to a consensus on what the best options are for Palo Alto.

2:29:40:

Slide 14 -- TWO BUSINESS MODEL OPTIONS FOR FTTH

There are two real business models that exist for you. And think about the baseline of these -- or the foundation of these -- being the City's fiber-to-the-home network. Right? That you would potentially build. So, the foundation is, the City has to invest in the infrastructure. Right? We've seen in the past, it's very difficult to get partners to come to the table and invest. So, the de facto standard is, the City needs to own the fiber-to-the-home infrastructure, to achieve its goals, if it wants to bring sort of citywide equity to the internet market. But on top of that, there are two options. Right? The City could provide services directly. Or a partner could provide services. Meaning that the City owns and operates. Or the City leases the network to a partner who fulfills all the retail duties.

2:30:33:

Slide 15 -- TWO BUSINESS MODEL OPTIONS FOR FTTH (CONTINUED)

And when we look at that, and the advantages and disadvantages of both. You know, when we look at the "City-ISP," it's total control. Meaning, the City does everything. The City also takes all the risk. Because the City has no partner. The operation -- operational partner -- the City will build that from scratch. Meaning, it will be responsible for customer service, operations, ** call center, engineering, sales, and marketing. And all the other functions that come with running an internet service provider. So, some of the disadvantages. On the start-up, there's higher execution risk. The culture is not typically accustomed to operating in that environment. There may be some higher operational debt structure -- or, cost structure. And there could be a possible impact to the debt rate. But when we look at these in the lens of the financial -- and we'll go through this momentarily -- we find that some of those risks sort of are teased out, and are not so negative in Palo Alto's case. And we'll show you why.

In the "partner-ISP" model, again, the City doesn't have to -- The key aspect of the partner-ISP model is, the City doesn't have to provide service. Right? It doesn't have to staff. It doesn't have to provide retail customer service, etc. So, in this case, effectively, you're providing the infrastructure that an ISP will come in and operate on. And take all of the retail services. ISP services, that they'll need to provide to the citizenry.

residents and businesses.

As we look at this, again, you lose control -- Some of the disadvantages are, you lose control. Because, you know,

you're making the majority of the capital investment, still. Because, as you look at fiber-to-the-home, the most -- Most of the cost is in the plant. Right? It's in building the network. So, 85 to 90 percent of the cost is -- Just like in your electric plant, it's in building the network. Which -- The fiber is effectively almost a duplication of your electric plant. So, the City is responsible for most of the capital investment. But it loses control of the destiny of that capital, because it's shifted that to the partner.

Some of the other concerns we've seen with that model -- the partner model -- is, it's relatively new. There's very few cities that that operation is happening in today. And it's happening generally in smaller cities -- say, under 20,000. We haven't seen that create the oper- -- the risk -- Or, we haven't seen that happen in cities the size of Palo Alto yet.

2:33:16:

Slide 16 -- MARKET RATES -- COMPETITIVE ASSESSMENT

So, when we look at what are some important factors for the City to consider in fiber-to-the-home, one is rates. Right? When we looked at -- When we completed our market analysis on rates, we found that the City can be competitive with the existing providers in the market. And, generally, be 5 to 10 percent less expensive. Right? As long as it meets its take rates. Which we'll go through in a moment. So, for example, for the gigabit service. Right? One gigabit to the home. Competitors in Palo Alto offer that at either \$95 or \$83. It's not widely available.

AT&T Fiber is available to only 30.9 percent of Palo Alto.

<https://broadbandnow.com/California/Palo-Alto>

(That is, it's available to at least one premises in each of 30.9 percent of Palo Alto's census blocks.) (Last month, this URL said it was 28.2 percent. I believe the URL is updated every six months or so, as new Form 477 data becomes available from the federal government.)

Where AT&T Fiber is not available, AT&T is not offering internet service to new customers at all.

And the City could offer it in the range of \$85. Right? And be very competitive.

This misses the point that upload speed is also important. The City could offer 1 Gbps uploads. Comcast is offering 35 Mbps uploads.

For the next speed tier down -- So, gigabit is always the gold standard. If we go down to a lower tier -- this would be sort of your mid-tier package -- 600 megabit -- Competitor 1 offers it at \$85 per month. Palo Alto could offer that at \$75 a month. Right? And make the financial model work. And the lowest tier -- Right? -- For the less -- the less power user, you know, someone who's not as inclined, but still needs good connectivity. Doesn't want to pay as much. You know, that typical rate in the market today -- for Competitor 1 is \$45, for Competitor 2 is \$59. So, the City could potentially come in on par at \$45. So, as we went through and developed multiple financial models for fiber-to-the-home, for the City, you know, we wanted to test the rates that you could potentially charge against the market, to make sure that they're in line, or, potentially, slightly lower. Because we see that as a big opportunity for the City. If we can offer slightly lower rates than the market, that creates a good opportunity.

2:35:06:

Slide 17 -- TAKE RATES NEEDED TO ACHIEVE BREAK EVEN -- Map

So, that's really the crux of the market assessment, is, really, to look at those prices. As we look at take rates. This is really important. And what this slide is showing is Palo Alto broken down into about 60 smaller fiber -- what we call "fiber zones." Right? This would actually sort of -- Think of this in terms of your electric utility, and how your grid is broken up, you know, between substations, covering different neighborhoods. So, we like to slice and dice the City to determine "fiber zones" where fiber deployment would occur. And look at the costs of that -- of those areas, compared to one another. And what this map does is, it illustrates for you kind of an overview of the least ex- -- or, the areas where your take rates could be low. Meaning that those areas are less costly to build. Versus take rates that are -- that you'll -- Versus areas where you'll need higher take rates to warrant that investment. Right? So, for example, the "greens" show you areas -- the best case scenarios to build. Right? The areas that are lowest in cost to build, throughout the City. The areas in "blue" are next-lowest cost. Meaning they have higher take rates, but still reasonable -- between 30 and 50 percent of residents taking service. And then, the "yellows" are much more expensive -- at -- and require higher take rates, above 50 percent. Now, this is all a function, again, of how much -- effectively, how much underground construction would need to be done in these areas, versus aerial.

The app that made the map apparently doesn't know that some undergrounded neighborhoods already have conduit for fiber. For example, Underground District #41 (bounded by Middlefield, Colorado, Cowper, and Oregon

Expressway). Can this be fixed? If not, it shouldn't be used to decide where to build.

2:36:43:

So, when we look at the difference between the two, the aerial construction rates are in the \$100 -- or, are in the \$15 per foot range. While your underground construction rates are almost \$100 a foot. So, anywhere we have aerial infrastructure creates a better opportunity to build. Anywhere there's underground, it's more expensive.

What should the construction rate be for undergrounded neighborhoods that already have conduit for fiber? I have the impression that it might be even less expensive than aerial construction. How many feet of this type of construction do we have?

But if you wrap this into the whole, and you look at this across the entire City, there's still a good opportunity to build, with take rates in the 32 percent range. Meaning that the City can create a sustainable business by getting effectively one third of the residents to sign up for service.

2:37:26:

Slide 18 -- CAPITAL SUMMARY -- CITY ISP & PARTNER ISP

Dean Batchelor: Just one second.

2:37:28:

Back to Slide 17

John, I'm sorry. Can you -- Can you make your slides just a little bit larger, please?

2:37:34:

John Honker: Ah -- I -- Let me take it out of presentation mode, and let's just see if we can zoom in more.

2:37:42:

Dean Batchelor: All right. Great.

2:37:52:

John Honker: Is that any better?

2:37:56:

Dean Batchelor: I think that's a little bit better.

2:37:58:

John Honker: OK.

2:37:59:

Dean Batchelor: Thank you.

2:38:00:

John Honker: You're welcome. And if anyone has trouble reading, we can also pull up the larger maps. So that might help.

I think he's recommending viewing the presentation slides
<https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/reports/city-manager-reports-cmr/attachments/05-24-2021-id-12117-presentation.pdf>
rather than the Zoom video. Good idea.

Um. So, again, what this is intended to show is really that construction costs and overall take rates vary throughout

the City. And one dimension you can think about this in is, you know, where do you build first? Versus where do you build later? Whenever you're considering a fiber-to-the-home project, there's a balancing act between building in the least expensive areas first, versus maybe building where there's the greatest digital divide. Where residents don't have access. So, it's got to be a balancing act between the two: 1) to make sure we have good financial stability as we're building, and we're getting, you know, good take rates; but 2) to make sure that the community is served across Palo Alto, as you're building out.

I believe some municipalities let people sign up in advance, and then use that information when determining where to build first.

2:39:01:

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So, as we went through this analysis on costing, we came to these numbers. And I want to put it back into presentation mode, because I think it's -- Can everyone see that? Well, from the Palo Alto side?

2:39:13:

Mayor DuBois: Yes. I think so.

2:39:15:

John Honker: OK. Great. Great. So, really, this -- these are the costs for fiber-to-the-home, under both the City-ISP and the Partner-ISP models. We wanted to evaluate both of them, side by side, to give you an understanding of what the total capital costs would be. And then what the underlying financial sustainability would be. So, we're going to first go through the capital costs. So, the fiber feeder distribution network. So, think about that as your electric distribution network. It's very similar. It aggregates customers across neighborhoods. And it's the most costly. It is the bulk of your construction. So, in both scenarios, whether the City's providing service or the partner is, you're looking at about \$70 million in those fiber construction costs. Again, I mentioned before that building the new fiber backbone is going to save you about \$4.5 million on that, because of the efficiencies we get building extra capacity into the backbone.

Is this saying, essentially, that if we built a lean-and-mean fiber backbone, designed to support only FTTP, instead of the proposed all-singing-all dancing fiber backbone, it would cost only \$4.5 million, rather than \$22 million (or \$28 million)? I have further questions about why it should cost even that much. For example, how many FTTP substations would have to be supported? Where would they be? Etc.

It helps you reduce your over all costs for fiber. So, the revised number is about \$65 [million] -- \$66 million for the fiber plant. Now, in addition to that, just like you have in electric, you have service drops. Right? From the right-of-way to your house. So, fiber drops are exactly the same. And in this case we have a \$9 million capital expense for fiber drops if the City is providing service. And a \$12 million if the partner is providing service. We used a slightly higher take rate for the partner, because they may be able to ramp up quicker -- more quickly. Which would lead to more fiber drops being built to homes.

The other categories are really data centers, data center installation, and home equipment and installation. There are some differences in there. But these net out to basically a capital cost of about \$86 million for the City. And under the -- If the City were going to provide services directly. And \$80 million -- \$80.5 million if the partner was going to provide services.

2:41:43:

Slide 19 -- FUNDING SUMMARY -- CITY ISP VERSUS PARTNER ISP

So, as we look at these costs, what we wanted to also do, then, is figure out how this -- how a project like could be financed. And the -- To your benefit, some of the existing funding that you have from the current Fiber Fund could easily be leveraged and added to this. So, for example, in both models, we have the capital expenses. So, total of \$85 million for the City-ISP. \$80 million for the partner-ISP. We also need some set aside for working capital. And when we say "working capital," we mean all those start-up expenses that you have to incur BEFORE the revenues can cover expenses. So, staffing, systems operations, internet -- wholesale internet content -- from the internet. All of those initial expenses, you need to cover the first few years of operation. So, in the City[-ISP] model, because you're hiring, you're spending more on staff, and you're staffing up internally, you're looking at about \$12.5 million for the City -- for working capital. And about \$6 [million] in the partner[-ISP] model. Because in the case of the partner, they're

taking responsibility for most of those activities. So, it gives us a total funding of \$98 million for the City[-ISP], and then \$86 [million] for the partner[-ISP].

As we worked through this with your staff and the UAC, we looked at the opportunities to use existing funding to bring down the total borrowing costs. Right? So, the Fiber Fund has an existing \$30 million in it. So, one use of that could be to fund both the backbone and fiber-to-the-home. With that funding. So, for example, if the backbone was funded -- or a portion of the backbone was funded -- there would be a -- \$17.5 million left for fiber-to-the-home. There's also a Special Projects Reserve in electric, that could be utilized as a LOAN to the fiber -- to the new fiber-to-the-home project. And paid back over a 10-year period, which we've built into the financial model. And that gives you a total available funding of \$32.5 million, for -- you know, depending on which way you wanted to go -- either retail or a partner. So, that brings our funding down. Right. What -- New borrowings would be reduced to 60 -- about \$66 million for the City-owned and -operated model, and about \$53 million for the partner model.

2:44:10:

Slide 20 -- CITY ISP -- Insource & Outsource -- Functions

As we looked at this, and we looked at the financials for the two models, we quickly realized there were oppor- -- there were more opportunities on the City-ISP model, for the City to provide services directly, and control the environment, and also, potentially, reap better financial rewards, than if it were going to the ** partner. But, to do that, the City would have to take on new operations. Really, effectively, build a broadband business. And cities do this. Right? There's 71 out there, across the U.S., that have done it. And been successful at it.

MuniNetworks' map

<https://muninetworks.org/communitymap>

says there are 300 municipally-owned FTTP networks in the U.S. (as of January 2020) -- 63 citywide plus 237 that are not citywide.

Broadband Communities says that, as of October 2017, there were 216 municipal FTTP networks in the U.S. -- of which only 18 were public-private partnerships.

<https://www.bbcmag.com/community-broadband/a-record-increase-in-municipal-fiber-broadband>

Broadband Communities used to have an online database of FTTP networks, but they no longer do.

I don't know why Honker thinks there are only 71.

But as you're doing that, it doesn't mean you have to insource everything. We find a lot of cities that decide, hey, we'll outsource some of our work and our services with strategic vendors where we need to, and we'll insource where our core functions are. So, as we took a look at operations of a Palo Alto internet business, these are basically the insource versus outsource options. Things like your customer service. You have existing customer service agents that can be cross-trained to some degree, to support internet. Billing, finance, field services. sales & marketing, and engineering all become really core functions, some of which you do today. Some that you would really need to insource, because it's a core function, like sales & marketing. But there's a number of other things that could be outsourced. In terms of network engineering, network design, installation, and maintenance. A lot of cities outsource that today, at a lower cost than they internalize it, because their overheads are, frankly, a lot lower. So, as you're considering this, think about this as, you know, the City being the provider. It doesn't necessarily have to be that everything is in-house. There are a number of strategic vendors out there, that can assist on these operational roles.

2:46:13:

Slide 21 -- PRO FORMA SLIDE -- CITY RETAIL

2:46:15:

Slide 22 -- FTTH & EXISTING COMMERCIAL DARK FIBER -- CITY ISP

Um. This -- I'm going to skip over this slide. As we look at the financial model,

2:46:20:

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effectively, the goal was to really look at an overall 20-year build. And this is a slice of the pro-forma that shows the first 5 years of operating performance, as well as a snapshot at Year 10, 15, and 20. Fiber projects are long-term.

Your financing, if you're bonding for a fiber project like this, you're looking at 20 to 25 to 30 years. One of our customers, the city of Lehigh, in Utah, which is about the same size as Palo Alto. They own their own electric utility. High-tech community. You know, they're very progressive. Just bonded \$64 million for their project, on a 25-year note at 2.75 percent. So, there's a number of active financings going on in fiber-to-the-home today. This P&L really shows you the cumulative revenues. And I mentioned, for example, the existing fiber revenues growing at 2 percent. So, we would see those as contributing to the overall fund. And this becoming sort of an expansion of the fiber business itself. Right? Because the fiber business is already netting \$2 million. Which can help you leapfrog into fiber-to-the-home more easily, and borrow less. So, we add those existing revenues to fiber-to-the-home revenues over time, which grow to about \$10 million, assuming a 32 percent take rate in the market. Meaning 32 percent of your residents and your businesses take service from the network. Giving us a total revenue projection, all-in, at sort of a steady run rate of about \$11 million. Growing about \$1 million a year after that. With the fiber revenue and additional connections. If we jump down to our debt service, we made an assumption of the debt service being a straight-line 20-year bond. At 2.5 -- or 3 -- 2.5 percent, which would be paid starting the first year of fiber-to-the-home operations. So, you've got a \$3.3 million debt service carry. And then, we also have the repayment of the [Electric] Special Projects Reserves, back to Electric. And it gives us a cumulative funds balance here. You see, we have some negatives in it. But we're carrying a positive fund balance every year. And our most -- our tightest years are, of course, Years 3 and 4, which is typical. The first couple of years, you're always going to be up-side-down -- meaning, your expenses are going to be higher than your revenues. You know, we have a good amount of working capital here -- the \$12.5 million -- to be able to cover that shortfall, to keep you above water. And, again -- and this includes that 20 percent contingency on construction costs and operating costs. So, we feel that it's a very conservative estimation. Especially given the fact that most cities that are out there are achieving take rates of between 40 and 50 percent. Versus the 32 [percent] that we modelled. We -- You know, we like to be very, very conservative in the financial analysis, to make sure that, you know, as we're going -- You know, as you're building, it's not just about many customers WANT to take service. Right? It's not what the surveys say, and the market analysis says. You also have to execute on the plan. As the City. And be able to execute successfully. So, as we look at all those factors in determining take rates and demand, we really try to ratchet back the number of subscribers, to present a realistic scenario, but a conservative scenario.

2:50:12:

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So, this, really, to simplify -- excuse me -- To simplify that P&L, this is what that fund balance would look like if you implemented fiber-to-the-home -- again, at that 32 percent take rate. So, you see, here, our fund balance gets down to about a million. But we start to grow after we get through the first four years of operations. And the network then starts to throw off about \$3 [million] to \$4 million a year. In perpetuity. And you'll always have additional connections coming in from customers, as you're starting to grow the network over time. But the first 3 or 4 years is really the determining factor in meeting those higher take rates. Once you hit that 32 percent. Usually, it takes you 3-4 years.

2:51:01:

Slide 23 -- FTTH & EXISTING COMMERCIAL DARK FIBER -- PARTNER ISP

This is the same financial analysis that we did for the partner-ISP. So, we ran two side-by-side financial models, to understand what the delta would be between the City providing fiber-to-the-home itself, versus letting a partner do it. You can see the graph, then, and the cash flow -- or, let's say, the ending-year fund balances. They're still positive. But our ending-year numbers, at Years 10, 15, and 20, are considerably lower than they are in the retail model. So, for example, at Year 20, you're at a \$47 million fund balance with a partner.

2:51:43:

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You're at \$71 [million] with -- if you're providing services directly. So, it's almost a \$30 million delta between the two. But the investment required by the City is only about \$10 [million] less with the partnership. So, you know, City-ISP always generates higher returns for the City. Given the fact that we -- we're not as concerned about financial returns, those funds can be utilized, again, to reduce costs. Right? Reduce pricing to residents. Create low-income programs for disadvantaged Palo Altans. Or reinvested in new network services, and new provider services.

2:52:25:

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Slide 24 -- IDENTIFICATION OF KEY RISKS

So, you know, as we go through this, and we develop the business case, we shared the key risks with the UAC. Right? What are the key risks that the City would face? Focusing mainly on the retail model. Because there are more risks. But there more opportunities to mitigate those risks, at the same time, because you're in control of them. So, the key risks, as we always see them, are: 1) Retail Prices. Keeping retail prices competitive and minimizing price erosion for the City. Take Rates. As we talked about, 1) making sure the City is selling a quality service, and providing it efficiently. And serving the customer. Right? Operating Costs. Identifying what operating costs can potentially be outsourced. And trying to offset any operating costs that may have a very high overhead attached to it. And, of course, Construction Costs.

And I thought this was interesting, because, as we worked with the team, we actually reviewed current construction rates with contractors in Palo Alto. So, we went to about six different leading fiber-to-the-home -- or, I should say, fiber construction contractors -- to really get pricing from them, that we based our engineers' estimates on. But, also, to ask them, how do they feel about fiber builds and construction in Palo Alto. And why are prices high? They gave us a good summary. And you'll have this summary, as well. But they said there are definitely some issues to consider that would help reduce those pricing -- those prices. Such as, you know, increasing permitting and locating resources. Making sure that blanket permits are available. Increasing construction workday hours. And, you know, making sure the permitting process overall is very smooth. Because these are large projects. And, in this case, it would be a potentially citywide project.

2:54:36:

Slide 25 -- NET REVENUES AT DIFFERENT TAKE RATES – CITY ISP

The video version of this slide adds a color key for the take rates: orange = 24 percent (break-even), yellow = 30 percent, blue = 35 percent, green = 40 percent, and dark blue = 45 percent.

We also went through a number of sensitivity analysis -- analyses -- as we went through both the City-ISP and partner-ISP version. There's a lot more detail behind these. But this is just an example of break-even sensitivity. Looking at take rates. So, as we looked at your financial model, and tried to assess where your break-even take rates were, as well as your -- you know, your ultra-positive take rates, we found that, you know, 24 percent is really a break-even for the network. Again, you can see here -- this is effectively showing you the amount of cash in the funds at the end of the year, at the different take rates. So, you can see, at the 24 percent, we're still a little negative. Right? Meaning that the utility, or the broadband business, needs some cash. But as we grow above that -- even at 30 percent -- you know, we're above the net -- above the zero line. 35 percent, higher, 40 percent, higher, and 45 [percent], higher. So, we went through this analysis on take rates, pricing, and a number of other factors, just so you can understand the sensitivity. And all that data is sort of behind this presentation.

But not, I take it, available in a report on the City's website.

2:55:59:

Slide 26 -- BUSINESS CASE SUMMARY

So, summing it up, as we worked through the business case, we came down this slide. Which, I think, for you is the most important slide. Right? Again, we talked about, well, the City, you know, needing to invest in the fiber-to-the-home network itself. And the infrastructure. And then, it just becomes a question of whether the City provides services over that, or the partner does. And in the City case, again, \$66 million in new funding, with a \$71 million fund balance over the 20-year period. Versus \$54 million in new funding, and a \$47 million balance over the \$20 year period. So, financially, there's a -- there's a better opportunity on the City-ISP side. And it gives you full control over pricing, customer quality, and future services. Versus the partner side, where you have no control over those. Right? You're investing the capital, but, ultimately, the partner is responsible for providing those services. And if you're investing a significant amount of money, we've seen most cities say, I want to be in control. If I'm going to invest -- I'm going to be investing in the community -- I want to have control over the outcomes.

2:57:18:

Slide 27 -- DEPLOYMENT WITHOUT DEBT

We also looked at -- because we know that taking on new debt is a sensitive topic. So, we also looked at alternative funding opportunities. And I'm going to go a little quicker through this one, because I know we're getting short on time. But, you know, could the City deploy fiber-to-the-home without taking on new debt? Which would mean building

out over a longer period, reinvesting "excess" revenues from the system back into the expansion, and then, potentially, utilizing more companion projects, such as undergrounding, electrification, wherever you can, to reduce construction costs.

2:57:55:

Slide 28 -- DEPLOYMENT WITHOUT DEBT (MAP)

So, we did a similar -- this is a very detailed engineering analysis of where you could build. And how you could build. And how much time it would take to really cover the City. And we found that in the first 3 years, you cover about 12,000 households, about 550 businesses. Then you'd have to take a break. Right? You could build that portion. And then, you know, the years 4-10, you could cover another 7,000 households and about 500 businesses. Then, there would still be some households at the end that wouldn't have service. Because these were the most expensive to build. So, we really oriented this map toward, hey, what can be do with the money? Right? What -- With the funding that we have, what's the best use of that? And how does that -- How can we connect the most potential residents, to drive revenue? And then reinvest that revenue back into more expansion. So, that's really how the map's oriented. You see, the areas in green are the areas you would build first, in Years 1-3. Followed by the yellow areas, Years 4-10. And then, you have the red areas. Which are the most expensive to build. Which we'd have to find another solution for. Right? That could either be, you know, again, the City accelerates funding. Or, you know, you look for companion projects that could reduce cost. But it still becomes a pretty large part of the City. Right? You know, the whole center of town. The south. And, you know, some of the -- some of these enclaves in the south side of town.

2:59:32:

Slide 29 -- DEPLOYMENT WITHOUT DEBT -- Results (1)

So, to summarize that model, you know, if you were -- let's say, the "no-bonding" model -- the results are that the City could reach about 70 percent of all homes and businesses with no bonding. With no bonding. It gives you a deployment of about 46 percent of the total community. You know, you would have service available in the first 3 years to those areas. And, again, that -- \$32 million in total funding for that. So, you would effectively use the existing funding streams that you have from the fiber business. Right? The \$2 million in revenue. Plus the [Special] Electric Projects Reserve and the existing Fiber Fund.

3:00:23:

Slide 30 -- DEPLOYMENT WITHOUT DEBT -- Results (2)

So, what's left over are about 7,000 homes and 209 businesses. These are the most expensive to build, with a lower density or higher underground, which still requires another \$38 million in capital expenses. So, again, this still creates a non-equitable issue. It does get you service to a good chunk of homes and businesses. But it still leaves a large gap at the end of 10 years, to reach those 7,000 homes.

3:00:53:

Slide 31 -- BUSINESS CASE SUMMARY

As we talked through this with the UAC, it wasn't particularly the recommended model.

UAC clearly advised Council to choose the NEW DEBT option, not the NO DEBT option, because the the NO DEBT option wasn't equitable. It took longer, and didn't finish the job.

But it was an alternative. Again, as we developed this business case per, you know, guidelines from the City, there -- we wanted to kind of encapsulate all of the options financially. And determine which ones could be alternatives for the City to consider. So, to summarize, the NEW DEBT option is 100 percent build-out to all homes and businesses over 5 years. For the \$66 million. The NO DEBT option is to build out to, effectively, 13,000 homes and businesses in the first 3 years. And then another 7,500 homes [and businesses] in -- over the next 7 years. Right? The Years 4-10. And then, alternative strategies to fund the remaining. So, we wanted to boil this down into saying, hey, if it's a debt -- funding -- issue, then here are the two options. And that -- those are the ones most important to consider.

3:02:03:

Slide 32 -- EDUCATION & COMMUNICATIONS

Finally, one of the next steps in the project will be to -- Our lights just went off here. Sorry. One of the next steps as we look at our -- Oops. Excuse me one second. Let me turn the lights back on.

3:02:26:

City Manager Shikada: For the record, John is not in Palo Alto.

3:02:28:

John Honker: [laughs]

3:02:35:

City Manager Shikada: Should be. **

3:02:42:

John Honker: Yeah. There we go. OK. Um.

3:02:47:

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So -- So, again, this covers the -- really, those options. So, as you're thinking about this, think about, really, the citywide option as the opportunity to provide services as a retail ISP, versus a partnership. I think our rec- -- professional recommendation is, the City-ISP model makes the most sense for Palo Alto, given the benefit of -- um -- total control, a similar capital investment to the partnership, and higher financial returns. We see most cities building out, and using that model, and being successful with that model. Because, again, it gives them the best control of the community. And, at the end of the day, their biggest -- their drivers are really to improve services to the community any way they can. And they find that the best results come through that.

3:03:40:

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Slide 33 -- RECOMMENDATIONS

As we look back at the next recommendations, as we went through the final analysis with the UAC, a number of recommendations came out of that model. Or, of those meetings. And those recommendations are here. 1) is to really approve and direct staff to pursue the build-out of the fiber backbone, so it will support fiber-to-the-home. And also perform the following tasks, basically, by the end of the first quarter next year.

That is, by 03-31-22.

1) is to really combine the two phases of our scope that we have with you now. Which is the fiber-to-the-home engineering. And the fiber backbone engineering. Which will give you truth -- ground-truth -- costs for the final network that will be deployed. The backbone would happen starting immediately. And be complete -- The engineering would be complete sort of in the December timeframe. Followed by the fiber-to-the-home, which would be completed sort of end of first quarter of 2022. The next item is, really, to complete residential and commercial broadband surveys, in conjunction with the work that staff has been doing on community engagement so far. You have a number of engagement initiatives going on. And the fiber-to-the-home engagement would layer into that. We would want to integrate into it. And also really work with your communications team, to 1) educate, 2) survey, and 3) really garner interest in fiber-to-the-home from citizens AND businesses.

The next item is really creating a mis- -- Or, completing a risk and mitigation analysis of the City-ISP model. Think of that as developing more of a business -- more of a business PLAN for fiber-to-the-home, to identify how the City would actually go about building and managing a broadband utility. And then e) is determining the best financing model, along with any grants that may be available. And, you know, we've seen significant amounts of grant funding coming out from the Biden administration so far this year. We expect those to increase over the -- you know, the next 12 months. And almost every agency that is getting funding is building SOME broadband component into their program. So, we never see grants as a silver bullet for funding these kinds of networks. And we realize Palo Alto's not eligible for lots of grants. But we believe there may a few that will help, and contribute to the overall process. So,

we'll be -- Our Vice President of Grants, she's in Washington, and has worked for the federal government for 27 years now. She'll be working with your team to identify any and all grants that are out there. And the final items are, really, to approve and direct staff to establish a city-operated ISP model within 5 years. And, then, finally, to accelerate and complete the community education and engagement regarding FTTH. Which I had mentioned before. So, that really reviews the recommendations for -- and next steps.

And that finishes our presentation. So, I'm sure there's questions. I'd love to open it out to the Mayor and members of Council.

3:07:29:

Mayor DuBois: Yes. John, thank you for going through that. I know we have some members of the public who have been waiting a long time. So I'm going to suggest we go the public. And then come back and take a break. And then we'll start with the Council questions at that point. City Clerk, could you go to the public, please?

3:07:09:

City Clerk Minor: Yes, Mayor DuBois. Any member of the public wishing to speak on this item, please raise your hand at this time.

3:07:55:

The video shows a list of members of the public signing up to speak. Also a visual of the speaker's remaining time.

We will take hands until the first speaker finishes. Our first speaker is Don Jackson, to be followed by Andy Poggio. Don, go ahead. It's your turn. You've got 2 minutes.

3:08:11:

Don Jackson: Hi. Uh. Can you hear me?

3:08:13:

City Clerk Minor: Yes.

3:08:14:

Don Jackson: I was hoping to share some slides here, but I guess that's not going to happen. I'm an outgoing UAC commissioner. Served on its budget subcommittee this year. So, I spent many hours contributing to the plans you heard tonight. Again, I was going to show you the slide. Can't do it. So, I had, basically, a one-slide summary that I sent -- emailed to the staff ** and summarizing everything that Magellan said in one slide. And then I was going to show you the options the UAC -- on that slide -- the UAC chose. But can't do that.

So, now I'm going to take off my commissioner hat and offer you some personal opinions. A frequent question that is asked of the municipal broadband networks is if they need to provide television or telephone service. My answer is an emphatic no. There's a clear trend towards direct-to-consumer offerings by all the major video content providers and sports leagues. And there are many well-established voice-over-internet telephone providers.

Finally, I question why the up-front capital cost of a municipal fiber network is being held to a standard of profitability -- a standard we do not apply to our streets, the new public safety building, or our libraries. That being said, the projections do seem to show that a fiber internet service should become cash-flow positive in around 10 years. So, the costs are reasonable, and manageable. I urge Council to proceed with both fiber projects, and to begin the process of raising funds, so we can begin to build out starting next year. Thank you.

3:09:54:

City Clerk Minor: Thank you, Don. We will no longer be taking speaker hands. Our next speaker is Andy Poggio, to be followed by Loren Smith, and then Subodh Iyengar. Andy, go ahead. You have 2 minutes.

3:10:13:

Andy Poggio: Hi. Thank you. So, first, I'd like to say that, please, don't try to assess public interest in FTTH until

you've completed a successful community awareness and marketing effort. This is just what Magellan suggests. It's the only way to get an accurate assessment. No surveys until you've gone after the community with education. Next, there was an article on PAOnline on FTTH.

It was a guest opinion by Robert Smith.

<https://www.paloaltoonline.com/news/2021/05/14/opinion-do-we-really-need-a-municipal-broadband-system>

And the article was SO inaccurate. I wouldn't be at all surprised if it was commissioned by AT&T or Comcast.

Yes.

Just mention a couple of quotes. One quote is, "incumbents" are "servicing our community" and "getting better every year." AT&T has said they will NOT provide fiber to locations with underground utilities. Those locations are stuck indefinitely with slow, ancient twisted-pair copper. This is not AT&T getting better. This is AT&T staying bad. Comcast, on the other hand, forbids the residents from providing any internet services. Many residents, for example, use home automation software to control our homes remotely. Comcast forbids this, and so cannot serve these residents. And, even though I've never been a Comcast customer, even I know about Comcast's abysmal customer service record. One more quote. "No one is sure what the future of wired systems will be." Well, some of us are pretty sure, maybe because we're more knowledgeable than the author. Fiber has enormous bandwidth capacity, and is unlikely to be a limiting factor, even decades from now. 5G wireless is proliferating, but it best suits mobile devices. And what do 5G transmission towers use for network backbone? Fiber. So, we all know the advantages of a municipal fiber system for Palo Alto. Attracting start-ups and new businesses, improving age-in-place, enabling better work from home, keeping Palo Alto a uniquely desirable place to live. So, let's take this opportunity to build a 100 percent Palo Alto fiber-to-the-home NOW. Thank you.

3:12:13:

City Clerk Minor: Thank you, Andy. Our next speaker is Loren Smith. To be followed by Subodh Iyengar. And our last speaker on the list will be Daniel Dulitz.

The video of the list shows more speakers. Whatever.

Loren, go ahead. You have 2 minutes.

3:12:33:

Loren Smith: Good evening. And thank you, City Mayor DuBois, City Council members, and City Manager Shikada. My name is Loren Smith, and I'm a City of Palo Alto resident, and a commissioner of the Utilities Advisory Commission. I also served on the UAC's budget subcommittee, which worked alongside Magellan Advisors and City staff to develop the presentation you have available this evening. I speak here tonight to support -- to voice support for a citywide implementation of 1) an augmented and more robust fiber backbone and 2) a fully City-owned ISP delivering fiber-to-the-home service. When fully implemented, this service will have a significant impact on the lives of families here in the City of Palo Alto for many years to come. Importantly, a City-owned broadband service via fiber will enable this generation, and the next, and the next to take full advantage of the technologies and capabilities made possible through reliable, resilient, and cost-effective, high-speed, **synchronous**

symmetric (not "synchronous"). (That is, uploads are as fast as downloads.)

broadband service. As we have all experienced over the last year, the need for broadband services has intensified during the COVID-19 pandemic. Our City -- and the nation -- has been hit hard. Our children, and our community, were forced, overnight, to switch to a work-from-home, school-from-home, life-at-home, quarantine space, all of which significantly increased the demand on our existing broadband networks -- most to unsatisfactory levels. As children and parents all jumped online, existing broadband services were crippled, and buckled under the strain. It is our hope the City of Palo Alto will use this experience. And, just as they looked to increase the resiliency of our electrical grid, look to increase the resiliency and reliability of our community's broadband infrastructure, and our neighborhood connectivity. Taking advantage of the City's current Fiber Fund balance, and leveraging the City's existing dark fiber network, we enable greater capacity, less signal degradation, stronger and more reliable broadband service, secure service, also resistant to electrical noise. And, most importantly, we use existing, AVAILABLE, earmarked funds in an appropriate manner, to benefit the population of the City of Palo Alto. Thank you.

3:14:58:

City Clerk Minor: Thank you, Loren. Our next speaker is Subodh Iyengar. To be followed by Rohit Mediratta.

Subodh, go ahead.

3:15:13:

Subodh Iyengar: Can you hear me?

3:15:15:

City Clerk Minor: Yes. You have 2 minutes.

3:15:16:

Subodh Iyengar: Um. I support the fiber-to-the-home expansion. I was recently fortunate enough to get gigabit fiber through a private ISP. And it's been transformative in my ability to work from home during the pandemic. Unfortunately, the fiber connection that I have is expensive. So, I hope that everyone in Palo Alto can also enjoy the benefits of fiber in an affordable way. I was disappointed to see the initial Magellan estimates of gigabit fiber is \$85. Other places -- for example, Atherton -- can offer 1 gigabit at \$60 a month. I think simple, cheap plans will be the key to the take rate. And the analysis of Magellan ignores the dependence of the price on the take rate. Our City is small, so it's unlikely the market competition will offer significant savings. So, I think the City should own the ISP. If we're going to partner-ISP, Magellan should also investigate open fiber, rather than a single partner ISP. I also agree with Don that we're in a transformative time, where classic cable video is dying. So there's no need to provide cable video services or phone services at all. One of the big expenses of the expansion of a dark fiber network to the home is that, like, fiber is usually always on the inconvenient side of the street. And so, it's really expensive to get it across the street, because it's undergrounded. The Magellan plan should make sure it considers building out and expanding the dark fiber network on both sides of the street, so it becomes cheaper to expand fiber-to-the-home in the future. I would love to see, also, Magellan come up with creative revenue streams, like using fiber-to-the-home for businesses in Palo Alto, as well. Lots of small businesses are unlikely to be able to run dark fiber leasing by themselves. And might actually like a standard ISP, versus a dark fiber ISP. There's also been some recent op-eds, related to wireless versus fiber technology. However, expansion of fiber technology is key to then deploy any fast wireless technology, like 5G. And there's no comparison to the reliability of fiber. Thank you.

3:17:19:

City Clerk Minor: Thank you. Our next speaker is Rohit Mediratta. To be followed by Rebecca Eisenberg, and then David Terrell. Rohit, go ahead. You have 2 minutes. [pause] You need to unmute from your end.

3:17:48:

Rohit Mediratta: Thank you. Can you hear me now?

3:17:49:

City Clerk Minor: Yes. Go ahead.

3:17:51:

Rohit Mediratta: Good evening, Mayor and Council members. Just like some of the previous speakers, I support the fiber-to-the-home program in Palo Alto. I think Palo Alto was decades ahead of most other cities in the country when they started, in 1996, to lay out fiber within Palo Alto. I think we're now at a point in time where it really should be expanded to all the homes in the City. I think a couple of things that I would like to have seen in the presentation was: When fiber-to-the-home is laid out, would the overall bandwidth coming into the City have to be expanded? And how that would happen? Because that's something that was not considered. The other thing that I would have liked to have seen was: What would be the uplink speeds of fiber-to-the-home to neighborhood homes would actually be implemented? Thank you.

3:18:52:

City Clerk Minor: Thank you. Our next speaker is Rebecca Eisenberg. To be followed by David Terrell. And our final speaker is Daniel Dulitz. Rebecca, go ahead. You have 2 minutes.

3:19:05:

Rebecca Eisenberg: Thank you. Like the other speakers, I strongly support the fiber-to-the-home initiative. And I

urge you to consider these measures, while also thinking about two values you claim to honor. One is equity. Two is sustainability. First as to equity. Due to decades of deregulation, AT&T and Comcast now have been able to exert their monopoly power to deprive consumers of choice, while at the same time gouging prices. It will take decades for the U.S. -- if it ever does -- to get this under control. That's why an alternative to this marketplace, such as a MUNICIPAL internet service provider, is greatly needed. Additionally, as to equity, it has been -- it was very frustrating to many of us that Palo Alto -- City Council -- decided to bring fiber to businesses -- especially to BIG businesses -- before bringing it to homes and residents. This was an **extraordinarily bad judgment**,

This is a bit harsh. In 1996, I believe there were no municipal FTTP networks in the U.S. (This 2010 article lists the "project start dates" of 88 municipal FTTP networks. The earliest is 1997 -- Holyoke, MA.

https://www.bbcmag.com/pub/doc/BBP_MayJune10_ResurgenceOfFiber.pdf

But as of 2019, they were still just thinking about FTTH.)

<https://muninetworks.org/tags/tags/holyoke>

especially in retrospect, as, over the past 18 months, the empty office buildings and those partly in development had the benefit of fiber internet access. And very few employers and employees were around actually to use. Meanwhile, residents -- in particular, low-income residents -- had to live without reliable internet access in a time where virtually everything important was moved online. This was particularly harmful to children at our public schools, where the race and wealth divide between the haves and have-nots was deeply increased, due to lack of reliable internet access. You need to fix this. And it will be easy to fix this if you invest in a municipal internet service provider, using City funds and providing it to everyone, not just to the wealthy few. As to sustainability -- I'll be super-fast -- you all have talked about the need to work from home, that won't be possible if you don't get every single one of our homes wired as quickly as possible. Please don't make this profitable -- that's my alarm. It doesn't have to be profitable. It needs to be equitable and sustainable. Thank you.

3:21:16:

City Clerk Minor: Thank you, Rebecca. Our next speaker is David Terrell, to be followed by our final speaker, Daniel Dulitz. David, go ahead. You have 2 minutes.

3:21:30:

David Terrell: Hi. My name is David Terrell. I'm a ten-year Palo Alto resident. And I support bringing fiber-to-the-home as a public ISP in Palo Alto. I've had the privilege of using both Comcast and AT&T for wired internet service. I've had the privilege of using AT&T, Verizon, and -- whatever the latest one is -- for wireless. And I can tell you that the services that I've gotten from Palo Alto Utilities have been vastly superior in terms of customer service and availability. So, I would love to see that delivered for internet service as well. Thank you.

3:22:13:

City Clerk Minor: Thank you, David. And our final speaker is Daniel Dulitz. Daniel, go ahead. You have 2 minutes. [pause] Daniel, go ahead. You have 2 minutes.

3:22:44:

Daniel Dulitz: OK.. Great. I'm Daniel Dulitz. And I support fiber-to-the-home provided by a City ISP. I've lived in Palo Alto for 20 years. Over 10 of those years on upper Page Mill Road, just beyond the upper reaches of Foothills Park. You provide us with electricity, water, and sewer service, for which we thank you. The presentation we heard tonight was largely about the business sustainability of fiber-to-the-home. That's important. But I want to step back to ask the question of why we should do this project as a City in the first place. For us in the foothills, I prefer the phrase "upper Page Mill," because we're three miles beyond the entrance to Foothills Park. Our internet needs have long been neglected by the City. We were never served by the Palo Alto Cable Co-Op. We were excluded from the contractual service area when the City sold the Cable Co-Op to AT&T.

The City never owned Cable Co-Op. The City never sold Cable Co-Op to anybody.

Wired broadband is not available here. And satellite service -- even Starlink, which we have -- cannot be used for video conferencing or other real-time work. Palo Alto provides us with water pipes and sewer pipes. In the year 2021, Palo Alto should provide us with internet pipes as well. Back in the 1990s, Palo Alto was a leader in providing internet to the home. Thirty years later, it can be again. I've talked to many of my neighbors, and I think the neighborhood would be an enthusiastic partner for the City in developing a fiber-to-the-home project, which I wholeheartedly support. Thank you.

I think it would have been more community-minded of Dulitz to have asked Council to choose the option that provides FTTP access to 100 percent of premises in Palo Alto within 5 years, rather than the option that provides FTTP access to only 70 percent of premises within 10 years.

3:24:02:

City Clerk Minor: Thank you, Daniel. Mayor DuBois, that was our final speaker.

3:24:08:

Mayor DuBois: So, we've been here for a while. Can you guys give me a thumbs-up if you'd like to take a break. OK. Let's take a 10-minute break. And then we'll come back. Thanks. Back at 8:35.

BREAK
#####

From: [Jeff Hoel](#)
To: [Council, City: UAC](#)
Cc: [Hoel, Jeff \(external\)](#)
Subject: TRANSCRIPT & COMMENTS (part 2) -- 05-24-21 Council mtg -- FTTTP
Date: Wednesday, June 16, 2021 5:16:16 PM

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Council members and UAC commissioners,

Here is the rest of the transcript, with my comments.

Thanks.

Jeff

=====
Jeff Hoel
731 Colorado Avenue
Palo Alto, CA 94303
=====

#####

Audio:
<https://midpenmedia.org/city-council-152-5242021/>

Presentation slides (56):
<https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/reports/city-manager-reports-cmr/attachments/05-24-2021-id-12117-presentation.pdf>

BREAK
#####

3:35:31:

Mayor DuBois: OK. If Council members are back, please turn your camera on. [pause] Looks like we may have lost Council Member Cormack. [pause] Well, hopefully she'll reconnect. Let's go ahead and continue.

3:36:12:

City Clerk Minor: She was actually under -- Mayor DuBois, she was actually under attendees. I just upgraded her to panelist.

3:36:18:

Mayor DuBois: OK. Good. Welcome back, Council Member Cormack.

3:36:23:

Council Member Cormack: I'm not sure if I was upgraded or downgraded.

3:26:27:

Mayor DuBois: Yeah. Side-graded. Let's go ahead and move on to questions, comments. There was a lot to digest here. It was a very big report. Um. [pause] Does anybody want to start? Yeah. Council Member Cormack.

3:36:47:

Council Member Cormack: Thanks so much. Um. As we went through this tonight, one thing that occurred to me is:

it might have been better to have a study session first, to break up sort of all of the information, and then talk about the actions. I mean, the UAC spent many hours on this. And it took me a long time even just to read their minutes. So, you know, just a thought for next time. This is a big deal.

Speaking of the Utilities Advisory Commission, a huge thanks to them. Lots of diligence on spending time on this.

I have a few overall comments I want to make. And then a fair number of questions.

You know, first -- You know, we got the survey results last week from Polco. And when you think about the need or desire for -- I'm not going to call it "fiber-to-the-home." I'm going to call it, like, you know, good internet. Not even just fast internet. It's really reflected on pages 74 to 75. There are, you know, at least 12 separate comments that people wrote in.

Here's the Polco survey document (05-17-21). "Internet" is mentioned 23 times. "Fiber" is mentioned 10 times. ("Fibre" is mentioned once.)

<https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/reports/city-manager-reports-cmrs/2021/id-12270.pdf>

I'd encourage Council members to think seriously about wanting and asking for FTTP specifically. The City has had a couple of decades to consider what technology is best for delivering internet service to homes and businesses.

And I've also been thinking a little bit about, you know, what is a utility. And, you know, should this be a utility that we offer. A couple ways of thinking about a utility. Right? One is something that we all need. And I think there's an argument to be made that, at this point, everyone needs this kind of service. But then, there's also the argument about -- or is it best provided as a monopoly. Right? Due to capital costs. And that's sort of like where we end up thinking about the cost part of it. So, I just encourage us all to think about, you know, what is a utility and what should a city be providing.

Empirically, internet service in Palo Alto costs more than it should, and isn't as fast as it should be, or as reliable as it should be. And no government entity has shown an interest in improving the service via regulation.

On 10-18-10 and 11-01-10, Council voted to increase the purpose and duties of UAC to include providing advice to Council about a fiber utility.

https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/reports/city-manager-reports-cmrs/year-archive/2010/final-cmr-398_10-2nd-reading-council-ad-hoc-committee.pdf

I appreciate the staff report. You know, we've been at this for 20 years. And we've gone this way, and that way, and up and down -- literally. So, I feel like this Council sort of ends up with a lot of things that we've been working on for this long.

And then, a fair number of questions. Oh, actually, one more comment. I thought the information provided -- and I think some of it was actually in the UAC minutes, not in the staff report -- about the cost of construction. Being, for example, the congestion underground that's already there. There's a lot of things. The idea that when you hit a tree, you have to stop. Right? Because we care a lot about trees. Construction hours. I thought those were interesting. I don't know how much of that is able to be mitigated. But I do think it's important for us to understand what the cost of construction is. Not just the fact that -- what we're paying people.

So, a lot of time spent on aerial versus underground. And can someone help me understand. I don't know if this would be Mr. Honker or Mr. Batchelor. Why -- where we're doing underground versus aerial? Is it because of what already exists? Looks like a really important thing to determine cost, and also where this operates first. So, can you give us a little bit more layperson's description of what's where, and why?

3:39:51:

Dean Batchelor: So, Council Member Cormack -- So, right now, the way that it is defined is that -- We have neighborhoods right now that have poles in the areas and locations. So, as John was describing how that aerial plant would be ran, the existing poles would be able then to utilize the new fiber in the backbone, and, also, to -- the new fiber that would have to be laid for fiber-to-the-home. In the underground areas, where there's already been existing underground, it will have to go back in the underground area. There's nothing else to attach to, at this point, from an aerial perspective. The plant is split about 60-40 -- 60 percent of it aerial, 40 percent is underground. Somewhere right around there -- 45-55. And so, that underground area, as you saw, in that map, outlined in the red area, most of all of that is in the underground area of the City. So, there's nothing that we could attach to. So, it would have to be - The streets would have to be dug -- or bored -- and then installed with fiber to underground.

3:41:02:

Council Member Cormack: OK. So, the poles -- just so everyone's -- I understand -- is electrical and phone on the poles?

3:41:09:

Dean Batchelor: So, right now, there's electrical, there's AT&T, there's Comcast. And then, in some areas, there's actually our fiber, as well, too. The dark fiber that we run around throughout the system.

3:41:23:

Council Member Cormack: OK. So, we already have fiber that's aerial.

3:41:27:

Dean Batchelor: Yes. In some -- In the aerial portions, yes. We do.

3:41:30:

Council Member Cormack: OK. Um. I will take my questions to the next round then. Thank you.

3:41:38:

Mayor DuBois: Well, I'll just jump in with some questions this round. So, if we connect to individual homes, would utilities use that connection as well?

Great question.

3:41:53:

Dean Batchelor: I'm sorry. Sorry, Mayor DuBois. Can you clarify that for me? I'm sorry.

3:41:57:

Mayor DuBois: Yeah. I mean, if we do the fiber-to-the-home, would the City want to use that connection to individual homes?

3:42:07:

Dean Batchelor: Yes. I guess -- What you're asking -- I'm still not really actually clear. But what you're saying is that if we went fiber-to-the-home, we would have single -- individually -- drops to each home?

3:42:17:

Mayor DuBois: No. The City -- itself -- want to use that? Or, like, I think the -- AMI uses a wireless connection to the meters.

3:42:26:

Dean Batchelor: Sorry. Yes. So, the City would also want to -- You know, we could go into some of the further park areas. We could also go into some of the areas where the Community Center is. We could use it for other City devices. Or buildings. Or other ideas around using that fiber as it goes through the neighborhoods.

Batchelor still doesn't understand the question.

3:42:51:

Mayor DuBois: OK. And I think the cost estimates -- maybe this is for John -- were to put drops to 100 percent of the homes.

No. Only to premises that take service. For example, on Slide 18,

<https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/reports/city-manager-reports-cmr/attachments/05-24-2021-id-12117-presentation.pdf>

the cost for drops in the City-ISP model is shown to be less than for the partner-ISP model, because it is assumed that the take rate would be higher for the partner-ISP model. (The reason for that assumption wasn't explained very well.)

I mean, is there a model where you skip homes if they don't commit to the service? Does that make sense to do?

Just to be clear, the proposal is to "pass" 100 percent of premises, and then "connect" a premises when it asks for service. The proposal is NOT to fail to pass premises that don't commit to taking service.

3:43:07:

John Honker: Yeah. Thank you, Mayor DuBois. And that's actually the model that's -- that we've shown. So we basically shown that only the homes that subscribe to service will get a fiber drop to them.

3:43:20:

Mayor DuBois: OK.

3:43:21:

Dean Batchelor: And I think that -- if I can add, John -- correct me if I'm wrong -- but that was based off of the 32 percent take rates.

3:43:28:

John Honker: Yeah. That was based on the very conservative 32 percent. So, basically, 32 percent of the homes would get a fiber drop. Every home that was slated for service would be built when they signed up for their connection.

3:43:43:

Mayor DuBois: OK. Um. So, I'm a little bit concerned that we would exhaust our Fiber Fund just on the backbone.

Very good point.

You know, I did see how the model -- the no-bond model. But, you know, I'd like to see us kind of leverage these funds to show kind of end-to-end -- all the way to the home. And then, Council Member Cormack asked about the undergrounding. Certainly, I saw, too, the amount of undergrounding. The size of the holes makes a huge difference. The tunnel. Could we do all of this in a single 2-inch duct?

3:44:20:

John Honker: Absolutely, you could. So, the way that we had designed the network was for -- actually was for 2 -- or, potentially 3 -- 2-inch ducts. Because installing 1, versus 2, or up to 3 -- there's a small marginal cost for the additional ducts. So, when you're doing it -- when you're installing, the majority of the cost is to directional drill, or bury the first one. So, when you're doing that, the -- your best opportunity is to install more of them. Because it's a marginal cost of the additional materials. And that way, you really never have to dig up the roads again. So, you do it one time. You put in extra duct for your future needs. And even other providers' future needs. And then, those become first use. And you don't dig up again, unless you absolutely have to. But it generally prevents you from having to do a lot of additional road work down the road.

3:45:20:

Mayor DuBois: Right. But the more you dig, the more costly it is. So, there's some trade-off. You don't want to do 5 4-inch ducts ...

3:45:28:

John Honker: Right. Correct.

3:45:28:

Mayor DuBois: ... and waste money. Right?

3:45:30:

John Honker: Especially downtown, where it's very congested on all of the subsurface utilities. So, we always -- We generally recommend the 2-inch. Because it's very flexible. So, even if your -- Well, I'll give you a good example. In Boulder, we're boring through, you know, 24-inch boulders. It's called Boulder for a reason, in Colorado. And that 2-inch duct, you can maneuver very easily underground around things. Whereas, you're putting in the larger duct, it becomes very difficult. So, where it's congested, where it's rocky, where it's difficult to build, the 2-inch duct is a great idea.

3:46:05:

Mayor DuBois: OK. In your no-bond option -- your ** option -- did you consider charging some of those harder-to-reach homes a higher rate?

3:46:17:

John Honker: You know, we didn't look at a higher rate. But it's something that you could always do. I think there's -- we've seen commu- -- we've seen cities go two ways. Either charge a premium. Which may be less desirable than the second way. The second way is charge a connection fee. Right? Because the challenge is, where it is more expensive -- and I mean, you know, a very large magnitude more expensive -- charging an up-front connection fee could alleviate some of that. So you can keep the pricing the same. And then just have some customers who have that additional service charge. As if -- Like a lot of cities do. If they have a rural or hard-to-reach sewer or water or electric customer.

3:46:59:

Mayor DuBois: And my last question, for now. So, we're looking at the next phase, for \$2 million. And there was \$500,000 from the Electric Fund. And \$1.5 [million] from the Fiber Fund. How are we determining the split, you know, between these multiple uses, and potential reliability benefits, and all this other benefits?

3:47:20:

John Honker: So, we really based it on the amount of infrastructure that each department would utilize. Again, you know, the Electric Fund contribution is important because it's -- it's building infrastructure specifically for reliability purposes and resiliency. It's about a quarter of the total of the rest of the project. Or, a quarter to a third. So, that's kind of how the split was developed.

3:47:47:

Mayor DuBois: You're saying it's a quarter, based on the number of fibers, or number of ducts? Or, like, what's the -- How do you figure that out?

3:47:55:

John Honker: Yeah. Total fibers that would be used in the system. Plus any of the electric-only infrastructure. Because, if you remember from that last map we showed, there are some connections that were made to the substations that were specific to electric, that wouldn't be made for the rest of the City. Right? So those are just add-ons for electric. That was taken into account when we considered the total capital expenses for those, versus the general City network.

3:48:24:

Mayor DuBois: OK. Thank you. Sorry. I was talking. Let's go in the order I see them. Vice Mayor Burt, and then Council Member Stone.

3:48:33:

Vice Mayor Burt: Yeah. Well, first, thanks for a really thorough presentation. And thanks to the UAC for their deep scrutiny on this. When we do the rollout -- the full rollout -- is it going to serve not only homes but small businesses and those clients as well?

Why wouldn't it serve all businesses, not just small businesses?

3:48:56:

John Honker: Yeah. You would. So, we had a long discussion with the fiber team and the UAC about how to do that. Because you have a lot of dark fiber customers that are out there today, that you want to keep. But, you know, Palo Alto's not -- Those are mainly larger customers. Right?

The City, for privacy reasons, doesn't disclose who its dark fiber customers are, at least not to the public. I happen to know that some are residences.

They can afford dark fiber.

They have dark fiber connections, so, in that sense, they can afford them.

They can afford larger, you know, fiber connections. But the small businesses can't. Right? So, this network -- As you're building fiber-to-the-home, there's a natural opportunity to start providing small business internet, very similarly, in those -- you know, small retail -- restaurants, coffee shops.

3:49:31:

Vice Mayor Burt: Well, and that's what I had thought. And several years ago, when we were looking at this, we actually changed the nomenclature from "fiber-to-the-home" to "fiber-to-the-premise,"

Or, to be more grammatically correct, "fiber-to-the-premises." (See definition 3 here.)
<https://www.merriam-webster.com/dictionary/premise>

to try to reflect that. I don't know how we got back to the "home." But I think it -- We may want to reconsider it. So just the public understands who's being served by it.

Great idea. The motion (at 5:05:07) would have been an opportunity to do that.

And then, on the current revenue generated by the **dark** Fiber Fund,

I think the Fiber Fund is for the entire fiber utility, not just for the dark fiber utility. (Even though, so far, the revenues in the Fiber Fund came exclusively from dark fiber operations.)

I heard \$30 million accumulated is the number now. But in the budget -- Operating Budget manual -- binder -- it shows, I think, \$34 million, going to \$35 [million]. At the end of this coming fiscal year. Which number is it? The \$30 [million] or the \$34 [million]?

3:50:31:

Dean Batchelor: **

3:50:33:

John Honker: Director Batchelor, if you could give us some guidance.

3:50:35:

Dean Batchlor: Yeah. Dave, do you want to talk? Dave Yuan?

3:50:38:

Dave Yuan: Yeah. This is Dave Yuan, Utilities Strategic Business Manager. Yeah, we were a little conservative when we gave John the \$30 million number. There is \$35 [million] in the reserves. But we're also setting aside for the next phase as well ...

3:50:50:

Vice Mayor Burt: So then, all of the modeling was based upon \$30 million in the reserve, not the \$35 [million]. Correct?

3:50:57:

Dave Yuan: That is correct.

3:50:58:

Vice Mayor Burt: Good. Good. Good to hear. So, also, in the budget book, it listed this as an enterprise fund. And I had always understood that it was. Meaning that those -- the uses of those funds could -- were restricted to -- not an explicitly-defined set of boundaries -- they could be, essentially, anything telecom related. But that it was NOT a fund that was intermingled with the General Fund. Or, it could be drawn from. And now, I've had it explained otherwise today that it's not technically correct. And I don't know if the City Attorney, or anyone else, could clarify that.

3:51:49:

City Attorney Stump: I'll let the ASD Director -- Finance Director -- talk about what an "enterprise fund" means, in terms of how the City sets up its books. But the funds that I can tell -- I can speak to the legal issues. The funds that are generated by the dark fiber activity -- two aspects of them that are notable and different than most of our other utilities, which is that the cost that we charge for participating in those programs is not required by law to be limited only to our -- strictly to our costs of providing services. We can, in fact, charge a rate that exceeds those costs. And then those proceeds are available to the Council's discretion to be used for a variety of purposes. The funds are not limited by Proposition 218 and 26, which we're already accustomed to, with water, gas, wastewater, and electric, to being only used on the utility that generated the funds.

3:52:53:

Vice Mayor Burt: OK. And so, I'll just say that I'm -- still believe that there -- we should be thinking of this fund as primarily with a nexus to a build-out of this fiber system. But with these clarifications, I -- I -- it made me pause, and say, well, wait a minute. After last year and this year of struggling through just drastic cuts to services in the community, this fund -- which actually could have been partly utilized to preserve some of those services -- wasn't discussed as part of -- any part of what the Council could consider, to bridge a two-year or so real severe budget gap. To preserve critical services, as fire, and police, and code enforcement, and Children's Theater, and all those things. So, I'm going to be interested in having a discussion, in particular, since the business model was based upon assuming \$5 million less currently in this fund than we actually have. So, I'll leave that for discussion later. And, really, it's a discussion for Finance Committee and the Council, tomorrow, rather than for this particular item. But I just want to put that on the table for consideration.

3:54:24:

Mayor DuBois: Council Member Stone.

3:54:28:

Council Member Stone: Thank you, Mr. Mayor. And I also want to offer my thanks to the UAC and staff and our consultant for all the work that's been done on this. It's been really helpful. So, thank you. A few questions. The first one: Can maybe the consultant further explain what a "dig once" policy is? And what "microtrenching" is?

3:54:53:

John Honker: Sure. I'd be happy to, Commissioner [sic] Stone. So, the "dig-once" -- A "dig-once" policy is, effectively, a City ordinance that, any time the ground is disturbed in the right-of-way, for a subsurface utility, such as water, electric, gas, telecommunications, that there's a coordination effort that allows other utilities to be notified of that, and to potentially put in their own utilities alongside the trench. With the concept -- With the idea that, look, the cost of doing this is not the materials. It's not actually putting the infrastructure in the ground. It's actually digging the trench. So, you know, digging -- The labor portion of any infrastructure project like this is 80 percent of the cost. Now, the "dig-once" only works in certain circumstances. And, effectively, when there's a trench open, then those policies work very well. When you're doing directional drilling -- So, for example, when you're boring -- using a drill -- to place conduit, you won't have that opportunity. Because, again, it's a single machine. There's no trench. It's digging directly through the earth. So, those "dig-once" policies work very well. And in those conditions where you have trenching happening.

3:56:22:

You second question was on "microtrenching." And we've encountered microtrenching a lot, just in the construction projects that we manage. It works on some cases. In others, it fails miserably. And it's a function of how the -- It's a function of three things: 1) how the duct is placed. How deep. Because a lot of microtrenching will have, like, a 12-inch cut in the pavement, to install conduit. And it's generally installed in the sidewalk, or under the sidewalk, or under the street. So, then you have restoration on top of that. So, in one case, you have the depth. And if it's not deep enough, occasionally you'll have hits on the trench. Because it's in the path of other utilities. And it can be easily dug up. 2), the restoration is very difficult on microtrenching, especially in urban areas. Because you're actually restoring a lot of roadway. Even though you're microtrenching, and you have a small -- you know, 2- to 3-inch trench, versus maybe, you know, a large trench -- you still have to restore that. And, a lot of times, the restoration isn't done correctly. Because construction contractors aren't as familiar with microtrenching. So, the labor associated with it. It's a different installation process. It's a different restoration process. And we -- We've been involved with two or three projects where the restoration is not gone well. And it's caused, you know, public works to have to come back and re-restore and resurface some of the roadways. So, you know, it has very specific places that it can be used. And it -- But it definitely has its challenges.

3:58:08:

Council Member Stone: So, I can see microtrenching can be risky. But are we able to do an underground analysis or something -- kind of recognize those warning flags BEFORE? Or is this something that we really don't know until we start digging and constructing a project?

3:58:26:

John Honker: In this next phase, we'll be able to do that. In the detailed engineering phase, we can -- You know. Because our engineers will actually be in Palo Alto, on the ground, walking out every roadway, and every route. So, they'll be able to pick up any specific opportunities for microtrenching. And figure out if that creates enough of a cost benefit to use the technique. There's some risk. Like you mentioned, there's some risk in it. But if we can find the areas where it works well, and we can stay out of the roadway, then those can definitely save some money.

3:58:59:

Council Member Stone: **. Sorry, go ahead.

3:59:02:

Dean Batchelor: Sorry. Council Member Stone. So, one of the other risks that -- placing this. Usually, microtrenching usually is better in a rural area. But when you get into the dense population that we have, usually that goes right against the curb. So, right where the curb and the street meet. And that usually goes, as John mentioned, about 12 inches down. But it goes right over the top of all the services. It goes over your water service. It goes over your electric service. It goes over your top of your -- So, if there is a break on one of those water mains -- on the services that are going to the homes -- there are strong chances that you're going to rip that fiber out of the ground. Because, again, it's only 12 inches below grade level. So, it works really well in rural areas, where you don't have that density. But, as we are -- But, as John and I have talked, we're going to look at some of these areas, and see what we can do. In the City.

3:59:54:

Council Member Stone: And thanks for that clarification. ** One quick question as a direct kind of follow-up to that. The report states that the estimated cost of the two fiber backbone networks

Council Member Stone seems to think there are TWO new fiber backbone networks.

is between \$22 [million] to \$28 million, depending on the construction method. Are these the type -- 'Cause it wasn't very clear what were the types of construction method that's in the report. Are these the type of things that we're talking about, that is giving that pretty significant price range?

4:00:21:

John Honker: Actually, the original numbers -- the \$22 [million] to \$28 [million] -- was sort of an interim analysis that we did for the City, that looked at either 2-inch conduit or 4-inch conduit. Because there was some question about which would be the best for the City to install -- 2-inch being the \$22 million, 4-inch being the \$28 million. You know, more materials, harder to install, bigger duct. We all agreed, I think, in consensus that 2-inch was a much better and more cost-effective option for the City. Less restoration. Less utility issues. So, that's where that \$28 [million] came

from. So, the \$22 [million] is for the installation of multiple 2-inch conduits underground. Directional boring would be the majority of the work that was done. Because, again, you know, you're in tight underground easements, and there's lots of utilities. So there's got to be pot pulling. There has to be utility locates. And then, you know, once that's all done, ensuring those existing utilities are protected, then they will directional-bore those runs. So, that's what we would anticipate for the majority of the project. A little bit of trenching here and there. Maybe some microduct -- microtrenching -- if there are opportunities.

4:01:41:

Council Member Stone: OK. Thank you for those clarifications. And I see I'm out of time.

4:01:44:

John Honker: You're welcome.

4:01:45:

Mayor DuBois: Council Member Filseth.

4:01:47:

Council Member Filseth: Yeah. Thanks very much. A whale of a lot of work here. Which is good. Question on -- So, some of the reference cities where -- where -- that have gone down this direction. Were AT&T and Comcast sort of active in a lot of those cities, and an existing presence, and so forth?

4:02:12:

John Honker: Commissioner [sic] Filseth, we -- Generally, yes. I think -- When we think about other cities that are out there doing what Palo Alto's considering doing, we want to make sure they're the same size and shape. Right?

4:02:25:

Council Member Filseth: Right.

4:02:25:

John Honker: Because, you know, a lot of rural communities have done this, as well. And, you know, maybe it's not as competitive there. Maybe they don't the duopoly, with -- But the ones that we look at, you know -- the Longmonts in Colorado, Fort Collins, Loveland, Chattanooga, BrightRidge (or Johnson City Electric), Jackson Energy -- You know, 50[,000]-ish to 100,000 in populations. They all have a cable company, and they all have a telco. Right? It's either AT&T and Comcast. Or it's CenturyLink and -- ah -- ah -- Altice. Or it could be, you know, Cox and -- ah -- ah -- AT&T. Or any combination. There's generally one cable provider and one inter- -- telephone company.

4:03:16:

Council Member Filseth: So, how did the incumbents respond, when the cities went down these paths? ** experience?

4:03:23:

John Honker: So -- So -- They'll put up a fight. I mean, they always put up a fight. Usually what we see is, they'll -- I mean, Colorado -- just being so close to the three Colorado cities [Longmont, Fort Collins, and Loveland] that have built out on the Front Range, they're very similar in their tactics. Right? They took a shotgun approach there, and, you know, put out negative -- negative campaigns against them. They spent marketing dollars to try to dissuade each of the cities from building out. They lobbied **commissioners**.

Council members.

They lobbied the city manager. They did everything they could until the point that they found the project was green-lighted. And then it's just a matter of competing. And, at that point, it's -- It's stiff competition. Right? Because they're established companies. But they don't have good reputations. And the reputations that they have are one of the biggest challenges, I think, that they face, when going up against municipal providers. We ...

4:04:23:

Council Member Filseth: So, even in the space of the -- cities hit their take rate targets.

4:04:29:

John Honker: Oh, yeah. Yeah. I mean, ...

4:04:31:

Council Member Filseth: OK.

4:04:31:

John Honker: ... I mean, the most mature one, I would say -- I mean, there's a lot. Longmont is probably the closest to you. They're about 70,000 population. They own their own electric utility. They built out six years ago. And now, they're at about a 54 percent take rate?

4:04:47:

Council Member Filseth: OK.

4:04:47:

John Honker: They offer 1-gig service. They were very intent on building as fast as they could, and getting as many customers as they could. So, they said, look, you know, instead of -- We're going to price our gigabit service at \$50 a month. And we're going to give people a charter membership for life if they sign up for that \$50 a month. So, they had huge, huge sign-ups. Huge take rate. Because they realized, you know, this is a fixed-cost business. The more customers they can have, spreads that fixed cost over a lot more -- It just makes it more sustainable. Plus, they wanted -- they wanted the reputation. They wanted to be the local home provider. And they're very, very adamant about their quality of service. And their reliability on the electric side. And they use that to really win customers on the fiber side.

4:05:41:

Council Member Filseth: OK. And so -- So, then, people switched partly because of price, but then partly because of brand image?

4:05:48:

John Honker: Brand image. Yeah. Price and br- -- You know, it's a combination. It's got to be a brand. It's got to be a price. And it's got to be the right package. So, you know, the speed, price, and brand are those three market factors that -- they have to be right for the municipal provider to ...

3:06:04:

Council Member Filseth: And were the incumbents also offering gigabit to -- in the significant portion of the city?

4:06:08:

John Honker: They were.

4:06:10:

Council Member Filseth: They were. OK.

4:06:11:

John Honker: Yes. Comcast actually did a study on Longmont. Where Comcast launched their gigabit service after Longmont launched theirs. And they they brought their price down about \$12 from the surrounding cities, where they were also launching that service.

4:06:28:

Council Member Filseth: Actually, the city was the first mover, in that case.

4:06:31:

John Honker: They were. They were.

4:06:32:

Council Member Filseth: OK.

4:06:34:

John Honker: Comcast had already started to deploy.

4:06:36:

Council Member Filseth: OK.

4:06:36:

John Honker: But they really accelerated the timeline, once they realized the city was going to deploy.

4:06:40:

Council Member Filseth: Sure. Sure. Sure. OK. And the last question. You know, how big an issue was live TV?

4:06:45:

John Honker: Um. Live TV. You know, two years ago, it was still a bigger issue. Today, it's much less of an issue. So, there's a couple of -- There's a couple solutions for TV. And, you know, as we work with your community to understand their sensitivities around cord-cutting, as well as their affinity for pay TV. Because, you know, the demographics change, based on age. Right? Under-40 cord-cutters. 40-65 cord-cutters. And then above-65 cord-cutters. Right? And then cord-cutters go way down. Typically. So, we want to understand sort of those three tiers in the demographic. Because you may find that in Palo Alto, you may not -- you might have 10-15-20 percent left in pay TV. For example, Lehigh, Utah, is just building out. You know, very progressive, very young community. They have 14 percent of their population that still has pay TV service. So, in terms of a market -- in terms of providing that service -- it's not enough for them to really to establish the service and the costs, to go after that extra take rate. Right? In some communities, -- like an older community in Tennessee, with BrightRidge -- they felt like -- or, Johnson City Electric Authority -- they felt like they had to, because their cord-cutting rate was only around 40 percent. So 60 percent of their market still had pay TV. And it's a much older demographic there. Not as technologically advanced. So, they decided, we have to offer this as part of our service. I -- My gut tells me, Palo Alto, you probably wouldn't, just given the demographic there. But, you know, the market data will tell us. And the customer interactions will tell us the story. If you did, you would -- There's a number of ways to offer it at very low cost and low overhead, compared to the traditional ways that some of the early municipal providers did. So, those are our options. If you needed to add it on. But the way that it works today is, instead of having a set-top box and a remote control, they'll deliver an Amazon Fire Stick, with a software on it. Plugs into the back of the TV, and the customer's up and running. So, it's a totally different scenario. So, offering TV -- which used to be a really -- very, very, very expensive and challenging endeavor for municipal providers, now has become almost a sort of a -- just an add-on.

4:09:20:

Council Member Filseth: All right. Thanks.

4:09:20:

John Honker: Sure.

4:09:25:

Mayor DuBois: [pause] Sorry. Council Member Tanaka.

4:09:29:

Council Member Tanaka: Yeah. I just want to also add my thanks to the -- to everyone -- the UAC, staff, consultants. Very important topic. Even -- you know, today -- this whole week, I've been -- starting last week, I've been having a ton of trouble with my own ISP. And really would want faster, more reliable internet. So, I'm totally into this right now. And, you know, my own kind of personal thing -- I'm just trying to figure out who can I go to. There's not much of a choice. So, I could clearly use AT&T. Some of my neighbors have Comcast, which does have faster internet. But there's, like, a lot of reliability issues. Although I'm facing reliability issues right now as well. So, it's like definitely not many choices going on.

4:10:09:

And one of the key things, as I kind of did research in this area, is the need for competition. And it seems like competition is -- So, if you look at a lot of European or Asian countries, where the default model for them is "open access." And so, John, are you familiar with that concept at all? And -- I know, like, -- Ammon, Idaho has done this. And a few other cities. Do you know much this? Can you talk a little bit about "open access"? And --

If, per the staff report and presentation, Palo Alto can be successful at implementing citywide municipal FTTP as the sole provider of retail services, why is Council Member Tanaka interested in talking about open access, which the consultant says is harder to be successful at?

4:10:34:

John Honker: Sure.

4:10:34:

Council Member Tanaka: ** ...

4:10:35:

John Honker: Yup. We do. We're actually implementing a big -- large open access right now in Utah. So, open access is a little different from what we're talking about. Because, basically, it allows multiple ISPs to operate on the network at the same time. Right? Instead of having a single ISP. You know. For example, if the City did -- wasn't providing service, and it wanted to have providers actually deliver the retail internet service, then, if -- it could create an open access network, where multiple providers can be on the network and compete for business. It works in Europe well, because it's an established model.

In Europe, open access works because the EU requires it.
<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018L1972>

Similarly, in Utah, open access works because Utah requires it of municipal networks.

One of the challenges here is that it's very difficult to get those -- it's more difficult to get those networks off the ground. Because each provider is getting a very sm- -- a much smaller share of the market. So, for example, if a single provider -- let's say, the City of Palo Alto -- you're getting 100 percent of the market share. Right? Or, let's say there's 40 percent. Or, the take rate -- Let's say the take rate is 32 percent, like we had talked about. Right? If you introduce three ISPs to the network, each of them can basically get 10-11 percent. Right?

There's no reason to assume that the retail ISPs on an open access network will share the market on that network equally. There's no reason to assume that a retail ISP on an open network can't compete with a retail ISP on some other network.

So, their market share goes down. So, it changes the market incentives for providers to offer service. Because they don't have as much of a market share available. There's not many providers that offer open access -- or that operate on open access networks. There's just a handful of small providers today. So, another challenge is recruiting the providers, to actually operate -- actually deliver services on the network. The third challenge is that the integration, and the technology behind the open access is not 100 percent mature net. It's still challenged in the U.S. There are some small networks -- like you had mentioned Ammon, which is a very common -- is a very well-known open access network. Where there's multi providers. But a lot of those technologies still are not fully baked.

I don't understand what Honker is saying. There are several open access networks in the U.S. They are at least "baked" enough to work.

4:12:44:

Council Member Tanaka: Hmm. One more, I was wondering whether it would work for our City -- because we have a dark fiber ring -- is: What if we were to give discounts to broadband providers to go the last mile, and then get some sort of discounted rate to our backbone, in exchange for basically making sure that thing is open access to other ISPs? So that consumers actually have a choice between -- any ISP that wants to be on there. So you create kind of an incentive for them to put up the capital. Because they'll get, perhaps, lower access rates. Or cheaper access to infrastructure. And, yet, then we give the consumer more choices than they have today. Have you seen models like that?

Again, if, per the staff report and presentation, Palo Alto can be successful at implementing citywide municipal FTTP as the sole funder, why is Council Member Tanaka interested in talking about sharing the funding with a partner, which the consultant is harder to be successful at?

4:13:30:

John Honker: We have. I think one of the really big challenges in Palo Alto is the construction cost, though.

4:13:34:

Council Member Tanaka: Hmm.

4:13:34:

John Honker: So, you know, one of the big -- And the root of that is private capital. Right? And the return requirements on private capital. So, when we look at the private providers, -- We have -- You have the fiber ring. Which is great. When you talk about building off that fiber ring, it's -- It's definitely a natural progression. But to do it with private capital is much more challenging, because the return on the investment is so far down the road. And it's so difficult for them to get IRR,

IRR = Internal Rate of Return.

where they can say, yeah, I can bring \$30 million to the table. Because they're looking for a 3-5 year return on that, at, you know, a minimum of 10-12 percent. So -- In a year. Right? So, now we're talking, you know. -- It's -- And these networks don't cash flow until years 5, 6, 7, 8. That's when you start getting excess cash generated on the network. So, it becomes very hard to get them to invest in the areas where it's expensive to build.

4:14:31:

Council Member Tanaka: Even -- Even, like, with -- um -- you know, in our case, what if it was free access? Right? Or, you know, maybe Expedia permits. Or, you know, we fund some of their -- some of their construction costs. Right? So, it would save us fronting the whole construction costs. We'd front some of it. But in exchange, you have to make sure it's open access to all providers. So that there's a choice for consumers.

4:14:55:

John Honker: Yeah. I mean, you can -- you can -- You could do that. I think -- What we normally see as the challenge is if I'm -- If I'm putting up capital, as a private entity, why do I have to compete with others who are benefiting off of that capital?

4:15:09:

Council Member Tanaka: But you get lower construction costs, because the City's helping to fund it.

4:15:13:

John Honker: Right. Because -- Yeah. If the City were helping, it might -- I think -- We still see challenges to providers coming to the table when you're looking at them bringing any -- ANY -- funding. I think, also, it's important, though, is -- You have a significant footprint. And we looked at the numbers, again. And, as you saw -- so, you're looking at \$66 million in total funding. Or -- total -- you know, to build -- to invest in the plant. Can you get a provider to guarantee, hey, I'm going to build out equitably across the entire City, using this? And we usually find, as we're working with providers and cities that they'll get into the business of cherry picking. Right? Where they're going to go where, you know, it's most profitable for them to go, at the expense of the areas where it's not profitable.

4:16:09:

Council Member Tanaka: But -- but -- but -- that's what your models show anyways, as well. Right? We're going to do the easy ones first, and then, the hard ones we're going to do later. My point, more, is, like, a multiplication of capital. Right? Where, right now, we front a whole build with our own service.

4:16:21:

John Honker: Um hum.

4:16:21:

Council Member Tanaka: Versus, we front a portion of it. We get private companies to fund the rest. But the catch for them is, they have to -- they have to provide open access to other providers, so that our consumers -- our residents -- have a choice. So, it seems like it's the same -- It doesn't seem like any different from us paying ourselves. Because, I mean, you're -- In your rollout plan, where we don't raise a bunch of bonds, that's what we do, as well.

4:16:45:

John Honker: Right.

4:16:45:

Council Member Tanaka: In this case, with an open access approach, like what Asia or Europe does, we get a multiplication of capital. Right? Because we invest our capital. The ISP -- broadband provider -- also puts their capital in. Because -- Because we're funding a big portion of it, but the catch is, of course, that they have to provide open access.

4:17:05:

John Honker: Yeah. You would still be inserting, in that private sector, return. So, you're going to change the dynamics of the network. Right? Meaning that, let's say, it's a 50-50 split. Right? The City's putting in \$32 [million]. Or \$33 [million]. The provider's putting in \$33 [million]. You still have that return requirement, that's in that \$33 million, that's going to change the overall profitability of the network. Right? So, with Palo Alto, you don't -- we don't have that. Right? Because there's really no return requirement, at the end of the day. Plus, you're financing that capital at 2.5 percent -- 3 percent. Versus, you know, their hurdle rate on the capital is probably 9 -- 8-9 percent. So, they need to be achieving, again, above that. They need to be achieving a significantly higher rate of return, to get over their hurdle rate, and then get their -- you know, to green-light the project. So, -- I mean, it's always something to look at. We just haven't seen it be successful in a lot of cities, because of those those private-sector, you know, rate of return requirements.

4:18:07:

Council Member Tanaka: Um hum. But I guess it's -- I'm not -- I'm realizing I'm over time. So, let me try to finish this thought here. But I guess my point of view is that -- I mean, they are -- there is, for instance, gigabit ethernet in my neighborhood. It's just a little bit flaky, though. So, there is that -- there is that here. So, they have invested in our community. Maybe not to the extent we want.

Council Member Tanaka seems to be proposing specifically that one of the incumbents -- either AT&T or Comcast -- be the private-sector entity to step in and offer open access and help to fund the infrastructure for it. To my knowledge, this hasn't happened in the U.S. (AT&T allows Sonic to use it wires. But that's different.)

But they have invested. Maybe not all the places we want. And maybe not at the rate, or speed, we want. But they have. And so, what this does, though, by putting the City capital on top of it, it lowers that hurdle rate. Right? Because we're -- It's not like they're not investing, because they are. Right? Some of us probably actually have gig ethernet. This lowers the hurdle. Right?

4:18:48:

John Honker: Yeah. I think the question becomes, how low can your -- how much can you lower it? Can you lower it enough where they're interested in making those investments? That's -- That's really the question. And then, does -- do the requirements on the open access side -- Do you really get them to buy into that? Because, even if they're

only put -- Let's say they're putting in \$33 million. They're still having to compete with other ISPs that are putting in NO capital. So, now you have, you know, one IS- -- That's where it gets tricky, because they're competing against themselves. But they're still investing at the same time.

4:19:25:

Council Member Tanaka: Well, there's a wholesale rate. Right? And usually that's an auction. Right?

I don't know how this would work. Has it happened anywhere in the U.S.?

So, it's not like it's free to someone else. Right. They put in a bunch of capital, and it's free to someone else. That's -
- The other ISP has to pay a wholesale rate.

4:19:34:

John Honker: Right.

4:19:34:

Council Member Tanaka: There's an auction. Right? And so they still make margin on that. Because it's not like -- It's not like somebody gets to use it for free. There's a wholesale rate. That they have to pay back to the original last-mile provider.

4:19:47:

Mayor DuBois: OK. Thank you. Council Member Kou.

4:19:52:

Council Member Kou. Thank you, Mr. Honker, for your very thorough presentation tonight. Is "open access" similar to having many partner ISPs?

4:20:04:

John Honker: It's a little different, Commissioner [sic] Kou. It's -- So, think of -- Instead of multiple partners, think of -
- think about multiple vendors on the network. Meaning that you have -- almost like you have Amazon Web Services, and you have Microsoft Azure. You'll have multiple ISPs. Right? They're all sort of virtualized. Meaning that they all can connect into the network, and then offer service to customers. But the City will own and operate the physical network infrastructure. So, you can have multiple providers, but one underlying network.

4:20:46:

Council Member Kou: So, essentially, the disadvantages would be similar to the partner-ISPs?

4:20:52:

John Honker: They would. I would say the open access is even -- If we put that on a scale of open access, partner, City retail, the open access would have the most disadvantages. ** ...

4:21:03:

Council Member Kou: Hmm. OK. Thank you for -- Can you say that again. I'm sorry. I missed the last statement.

4:21:08:

John Honker: Yeah. So, having multiple ISPs, again, because of the competitive market, and these -- And the challenges -- the limited success open access has had, we would -- On the scale of having those three side by side, that would be the one with the most disadvantages.

4:21:26:

Council Member Kou: OK. You know, Council Member Filseth had asked a question about TV. And you said "cord-cutters." What does that mean?

4:21:34:

John Honker: Oh. I apologize. So, -- Yeah. We all get caught up in our lingo. So, "cord-cutters" are households that no longer subscribe to traditional cable TV. They are either Hulu, Netflix, Amazon Prime. But they don't subscribe to a cable TV. So, we always call them "cord-cutters," because they've cut the cord. They've cut the cable TV cord.

4:22:02:

Council Member Kou: Oh. Oh. OK. Thank you so much. OK. Also, aerial installations -- that's on our power poles. Right? And I noticed that is says here that they might be pole replacements. Now, was that calculated into that [\$]1.8 [million] [?] figure on one of the slides?

4:22:29:

John Honker: We put it in there as a budget and a contingency. So, there's a \$3.5 million of contingency on the backbone -- was -- could be used for pole replacement.

4:22:39:

Council Member Kou: For pole replace - -- OK. I see. And that's going to come out of the Fiber Fund?

4:22:46:

John Honker: Um. The way that we had worked on -- with the UAC on it, that was sort of the goal. Was to use the Fiber Fund for the backbone.

Why choose that as a goal? Why not create a funding strategy for everything -- both citywide FTTP and the backbone -- and then vet it thoroughly?

To fund a portion -- yeah -- a PORTION of the Fiber Fund to finance the backbone.

4:23:01:

Council Member Kou: And then, will half of it come from the Electric Fund, or the pole fund -- you know -- Is that how it's going to work? There's a sharing?

4:23:09;

John Honker: That's right. There's a sharing between -- So, the Fiber Fund would contribute. Electric would also contribute. And then -- I think that was it. Director Batchelor, I think we were looking at the two contributors -- Electric and the Fiber Fund for the backbone.

4:23:28:

Dean Batchelor: That's -- That is correct.

4:23:29:

Council Member Kou: OK. Thank you. Um. And you spoke about speed, price, and brand, right? So, is Magellan going to be doing the pricing and the branding, as well? Or is that going to be separate?

4:23:42:

John Honker: We absolutely can. We help cities implement these networks all day. And help you through the sales and marketing process, branding, the competitive orientation, and, you know, setting the right rates for your products and services.

4:23:58:

Council Member Kou: OK. And then -- last minute -- so, you're going to be doing the community outreach. How does that look like?

4:24:06:

John Honker: So, the -- So, we will work with your communications director and your communications team. Because we understand that you already have some outreach activities going on. So, we want to sort of fall right within that. And use all your existing work that's being done. And the channels. To really, first, educate. Make sure that the community is aware of what high-speed internet really means. And why fiber-to-the-home. Why fiber's important. What the benefits are. Make sure they're educated about the options that are out there for high-speed internet. And then, also, engage them -- and -- through the survey process. So, it's really that first -- that first level of engagement is awareness building. And education. The second is sort of one-on-one. Right? Focus groups and town halls. And we'll follow your communications department's lead -- or, director's lead -- on how to organize those. What's best. But then, we can provide the content. And, you know, obviously, lead or participate in those town halls. However they would like us to do that. And then, the third portion is, you know -- And that really gives you on-the-ground, anecdotal information from opinion leaders, from residents, from businesses, about broadband, that helps support the education process.

Then, also, the surveys. Right? The surveys are going to be important for more of a quantitative analysis of the market and demand. So we get a true sense of what the community is interested in, what kind of prices they would support, the types of packages that they want from their internet provider. And also, how they feel about the City providing service. Right? How your brand equity, as a reliable provider of broadband -- of electric service is -- and other essential services -- is seen in the community. Because that's going to be really critical for you as you move forward. You know, the brand equity that you hold in your community. And this is the same for other municipal broadband providers that have moved forward. They've used that. And it becomes a really competitive advantage for them to win customers and -- Because people trust them. And that is so important when you're going up against companies that aren't well trusted in the industry, and don't have the best reputations all the time.

4:26:40:

Council Member Kou: What is the time window that you're going to be providing -- that is going to be for the community engagement?

4:26:48:

John Honker: Sure. So, it would be, effectively, the second half of this year. We would look to start, I believe, toward the end of June. And we would finish sort of in the December timeframe. And then, if there's any additional follow-up or additional engagement, that might trail into the first month of -- January 2022. But we expect the majority of it to be complete by the end of the year.

4:27:16:

Council Member Kou: That's perfect. Thank you so much for the answers. You know, we have town halls that are being reinstituted again. So it will be something to consider. And, also, reaching out to all of our neighborhood associations will be important as well. Thank you so much.

4:27:30:

John Honker: You're welcome.

4:27:31:

Dean Batchelor: So, if I could add, Commissioner [sic] Kou. And so, that -- Exactly what you just talked about with -- You know, we have communications out in our neighborhoods. And so, one of the things to look at -- some ambassadors, as we go down through the neighborhood portions of it. And we are also looking at some new tools to enhance the City platforms, so that we can get some two-way communications going. We're also looking at utilizing our GIS platform -- Esri platform. We're thinking that we can get down to the neighborhoods and actually start pinning some of the neighborhoods, and getting out and talking to the neighbors, through some of these efforts of focus groups, discussions, and face-to-face -- in those neighborhoods. So, the idea behind all that is to let folks know -- the residents know -- actually what's going on. Seeing that there's blocks in one area of the City -- that will excite the other areas, as well, too. So, there's a whole platform that we're looking at -- looking to utilize in this area.

4:28:35:

Council Member Kou: That's very good to know. You know, as Mr. Honker said, you know, establishing the trust and confidence is foremost. And that's how you do it. Thank you.

4:28:49:

Mayor DuBois: I'll jump in to start the second round. So, I don't think it's a secret. I'm a champion for this effort. I've read books. I've talked to experts. I've gone to conferences. And I really believe this is going to pay for itself. It's going to generate money for the City.

I think it would be better if the City didn't think of its fiber utility as a cash cow for other projects, even if state law doesn't currently forbid it.

It's going to save our residents a ton of money.

Yes. This is a much better goal.

And it's going to enable businesses. And I was sitting here listening, just wondering what it was like, like, 25 years ago. That Council didn't know a network would pay off. And 25 years ago, they had the vision to invest in a dark fiber network. And it's paid off in spades. Paid back that investment many times.

The fiber utility repaid a \$2 million loan from electric utility, which was required to start up the dark fiber network. (It did that ONCE.) Since then, it has amassed \$35 million, for the purpose, I claim, of starting up citywide municipal FTTP. But staff wants to spend the lion's share -- \$22 million -- on dark fiber ring improvements for a variety of reasons. Can citywide municipal FTTP be financed using only what's left after that?

So, we have the opportunity to invest in a new City asset -- this expanded fiber network -- that can provide City services, utility services, residential services. And it's not just about the speed. Council Member Tanaka mentioned reliability. It's cost. And it's also the ability to transfer both down to your house and up to the network. And during COVID, we saw kind of what happens with our current networks, when multiple people are trying to send data up. Like a Zoom call. Private networks are not really designed for the **speed up**.

Comcast's HFC product can provide downloads up to 1 Gbps but uploads up to only 35 Mbps. AT&T's FTTP product can provide both 1 Gbps downloads and 1 Gbps uploads. AT&T's copper-based products are much slower, and uploads are much slower than downloads.

And so, we are also in a pretty rare position, with our existing Fiber Fund. Most of the cities do not have that advantage. And, like I said earlier, I'd really like to see those funds used, not just for the backbone, but to really get us all the way through proof of concept to fiber-to-the-home.

Very important point.

4:30:22:

You know, labor costs are 90 percent of this project. Ninety percent. So, I really think we do need answers to some of these cost challenges that were a barrier to a few years ago when we looked at this. We can't load up all these costs on the fiber effort. It just -- It won't work. So, Council Member Kou mentioned the utility pole -- Pole make-ready and replacement costs. Again, I think those need to be borne by the electric utility for AMI. As well as fiber. But we can't just overload the fiber effort. I think we need to look at our trenching specs. And, like it was said, consider microtrenching where we can. We really need to be cost-conscious all around. If there are other City standards that we can loosen -- It was already mentioned to have the permitting ready, so that the construction doesn't start and stop, and we're not driving up costs on ourselves unnecessarily. And then, it was also mentioned in the staff report about getting multi-dwelling utility changes in place, so that we can make it easy to add additional broadband into our multi-family housing. So, I really want to caution us not to overengineer the network.

On the subject of overengineering, I'd like to consider the new fiber backbone and FTTP cases separately.

In terms of number of ducts, or, you know, whatever it is. And, again, in terms of cost-sharing, I really don't want us to underestimate the value to the City overall. You know, it's going to be used by utilities. We're talking about a separate physical utility network. I'd really like us to consider a 50-50 split between fiber and the other City functions.

I'm not really clear about this idea. Is Mayor DuBois saying that an analysis can show that the benefit to electric, gas, and water ratepayers should be enough to justify having these utilities pay for half of a deployment of FTTP plus backbone? If so, that would be great. I don't think that the benefit to electric, gas, and water ratepayers should be figured as only the cost of deploying dedicated fiber strands on their behalf.

Because I think we're going to see a lot of benefits over time that we really need to account for.

4:32:08:

I think staff is proposing the next reasonable step. I think this rigorous assessment of interest is going to be critical. And, like Council Member Cormack said, our community survey showed a lot of unhappiness with current high-speed internet. I'd really like to see us maybe figure out how we're going to phase the build-out, based on critical mass of interest. You know, more than even a survey, I'd be interested be interested in taking deposits, or figuring out how we really get a strong show of interest. A commitment. More than just answering a survey.

Fine. What should the dollar amount of the deposit be? When should the deposit be required, relative to when service will actually be offered? What will the City promise to offer for service options -- speed, cost, etc.

So, maybe, like Longmont did with their charter subscriber.

Longmont's idea was actually different. Longmont deployed to a neighborhood first, and only then gave neighborhood residents the opportunity to sign up, within 3 months, as a "charter member" for 1-Gbps internet service at \$49.95 per month that would otherwise cost \$99.95 per month.

I mean, I think that that kind of program could be really effective. And so, again, we have an opportunity to expand our leasing business. Increase our dark fiber revenue. I think we can be cash-flow positive, with a very achievable take rate. And then, there are many cities around us that are actually building community-based networks right now. Los Altos Hills has been expanding a network.

In Los Altos Hills, the FTTP network is being deployed not by the city but by "Los Altos Hills Community Fiber (LAHCF), a 'mutual benefit corporation' under California law similar in organization to a homeowners association." <https://www.bbcmag.com/multifamily-broadband/gigabit-fiber-comes-to-los-altos-hills>

I assume Mayor DuBois is just pointing out that there's interest in FTTP in Los Altos Hills -- not that he wants to consider specifically who the community-based deployer is.

Los Gatos. Portola Valley. Woodside. So, we have this opportunity to invest our community, generate money for the City, save the residents money, and really benefit our business community as well. I do believe that, you know, if you look at the trade-offs, the business case is much stronger if we run the network, but we outsource any expertise we don't have, whether it's technical support, or operating the ISP, we can outsource all those things.

4:33:47:

And so, I'd like to go ahead and make the staff motion, just to get something on the table, since it's getting late. And I'll stop there. If there's ...

4:33:59:

Council Member Kou: I'll second.

4:34:00:

Mayor DuBois: OK. Thank you for that. So, again, I think the staff motion outlines right steps. We can save money by combining the engineering for phase 3 and 4.

The video displays: "MOTION: Mayor DuBois, seconded by Council Member Kou to approve and direct staff to pursue build out of the City fiber backbone in a manner designed to support citywide Fiber-to-the-Home (FTTH), including the near-term 12-month workplan outlined in the report and establish a City-operated Internet Service Provider (ISP) model to offer FTTH service within five years." It also says, "MOTION PASSED/FAILED: 7-0," but that hasn't happened yet.

That we do these surveys, and establish kind of community interest. We complete the business model and the financing model details. That we focus on this ISP model, where we control it, but we can outsource. And we really move to kind of community education and engagement. I think all those steps make a ton of sense.

Council Member Kou, do you want to speak to your second?

4:34:39:

Council Member Kou: I don't have much to say, except that, you know, this past year, we have seen how much this is needed. All the internet -- the instability -- the instability -- um -- from internet, as we're doing all of these meetings. So, this is a great investment for our community. But I also want to thank the UAC for all the vetting that they did, and all the questions, and recommendation to Council. So, I support this. And I look forward to having this utility infrastructure here. Thank you.

4:35:17:

Mayor DuBois: Council Member Cormack.

4:35:20:

Council Member Cormack: Thank you, Mayor DuBois. I still have more questions. And so, I'm going to plow ahead with those. With respect to the motion, when it -- when I come back to that, I will be asking -- this is not as it was described in the staff report. I would prefer to wait until we have the results of 1.b) and 1.d) before we do number 2, which is on the staff report, and not reflected in the motion.

The staff report

<https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/reports/city-manager-reports-cmrs/2021/id-12117.pdf>

does have the motion displayed in the video at 4:34:00 in its "Recommendation" paragraph on page 1. It also has a more complete description in its "Executive Summary" section, on pages 1 and 2. At 4:41:36, Mayor DuBois changed the wording of the motion to the more detailed description, per Council Member Cormack's request.

Um. OK. Super-important. And I completely trust our Communications team to do this, as we have to use real words in our education and in our survey. So, lots of buzz words flying around. And those of us who spent some time reading it, we're going to be able to keep up. But the average person, who is not an engineer, let's just remember to use real words there.

Couple questions. So, Mr. Honker, it looked like there was a four-year ramp on the pro-forma for revenue. Is that based on the take rate changing over time, or is that based on the rate at which we build it out?

4:36:24:

John Honker: It's based on both, actually, Commissioner [sic] ...

4:36:27:

Council Member Cormack: OK.

4:36:27:

John Honker: So, we look at a 4-year period. A 2-year build out to get to the first customers. And then, with your first customers coming in in the 2nd year. And then, a 4-year build -- or, a 4-year ramp up in the take rate to get to the 32 percent. So, summarizing, think about your getting to your 32 percent in a maximum of 5 years.

4:36:53:

Council Member Cormack: OK. So, that leads me to my next question. Everybody wanted this last year.

4:36:59:

John Honker: Um hum.

4:36:59:

Council Member Cormack: If we moved ahead with this, when is the first time someone could have 1-gigabit service at their home, provided by the City of Palo Alto? When's the first time?

4:37:07:

John Honker: The -- the date?

4:37:09:

Council Member Cormack: Um hum.

4:37:10:

John Honker: That is what you'd like? Um. [pause] So, can I give you a range?

4:37:17:

Council Member Cormack: Sure.

4:37:19:

John Honker: [laughs] Let -- let -- let's use a range that works well for this. So, assuming engineering is finished in, you know, let's say the first quarter of next year, you know, moving into construction really quickly and -- Director Batchelor, people, please keep me sane here, because we know construction always is a heavy lift. But we would look at 2023 -- you know, mid 2023 -- as a moderately conservative opportunity to have the first customers connected. Now, we see a lot of cities that want to fast-track a PILOT project. Right? So, in which case, you could maybe, potentially, pull that date in, by, you know, 3-6 months, if you're prepared to do so, and you wanted to really, really show the community dedication, and a mission to get customers connected as quickly as possible. But if --we would say that would be sort of a "soft launch." And then, you would have your "hard launch." Right? Meaning, your full market launch -- in mid-2023.

4:38:35:

Council Member Cormack: OK. That's helpful. And then, on slide 29, that went through how we would do this if we weren't doing debt.

Slides 28, 29, and 30 are all relevant.

Um. So, if you look at the third group -- 30 percent -- the 7,000 homes. One of the things we haven't talked today about today is the overlap between the service they have available now and the cost it would be to build out. Um. Do we have any way of knowing that other 30 percent -- those last 7,000 homes -- do they already have access, because they have access to underground utilities, to something better than some of the rest of us?

I don't think anybody in town currently has access to a "better" internet service (from anyone) because they have access to underground utilities. In some of the City's underground districts, the City has already put in conduit for fiber. So the cost to the City to deploy FTTP there would be less than it would be to deploy FTTP in underground districts where conduit for fiber doesn't already exist.

4:39:11:

John Honker: We would -- We will be able to find out. From the survey data. Because we'll actually get points -- customer locations. And that will help us understand better what they have and what services are available to them.

3:39:26:

Council Member Cormack: OK. But -- Oh. So, we don't know the answer yet.

4:38:30:

John Honker: We don't know the answer yet. That's right.

4:39:32:

Council Member Cormack: OK. Um. And then a question for, I guess, our **finance staff**. People are throwing around millions of dollars, and bonding. Is this a Certificate of Participation? Is this a bond against future revenues? Like, what is the methodology we'd be using? Hypothetically. And I realize that that would be a part of 1.e). But if we did borrow for this, what are our range of options?

I agree that this question would ideally have been answered by "finance staff."

4:40:01:

Dave Yuan: This is Dave Yuan. I think one of the options we have is the revenue bonds. That's something we did maybe like 10 years ago, with the emergency water supply bond.

4:40:10:

Council Member Cormack: Um hum.

4:40:10:

Dave Yuan: So we backed it up with the revenues from our other utilities. Like electric, gas, wastewater.

4:40:17:

Council Member Cormack: OK.

4:40:17:

Dave Yuan: But ...

4:40:17:

Council Member Cormack: And would we be -- OK. Mr. Honker provided a recent estimate of an interest rate. Um. OK. And does that -- just from a debt standpoint -- does that accrue to the City in the same way if it's in the enterprise funds? I mean, do the capital markets look at us as an entity? Or are they going to look at the enterprise funds as their own -- their own entity?

4:40:45:

Dave Yuan: I'll look, for that, to Director Nose, if she's available.

Apparently, Director Nose was not available.

4:40:49:

City Manager Shikada: Well, I think, in the broad terms it would be fair to say that we've just started looking at this.

4:40:55:

Council Member Cormack: OK.

4:40:55:

City Manager Shikada: And we've got a bit of work ahead to identify both the opportunities as well as the restrictions on how this would be structured.

In view of the fact that, in 2004, staff's concerns about the details of financing were what derailed the citywide FTTP project then, it's worrying that we're only just now starting to look at financing details again.

4:41:03:

Council Member Cormack: Um. So, I just realized my time has expired on this round. But I'll just say that, as interested as I am in, you know, doing, shall we say, you know, "everything" -- the whole enchilada, as it were, and making it available to everyone, and going all in, I do think it would be prudent for us to think about doing it without debt.

Staff's NO-DEBT model would take 10 years to get FTTP to 70 percent of premises, and then Council could hem and haw about what to do next. Staff's NEW-DEBT model would take 5 years to get FTTP to 100 percent of premises. I prefer the latter. So does UAC.

So, I'm not going to be prepared to direct staff to establish this model until, you know, we get the results of this next phase.

4:41:36:

Mayor DuBois: Yeah. So, **, I did make the motion. And the Clerk was texting me. I did mean the more detailed steps, with the 1 and 2. If we want to put those up. I think it's essentially the same motion. But it's just a little more detailed. It's at the bottom of page 1. Packet Page 157.

The video shows the motion wording being changed per Mayor DuBois' intent.

Right. And then, the rest of that. Yeah. Does that make more sense? All right. Vice Mayor Burt.

4:42:24:

Vice Mayor Burt: Thank you. So, I do want to echo a point that the Mayor made earlier about what a success our commercial dark fiber loop has been. Credit to Former Mayor Kniss, who really championed this in the mid-90s. And we were one of the first cities in the nation. It's thrown off, essentially, \$35 million in profit. Just about -- oh -- about 6 or 7 years ago, when we were looking at a fiber plan, the projection was that our revenue, and our profit from that fiber loop would evaporate due to competition from other forces.

I don't know what Vice Mayor Burt is referring to specifically. The 09-28-15 staff report <https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/reports/city-manager-reports-cmrs/year-archive/2015/id-6104-ftp.pdf> said (page 6) "Note, however, that the dark fiber enterprise will likely see competition from planned services from AT&T, Comcast and other providers." It cited a footnote 6, that cited a white paper, "Comcast Ethernet V. Dark Fiber - The Dark Side of Dark Fiber." The cited URL no longer works. Obviously, the 09-28-15 staff report shouldn't have been depending on Comcast documents as a source of truth.

And it actually went up. And it appears to be sustainable.

The staff report didn't include a financial analysis of the dark fiber network going forward, so I don't know why it appears to be "sustainable."

And as a result, that's also a revenue stream that we could bond against, at these incredibly low interest rates. We're talking interest rates below inflation. And that's a really different concept on borrowing, especially given that our borrowing debt-to-equity ratio is extremely low for -- compared to other cities.

4:43:49:

And I would like to touch on a question of some of the assumptions, and the risks involved. The -- There was an assumption in the presentation that competitors could drop their price by 10 percent. And that that could affect our pricing structure. One of the things that I recall from half a dozen years ago -- and I don't know if Mr. Honker has a similar perspective. But the data that we received at that time showed that if there was one competitor -- or, actually, two competitors in the community, pricing was lowered moderately. If there were three, it dropped drastically. And, I think, at the time, the back-of-the-napkin calculation was: if we became a third competitor, to the two existing ones, it would save our ratepayers -- whether they chose our -- us as the ISP or chose one of the private companies -- about -- in aggregate -- about \$10 million a year.

I think he means that our residents and businesses who take internet service (regardless of who they take it from) would save about \$10 million a year.

So, Mr. Honker, do you have any insights on that?

4:45:08:

John Honker: No.

I think he means yes.

Vice Mayor Burt, we see that in almost every municipal network. So, we usually like to do a calculation of the "wallet" -- the dollars that stay in the citizen's wallet, at the end of the day. And you're right, it's generally in the \$10 -- you know, it depends on the size of the community. But it usually turns out to be about \$10 a month that they save, on average. By having the additional competition in the market. So, you multiply that \$10 per month for -- over 10 years, times the number of customers who are subscribing, not to the network, through -- to internet services in the city.

Because, remember, it's not just the customers who are on the network that are saving that.

4:45:54:

Vice Mayor Burt. It's everybody.

4:45:55:

John Honker: The city has brought the cost of broadband down. For ...

4:45:58:

Vice Mayor Burt: Right.

4:45:58:

John Honker: So, you multiply the number of households times the \$10, and you're seeing definitely ...

4:46:05:

Vice Mayor Burt: Well, I think that's a really important aspect. When we do the education to the public. It's not just looking at that direct benefit. It's also that indirect benefit to them, whether they are on the -- part of the take rate or not. Similar argument, when we -- on the dark fiber value. It not only gave us direct revenue. It increased the value of our location to our businesses in our community. In a real tangible way. And I've heard, over the years, that that was an added value to doing business in Palo Alto.

4:46:43:

And so, I guess, the last thing -- sort of wanting to make sure that we're confident on that take rate -- if the competitors will be willing to drop their prices. And then, the other thing that I just want to say: I remain supportive of this. And support the motion. But we are in a period of real competing priorities. And it appears that we have the ability to move forward, as proposed, based upon -- even without borrowing for the initial phase, **which we could clearly do**.

Is Vice Mayor Burt saying that the City could complete building an "initial phase" without borrowing? (What "initial phase"?) Or that the City could easily borrow in order to complete this "initial phase"?

UAC didn't like the idea of building out FTTP incrementally, because it took too long to get less than the whole job done. And I don't like it either.

I don't like the idea of raiding the Fiber Fund for any non-fiber purpose, no matter how dire or worthy. But I especially don't like doing that before a complete financing plan for citywide municipal FTTP is known to the public.

And we could still utilize \$4 [million] to \$5 million a year -- Or \$4 [million] to \$5 million -- spread over the next 2 years - - to restore vital City services, that we've had to cut. And do both things. And, for me, they're both a priority. It's not an either-or. And I'm supporting this motion under an understanding that we're going to be open to looking at -- um -- some limited use of this dark Fiber Fund to bridge us through this year and next to full recovery. But thanks. And I'm going to support the motion.

4:48:02:

Mayor DuBois: Council Member Stone.

4:48:06:

Council Member Stone: Thank you, Mr. Mayor. And, yeah, I just wanted to start by concurring with the Vice Mayor on that -- that the additional \$5 million that was -- um -- that was kind of identified tonight seems like -- seems like a proper use to be able to put that -- put those funds into bridging the gap. And I -- It seems that we can do both. I don't see why we wouldn't do that.

I wouldn't do it because it's not fair to the ratepayers of our fiber utility.

So, I hope the Finance Committee looks closely into that additional funding.

4:48:33:

I also align my comments with the Mayor, when making the motion. I think you articulated the reasons -- the needs for this very well. Ah. Yeah. I think -- you know, a few other thoughts. I do think the issues of equity and being able to meet our climate goals are all kind of a part of this decision-making process. And if we can't -- If we're serious about making sure that we're trying to promote greater telecommuting, and recognizing that that is going to become more and more the norm, as we continue on past this pandemic, it's critical that we -- that we're able to provide the infrastructure, so people can work from home. I feel -- I can empathize with Council Member Tanaka, at having this spotty interconnection at times, especially when you're trying to be in Council meetings, or teach, it's very frustrating.

4:49:33:

And I think another issue that this year has really exposed for the City is the need to have a more diversified portfolio, as far as where we're getting revenue. And this seems like a very consistent form of revenue, that I can't imagine would be too impacted by economic downturns, especially in Silicon Valley, where everyone is going -- where it really is now a -- not just Silicon Valley -- but really is a need to have a good internet connection. So, it's, I guess, a question -- a question -- whether that is, any kind of -- is that the case -- that even in economic downturns or recessions, is this kind of revenue source for cities -- does this stay pretty consistent through those downturns?

I don't like the idea of the City's creating an FTTP network so that it can serve as a source of cash for things other than serving the customers of the FTTP network. The City doesn't use its other utilities that way, partly because Propositions 218 and 26 forbid it, but partly because it's not compatible with the City's concept of fairness.

4:50:24:

John Honker: Commissioner [sic] Stone, I think that's what we've seen. You know, the closer you are to a utility, the more resilient the revenue stream. Electric being the most. Right? People need power in an economic downturn. Regardless. They need internet in an economic downturn. So, it was interesting looking at what happened with COVID, and the fall-out, which actually pushed the envelope the other way. Right? We saw huge, huge increases in internet usage during that. But even when you looked at, like, earlier --for example, during the regular session, you even saw higher usage in the residential markets, because people were staying at home and looking for cheap entertainment. So, they were getting that through the internet. And they were getting that through -- at the time -- cable TV. Which isn't as pronounced today. Now, it would be **, Netflix, and Amazon Prime. But we've seen that be very resilient, because it's very close -- very close to a utility.

4:51:26:

Council Member Stone: Right. Thank you. And, I'm also curious. Do you use -- In other cities that have their own ISP model, are you seeing a greater -- kind of a greater market share for the city-offered ISP, compared to the -- compared to the private sector?

4:51:46:

John Honker: You mean -- What would you be comparing it to the partner-ISP? Where the greater market share? Or just ...

4:51:52:

Council Member Stone: Yeah. I guess, let me give kind of -- let's just as an example. Here in Palo Alto. Right? You'd have the hopes that more people would take the Palo Alto service, rather than Comcast or AT&T. Do you see that in other cities that have their own ...

4:52:10:

John Honker: I apologize. I misunderstood the question. Yeah. So, we generally see the city take rates -- the municipal take rates -- average around 40-50 percent. Depending on the community. And I use those numbers to represent -- What we see in our clients as being larger cities. Sort of the 50,000 population average. You're looking at between 40 and 50 percent for most of the municipal systems. You have some communities, like Cedar Falls, Iowa, that have 90 percent. But in those cases, again, the providers have really neglected to invest in their infrastructure, and create competitive alternatives. So, the city is basically, you know, taken the -- almost the entire market share. But being conservative, where we are in the planning for 32 percent, you know, thinking about 40-50 is really what most of the municipal utilities are achieving.

4:53:08:

Council Member Stone: OK. Yeah. Thank you. And I'd be optimistic for Palo Alto's success on this. I mean, myself, and many people that I know, have been frustrated with this -- with service providers that we do have. And the City of Palo Alto, I do think, also being a smaller -- kind of a smaller agency, with a fairly good track record of customer service. Like, clearly from our last community survey, the confidence in our City's utilities are going up. I think we would see a lot of interest in people wanting to switch over. So, thanks again. I'm happy to support this motion.

4:53:46:

Mayor DuBois: Council Member Tanaka.

4:53:50:

Council Member Tanaka: I thought of a few questions about the motion. So, on B, it looks like this is, like, final approval. Is that right?

At this point, the video has changed the designations of the items: 1.a) has become A.i), 1.b) has become A.ii) etc.

Or, how -- What does this mean? Like, is it -- Because this is a pretty major decision we're making tonight. And, generally, I'm a big fan of high-speed internet. So, I'd definitely love to see more competition here. But I do have to agree with what [Council Member] Cormack said, about, you know, making sure that we kind of get things right here. So, is it auto? We are like basically approving -- Like, despite what it has on A, B is getting approved? Or, how does this work?

4:54:26:

Mayor DuBois: No, I think -- I'll let staff answer this, too. But the staff report says, basically, this is the 12-month workplan. They would come back with all the detailed plans, business model. Council would need to approve ...

4:54:39:

Council Member Tanaka: OK. Good. OK. And ...

4:54:42:

Mayor DuBois: Why don't we have the Director -- Dean --

4:54:47:

Dean Batchelor: Yes. Thanks, Mayor. As the report said, Council Member Tanaka, this is just to start the -- having Magellan and staff to look into what it's going to take if we were to decide to go with an ISP.

I assume Batchelor is trying to say that staff and consultant would be studying the City-ISP model, as opposed to the partner-ISP model.

From the City's perspective. And then come back to Council with the findings. And then talk a little bit more about what those costs might look like, over that period of time.

4:55:12:

Council Member Tanaka: OK. Good. So, even though it doesn't say here, basically, it would be a chance to approve this for real, once we actually have A done. OK. Good. I just want to make sure. And then -- um -- let's see -- you know, I do think that, you know, given the competing priorities that were talked about, and the fact that we're already trying to, you know, look to trim things here and there, that, you know, taking on more debt is a little bit dangerous, right now. I mean, I get that idea about interest rates. But, you know, I think -- We are already kind of struggling as a City. So, I don't know whether taking on more debt right now makes the most sense. So, I would also be leaning in that direction, as well. But it sounds like we're going to make that decision on B later on. So, I'm OK with that.

4:56:06:

I think the other thing to think about -- And I think when the fiber network was done in the '90s, it's a little bit different

than now. In that -- And I kind of wish we had -- full bore, back in the '90s. Versus kind of stopping, like we did. Because I think, right now, the situation is -- There is 5G coming on board. You know, the whole fixed wireless approach.

This 06-08-21 article points out that so-called 5G still hasn't outperformed 4G.
<https://potsandpansbyccg.com/2021/06/08/10g-really/>

So, I do worry a little bit about how -- You know, whether -- whether this starts to become, like, obsolete technology.

No, wireless is not going to make FTTP obsolete.

So that's one thing I would worry about. And so, that's something that I would -- you know, I think, before B is is really approved, I would really want to see, and make sure.

4:56:44:

I think the other thing that I would want to see is -- And this is something kind of -- I know we do, as a City -- We also look at our costs. I mean, what the ratepayers pay. But we don't factor in the capital costs that we put in. So, like, for instance, we own our own utilities. And so, we have, like, a ton of money invested in it. But then we look at utility rates as if we don't own it -- like, own it.

State law requires that municipal electric, gas, and water utilities not charge ratepayers more than what it takes to break even.

So, what I mean by that -- The analogy is, like, a homeowner may have paid their house off. So their monthly cost is relatively low. But that's because they put a ton of capital into buying that house. Versus a renter, who has an ongoing cost. But it's not a fair comparison. You should look at all. The homeowner's getting a lot lower monthly cost. Versus a renter. Well, that's because the renter didn't put in, you know, a huge down payment, and all the principal. So, I just want to make sure we don't -- we actually have a fair comparison here. We have to factor in the cost of capital. Right? The fact that we're putting tons of money into this. And then -- so when we compare the rates, we've got to factor in, well, here's the cost of that capital that we're putting into it. In terms of monthly rates. Because otherwise we're not looking at an apples-to-apples comparison. And so, I saw the slide you guys are doing, in terms of, well, we could get within 10 percent of the cost, or whatever, like that. But I really would want to see this, before I would want to approve it. To see really what the capital cost is going to be. Right? To the monthly rate. So we have a fair apples-to-apples comparison, and not just a homeowner-versus-renter comparison. Because that's not the right comparison that we should be considering. The cost of capital has to be considered.

I think the staff report did consider the cost of capital. Yes, it costs a lot to start up a new utility, like FTTP. The staff report shows how Palo Alto can start up a FTTP utility, and get to the point where the utility pays for itself, including its start-up costs. Sure, after Palo Alto's FTTP utility has paid off its start-up costs, there would be an opportunity to reduce the rates of its services.

4:58:12:

I think -- And the other two quick questions. I think -- yes or no questions here. But does the plan here encompass anything around -- the difficulty around getting permits? Because I've talked with some of the broadband providers, and they pointed that out as being notoriously hard -- I mean, notoriously hard in our City, compared to any other city they've worked in. And maybe they're exaggerating. But maybe they're not. And I've seen -- I've talked to a lot of people who really think it's pretty bad here. So -- I mean, does it do anything to kind of streamline the permitting process, so people can put in fiber? Because, right now, I hear it's really hard. Can someone answer that quickly, yes or no?

4:58:52:

Dean Batchelor: Council Member Tanaka, we are working with the Development Center, as well as with Public Works. Looking at this. As John mentioned, earlier in the presentation, is that, you know, we know that one of the larger costs -- could be in this project -- could be the stop-and-go of holding up the contractor. We have a good rapport when we're working in the streets now. When we do our water, gas, wastewater. With our permit process. We think that we can streamline it the same way that we do that ...

4:59:21:

Council Member Tanaka: Well, I'm sorry. ** I don't mean for ourselves. Hopefully, we can streamline for ourselves,

because we're the City. Right? What I'm talking about -- even for other ISPs. I think, in general, we should make it easy for people to install fiber. And, the stories I've heard, we're notoriously hard to work with. It's very, very hard to get through our permitting process. And it shouldn't be. We should want to make it easy for people to get fiber-to-the-home. To the business. I mean, even for my own company. I tried to get fiber. You know, it was pretty hard. So I gave up. Right? I was just renting. So I said, screw it. I'm not going to do it.

I'd be interested in more information about this. If Council Member Tanaka was looking into getting a dark fiber connection from the City for his business, the City charges the customer the entire cost of deploying the connection up-front, which could be tens of thousands of dollars. That usually doesn't make sense for renters. Anyhow, it's a case of the City getting permits from the City, so I assume permitting was not the limiting factor.

And so, we've got to make the process not arduous. Like not walking on a bed of coals type of situation. Right? It's got to be easy. Right? And, so -- Does this have it -- Is this contemplated in there? In the plan? Of how do we streamline? Because I think what we want is competition.

No. Not exactly. What we want, as residences and businesses, is excellent FTTP retail services at affordable prices.

I think it's great that we build our own. But I think we should make it easy for everyone to build. Not just ourselves.

5:00:13:

Dean Batchelor: I guess -- What I can tell you right now is, Council Member Tanaka, we have not looked at in that direction -- is what you're asking for right now. You know, what if it was done, we were looking at this, and focusing, you know, on working with a contractor that would be building this system for us ...

5:00:31:

Council Member Tanaka: OK. Great. I'm running out of time. That's why I'm trying to rush you. Sorry about that. Um. So, I'd like to make a friendly amendment, then. And maybe the maker and seconder could consider this. Is that we look at we look at streamlining the process of fiber-to-the-home. I mean, not just for ourselves, but for anyone that wants -- any broadband provider that's trying to do it.

5:00:53:

Mayor DuBois: Again, this seems very specific, Greg. I think we send the plan back. And we have Magellan and Utilities work on it. And, again, I think if we're going to build a City network, we're -- part of this IS going to branding and marketing, and how do we compete.

5:01:12:

Council Member Tanaka: But we shouldn't compete by keeping other people out. I mean, a part -- to me, a part of this is to spur competition. So, we want AT&T, and Comcast, and other people to kind of get off their duff and start moving. Right? But we sh- -- But we have this really arduous -- from what -- I talked with both ISPs. And both tell me about -- like, it's almost the same identical stories. We want to make that easier.

5:01:36:

Mayor DuBois: You can try this, as an unfriendly.

5:01:38:

Council Member Tanaka: OK. Do I have a second on this? [pause] OK. I have one last thing. I don't know if we have another round, or if I can go now, Mayor.

5:01:49:

Mayor DuBois: I think we're -- This should be the last round.

5:01:51:

Council Member Tanaka: OK.

5:01:51:

Mayor DuBois: Do you have another question?

5:01:53:

Council Member Tanaka: One last question then. So -- So, for the "dig-once," do we have anything in here about "dig-once" for open trench? Should we make that, kind of like, we put the conduits in that are needed? Whenever there's an open trench?

5:02:09:

Mayor DuBois: I think we already have that.

5:02:11:

Council Member Tanaka: Is it in here?

5:02:12:

Mayor DuBois: I think we already have a City ordinance. A "dig-once" ordinance.

5:02:16:

Council Member Tanaka: For open trench? OK. OK. Great. Thank you.

5:02:20:

Mayor DuBois: Council Member Cormack.

5:02:23:

Council Member Cormack: Thank you, Mayor DuBois. I'm just wondering if the maker and seconder would be willing to just tidy up the language here on B. And then I can probably see my way to supporting it. Again, I -- it -- When we all talk about what we understand, I just worry about people going back and looking at that, and thinking we have made a big decision.

5:02:41:

Mayor DuBois: If I could propose something.

5:02:43:

Council Member Cormack: Great.

5:02:43:

Mayor DuBois: I think -- It says, "establish a model." Maybe, would -- would staff be OK if it said "specify the requirements for a City-operated internet service provider model? I think people are getting hung up on the "establish."

5:02:59:

Council Member Cormack: Yeah. I was going to say, just direct staff to return to Council with a model. That way, it just gets the part out in front that we're not making the decision. We're asking them to -- I'm fine with the model. And I understand that. But the "establish" part sounds like we're building it now.

5:03:15:

Mayor DuBois: Yeah. So, is that OK with staff, just to come back with a City-operated service provider model? Basically, come back with a plan that would get us to that. So, could the Clerk replace "establishment" -- "return with plans" -- "with a City" -- yup -- I think that's ...

5:03:37:

City Manager Shikada: I think -- If I could just clarify, I think Director Batchelor will need to work on the specifics of what would come back. Presumably, both a staffing plan and some options, really, for the Council. Recognizing, as has been discussed, there's a combination of in-house staff versus what might be outsourced, in terms of specific functions, and a general timeline over which the ramp-up would occur.

5:04:04:

Mayor DuBois: OK. Is that ...

5:04:05:

Council Member Cormack: OK. And then, the second thing is, something that doesn't need to be there. It wasn't actually in the motion. I mean, the part after the "five years." I think staff's just going to do that anyway. So, ...

5:04:16:

Mayor DuBois: I mean, it was there. I think the formatting was a little weird. On page 2. I think it should be there.

5:04:27:

Council Member Cormack: It's more of a statement. But, whatever. OK. Um. That will be fine. Thank you.

5:04:36:

Meghan Horrigan-Taylor: Mayor, if I might -- Meghan Horrigan-Taylor, Chief Communications Officer. Just, related to "B," I think that in the staff report, that second portion really was a "C."

5:04:50:

Mayor DuBois: Yeah. I thought it was, too. We could make it a "C." Or just leave it as "B."

5:04:55:

Meghan Horrigan-Taylor: I just didn't want folks to think that the engagement was only around the model, and not around the rest of project.

5:05:03:

Mayor DuBois: OK. Thank you for the clarification.

5:05:05:

Meghan Horrigan-Taylor: Thank you. Yup.

5:05:07:

Mayor DuBois: OK. Not seeing any other hands, let's go ahead and vote.

The MOTION (which didn't fit on the video, but I got this from the draft action minutes)
<https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/agendas-minutes/city-council-agendas-minutes/2021/05-24-21-ccm-draft-action-minutes.pdf>

Mayor DuBois moved, seconded by Council Member Kou to approve and direct Staff to pursue build out of the City fiber backbone in a manner designed to support citywide Fiber-to-the-Home (FTTH), including approve the near-term 12-month workplan outlined in the report and establish a City-operated Internet Service Provider (ISP) model to offer FTTH service within five years.

A. Perform the following tasks by March 31, 2022:

- i. Combine Phases 2 and 4 of the Magellan contract (C20176363) to provide detailed engineering design of the City's fiber backbone and FTTH distribution network;
- ii. Complete a detailed City-operated ISP model, to include a combination of insource and outsource functions;

- iii. Complete a residential and commercial broadband survey;
- iv. Complete a risk and mitigation analysis of City-operated ISP model;
- v. Determine the best financing model, including availability of federal and state funding options;

B. Direct Staff to return to Council with a City-operated Internet Service Provider (ISP) model to offer FTTH service within five years; and

C. Per Council prior direction as part of the Community and Economic Recovery work plan, Staff will prioritize and accelerate community education and engagement regarding FTTH.

I think we're starting with Council Member Filseth.

5:05:14:

Council Member Filseth: Yes.

5:05:16:

Mayor DuBois: Council Member Kou.

5:05:16:

Council Member Kou: Yes.

5:05:17:

Mayor DuBois: Council Member Stone.

5:05:19:

Council Member Stone: Yes.

5:05:20:

Mayor DuBois: Council Member Tanaka.

5:05:21:

Council Member Tanaka: Yes.

5:05:22:

Mayor DuBois: Vice Mayor Burt.

5:05:24:

Vice Mayor Burt: Yes.

5:05:25:

Mayor DuBois: Council Member Cormack.

5:05:26:

Council Member Cormack: Yes.

5:05:27:

Mayor DuBois: And I will vote yes. All right. So, we got to a 7-0. Thank you very much.

We're moving on to our last ...

5:05:32:

Dean Batchelor: Council, --

5:05:37:

Mayor DuBois: Sorry?

5:05:39:

Dean Batchelor: I just wanted to say, thank you very much. Thank you.

5:05:42:

Mayor DuBois: Thank you, Dean.

5:05:43:

END of item.

#####

From: [David Bubenik](#)
To: [UAC Public Meetings](#)
Subject: Verified Emission Reduction,Agreement (VER Agreement) with the Integrative Organization of Oaxaca Indigenous and,Agricultural Communities (ICICO), to purchase 24,000 tons CO2e
Date: Tuesday, June 29, 2021 8:14:05 PM

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Palo Alto Utilities Staff and Commissioners:

Carbon offsets mean we purchase somebody else's virtue so we can continue sinning while feeling saintly.

OK. I get that.

But the welfare of our planet demands there be an actual net zero balance of carbon put into the atmosphere. That in turn requires that the virtue seller adds a permanent, new carbon sink in the full amount of the carbon emissions we are buying this indulgence for.

1. Is that verifiably the case, and how is it being measured/verified/monitored?
2. What protections does our planet have if that carbon sink discontinues, and its sequestered carbon gets released into the atmosphere on top of the carbon we emitted while we enjoyed our purchased carbon-neutral virtue?
3. Wouldn't it be much more beneficial to our planet if we reduced our actual carbon emissions here? Our planet's health matters much more than our perceptions of saintliness.

Thank you

David Bubenik, EE (ret)
Homer Avenue
Palo Alto

From: [Bob Wenzlau](#)
To: [UAC](#)
Subject: One Water Plan Objectives, Scope and Community Engagement
Date: Monday, July 5, 2021 10:30:03 AM

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Utility Advisory Committee Members,

I am writing to support the UAC's engagement and development of the City's One Water plan. Water is an integrated resource that couples imported water, reclaimed water, storm water, potential rainwater capture, and groundwater. An ultimate goal is to reduce imported water while enhancing the quality of our drinking water. I suggest that a venue be created for the attention to water resources challenges to leverage the UAC's work, that new local sources (like rainwater capture) be evaluated, that a lack of local storage and distribution is likely a obstacle to a more resilient water future, and that a one water strategy be created that offers an integrated model or dashboard to enable policy makers more adept access to the implications of policy choices.

- **Discover a Venue to Focus on Water Resources.** The challenges of resources are increasing, and the interrelationships of our multiple water flows have increased the complexity of any discussion. Against this, the UAC does not appear to have the bandwidth to provide the strategic public input to our overall water strategy. I believe a committee venue should be established that allows development of the One Water strategy. There could be a subcommittee to the UAC that focuses on water, or consideration to shift the water resources to be assumed by the Stormwater Commission. A separate venue could engage public members to serve with focus and capability to guide water policy for the city. I do not see that the UAC has the capacity to manage One Water challenges while managing the breadth of the city's utility portfolio.
- **Explore Rainwater Capture as a Potential Resource.** Through sister city work, Neighbors Abroad recently worked with www.islaurbana.org to install 50 10,000 liter rainwater capture systems in Yaxe, Oaxaca. Isla Urbana has installed 20,000 systems in Mexico to supply drinking water to homes. An analysis of the City of Palo Alto rooftop area and an assumption of annual rainfall shows a potential to supply 25% of Palo Alto's water. That the technology for rainwater capture has evolved, and the One Water plan is a 20 year plan, would suggest adding rainwater capture to the strategy of a diverse water supply.
- **One Water Should Emphasize Local Distribution and Storage.** Development of rainwater capture and other sources like purple pipe reclaimed water would be leveraged by greater distribution and storage of either drinking water and or nonpotable water irrigation water.
- **Leading with a Local Focus Supplemented by Regional Collaboration.** While regional collaboration is important, being our own water utility gives both opportunity and responsibility to create local solutions. We have adequate scale to increase supply and quality through local solutions. For example, a municipal approach to sediment water quality impairment through filtration might be more direct, effective and viable economically, than waiting for the SFPUC or other agencies to address the issue weighed against competing regional priorities. A local approach can provide a safer

position when extreme drought occurs, with always the ability of regional strategies to augment the standing.

- **Development of a One Water Model and Dashboard.** As a consultant proceeds toward creating a One Water framework, the creation of an integrated (albeit imprecise) model of the water system would be critical. Within such a model multiple scenarios of distribution, storage, local water resource development and resulting import demand could be run. The costs and benefits of multiple infrastructure models could be offered. A model could be tuned, and be a regular exhibit to allow policy makers to provide input. One could imagine a water dashboard that could guide policy.

I commend Staff for bringing this topic forward, and hope these remarks are constructive in the forthcoming discussions. Frankly, there is so much to say and offer here, but now the focus is on getting going, and hopefully creating a venue for more in depth analysis. The UAC is doing the work for not only us, but for our grandchildren where both short term urgency with a long term view are integral.

Yours,

Bob Wenzlau

--

Bob Wenzlau
bob@wenzlau.net
650-248-4467

From: [Lindsay Joye](#)
To: [UAC Public Meetings](#)
Cc: peter@tuolumne.org
Subject: For 7/7/21 UAC meeting: AMI project benefits of hourly water consumption data
Date: Monday, July 5, 2021 2:52:09 PM

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Dear UAC Commissioners,

I appreciate all of staff's work on implementing the very important Advanced Metering Infrastructure (AMI) project. After reviewing the UAC Staff Report [#12285](#), I would like to address the proposed plan regarding water consumption data.

The report says the water consumption data would only be available on a daily interval instead of hourly per the section pasted below:

II. AMI Technology

2. Approximately 27,100 Sensus residential/small commercial electric meters and ~2,900 Aclara kV2C commercial electric meters, both with Sensus radios, will replace all ~30,000 of the existing electric meters.

- The 2 Watt-powered radio embedded in a meter is expected to transmit data (15-minute energy consumption and voltage data) on a hourly basis, but ~0.1 second each time. **The customer consumption information will be made available to customers the day-after, on a hourly interval basis for electricity consumption and daily intervals for water/gas consumption"**

The City of Palo Alto Utilities had previously studied the benefits of hourly interval data as part of a pilot project with commercial customers. I believe the information was especially helpful in catching irrigation system operation scheduling errors as well as leaks which allowed the repairs to be done in a timely manner. When data is limited to a daily interval, it is much harder to diagnose the cause of excessive water use.

The upcoming AMI project is the best time to specify the right equipment and reporting capabilities to best manage our valuable natural resources, especially with multi-year droughts becoming an increasing occurrence.

Thank you for looking into this important matter concerning water conservation.

-Lindsay Joye

From: [RS Love](#)
To: [UAC Public Meetings](#); [UAC](#); [Lait, Jonathan](#); [Shikada, Ed](#)
Cc: [rscolove@gmail.com](#); [Council, City](#); [gsheyner@gmail.com](#); [david@evcl.com](#); [Don Jackson](#); [Batchelor, Dean](#)
Subject: Is the City of Palo Alto attending DOE's July 15th webinar on solar permitting?
Date: Tuesday, July 6, 2021 11:08:39 AM

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Hi,

Just checking on any progress concerning rooftop solar permitting improvements. I'm asking specifically if Palo Alto is actively evaluating the SolarApp+ program as a solution to our permitting issues as previously recommended by Palo Alto residents?

[Leadership Roundtable: Empowering Cities to Accelerate Rooftop Solar Installations Across America | Department of Energy](#)

NREL and DOE are promoting a streamline digital system to accelerate solar permitting nationwide. It is intended to reduce deployment friction while increasing uniformity and understanding of building codes and electrical safety standards.

[NREL's SolarAPP Streamlines Solar Permitting - YouTube](#)

<https://solarapp.nrel.gov/faq>

Thank you for your attention.

Scott Love
Palo Alto, CA
650-224-7252

"It's time for engineering, not sloganeering."

From: [Bob Wenzlau](#)
To: [UAC](#)
Subject: July 7, 2021 - Agenda Item 2 - Support for Contract for Carbon Offset Agreement in Oaxaca Mexico
Date: Wednesday, July 7, 2021 7:48:10 AM
Attachments: [NeighborsAbroadSupportCarbonPurchase.pdf](#)

CAUTION: This email originated from outside of the organization. Be cautious of opening attachments and clicking on links.

Commissioners,

Please find attached a letter supporting staff's recommendation to approve a contract for verified emission credits. The letter develops background to the agreement, and considers alignment with our sister city programs and commitment to sustainability.

Yours,

Bob Wenzlau

--

Bob Wenzlau
President
Neighbors Abroad of Palo Alto
650-248-4467
[Facebook](#) | [Web](#) | [Twitter](#) | [Join](#)



PO Box 52004, Palo Alto
California 94303 USA
Info@neighborsabroad.org
+01 650 561 6106

www.neighborsabroad.org
Facebook: Neighborsabroad

July 7, 2021

Palo Alto Utility Advisory Commission
City of Palo Alto

Re: Support for Mexican Carbon Offsets Purchase Agreement

Commission Members,

Neighbors Abroad endorses the purchase agreement. Neighbors Abroad is Palo Alto's official sister city organization. The contract is a remarkable effort to bring high-value carbon offsets supporting Palo Alto's sustainability climate action plan while equally reflecting Palo Alto's fifty years sister city enduring relation to Oaxaca, Mexico with consequential social and economic benefits.

Restoration of tropical forests, as occurs through this purchase agreement, has been calculated as the fifth most impactful solution¹ to drawdown carbon across a one hundred energy, food, land use and transport solutions. Oaxaca is surrounded by forests that were historically clear cut for paper production, and through management under the Mexican Forestry Protocol authored by the Climate Action Reserve, sequesters carbon as the forests recover.



ICICO staff including Rosendo Perez Antonio, Carlos Perez Gonzalez, Perfecto Pacheco Acevedo and Bob Wenzlau of Neighbors Abroad in Oaxaca City June 2021.

¹ Drawdown.org, [Drawdown, The Most Comprehensive Plan Ever Proposed to Reverse Global Warming](https://drawdown.org/solutions/tropical-forest-restoration).2017 See <https://drawdown.org/solutions/tropical-forest-restoration>

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The purchase agreement is via the nongovernmental organization Integrator of Campesino and Indigenous Communities (ICICO). ICICO is located in Oaxaca City, is staffed by a small team of environmental professionals known both to Neighbors Abroad and city staff. ICICO's board is formed by members of the communities that participate in these agreements. Palo Alto entered into a contract in 2017, the first sequestration contract between a United States organization and Mexico. Other entities purchasing through ICICO include Disney Corporation and CoolEffects.org.

The participating communities have entered 30-year commitments to manage these forests for carbon sequestration. The communities look toward a 100-year commitment, and Mexico's legislation would preclude the forestry practices that previously lead to clearcutting. The purchase agreement, as I observed in the 2017 within the community of San Juan Lachao, creates multiple forestry jobs ranging from a scientific to forestry laborer.

The forests are expansive, and maintained to remove irregular growth that occurs after a consequence of clear cutting. The Climate Action Reserve developed the Mexican Forestry Protocol, and team members are shown overlooking the sequestration area from Palo Alto's previous 2017 offset contract.



Figure 1 Overlooking sequestration project area, John Nickerson and Amy Kessler from Climate Action Reserve joined by Bob Wenzlau and Jesús Ramírez as sequestration validator. San Juan Lachao, 2017.

The Mayor of Palo Alto is invited to Oaxaca in October 2021 in part to celebrate this prospective contract. The mayor's visit would be hosted in La Trinidad Community, in the Sierra Norte Region of Oaxaca. La Trinidad is one of five communities participating in this pending agreement. Staff has been invited to join this visit as such a visit brings a tangible validation of the sequestration program and the impact of the commitment with the communities. Into the future, Neighbors Abroad strives to extend this effort to other sister city partners to create a sister city climate network.

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Neighbors Abroad thanks the city staff and the Utility Advisory Commission for their diligence and support of this contract. If there is any market rate accommodation within this contract, the accommodation brings returns as enduring environmental and social enhancement of Oaxaca, Mexico consistent with our mission of international engagement.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Bob Wenzlau', is positioned above the printed name.

Bob Wenzlau
Neighbors Abroad

From: [Don Jackson](#)
To: [Swaminathan, Shiva](#); [Yuan, Dave](#); [Batchelor, Dean](#); [Silva, Rui](#)
Cc: [UAC](#); [Council, City](#); [Abendschein, Jonathan](#)
Subject: Comments on: Progress on Advanced Metering Infrastructure Project - UAC Discussion Today 7/7
Date: Wednesday, July 7, 2021 2:11:04 PM

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Mr. Swaminathan,

Thank you for your recent email alerting me to the AMI agenda item on tonight's UAC agenda.

For your reference, my term on the UAC ended in May, so I am no longer a commissioner.

I have briefly reviewed the Staff presentation, and in my role as an electrification-proponent and technology-knowledgeable Palo Alto resident,

I offer the following comments (as such, I am cc'ing both the UAC and Council):

- **I (continue to) support the overall goals of the AMI program.**
Smart meters are a foundational technology that we need to enable:
 - TOU rates (which are critical to incentivize conservation),
 - Intelligent management and control of energy resources by both PAMU and its customers.
- **I remain extremely concerned about the (exclusive!) use of mesh-radio technology both for the transmission of customer usage data to PAMU, and for the transmission of controls by PAMU to a customer's meter.**

I urge PAMU to provide additional options for the transmission of usage and control information between a customer location and PAMU servers.

I understand these transmissions will be encrypted, but when transmitted over radio links, which can be easily monitored/received by anyone, combined with freely available decryption software, there is a reasonable risk that customer usage data could be captured and used by third-parties, which would pose both security and privacy threats (state of household occupancy, likely current activities within the household, etc)

When the AMI mesh radio links are capable of remotely disconnecting a customer's power, that poses an even greater risk.

The numerous recent ransomware incidents provide ample indication about the pervasiveness of these threats, if these actors could remotely disconnect a customer's power, that should be a significant concern.

The ability to remotely capture and decrypt smart-meter data is not science-fiction, recently a software developer demonstrated a method to capture both the geographic coordinates and

the "last power outage date" transmitted by smart meters to determine which customers did not get their power disconnected during the February energy crisis in Texas, his results and methods are documented in these links:

<https://www.rtl-sdr.com/decoding-and-logging-gps-coordinates-from-wireless-smart-meters/>

<https://www.youtube.com/channel/UCVa4o0P6xhhSDi3rgLm2SBw>

https://wiki.recessim.com/view/Gr-smart_meters_Setup_Guide

A small gateway device that utilized the customer's existing Internet connection to establish an encrypted communication channel, over hardwired links, or very short range radio (WiFi), would be far more secure than any city-wide mesh radio network.

- **Customer access to real-time usage data (securely) is an important goal**

I have implemented "customer-side" electric power and water usage metering at my house,

and found that real-time utility usage information is a critical capability that I use to support my electrification, energy management, and conservation efforts.

The Staff report notes:

On an optional basis the electric meters can have an embedded Zigbee radio, which when turned on by CPAU at customers request, will be able to communicate meter reading data within the home via a in-home-display (IHD) or

wi-fi enabled gateway to a customer selected IHD/gateway service provider.

I question the use of Zigbee radio technology, and again suggest an optional hardwired ethernet connection for more secure communication of this data.

Again, thank you for alerting me to the progress on this important project.

I would welcome the opportunity to further discuss my AMI concerns and proposed solutions with PAMU Staff, feel free to contact me if there is any interest.

Best regards,

Don Jackson

From: [Don Jackson](#)
To: [Forssell, Lisa](#); [Segal, Lauren](#); [Batchelor, Dean](#)
Cc: [UAC](#); [Lait, Jonathan](#); [Danaher, Michael](#)
Subject: Request and proposal regarding follow up to Permit Processes for Various Energy Technologies
Date: Wednesday, July 7, 2021 3:15:55 PM

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Chair Forssell, Vice-Chair Segal, Director Batchelor, Director Lait, et. al.:

At the April 7th UAC meeting, during the agenda item "**Permit Processes for Various Energy Technologies**",

it was stated that a follow-up progress/status report on those efforts would be scheduled for the August 4 2021 UAC meeting, that meeting has been cancelled (according to the web site).

Request: I would appreciate an email letting me know if/when that follow up topic will be scheduled on a UAC meeting agenda.

Proposal: In my role as a Palo Alto resident attempting to obtain a permit for a combined ESS + PV system, I too have additional information and status to provide/inform UAC and Staff on this topic.

Given the significant constraints of the "public comment" to an agenda item, I suggest/propose that I be invited to address the UAC as one element of this agenda topic.

In the event the UAC choses to invite me, I commit to working with Staff to provide any slides/writeups ahead of time, both so they can be noticed to the public along with the meeting agenda, and to provide Staff time to potentially address my feedback in their own presentations.

Best regards,

Don Jackson