Transmission Line Routing Community Workshop #2

Summary [i]

May 3, 2021

Overview

Puget Sound Energy (PSE) hosted an online Community Workshop on May 3, 2021. The purpose of the workshop was to provide a forum for the Bainbridge Island community to provide feedback on route options under consideration for a new transmission line route to connect the Murden Cove and Winslow substations.

The meeting was held online via Zoom due to PSE and public health requirements restricting in-person gatherings at this time. Approximately 75 members of the public and 17 meeting staff attended the online community workshop. Attachment 1 contains the list of meeting staff.

Opening remarks

Karen Brubeck (PSE) welcomed the group and shared a safety moment. Skip Johnson (EnviroIssues) explained their role as the facilitator, reviewed Zoom meeting controls and presented the agenda.

"Missing Link" Transmission Line Project Overview

Andy Swayne (PSE) gave a presentation on the Murden Cove – Winslow Transmission Line Project, starting with the community engagement process timeline for the transmission line routing. PSE first launched this project in October 2019 at a community meeting. Since then, PSE has been meeting with a Community Sounding Board (CSB), a group that provides feedback to inform PSE's routing process. Andy noted this is the second community workshop held for this project; the first workshop was held in January 2021 to gather feedback on route segments.

Andy noted PSE's customers have been vocal in asking for solutions to improve Bainbridge Island's electric service reliability. In 2019, PSE and independent experts completed a detailed assessment on Bainbridge Island's electric system needs and a Solutions Report to analyze potential solutions to meet these needs. The needs assessment identified three main findings: poor transmission reliability, aging transmission infrastructure and an increased demand for power. To improve reliability on Bainbridge Island, PSE plans to build the "missing link" transmission line between Murden Cove substation and Winslow substation to complete a transmission system loop on the island and reduce the impact of any single outage. The missing link transmission line is part of PSE's proposed hybrid solution of wires and non-wires tailored to Bainbridge Island.

In addition to building the new transmission line between Murden Cove and Winslow substations to address transmission reliability issues, PSE will rebuild the existing Winslow Tap transmission line and improve access to the line to improve response times and reduce the length of outages. To address the system capacity needs on the island, PSE plans to install a 3.3 MW utility scale battery for use during peak load hours and will deploy targeted conservation and demand response tools, called distributed energy resources (DERs) to reduce customer demand during peak power usage.

Andy noted Bainbridge Island faces several challenges when it comes to reliability, specifically geography, trees, weather and limited redundancy. Trees are the most frequent cause of power outages on Bainbridge Island. Nearly two-thirds of Bainbridge customers are at risk of a prolonged outage because their area is served by a substation – either Winslow or Murden Cove substation – that is currently fed by a single transmission line. The new line between the Winslow and Murden Cove

substations would provide a transmission loop so if one line goes out, there is a backup to keep the power on for customers. Andy noted this new line is critical for making the system more resilient and reliable to help reduce the frequency and duration of power outages for customers on Bainbridge Island.

Public feedback on route segments
Andy provided a brief recap of feedback heard from the community after the January 2021 workshop. The below themes are not necessarily in order of frequency.

- Support for the new transmission line & improving overall reliability
- Take the shortest, most direct route
- Support both for and against undergrounding
- Identify opportunities to create/enhance trails
- Concerns for impacts to private property; should not take private property for utility easements
- Minimize project costs
- Concerns for impacts to natural environment and vegetation management
- Concerns that transmission line construction will be intrusive and frustrating
- Power outages are hard on those with medical challenges
- Prioritize rebuilding Winslow Tap and other maintenance projects
- System should stay as-is; power outages are OK
- Living in a rural area should not mean having unreliable infrastructure
- Concerns about routing near youth gathering spaces
- Belief that overhead lines are less reliable
- Concern about the challenges posed by Category II wetlands along some of the route segments
- PSE should add batteries to Bainbridge Island to improve reliability

Q&A

After the presentation from Andy S., Skip facilitated a Q&A. Questions from attendees and responses from Andy are noted below.

Q: How did you hold a community workshop when everything was locked down?
A: The first workshop was online, we used Zoom.

Q: You noted that 88 people submitted feedback after the first workshop; do you think those comments are representative of the community?
A: We're just reporting what we've heard to date. There will be other opportunities for more community members to get involved.

Q: You cited a range of comments, but were there any strong themes?
A: We heard a strong interest in trails; we also heard from many commenters that improving reliability is important to the community. Preserving vegetation on the island was also a common theme

Q: What's the difference between the Winslow Tap and the new transmission line? From what I have read the transmission line will not solve the problem. Why is it you think this will fix the needs?
A: If we can't maintain power to a substation, then all customers served from that substation lose power until we can restore power to that substation or re-configure the distribution system to restore power to customers. The new transmission line will create a loop, so each substation has two pathways to receive power. So, if a tree falls into one transmission line, the second line can keep power flowing to the substation. This change to the system to create a loop would make the transmission system on the island like most of the transmission system throughout PSE's service area.

Q: How many homeowners on the island were notified of these events? I have neighbors that live behind me that are not receiving mailed letters, but I am. My house abuts New Brooklyn Rd.
A: We mailed a postcard to all addresses on the island, everyone in the 98110 ZIP code; the postcard should have arrived about two weeks ago. Additionally, everyone within 500 feet of the proposed route options received mailed letters. We also did print advertisements in the paper and digital advertisements as well, hoping to notify everyone.

Q: Is the capacity of the existing line enough to support both substations if the loop is connected?
A: Yes; there isn't a capacity issue with the transmission line. We will install larger capacity wire when we rebuild the existing Winslow Tap transmission line. Then when we complete the transmission loop, the transmission lines will have adequate capacity for island electric loads.

Q: In the kickoff meeting for the project back in late 2019, one of the speakers from PSE noted that it's rare to not have a redundant transmission line. How many other places in your service area don't have a looped transmission system?
A: There are some instances where there isn't an easy way to loop our system; there were a few substations in the city of Bellevue that were not looped until this year. We typically don't like to have this number of customers and this number of substations without a looped system. As some may know, PSE proposed a similar project over 10 years ago for Bainbridge Island and did not complete the project. It's something PSE continues to see a need for and we're trying to get it done now.

Q: About the project proposed 10 years ago – it sounds like a route was proposed but then nothing happened, why is that?
A: There was some opposition to the project; community members wanted to try other methods to reduce the need for a new transmission line, so some other initiatives were attempted. We're back now because we recognize that those initiatives did not solve the reliability problem.

Overview on routing process and route options

Andy Swayne and Kirk Moughamer (HDR) provided a presentation on the routing process and route options under consideration for the project.

First, Andy described that PSE must balance many factors in their approach to routing for the project: safety and reliability with permitting, construction, maintenance, cost to customers and community values. Andy then shared some graphic examples of a typical transmission line corridor, noting that trees near the lines need to be trimmed to maintain clearance, but shorter vegetation can grow below the lines. He noted distribution lines can often be located underneath transmission lines, attached to the same poles. This provides an opportunity to use an existing utility corridor or a portion of a corridor that already has power lines located in the right of way for the new transmission line which can reduce the need some impacts of the new line. Andy noted that PSE expects to use wood poles for most of this project, potentially using a steel pole in some instances such as at corners where the line turns.

Kirk covered key terms that are helpful for understanding the routing process, including:

- Route segment: A discrete section of a potential future transmission line. For the new Murden Cove-Winslow transmission line, PSE is considering route segments that follow existing road right-of-way and generally travel in the direction of the designated terminal points (e.g., Murden Cove and Winslow substations).

- Route option: A pathway between two identified terminal points that link together route segments. Kirk noted PSE engaged the public on the route segments earlier in 2021 to gather feedback and is now asking for feedback on the route options developed from those segments.
- Criteria: A set of factors by which route segments and route options will be assessed and compared.
- Metrics: Criteria are evaluated through established metrics. Metrics change as the project develops.

Kirk shared the online interactive Route Explorer tool on-screen and walked through the controls of the map, pointing out the "About the Data," "View Metrics" and "Submit Feedback" sections. Kirk noted some segments were discontinued from further consideration after the first feedback period in early 2021. These included segments east of SR-305 along Ferncliff Avenue NE (20, 21, 22) because it does not make sense for a route to go too far east only to turn back west across SR-305. Segments along WA-305 (10, 11) were also discontinued because WSDOT communicated they will not consider approval of overhead utilities along a scenic highway when other viable routes exist. PSE also decided to discontinue segments 12 and 13 along NE High School Road because connecting segments 10, 11, 20, 21, and 22 were removed from consideration.

Kirk pointed out the fire station and helipad located at NE New Brooklyn Road and Madison Avenue N, which route options B, D and E pass by. He noted that the project team is aware of the importance of the helipad to the community and that PSE is coordinating with the FAA and Fire Chief Hank Teran to understand the requirements along this facility. Kirk also noted PSE is facing a challenge with Segments 6 and 17, as the current available data shows they both have Category II wetlands on each side of NE High School Road. City of Bainbridge Island code does not allow building primary utilities in Category I or II wetlands. PSE is in conversation with the City to understand that code interpretation and is exploring a code amendment. This is not just for the transmission line project; without a code amendment, PSE could be restricted in ability to maintain their existing system on Bainbridge Island, including improvements to the distribution system.

Kirk presented an overview of each route option as shown on the Route Explorer tool:

- **Route Option A** is the shortest route at 3.4 miles total, starting from Murden Cove substation and heading south along Sportsman Club Road NE until it turns west onto NE High School Road. It continues to Fletcher Bay Road NE and then travels south to Bucklin Hill Road NE, turning east to connect to the Winslow Substation. There are existing overhead distribution lines along the entire route.
- **Route Option B** travels for 3.8 miles total, starting from Murden Cove substation and heading east, crossing State Route 305. It then travels south down Moran Road NE, crossing State Route 305 again to follow Madison Avenue NE before heading west on NE New Brooklyn Road. It follows NE New Brooklyn Road until it turns south onto Sportsman Club Road NE, then turning west onto NE High School Road. Upon reaching Fletcher Bay Road NE the route heads south until turning east onto Bucklin Hill Road NE to connect to the Winslow Substation. There are existing overheard distribution lines along this route expect for a 1,000-foot section along NE New Brooklyn Road.
- **Route Option C** travels for 3.9 miles total, starting from Murden Cove substation and heading south along Sportsman Club Road NE until it turns west onto NE New Brooklyn Road. It follows NE New Brooklyn Road west until turning south at the intersection with Fletcher Bay Road NE. The route then travels east along Bucklin Hill Road NE to connect to the Winslow substation. There are existing overhead distribution lines along this entire route.

- **Route Option D** is the longest route at 4.4 miles total, from Murden Cove substation, crossing State Route 305 and then turning south down Moran Road NE. Crossing State Route 305 again the route follows Madison Avenue NE south, turning west onto NE New Brooklyn Road where it continues until it turns and follows Fletcher Bay Road NE south. It continues until turning east onto Bucklin Hill Road NE to connect to the Winslow Substation. There are existing overheard distribution lines along this route expect for a 1,000-foot section along NE New Brooklyn Road.
- **Route Option E** travels for 4 miles total, travelling east from Murden Cove substation, crossing State Route 305 and travelling south down Moran Road NE. It then crosses State Route 305 again to follow Madison Avenue NE until it reaches NE High School Road, where it turns west. The route follows NE High School Road until it meets Fletcher Bay Road NE. It then travels south until the intersection with Bucklin Hill Road NE where it turns east to connect to the Winslow Substation. There are existing overhead distribution lines along the entire route.

Andy then provided a brief overview of the project timeline and milestones, noting that after this workshop PSE will have a 30-day feedback period for the community to share their thoughts on the route options. After reviewing community feedback, PSE will identify a preferred route for which to pursue design and permitting. PSE expects the project could be in-service by 2025 or 2026.

Note: HDR created the Route Explorer tool using data available to the public and primarily sourced from GIS data provided by COBI and Kitsap County, as well as data from PSE regarding existing distribution and transmission facilities. The tool does not provide detail on potential impacts to specific properties from the project. Detailed design and fieldwork will provide insights on how the project will affect the natural and built environment.

Q&A

After the presentation from Andy and Kirk, Skip facilitated a Q&A. Questions from attendees and responses from Andy and Kirk are noted below.

Q: Why is the most direct route using discontinued segments 23, 24, 25 and 44 not being considered?
A: Any segments requiring the use of route segment 44 along Eagle Harbor Dr NE and Bucklin Hill Rd NE are discontinued. There's already an existing transmission line in that corridor, the Winslow Tap. Locating the new line in the same corridor with the existing Winslow Tap line doesn't meet PSE Planning reliability standards. Additionally, wetland and shoreline regulations make it prohibitive to locate the new line along Eagle Harbor Drive NE.

Q: Would PSE consider putting the power lines near the fire station underground, just in that one area?
A: It's generally less difficult to underground distribution lines and a fairly common practice. It's harder to give a definitive answer about undergrounding transmission lines. PSE is not proposing an underground transmission line for a variety of reasons. We heard from the FAA that it is possible to build a transmission line near the helipad without adversely affecting this facility. It's something we may consider as we identify a preferred route..

Additional Clarification: Information on cost sharing for underground distribution and transmission lines can be found on our website.

Q: How does the new transmission line create a looped transmission system?
A: Power comes to Bainbridge Island from the north over Agate Pass via two different transmission lines to Port Madison substation. From Port Madison, individual transmission lines connect to the Winslow and

Murden Cove substations. The new transmission line between Murden Cove and Winslow will interconnect all three substations in a transmission loop.

Q: What is PSE's perspective on underground lines and how have you approached this topic in routing for this project?
A: As a general rule, PSE does not and has not built (with very limited exceptions) underground transmission lines. A big factor in that is cost; underground lines are far more costly than overhead lines. Improvements to PSE's electric system are paid for by all PSE customers across the entire service area. Our perspective has been there is not sufficient reason to build underground lines when overhead lines do the job. While overhead lines are susceptible to tree damage, it is far easier to find and fix any problems on overhead transmission lines compared with underground transmission lines. Generally, when there is a problem with the underground system, the line could be out for days or weeks before the problem can be found and repaired, compared to hours or days typically to restore overhead lines. We recognize if a line is underground a tree or branch may not be able to fall into it, but tree root systems can grow into underground conduits and cause problems as well.

Q: Can you show a mockup of the height of the poles on Madison Ave N?
A: We could, but there would be a lot of assumptions we'd have to make to do that. There are examples of 115kV transmission lines along roadways on the island that can give you an idea of what the new line could look like. If we prepare visual representations now, we'd have to make assumptions that might result in representations that could be unintentionally misleading in appearance.

Q: Regarding WSDOT's limitations on using the SR-305 corridor because it's designated a scenic highway and the existing City Code Category II wetland code regulations, is it correct that the city code could be brought to City Council to possibly negotiate, while the WSDOT regulations are set in stone?
A: We have been told that WSDOT limitations are set in stone. As long as there are viable alternatives, the state won't allow us to build parallel to the SR-305 highway. The city is in charge of its code as it relates to wetlands and we have broached this topic with the city. We don't know that the code amendment will happen but we're hopeful.

Q: How many power outage events are caused by a single tree versus multiple trees?
A: In my time with PSE, I've seen three different storm events with significant damage that took a long time to repair the lines and get power restored for everyone. We can't promise the substations will always stay on during such events, but we can say that this new line will make it more likely that we can keep power flowing or get power restored more quickly for more customers.

Next steps & closing remarks

Karen thanked everyone for attending and announced the Route Explorer will be live after the workshop for community members to review and submit their feedback on the proposed route options; it's accessible at psebainbridge.participate.online until 5 p.m. on June 2, 2021. Karen also noted comments and questions can be emailed to info@psebainbridge.com or left as a voice message at 1-888-878-8632.

Karen noted that after the feedback period is over, PSE will review all comments submitted to inform the selection of the preferred route. PSE will host a Community Sounding Board (CSB) meeting this summer to share and discuss PSE's preferred route; this meeting is open to the public and details will be posted at psebainbridge.participate.online as soon as it is scheduled. Following this final CSB meeting, PSE will announce the preferred route for the "missing link" transmission line to the greater community.

Facilitated self-select breakout groups

Skip explained participants could join a route option discussion room to share comments or ask questions about the route options discussed in that room. Each room was staffed by technical staff, communications staff, a facilitator and a notetaker. Participants were able to leave their breakout room and join another room, or could leave the meeting at any time; rooms were available for one hour, until 7:30 p.m. Rooms were grouped as follows:

- Room 1: Routes A and B (NE High School Rd)
- Room 2: Routes C and D (NE New Brooklyn Rd)
- Room 3: Route E (Madison Ave N & NE High School Rd)

Each breakout group held an organic discussion, with the intended focus of the discussions to be on route options and the different values they bring to the project. During the breakout exercise, the discussions covered project-wide questions and comments in addition to those on the route options. Notes are organized into questions and comments on general route options and routing criteria, questions and comments on individual route options, and general comments and questions.

Route options questions and comments

Route Options

Comment: My preference would be to use routes that use High School Road (A, B, E) because this road has far fewer residents than New Brooklyn Road and Upper Fletcher Bay.

Q: Was there any consideration given to the proximity of the line to homes?
A: One criteria we looked at is the number of parcels, which doesn't count homes but does count properties within the same buffer corridor.

Q: When showing the total affected wetland acreage in the route explorer tool, what metrics are you using?
A: We used a 60-ft buffer either side from the center of the road. Any wetland that intersects with that buffer is counted in the total acreage shown in the tool.

Q: For the NE New Brooklyn Rd routes, is PSE limiting itself to only the south side of the road where there is more vegetation, or would it be possible to put it on the north side of the road? If PSE did select this route and put in the north side of the road, would additional rights need to be obtained through the City to locate it there?
A: We have not picked a side of the road yet. Although we try to keep the line as straight as possible, there is a chance we could potentially change sides of the road so the line may not be located solely on one side of the road. PSE has a franchise agreement with the City that allows PSE to operate the transmission line in the right-of-way. However, the approval to construct the line will be through a land use permit.

Q: Is there a location along Route A that doesn't currently have existing distribution lines?
A: Route A has existing overhead distribution lines along the entire route

Q: There is a section of Route B where there aren't existing overhead tranmission lines between Sportsman Club Rd and Madison Ave N; there is an electrical vault there. Will you add overhead lines or use the electrical vault to go under? What is the cost difference?

A: We cannot use the electrical vault because distribution and transmission lines serve different functions. They can share poles in overhead configurations but cannot share facilities in underground configurations. The cost is too site-specific for us to provide a number, but it would be a lot more expensive.

Q: What if the City makes you underground the lines in that location [section of Route B]?
A: If the city requests or requires PSE to underground the transmission line the City would cost share with PSE to build the new line. The WUTC tariff (schedule 80) generally requires the jurisdiction that is requiring underground transmission to pay the delta between the cost to build an overhead line and the cost to build and underground line. It was also noted that the City does have a code provision regarding undergrounding distribution lines by developers.

Additional Clarification: Information on cost sharing for underground distribution and transmission lines can be found on our website.

Q: Can you explain the cost per mile for Route C?
A: Cost estimates are currently not available; we're waiting for more information to run the analysis. Once we have the estimated cost per mile for each route, we can consideration cost as a factor when comparing routes.

Q: Route E is the longest route, right? What is the benefit of coming east out of Murden Cove and traveling that length?
A: PSE wanted to consider all reasonable, viable options and provide those options for the public to give feedback on. This route, like Route D, doesn't use Sportsman Club Rd, so it would avoid some of the mature vegetation along that road. We had some discussion with the CSB about locating the route in more developed areas, and Madison Ave N is a more developed corridor.

Q: Regarding Route E going through areas that are a bit more developed, can you share if the CSB had any feedback regarding tradeoffs between High School Rd and New Brooklyn Rd?
A: We heard a lot of feedback on New Brooklyn Rd; we did hear some feedback about the number of homes, trees, etc. because the route along New Brooklyn Rd is longer (just as a metrics comparison). We also heard from the CSB about finding the shortest route. The feedback from the CSB in the last meeting seemed to show a preference for Route A and Route E. Early on, we heard a lot of diverse and sometimes conflicting feedback. Some people think it should go in more developed areas; others think it should go in undeveloped areas.

Undergrounding
Q: Would PSE be willing to conduct a more in-depth study of the reliability and cost of undergrounding the transmission lines?
A: If the City wants to partner with PSE and cover the additional costs required, PSE would be amenable to it.

Comment: The problem with trees falling on lines underscores the need to underground the transmission lines.

Reliability

Q: If PSE cannot predict how much more reliable the system will be with this additional transmission line, is it a worthwhile endeavor?
A: The new transmission line is a tool that will create a more reliable system and will impact a lot of people positively.

Design
Q: Can you commit to not adding new poles if you are adding transmission lines to the distribution lines?
A: Generally speaking, yes. Some existing poles may need to move for to support the transmission line. There may be instances where not adding poles wouldn't work, but typically not many.

Q: I am curious if you know the proposed height of the transmission lines and the clearance needed? Will the lines look like the ones along Sands Avenue? Will there be feedback to City Council about this?
A: Engineering design needs will determine the height of the poles, but we expect them to be around 75 to 80 feet above ground; and yes, they will likely be like the ones on Sands Avenue NE. The engineering will take a significant amount of work. Once we have that information, we will have better understanding and accuracy regarding the clearance needed. The City Council isn't a decision maker on the project; the permit decision is made by a Hearing Examiner. As part of the permit process, there will be a public comment period. Once a route is selected, there will be several months of performing field work, engineering design and preparing permit documents before permits will be submitted. PSE will also have conversations with property owners regarding acquisition of easement rights.

Q: Will you seek public feedback on pole style? How will pole style be determined?
A: Once we select a preferred route there will be more community outreach and information available about that route. Through the permitting process there may be opportunities for public input on some aspect of the design (e.g., if permitting, engineering and safety requirements allow for it PSE can take input on elements such as wood or metal pole). After we select a preferred route there will be time for feedback.

Q: What will the poles look like? I've seen some that are metal, some that are wood.
A: PSE typically uses round wood poles where they can work. However, at turns there is a potential need for steel poles. Sometimes those can look like a wooden pole if it's a self-rusting pole, or they could look metallic.

Trees, wetlands and the environment
Q: What is the mitigation for wetlands? Can you explain what that means?
A: Mitigation is a common term in a permitting process which refers to reducing impacts of a project. Mitigation sequencing for wetlands is a process of avoiding, minimizing and then compensating for lost functions of wetlands. . The impacts of a transmission line can vary widely. The compensatory mitigation requirements are still unknown and will be determined as the project progresses.

Q: I am concerned about the removal of trees on my property, the aesthetics of transmission lines, my property value, and the health impacts of the transmission line.
A: PSE brought in a subject matter expert to talk to the CSB about EMF. Regarding property values, our research has found there is no correlation between transmission lines and property values. PSE will work with property owners to ensure they are appropriately compensated for land acquired for easements. We will work with property owners to restore vegetation impacted by our project.

Additional information: PSE held a general presentation on underground transmission lines and electromagnetic fields at our second Info Session for our Community Sounding Board in early Fall 2020. You can view the view the meeting summary and presentation slides on our informative project website.

For more general information on electromagnetic fields, please visit our website here: https://www.pse.com/pages/electromagnetic-fields

Q: Has PSE completed an analysis of how many trees will be removed for each route option? This is an important factor in route selection, from the citizen perspective.
A: No. We need to do analysis to determine the vegetation impacts once we understand more about the location of the line and design. The level of tree impact will be largely based on engineering design. There are factors that inform the need for tree removal, including the distance between the trees and the configuration of the transmission poles and wires; insulators can be configured to place the wires on the road side of the pole verses the land side. We can't say what our impact will be until we have selected a route and have done enough engineering design, but we will strive to restore what we remove and maintain vegetation where possible.

Q: How many trees will be removed?
A: That is currently unknown; it depends which route is selected and the engineering design for the selected route.

Batteries
Comment: PSE might want to consider providing incentives for homeowners to add batteries to their own homes to help with load energy reductions. With rising housing costs, not everyone will be able to afford to do so otherwise.

Q: What was the thought process for choosing the overhead transmission line instead of using batteries? Can you provide more information about battery costs and the number of people they can service?
A: PSE studied a variety of wired and non-wired options, including a utility scale battery option. The transmission line is one element of a 4-pronged solution for the island. There is more information about the battery option in the Needs Assessment and Solutions reports on the website.

Q: I'm wondering if transmission lines are the answer if battery packs are coming along in 10 years that will rival home generation and gas systems while costing only a few thousand dollars.
A: PSE has a residential pilot project with behind the meter (BTM) battery packs underway, but PSE is obligated to address the demand in the larger system. Instead of constructing a new substation to address capacity needs, PSE is pursuing installation of a utility scale battery to address capacity.

Q: Do you study how the price of home battery systems are trending? Are the home systems not considered in this planning?
A: Home battery systems are still in their infancy right now. There are five behind the meter (BTM) home batteries piloted to help PSE understand their usefulness, but we currently anticipate that it will be some time before BTM batteries are in wide use in homes. Even with BTM batteries in use, customers will still rely on PSE to provide reliable power service. It is unclear how many customers will be willing or able to invest in home batteries.

Q: Tesla is reusing old car batteries and selling them as home battery systems. Considering how many Tesla cars are out there, in 5 to 10 years these things may be more available. How are those technologies being considered in this decision?

A: We worked with industry specialists Quanta and Navigant to develop a Needs Assessment and a Solutions Report. We looked at the viability of an all-battery solution—not with behind the meter (BTM) batteries, but with utility scale battery storage. That solution was much more expensive. The hybrid solution we are pursuing builds the transmission line loop, rebuilds Winslow Tap, adds new demand response and distributed energy resources, and installs a utility scale battery storage. Our project horizon is 10 years and widespread home battery packs aren't currently expected be widely available and affordable within that time frame. We looked at installing a new transmission line years ago and agreed to defer the project while the community explored reducing system demand through energy efficiency measures. Our current efforts, including the new transmission line, addresses system reliability, while additionally addressing demand.

Q: Lots of new residents moving to Bainbridge Island can probably afford home solar panels and battery systems, but not necessarily the people living here already. Does PSE have a program to help pay for them? In an earthquake, it seems like having lots of lines is not the best option. We'd really want to have distributed power in a widespread disaster.
A: PSE is already pursuing some of the technologies you mentioned. For example, electric vehicle (EV) charging pilot programs, battery pilot programs, community solar program and net metering. We are leaning into a lot of these new technologies for residential customers, though a number of the programs and projects are in the pilot phase right now.

Public involvement

Q: Do you know what percentage of people engaged by PSE want the transmission line?
A: From the comments we've received, the majority are in favor. We heard a lot of feedback from community members wanting more reliability. Bainbridge Island happens to be one of the lower reliability areas of our system.

Q: 10 years ago, there was opposition to the project – what changed to make people who opposed it before support it now?
A: It's possible the same people who opposed it then still oppose it now. But we know there's a lot of people giving us feedback telling us to get it done and they want more reliability. There are people on both sides.

EMF
Q: Would you consider burying the transmission lines near the two schools to reduce student exposure to electromagnetic fields (EMF)?
A: The strength of EMF is related to the proximity of the source; if we place the transmission lines underground, the EMF is closer to pedestrians.

Comment: PSE should do an analysis of which route options would impact the fewest residences to minimize EMF exposure to children (specifically looking at the proximity of the lines to residential properties).

Additional information: PSE held a general presentation on underground transmission lines and electromagnetic fields at our second Info Session for our Community Sounding Board in early Fall 2020. You can view the view the meeting summary and presentation slides on our informative project website.

For more general information on electromagnetic fields, please visit our website here: https://www.pse.com/pages/electromagnetic-fields

5G

Q: Our neighborhood is looking at adding 5G towers. Can transmission lines affect the 5G transmissions?
A: Electrical systems in the US operate at 60 hertz whereas 5G transmissions operate at much higher frequencies, so there is very little opportunity for interference. A TV, microwave or another household appliance is more likely to interfere with a 5G or wireless system.

Adjourn

Workshop breakout room sessions concluded between 7:30 and 7:50 p.m.

Attachment 1: Meeting Staff

PSE Staff

Andy Swayne, PSE Municipal Liaison Manager and CSB Technical Liaison
Barry Lombard, PSE Project Manager
Gretchen Aliabadi, PSE Communications
Karen Brubeck, PSE Community Engagement Representative
Kerry Kriner, PSE Land Planner
Kierra Phifer, PSE Local Government Affairs
Shelby Naten, PSE Communications

HDR Staff

Bridget Brown, HDR
Kirk Moughamer, HDR
Vanessa Bauman, HDR

EnviroIssues Staff

Darcy Edmunds, EnviroIssues, Plenary notetaker, Breakout group notetaker
Faiza Hassan, EnviroIssues, Zoom host
Iris Picat, EnviroIssues, Breakout group notetaker
Leah Litwak, EnviroIssues, Breakout group facilitator
Nyles Green, EnviroIssues, Breakout group facilitator, Zoom technical support
Skip Johnson, EnviroIssues, Meeting facilitator, Breakout group facilitator
Sofia Alvarez-Castro, EnviroIssues, Breakout group notetaker

---

i *This document summary of PSE's notes on the discussions at the community workshop and is provided to the public as a courtesy. It is not intended to be a full and complete record or transcript of the community workshop. PSE's project team has added clarifications on some topics discussed in the Q&A section where PSE has determined that clarifications or additional information (e.g., link to a fact sheet on a topic) would assist the public in understanding the project.*