

June 2014 Public Communications Summary

7/24/14

The following is a summary of feedback received by Puget Sound Energy (PSE) between June 1 and June 30, 2014 regarding the Energize Eastside project. During this period the project received 38 communications from the public. The communications were submitted via the project email address, the project website, or at community meetings. Communications address a range of topics and often discuss more than one topic and/or segment; therefore, many communications are categorized and discussed under multiple topics.

Feedback Frequency by Topic

The following table indicates the frequency with which various topics were discussed (total) and where a specific segment(s) was mentioned when discussing this topic*. Approximately half (16) of the 38 communications received during this period mentioned specific segments.

LESS MORE

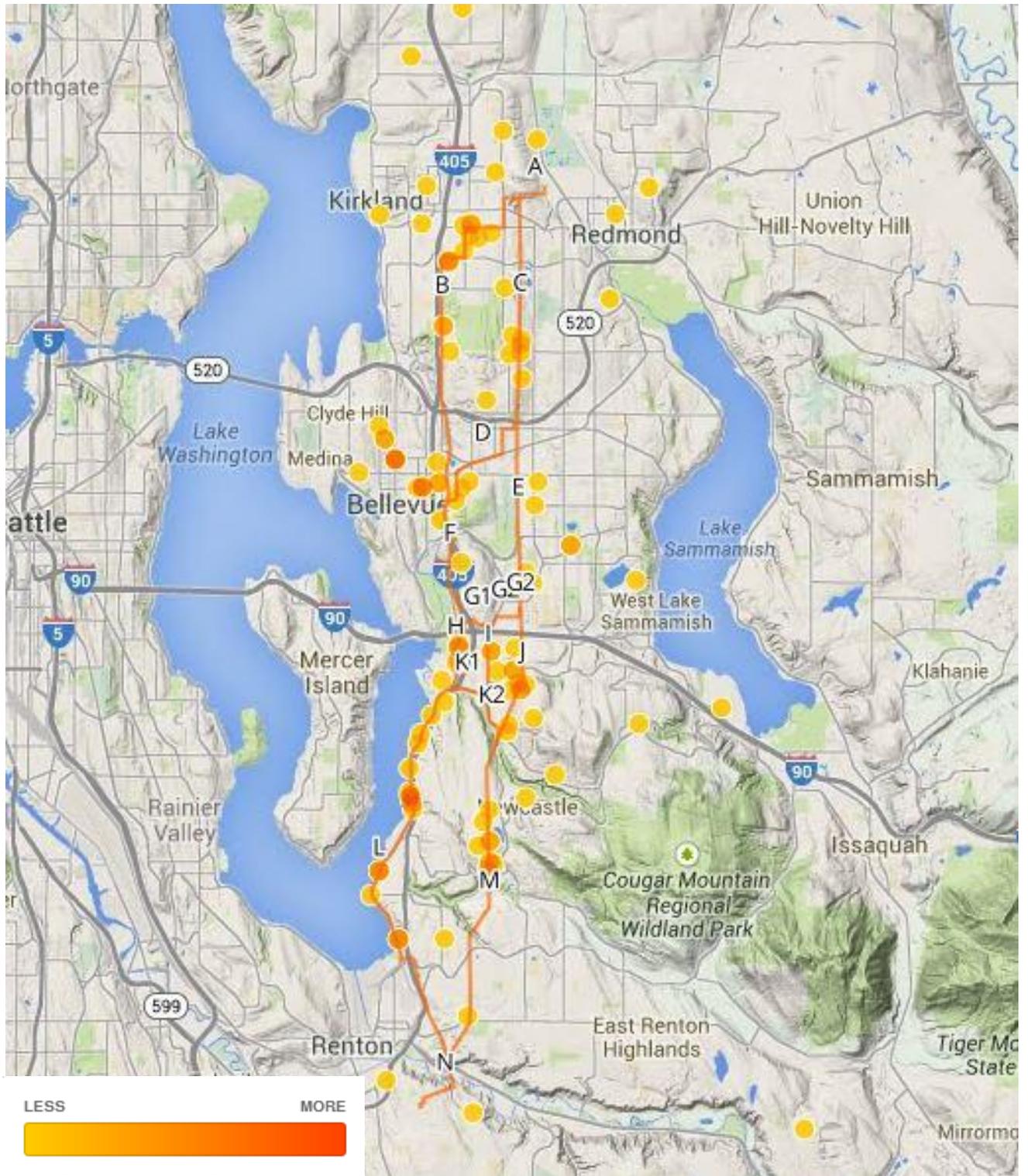
Table and map colors increase in intensity from yellow to red based on the frequency of occurrence.

Topic	Total	A	B	C	D	E	F	G1	G2	H	I	J	K1	K2	L	M	N
Total by segment	38	2	8	6		2			2	1		4		2		3	1
Route segments	16	2	8	6		2			2	1		4		2		3	1
Design structure type/appearance	8		2									1					
Schools	6		4	2								1					
Safety	5		1	1								1					
Visuals	4		4	2													
Community character	4	1	2	1								1					
Cost	4	1	2	2		1			1			1		1		1	1
Project need	4											1					
Property values	3		2	1													
Underground	3		1									1					
Vegetation	3		2	1													
Health	2		2	1													
Environmental	2		2														
Alternative technology	2		1														
Recreation	1																

*Please note communications often reference more than one topic and/or segment. As a result, totaling columns or rows will produce results that exceed the total number of communications received.

Feedback Frequency by Address

The following map indicates the intensity of communications based on the addresses of individuals and organizations providing communications during this period.



Summary of Most Frequent Topics

Below is a summary of the topics (in order from most to least common) with key examples provided of the comments or questions received and a response from PSE. Communication excerpts are verbatim (including typographical errors) and reflect input from individuals who have contacted PSE about the Energize Eastside project. Please note that many communications received are statements and not questions. PSE makes every effort to respond to questions individually and has included general responses below by topic; general statements of fact or opinion do not typically receive detailed responses.

Multiple communication topics may be referenced in communications. Where appropriate, those topics have been combined in the summaries below.

The inclusion of the excerpts is to maintain a record of the information and input received by PSE and is not a reflection of PSE's concurrence or disagreement with any statements in whole or in part. The communication summary reflects PSE's public outreach process to assist the Community Advisory Group in gathering input that will be used to inform a recommendation about route selection.

Route segments/options

Feedback has been received regarding which specific segments should be chosen for the new transmission lines.

Excerpts:

- *I must express my strong opposition to running 230 kV lines through the J segment. This segment is entirely residential, including both multi-family and single-family housing, a school an outdoor recreation center and a city park.*
- *We strongly suggest that the proposed route "C" is chosen in lieu of route "B."*
- *Segment B should be dropped from consideration for the route of transmission lines from Redmond to Renton for both safety and aesthetic reasons.*
- *Not only is the [neighborhood] a residential area, but a high school, elementary school & numerous churches sit along this path.*
- *I would prefer to see the M, K2, J, G2, E, C route selected. Not only is it a straight shot, I think this will be less disruptive to property owners and community than the other Westerly route.*

Puget Sound Energy Response:

PSE believes it is important to complete a thorough analysis of all feasible route options in the project area so when the time comes to select a preferred route, the company is confident that the route is the best option for both the community and PSE. To simply build in the existing corridor without looking at other options, PSE felt, would be shortsighted.

During the solution identification process, PSE's engineers and third-party experts looked for the best solutions to deliver electricity to the Eastside. Solutions included conservation, local electricity generation and new infrastructure. Through PSE's analysis, it was determined that the best way to ensure the area's electric transmission system will reliably meet growing customer demand was with a combination of continued conservation efforts and building new infrastructure (specifically, higher capacity transmission lines and a new transformer).

Next, engineers used the computer-based modeling tool, called the Linear Routing Tool (LRT), to analyze, weight and score key criteria such as geographic barriers, land uses and impacts to the environment. Based on this analysis, the LRT generated hundreds of possible routes before identifying the best possible route options, including two general north/south route paths – one along PSE's existing

corridor and one along a combination of roadway and rail corridor – with multiple crossover points. The two remaining route paths were broken into 16 constructible route segments that could be configured in a number of ways. PSE is now gathering public feedback on the potential route segments.

PSE generally prefers to site projects along public rights of way or existing utility corridors wherever possible. This was reflected in the route selection process, as existing corridors were deemed “opportunity areas” and weighted more highly in the LRT. However, upgrading an existing transmission system in a dense urban and suburban area poses unique challenges, and there is no route option that completely avoids community impacts. As a result, PSE is committed to engaging the community to better understand and address those challenges.

PSE is currently in the middle of a year-long public outreach and route selection process, which includes working with a Community Advisory Group to consider community values when evaluating the route options. PSE anticipates selecting a preferred route by the end of 2014 that balances the needs of customers, the local community and PSE.

As it is still in the CAG’s route evaluation process, PSE doesn’t yet have a preferred route or detailed design. Since the company has not yet determined which segments will be part of the selected route, where poles will be placed, or what exact pole structures will be used, it is too early at this point to know about view effects and mitigation. However, once PSE has selected the preferred route, PSE will notify property owners, residents and businesses along the route about the project’s next steps. PSE’s Energize Eastside team is committed to working with property owners, businesses and residents on pole locations and design, access and other issues, and to provide mitigation when appropriate and/or necessary.

Design structure type/appearance

Concerns have been raised about the appearance and technical details of structures.

Excerpts:

- *Adding industrial BLIGHT by placing the 125' tall steel poles plus vertically oriented power lines along the J route would overburden the easement.*
- *High voltage lines do not belong in this area no matter if they're on h-frames, lattice towers or monopoles.*
- *Can you please send me a photograph of the new state-of-the-art towers and power lines you would use in your Energize Eastside project?*
- *If you are going to increase capacity AND build much taller towers, then move to either 500KV AC or 1MV DC transmission lines instead so you won't have to come back again later to do this again.*

Puget Sound Energy Response:

While PSE does not have the preferred route or final design yet, use steel monopoles made of galvanized or weathering steel is anticipated. The exact measurements of poles and foundations will not be known until after a final route is selected and detailed design has been done. The poles are generally estimated to be between 85 and 130 feet, with diameters between 3 and 7 feet, but they could be taller or shorter depending on specific circumstances. Note that the pole diameter estimate refers to the diameter of the pole itself; if poles require a foundation, the overall footprint of the pole would increase. PSE will be asking for community feedback on these options. Pole height will depend on several factors such as topography and obstacles, wire tension, whether a pole is located in a straight line or at a corner, and the distance between poles, which could range from 200 feet to 1,000 feet. In general, the taller the poles, the longer the distance between them can be made.

How deep the pole is installed underground is also dependent upon foundations. The two main factors to consider when determining the size and type of foundation system to be used is the amount of loading that the foundation will need to hold up and the strength of the surrounding soil. As mentioned above, both of these factors will be determined during the detailed design phase of the project. As such, the company does not currently have the design and survey information needed to determine how deep the foundations will go, but concrete foundations generally range from 20 to 50 feet, depending on the specific conditions. Depending on subsurface conditions and line design, foundations may not be needed in some areas. If that is the case, the hole would typically be 12 to 18 feet deep, depending on the specific conditions.

PSE will not build lattice towers for this project. To view sample pole images and photo simulations from each Sub-Area, visit the [Design](#) page on the Energize Eastside website.

Schools, Health, and Electromagnetic fields

Concerns have been presented about the potential for negative health and safety effects caused by the presence of high voltage transmission lines, particularly regarding students and schools. While these are generally separate categories, communications typically relate these topics very closely. The public did not mention electromagnetic fields (EMF) during June, but the EMF topic has been closely tied to schools and health in the past.

Excerpts:

- *Power lines are a detriment and raise concern for children, health, and property values.*
- *Could you please explain why you tried to avoid schools as part of the original route selection process?*
- *Keep the lines away from the school, Not on segment "B".*

Puget Sound Energy Response:

At PSE, safety is always the top priority. Many customers have questions about EMF and the team works to provide access to information on EMF in a few different ways. Specifically, we:

- Follow all applicable federal, state, county and city rules, regulations and standards when constructing power facilities for the safe and reliable delivery of electric service;
- Remain informed about important developments in EMF research from reputable, international and national scientific and public health organizations and agencies that have reviewed the research on EMF; and
- Share accurate and objective information about EMF with PSE's customers.

Over the past 45 years, there have been many scientific studies conducted to determine if EMF from transmission lines (called "power frequency EMF") has any effect on human health. To date, this large body of research does not show that exposure to power frequency EMF causes adverse health effects.

Additionally, PSE understands that you, and other local residents, may have more questions about electromagnetic fields. PSE has hired Drew Thatcher – an independent, board-certified health physicist – to address more specific EMF questions. If you or your neighbors would like to ask questions of Drew, the Energize Eastside team would be happy to connect you with him for more information.

Also, in the next few months the company will have information on EMF measurements in the existing utility corridors (what magnetic field measurements exists today) and modeling numbers with the new

transmission line. Once the EMF modeling study is complete, it will be posted on the Energize Eastside project website.

Regarding schools, the locations of schools were one of many factors considered when developing potential route segments. It is not uncommon for power lines to be sited near schools, or for schools to be built near power lines. However, PSE heard that this is a community concern as part of the Sub-Area Meetings outreach process and this feedback will be shared with the Community Advisory Group for further consideration during the route selection process.

Safety

Safety concerns and questions related to the Olympic Pipeline and its proximity to the proposed transmission line, as well as the potential for construction accidents have been raised.

Excerpts:

- *There is a 12-inch natural gas line that runs north through Renton along Lake Washington Blvd. North of Renton, where does this line go, and which cities does it serve.*
- *If they bring in heavy equipment to change out the poles we have, can they guarantee that neither of the pipelines that carry a number of different fuels, including jet fuel, will be damaged?*

Puget Sound Energy Response:

Safety is always the top priority at PSE. Across North America, significant high-voltage electric transmission lines (even at voltages much higher than 230 kV) exist parallel and adjacent to petroleum product pipelines like the Olympic Pipeline and have been operated safely in close proximity for many decades.

PSE is also a natural gas company. PSE and its contractors are very familiar with concerns regarding pipeline safety and employ safe construction practices when performing work in the vicinity of pipelines. PSE's experiences and those of other utilities and pipeline companies have demonstrated that power lines can and do safely occupy the same corridor as pipelines.

PSE has a long history of working closely with Olympic. PSE has shared this corridor with Olympic Pipeline for decades and the two companies have a shared interest in the protection and safe operation of the facilities in the corridor. As an example, PSE and Olympic wrapped up a project in 2010 that is similar to Energize Eastside. A series of existing H-frame poles were replaced with new poles and 230 kV lines in an existing easement shared with the pipeline. The Energize Eastside project manager, Leann Kostek, safely managed construction of the Sedro Woolley-Horse Ranch 230 kV project that ran from Skagit County to Snohomish County.

PSE also has a history of moving pipelines when required and understands the construction and safety issues facing such moves. For example, PSE is moving its natural gas pipeline for the Alaskan Way Viaduct construction. Additionally, PSE and Olympic are working with Sound Transit to move poles and the pipeline for the East Link project.

Visuals and Recreation

Concerns have been raised about the potential for visual impacts to public and private property and the surrounding landscape, including parks.

Excerpts:

- *Route "C" runs along the pre-existing corridor thus visual impact is minimal or absent.*

- *The power lines presently along the trail already take some of the quiet and peaceful feeling away when walking the trail or trails inside the park that are close to the lines.*
- *How will you compensate the city of Kirkland and residents for the loss of corridor and neighborhood gateway aesthetics along 70th?*

Puget Sound Energy Response:

Delivering a project like Energize Eastside in a dense urban and suburban area is challenging but PSE is committed to working with the communities involved to minimize impacts to the maximum extent practicable.

Aesthetics and views could not be included in the initial route screening effort because there is no publically available data for these factors. However, visual impacts will be considered during the environmental review process that will be conducted to comply with the State Environmental Policy Act (SEPA). Additionally, photo simulations have been developed as a part of the ongoing public outreach process. To view the photo simulations, please visit the [Energize Eastside Photo Simulations webpage](#).

The placement or “spotting” of pole structures will be dependent upon factors such as available right-of-way width, location of access routes and obstacle avoidance. PSE typically has some flexibility when it comes to where poles are placed on a property. Whenever possible, PSE will work with property owners to identify the least impactful option for pole placement. In some cases, strategic planting of vegetation, such as trees with larger spreading crowns, can be used to diffuse and mitigate view impacts. In turn, the height, loading and overall size of each structure will be greatly affected by location. Additionally, recognized areas of environmental significance will be identified and avoided where practicable.

Community character

Concerns have been presented about impacts to unique community characteristics.

Excerpts:

- *The character of these areas, particularly on 122nd NE between NE 70th and NE 80th, will be permanently destroyed by the placement of lines along Segment B.*
- *Strongly against the power line being on segment B, particularly through the south rose hill neighborhood. This is definitely not the right path for this community.*
- *This huge, industrial line does not belong in a residential setting.*
- *Please visualize the lack of trees and change in character which would occur from this project.*

Puget Sound Energy Response:

PSE knows that it will be bringing changes to any of the neighborhoods where lines are installed. For that reason, PSE and the Energize Eastside team are actively engaging the public to discuss routing, impacts and potential design considerations to reduce these impacts while the company moves forward with this project, which is vital to maintaining reliable power for all of the customers in the area.

PSE actively encourages all potentially impacted community members to participate in ongoing community events and provide feedback on the various route segment options. In March and April, PSE hosted a series of Sub-Area Workshops for neighborhoods to provide input on the proposed transmission line segments and to discuss the evaluation factors most important to their communities. In an urban area like the Eastside, there are unfortunately no corridors running north/south that completely avoid effects to residential neighborhoods. There is no easy way to get from Segment A to Segment N; there are challenges with each option and that is why PSE is first learning what is important to its customers and the communities that may be affected before selecting a route.

Cost

Feedback varies from requests to choose specific segments that are believed to cost less to build, to suggestions about whether cost should be a factor in route selection.

Excerpts:

- *Construction and property acquisition costs would be much higher along route “B” due to existing infrastructure. Thus, choosing [Segment B] route would be an irresponsible use of funding.*
- *It seems more logical to go from A to C to E To G2 to J to K2 to M to N. Don't you think that would save you money!*
- *Decisions need to be data based and looking at cost and impact is a sound methodology.*

Puget Sound Energy Response:

The total cost of the project is not yet known, but estimates range from \$150 million to \$300 million. Once a route is selected and the final design and alignment are determined, PSE will have a better idea of the total cost. In the meantime, PSE has put together cost estimates for various route options under consideration by the Community Advisory Group to assist in their deliberation on what route(s) to recommend.

Upgrades or additions to the electric infrastructure are shared by all of PSE’s 1.1 million electric customers and paid for over time (unless a more expensive upgrade or addition is made to benefit only a certain area or community, such as undergrounding a line for the purpose of preserving aesthetics). While there are many factors that go into determining the individual customers’ monthly bill increase, rough estimates are that it will range from \$1 to \$2 per month for typical residential customers.

Project need

Questions about whether the project is needed, whether it will serve the local area, and how the need will be met if there are construction delays were posted.

Excerpts:

- *I question the need for PSE's proposed solution to meet the energy needs of the Eastside and firmly believe that a less intrusive, less expensive solution exists.*
- *There are conflicting reports of whom the power lines will serve. If these transmission lines are for power between Canada and California..... why through the prettiest neighborhoods of the East side dropping home values?*
- *What contingency plans does PSE have in place to cover Eastside energy needs beyond 2017 should project delays prevent completion in the timeline originally proposed?*

Puget Sound Energy Response:

Much has changed on the Eastside in the last 20 years. Not only have communities grown and prospered, but the way we use electricity has changed—consumers plug in more devices and build bigger homes. Demand for electricity has grown dramatically, and it’s time for PSE’s infrastructure to catch up.

Economic development, job growth and associated population growth on the Eastside depend on a robust electrical transmission system. The Bellevue-Redmond area has become a major regional economic and employment center with 140,000 jobs and 143 corporate headquarters, for which many people have moved to the surrounding area. Eastside population has grown seven-fold since 1960, and recent growth trends are expected to continue – in fact, the Puget Sound Regional Council recently

predicted that population will grow by more than a third between 2012 and 2040, with population in the Bellevue central business district growing by more than 280 percent by 2040¹.

At the same time, this economic rejuvenation is straining our region's existing electric system. Growth studies project that demand for reliable power will exceed capacity as early as 2017. PSE has essentially outgrown the electric system that serves its communities. Without substantial electric infrastructure upgrades, tens of thousands of residents and businesses will be at risk of more frequent and longer outages.

The Energize Eastside project is driven by Eastside's growing customer base, and is needed to ensure reliable power for PSE's customers on the Eastside specifically. PSE does not have transmission lines that interconnect to Canada. PSE's transmission lines run from Thurston County to Whatcom County, and are part of the integrated western electrical grid, similar to PSE's neighboring utilities such as Seattle City Light and the regional utility Bonneville Power Administration.

Adding a transmission line to the system always changes regional power flows – in this case, providing an ancillary regional reliability benefit. Between 92 and 97 percent of the power flows on the Energize Eastside line will deliver electricity to local Eastside customers. Power flow studies show that the power used for regional purposes on the Energize Eastside project is 3 to 8 percent. This is the natural consequence of connecting a transmission line into an interconnected system.

If power is sold or another utility requests to use PSE lines, 100 percent of the revenue PSE receives is credited back to PSE's customers in the form of a rate reduction. Because PSE customers paid for the infrastructure, the thought is those customers should receive the monetary benefit of any power transactions that bring in money to the utility.

PSE's studies show that at the current rate of projected demand growth, the Eastside customer demand will exceed the Eastside's electric transmission system capacity in winter 2017-2018. The company plans to have portions of Energize Eastside in service in 2017, with the project fully operational by 2018. Increased operating procedures are being put into place to deal with unusual conditions in order to mitigate much of the increased risk for 2017 until construction is complete. However, this method of operations is not sustainable past 2017 and won't work as the Eastside demand continues to grow. If the project is delayed, then PSE would have to implement corrective action plans to meet demand on a more frequent basis; however, these actions mean up to 60,000 customers are at an increased risk of power outages. The number of customers at risk of a significant outage will only increase as demand grows.

For more information, please see the [Eastside Need](#) page of the Energize Eastside project website as well as the [Needs Assessment Report](#).

Property values

Concerns have been raised about the potential for significant impacts to private property values and whether those impacts would be compensated for.

Excerpts:

¹ In April 2014, the Puget Sound Regional Council updated their growth forecasts from 275 percent to 280 percent by 2040.

- *The devaluation of home values along route “B” would be significantly greater than those along route “C” due to pre-existing power lines.*
- *Remember that the major cities which become hubs of existence - raising towers, increasing traffic, and diminishing property value, often lose their long term charm, appeal and value.*

Puget Sound Energy Response:

When evaluating possible locations to site utility infrastructure, property values of the adjacent community are not taken into consideration because it is socially inequitable to make infrastructure siting decisions based on income-related considerations such as high-end, moderate or low-value housing. Similarly, a project’s potential effects on surrounding property values are excluded from consideration of impacts to the environment under Washington’s State Environmental Policy Act (SEPA), Ch. 43.21C RCW. Property values are comprised of many factors, including economic outlook and location, as well as proximity to jobs, schools, transportation, parks and other amenities. Out of fairness to and in consideration for customers of all income levels, PSE does not use property values as a factor when selecting routes.

Attempting to determine the impact of a transmission line on property values outside of the context of a purchase and sale transaction requires a certain degree of speculation. Due to the unique qualities of each property, there’s no “one size fits all” formula. PSE does not compensate nearby property owners for perceived loss of property value due to the installation of energy infrastructure. In this respect, PSE is no different than any other public or private developer. This approach is consistent with Washington law.

If new easements are required to site PSE’s facilities on private property, PSE will compensate the affected property owners based on fair market value.

Underground

Suggestions have been received that PSE construct the new line underground, along with questions about undergrounding costs and feasibility.

Excerpts:

- *No power lines above ground in Somerset. Bury them.*
- *It is my opinion any improvement no matter what route is selected should be buried underground. I adamantly disagree with the PSE statement that this benefits only the nearby property owners.*

Puget Sound Energy Response:

Overhead transmission lines are PSE’s first option for standard service due to their reliability and affordability, both of which are important to PSE’s customers. Unless a community or local jurisdiction requests the lines be put underground and are willing to pay the cost difference, regulations require PSE to construct overhead transmission lines.

The biggest challenge to underground transmission lines is cost. The construction costs for an overhead transmission line will be about \$3 million to \$4 million per mile, versus \$20 million to \$28 million per mile to construct the line underground. These figures only take engineering and construction costs into consideration, and do not include additional costs such as land acquisition, traffic control, relocation of existing underground facilities that may conflict with an underground transmission line, future increased operation and maintenance costs, or taxes and overheads. These additional costs can be very significant – sometimes two to three times the construction costs.

When a transmission line is constructed overhead, project costs are distributed evenly between PSE’s 1.1 million customers. If a transmission line were to be constructed underground, PSE can’t justify asking

customers across its entire service territory to pay the significant cost increases for a local aesthetic benefit. That's why, when an overhead line is a viable option like in the case of the Energize Eastside project, PSE's tariff regulated by the Washington Utilities and Transportation Commission requires the local jurisdiction or customer group requesting that the transmission line go underground to pay the difference between the overhead and underground costs.

The tariff is in place to protect all of PSE's customers from substantial bill increases that would result from frequent requests to underground or relocate transmission lines (view the full tariff: [Schedule 80, Section 34](#)). PSE recognizes some of its customers are in the financial position to pay the substantial increase in rates to underground this project and others, but there are also many low- and fixed-income customers who depend on affordable rates. It is PSE's responsibility to balance the needs of all customers and provide service that is both reliable and affordable. These regulations are founded in fundamental public policy, which hinges on fairness and reasonableness for all customers, regardless of income. Having the local community pay to underground power lines for the aesthetic benefit is not new – it is the same concept our communities follow today when a new development undergrounds the lower voltage distribution power lines.

In addition to cost, there are other factors to consider. For example:

- Putting power lines underground can have bigger environmental and neighborhood impacts. Undergrounding transmission lines requires extensive vegetation removal, trenching and installation of large (20 feet x 30 feet) access vaults every quarter mile and can be very disruptive to neighborhoods and the environment.
- Underground lines typically take longer to repair, and repairs are more difficult. When an overhead line fails, crews can often repair it within hours. Repair of underground transmission lines can take days and even weeks, depending on the repairs that need to be made.

All of these factors are why PSE is proposing to construct the Energize Eastside project overhead.

Read more in PSE's [undergrounding](#) fact sheet.

Vegetation and Environmental

Questions and concerns about impacts to wildlife and vegetation have been presented.

Excerpts:

- *I don't want the trees removed that make this area a pleasant habitat.*
- *Right-of-way along Segment B [would involve] slashing through established neighborhoods with hundreds of mature trees of significance which would be negatively impacted by the placement of the lines and ongoing maintenance to prevent storm damage.*
- *Running additional lines along bridle trails state park will damage the ecosystem through further tree loss and habitat reduction. This is a pristine and unique park providing habitat for many different wild life.*

Puget Sound Energy Response:

As with all of PSE's projects, PSE is committed to minimizing, where practicable, environmental impacts that can result from construction, operation and maintenance of electric transmission lines. When impacts cannot be avoided, PSE provides appropriate restoration or mitigation. For illustration, regardless of the route selected, federal, state, and local regulations do not allow construction stormwater that exceeds specific water quality parameters to run off into waters of the State. Erosion Control Planning will be

incorporated into the project design. This is standard practice, as all large scale projects are required to assess potential drainage impacts. Once the route is selected, a detailed engineering analysis will be performed to address possible stormwater issues. Transmission lines typically have a small impervious footprint and therefore are not a major contributor to stormwater runoff. Additionally, runoff from PSE's infrastructure facilities will comply with the appropriate storm water manuals.

As PSE continues design of the Energize Eastside project, PSE will collaborate with local, state and federal agencies to ensure compliance with all applicable regulations. This includes meeting all local permit requirements and conducting an environmental review pursuant to the State Environmental Policy Act (SEPA). The SEPA process is used to help decision-makers understand a project's potential to cause impacts to the natural and built environments. For example, potential effects on wildlife such as bald eagles would be identified during that process, along with appropriate restoration or mitigation. Additionally, PSE has an extensive avian protection program and often includes protective measures to power line design. More information on this program can be found on PSE's [Protecting Birds web page](#).

For trees directly under the transmission lines, PSE's transmission vegetation management program generally requires the removal of trees with a mature height of more than 15 feet. For those bordering the wires, trees will be trimmed or removed to maintain a clearance of 20 feet from the nearest line. In specific cases where terrain conditions allow 20 feet of clearance between the line and the mature height of the tree, species that mature at a height of more than 15 feet may be allowed. More information is available in PSE's tree trimming and maintenance information center.

Please visit the Energize Eastside [Environmental Review](#) web page for more details.

Alternative technology

Questions and suggestions have been posed regarding ways to address the project need without a new transmission line.

Excerpts:

- *How about presenting definitive information on one or more non-transmission options, such as battery storage, to provide the few days/year projected Eastside extreme peak load?*

Puget Sound Energy Response:

Before launching this project, PSE studied several different solutions in addition to building the new overhead transmission lines. Those alternatives included reducing demand through conservation, increasing the capacity of PSE's existing electric transmission lines, generating energy locally, and building new infrastructure. However, these other solutions are not enough to solve the problem of transporting the energy we have to the fastest-growing places and the people who need it.

PSE reviewed both the planned conservation as well as additional potential demand reduction to meet the growing need. This included such things such as increased incentives for insulation and efficiency improvements in existing residences and businesses, gas conversions, etc. In addition, solar panels and other types of local renewable generation were considered. All of these potential measures combined were unable to meet the need for the growth expected in the Eastside region. After a detailed analysis and weighing the relative tradeoffs, PSE found that the best solution is a combination of aggressive conservation and new infrastructure.

Many have asked the company what options are available to avoid building the new line by upgrading PSE's existing infrastructure. PSE has already made upgrades to its existing infrastructure to postpone

the need for the new 230 kV line as much as possible. By increasing the voltage from 115 kV to 230 kV, the wires must be placed on new poles due to different clearance requirements and the fact that the new wires are heavier and therefore require sturdier poles to support them.

Additionally, through upgraded lighting, appliances and equipment, increased weatherization, and energy-efficient building technologies, PSE customers helped us save enough electricity to power 30,000 homes in 2012. Despite these aggressive conservation initiatives by PSE and its customers over the past few decades, studies show need is dramatically outpacing supply.

Conservation alone won't create the capacity to keep up with our region's growth. The Eastside economy and population are growing far faster than our conservation efforts can keep up with. Without substantial electric infrastructure upgrades, tens of thousands of residents and businesses will be at risk of more frequent and longer outages. PSE's problem is not a lack of energy to power Eastside communities. Instead, the problem PSE needs to solve is transporting the energy it has to the homes and businesses that need it. The Eastside is growing faster than any other region in Washington, which is straining our region's electric system. Growth studies project that demand for reliable power will exceed capacity as early as 2017, increasing the possibility of outages for as many as 60,000 customers in the Eastside.

PSE is actively monitoring emerging technology, and in some cases, is deploying pilot projects to test those new technologies. However, emerging technology is not advanced or developed to the level that provides enough capacity to efficiently and practically solve the energy problems that exist now and are expected in the near future on the Eastside. As a regulated utility, PSE cannot wait to address reasonably anticipated reliability needs until emerging technologies mature into viable options. PSE is hopeful that innovative and promising new technologies do become available in the future, but PSE has a legal duty to address its issues today.

You can read more about the alternatives studied in PSE's [needs assessment report](#), [solutions report](#), [non-wires solution analysis](#), and much more on the [Energize Eastside project website](#).