

Sammamish-Juanita 115 kV Project

Stakeholder Advisory Group Recommendations Report

October 2012

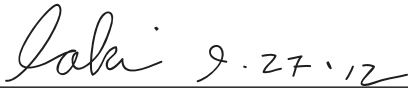


Stakeholder Advisory Group Signatures

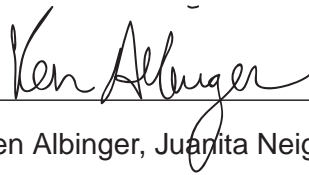
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We, the members of the Sammamish-Juanita 115 kV Project Stakeholder Advisory Group, affirm and support this recommendations report to Puget Sound Energy.

We believe PSE's community-involved siting process for this project has been transparent and reflects community input.



Dirk Lakin, Aerojet



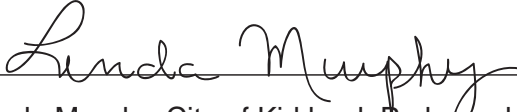
Ken Albinger, Juanita Neighborhood (Kirkland)



Rob Jammerman, City of Kirkland, Public Works



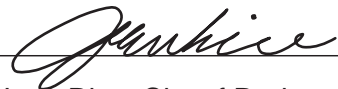
Forrest Miller, Lake Washington School District



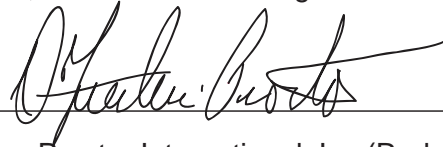
Linda Murphy, City of Kirkland, Parks and Community Services



Don Schmitz, North Rose Hill Neighborhood (Kirkland)



Jean Rice, City of Redmond, Parks



Fred Proctor, Proctor International, Inc (Redmond)



Eric McConaghy, City of Redmond, Planning



Andy Swayne, Puget Sound Energy



Lynda Haneman, Evergreen Hill Neighborhood (Kirkland)



Kathe Low, Sustainable Redmond



Lavon Weighall, Evergreen Hospital (Kirkland)



Tom Matthews, Willows Rose Hill Neighborhood (Redmond)



Danielle Lynch, Greater Redmond Chamber of Commerce

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Introduction

Customer energy usage at times can strain and/or exceed the capacity of Puget Sound Energy's (PSE) existing electric transmission system in the northern Redmond-Kirkland area, reducing the ability to provide dependable power to area residents and businesses. To increase electric system capacity and improve reliability, PSE plans to construct a new 115 kilovolt (kV) transmission line from the Sammamish substation (9221 Willows Road NE in Redmond) to or near the Juanita substation (10910 NE 132nd Street in Kirkland).

PSE convened a stakeholder advisory group (SAG), comprised of representatives from Redmond and Kirkland neighborhoods, businesses, jurisdictions and community organizations, with the goal to develop the most community-acceptable route for the new transmission line. During the community-involved siting process, the SAG met with PSE to give input into the GeoRoute modeling tool that produces route options, provide feedback on route options, review community input, and work with PSE to recommend a preferred route.

Purpose of report

This report outlines the work and recommendations of the SAG convened by PSE to help understand community concerns and identify possible community-acceptable route alternatives, and ultimately recommend a preferred route for the Sammamish-Juanita 115kV transmission line project.



Project Background

Demand for power is growing in the northern Redmond-Kirkland area. The electric system, known as the Moorlands system, is comprised of the Sammamish, Moorlands and Cottage Brook transmission substations, and three local 115 kV transmission lines serving 12 local distribution substations (refer to Figure 1).

The Moorlands electric system serves a population of nearly 150,000 residential, commercial and industrial customers. The system was completed in the 1960s and has helped power decades of community growth. However, growth in customer electric demand is now straining the Moorlands system. While PSE has upgraded the system through the years, the local transmission lines are approaching their capacity limits.

The system faces two challenges – capacity (the ability to supply enough power) and reliability (ensuring power

is available during times of peak usage or when parts of the system are out of service). Under certain conditions these transmission lines can become overloaded, potentially resulting in outages to the majority of PSE’s 150,000 customers in the area.

To increase system capacity and improve service reliability to customers, the new Sammamish-Juanita 115 KV transmission line will be installed. As a result of the project, the new line will improve system reliability by adding an additional transmission pathway to the Moorlands system. In addition, the Moorlands system will be reconfigured to transfer the electric load of two existing distribution substations to another transmission system that has more capacity; thereby freeing up capacity on the Moorlands system. In the future as need arises, the new line will be extended to Moorlands substation.

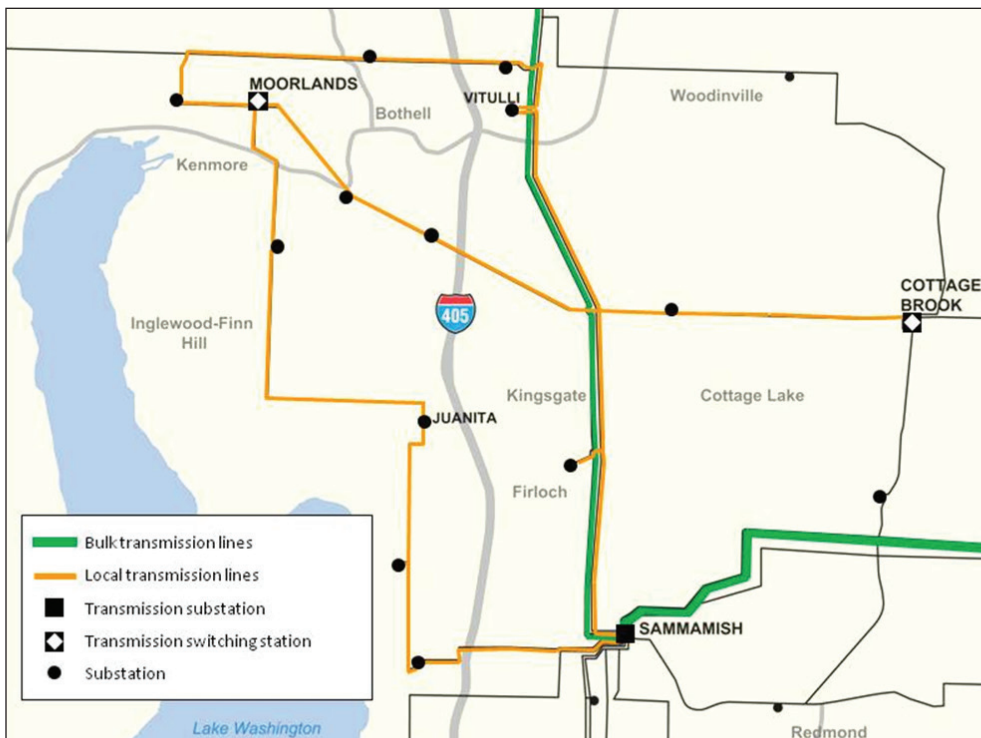


Figure 1.
Map of Moorlands electric system.

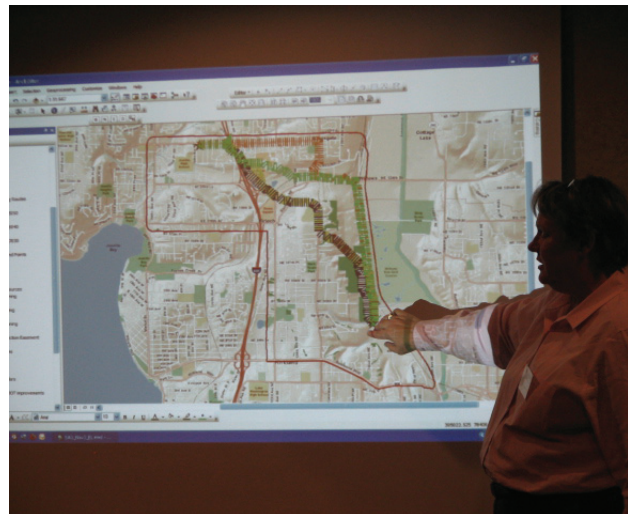
PSE's outreach/siting activities in 2008-2009

During the late 1990s, PSE identified the future need for a Sammamish-Juanita transmission line and worked with the cities of Kirkland and Redmond to reflect this need in their comprehensive plans.

In 2008, PSE announced the project and hosted a public meeting to discuss PSE's general transmission line siting criteria, which include: using existing right of way; reducing environmental impacts; ability to meet local, state and federal permit conditions; topographic features; constructability; and using public input. PSE used feedback from this meeting to develop route options, which were presented at public meetings in 2009.

Community input on the 2009 routes included suggestions for PSE to use existing rights of way, route through commercial and industrial areas rather than residential areas, and use existing utility corridors. In addition, PSE heard from the City of Redmond about the importance of a designated view corridor along Willows Road. Due to these concerns, PSE recognized they had yet to identify route options that were clearly acceptable to the community.

In a built-up urban area with multiple jurisdictions, there is no easy answer to siting a transmission line, so PSE wanted a more robust involvement effort to help get to a community-acceptable, constructible and permissible route. To this end, PSE began working with the SAG in September 2011 and consulting with the broader community to explore possible routes for the new line.



About the Stakeholder Advisory Group

Purpose

The purpose of the project stakeholder advisory group (SAG) was to collaborate with PSE to develop possible community-acceptable alternatives, as well as help PSE better understand the community issues to consider as they make the alignment decision on a route that meets the needs of PSE's customers, the local community and PSE.

Through the siting process the SAG:

- Provided a forum for dialogue and information sharing.
- Learned about the Sammamish-Juanita 115 kV Project needs in the context of the broader Moorlands electric system.
- Consulted with representatives of the community, on a community-acceptable alignment to provide system reliability and capacity.
- Helped PSE make a stronger connection with the community; and helped PSE provide information to the community so community members could provide meaningful input in order to help PSE site the needed transmission line.
- Provided advice, as community representatives, on ways to address community concerns.
- Gave input on the GeoRoute model and model-developed route options.
- Partnered with PSE to find a community-preferred alignment for the 115 kV transmission line.

The SAG was comprised of local community members who volunteered their time to prepare for and participate in meetings with PSE and the community.

Membership

- **Dirk Lakin**, Aerojet (Redmond)
- **Rob Jammerman**, City of Kirkland, Public Works
- **Linda Murphy**, City of Kirkland, Parks and Community Services
- **Jean Rice**, City of Redmond, Parks
- **Eric McConaghy**, City of Redmond, Planning
- **Lynda Haneman**, Evergreen Hill Neighborhood (Kirkland)
- **Lavon Weighall**, Evergreen Hospital (Kirkland)
- **Danielle Lynch**, Greater Redmond Chamber of Commerce
- **Ken Albinger**, Juanita Neighborhood (Kirkland)
 - **Mary Dunphy**, Alternate
 - **Richard Aijala**, Alternate
- **Forrest Miller**, Lake Washington School District
- **Don Schmitz**, North Rose Hill Neighborhood (Kirkland)
- **Fred Proctor**, Proctor International, Inc (Redmond)
- **Andy Swayne**, Puget Sound Energy
- **Kathe Low**, Sustainable Redmond
- **Tom Matthews**, Willows Rose Hill Neighborhood (Redmond)
 - **Gary Wightman**, Alternate
 - **Tim McGruder**, Alternate

Past members

- **Wilson Anhar**, Aegis Living (Kirkland)
- **Cindy Jayne**, Sustainable Redmond
- **Jill Krusinski**, Grass Lawn Neighborhood/Willows Rose Hill Neighborhood (Redmond)
- **Ron Parker**, Greater Kirkland Chamber of Commerce

Preferred route selection process

The process PSE developed for the SAG to reach a preferred route recommendation is described below and shown in Figure 2.

1. SAG learned about the project and GeoRoute model.
2. PSE shared sample model outputs with community and gathered feedback.
3. SAG used the GeoRoute model to develop route outputs.
4. SAG recommended three route alternatives based on route options initially developed by the GeoRoute model.

5. PSE completed feasibility review and modified route alternatives as needed.
6. PSE shared the three route alternatives with the community and gathered feedback.
7. SAG recommended preferred route.
8. PSE shared recommended preferred route with community and gathered feedback.

Using the SAG's recommendations and community feedback, PSE then made its final route decision.

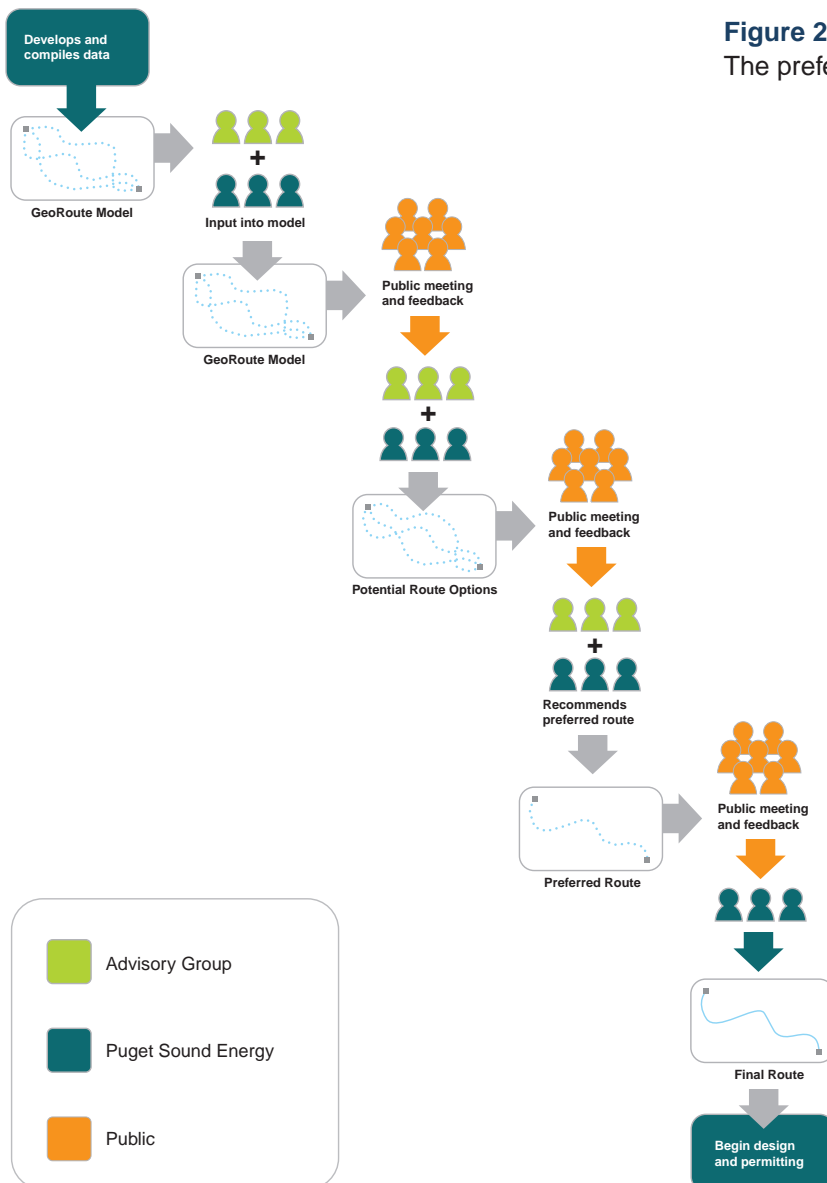


Figure 2.
The preferred route selection process.

Stakeholder Advisory Group Activities

Stakeholder interviews

Prior to the first SAG meeting, members were interviewed to identify key questions and concerns to be addressed during the siting process. In addition, the interviews allowed SAG members to learn more about the project, suggest other possible community members for the SAG, and recommend ways to inform the community about the project's progress.

Key concerns included:

- Health risks—the effects of the new transmission line on humans.

- Visual/aesthetic impacts—view impacts and look of the new structure.
- Property values/real estate—effects the transmission lines could impose on surrounding properties.
- Social/public acceptability—receptivity of the project from the public.

In response to these interviews, PSE provided information about the key concerns during the initial SAG meetings, as well as at the community meetings.



SAG meeting schedule

The SAG met eight times between September 2011 and July 2012. During the siting process, PSE and the SAG shared major milestones with the community and used community input to inform their work. All SAG meetings were open to the public.

Meeting Date	Topics Discussed
September 29, 2011	<ul style="list-style-type: none"> • SAG process, operating guidelines and expectations • Electric system challenges and project specifics
October 17, 2011	<ul style="list-style-type: none"> • Background on PSE’s past siting activities for the project • Overview of the GeoRoute model
November 3, 2011	<ul style="list-style-type: none"> • GeoRoute model review and scenario testing
November 17, 2011	<ul style="list-style-type: none"> • GeoRoute model weightings and scenario testing • Information to share at the December open house
January 26, 2012	<ul style="list-style-type: none"> • Community feedback from the December open house • GeoRoute route outputs • Narrowing route outputs
February 2, 2012	<ul style="list-style-type: none"> • Review of the remaining route outputs and PSE’s modified route options • Selection of the three route alternatives
May 16, 2012	<ul style="list-style-type: none"> • Results of PSE’s route feasibility study and modifications to the three route alternatives • Ways to share the three route alternatives with the community • Process for developing SAG’s preferred route recommendation
July 18, 2012	<ul style="list-style-type: none"> • Community feedback on the three route alternatives • Identification of their preferred routes east and west of Interstate 405 using a multi-objective decision analysis process • Preferred route recommendation

Learning about the electric system, project need and siting (September-October 2011)

The SAG began the community-involved siting process by learning about the electric system and project specifics. During this learning period, the SAG asked PSE questions on a variety of topics, including power line siting, possible health effects, impacts to vegetation, and other options considered for the project, including alternate technologies to meet energy needs. PSE provided detailed responses to questions using real estate, vegetation management, engineering and system planning staff, and had Drew Thatcher, an independent Board Certified Health Physicist, talk with the SAG about electromagnetic fields (EMF).

The SAG also learned about PSE’s siting approach and general transmission line siting criteria. PSE shared feedback received on the 2009 routes, explained the decision to re-start the siting process with the SAG, and introduced a geographic information system (GIS)-based computer modeling tool to help develop possible route options.

To help SAG members better understand the project area, electric system components and project constraints, PSE hosted two project area tours in October 2011. The tours focused on the Moorlands system, which included visits to the Sammamish and Juanita substations, stops at distribution substations, views of existing utility rights of way along roads and in corridors, and general exploration of the project area.

Integrating computer modeling into siting (October-November 2011)

One of PSE’s major goals for the community-involved siting process was for the SAG to use a computer modeling tool to help highlight the multiple criteria and tradeoffs that must be considered when developing route options in an urban environment. The SAG learned about the GeoRoute model, a GIS-based routing model, which PSE and the SAG used to develop possible route options.

About the GeoRoute model

The GeoRoute model uses information that can be shown on a map, such as a city’s zoning and locations of wetlands, schools and roads. Each of these types of data or features can be shown as a data layer on an individual map. Using GIS, these individual features (called data layers) can then be “stacked” so that one can view all of the data or some combination of selected data at one time. The source of the data is state and local government agency information, which is considered the best or most official spatial representation of the information.

Think of these individual maps as transparent sheets you stack, one by one, on a light table. As you look at the stack with the light shining up, you can see the collection of data all together. This can reveal areas where there are features to avoid – such as wetlands or schools. It can also show where there are opportunities for a route – such as a major arterial or an industrial zone. See Figure 3 for a light table example.

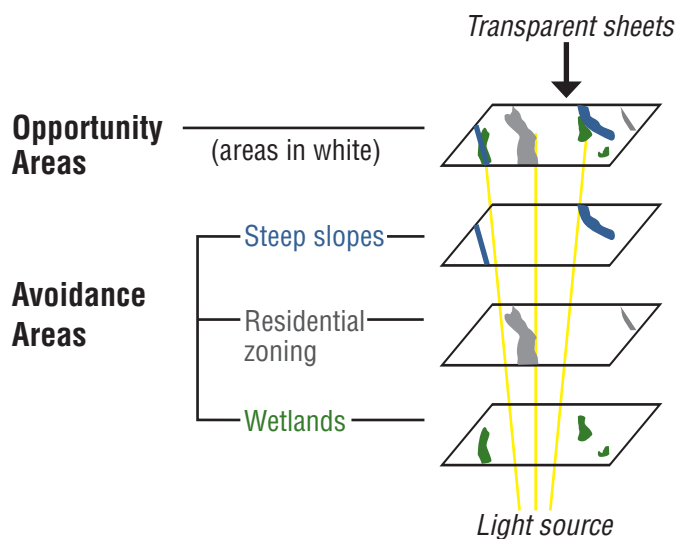


Figure 3. GIS “light table” example.

These layers become the criteria used to generate potential route outputs for discussion. The GeoRoute model groups certain data layers into avoidance areas and others into opportunity areas.

- **Avoidance areas are those places less likely to be good candidates for routes.** Features to be avoided are grouped into three categories relating to: the built environment, the natural environment, and engineering. Within each of these three categories, there are multiple data layers. For example, the built environment avoidance layers include schools, parks and residential zoning.
- **Opportunity areas are areas where it might make more sense to site the project.** Opportunity areas could include commercial and industrial zoning, existing rights of way, arterial streets and the presence of overhead distribution lines.

Weighting the data

The layers of data (criteria) are weighted in terms of importance with input from the community so as to reflect community values. The data and the importance ascribed to it (via weighting) are specific to each project and each community.

Weighting the data allows users to emphasize relative importance, while including both technical criteria and community values. The GeoRoute model uses a repeatable approach to combine avoidance area and opportunity area weightings to produce potential route outputs for discussion. It does this by calculating the relative importance of areas to avoid versus areas with opportunities.

Three levels of weighting occur in the model.

1. The individual criteria within the avoidance area categories (built environment, natural environment and engineering) as well as the criteria in the opportunity areas are weighted.
2. Then the three categories in the avoidance areas are weighted. For example, in this case users could weigh the built environment as 50 percent, the natural environment as 35 percent and engineering as 15 percent.
3. Finally, the users assign weights to overall avoidance areas and opportunity areas. This allows the users to balance the avoidance and opportunity areas by considering whether it is more important to avoid areas or take advantage of the opportunity areas. See Figure 4.

The GeoRoute model does not make decisions; it assists decision-making by promoting routes for discussion. Ultimately, identification and selection of a final route is based on community input, investigation of actual conditions in the field, any impediments to construction, and the ability to obtain any necessary easements for access to property. Data that is considered important, but that cannot be readily mapped (i.e., aesthetic impacts, some jurisdictional codes and policies) is reviewed and discussed after the route options have been produced by the model.

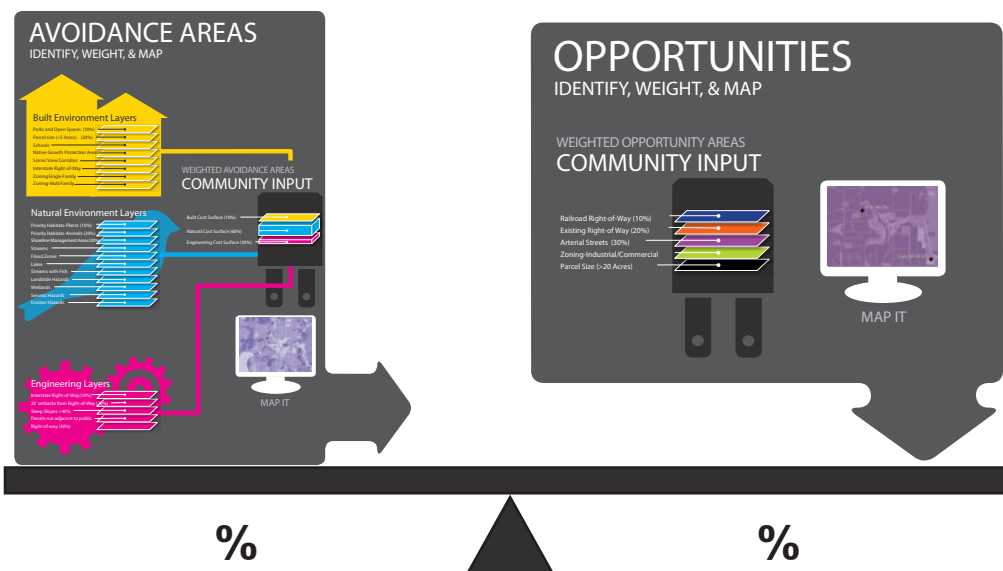


Figure 4. GeoRoute model.

Using the GeoRoute model

Working through two meetings and multiple modeling scenarios, the SAG discussed how changing the weighting scenarios (the importance placed on opportunity or avoidance areas) affected siting in residential areas, through Totem Lake Mall, along the Redmond and Kirkland railroad corridors, the City of Redmond designated view corridor and other areas of interest.

Leading up to a December 2011 open house, the SAG recommended weighting scenarios for PSE to use to develop example model outputs to share at the open house. The SAG recommended the following percentages for categories within the avoidance areas: built environment (50 percent), natural environment (35 percent) and engineering (15 percent). They also recommended weightings for categories within the opportunities area.

Narrowing the options (January 2012)

Following the open house meeting, the GeoRoute model was populated with the SAG's recommended weightings in order to develop different route outputs. The following rating schemes were used to develop route outputs:

70% Avoidance / 30% Opportunity

60% Avoidance / 40% Opportunity

50% Avoidance / 50% Opportunity

40% Avoidance / 60% Opportunity

30% Avoidance / 70% Opportunity

In addition, the SAG considered the following route start and end points:

- Sammamish substation exiting to the northeast
- Sammamish substation exiting to the west
- Juanita substation
- Northeast 128th Street
- Northeast 124th Street

See Figure 5 to see a map showing the start and end points.

Using these inputs, the model produced 30 route outputs; however, many outputs overlapped and were mostly duplicates of each other. After duplicate outputs were eliminated, the SAG used a worksheet to review the remaining outputs, list pros and cons for each, and recommend outputs to be carried forward for further consideration (see Figure 6).

As a result of this work, the SAG:

- Reduced the Juanita-area route end points to the Juanita substation and Northeast 124th Street.
- Identified the pros and cons of the remaining route outputs, and eliminated those that created the most concerns based on community values.
- Narrowed the field from 30 model outputs to six outputs.
- Requested PSE review the remaining outputs and develop potential combined or refined options for discussion as the SAG narrows the field to three route alternatives.

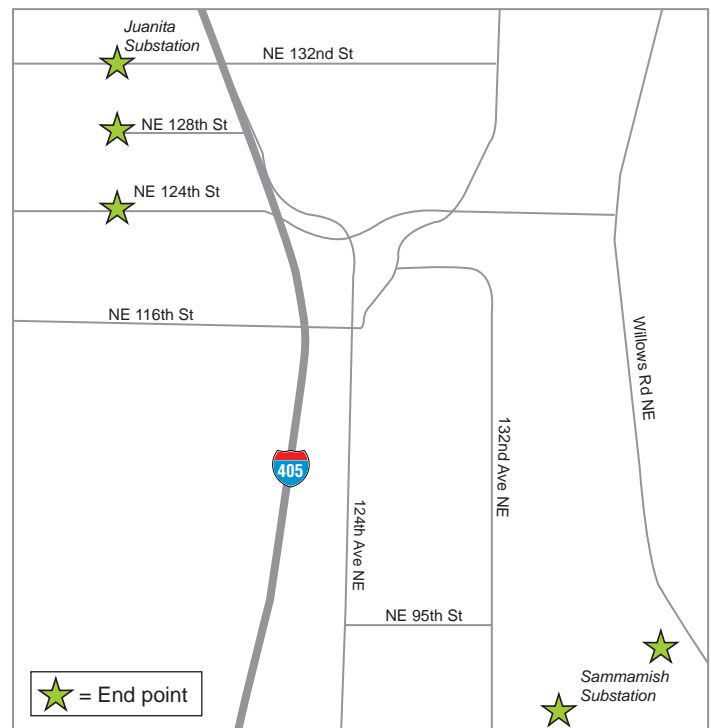


Figure 5.
Start and end points considered by the SAG.

Model Outputs	End Point	Weighting Scheme	Deleted due to duplicatio	Notes	Pros	Cons	Recommend further study?
Group A - Exiting Sammamish Sub to the West							
1.	J1 - End Juanita Sub	70 Av/30 Opp				<ul style="list-style-type: none"> Impacts residential area in south end (132nd Ave NE) 	No
2.	J1 - End Juanita Sub	60 Av/40 Opp		Duplicated by A-3, A-4, and A-5	<ul style="list-style-type: none"> Many open areas are along 132nd Ave NE Runs along I-405/Totem Lake 	<ul style="list-style-type: none"> Wires are already on both sides of 132nd Ave NE More homes are on the front of this route than on 124th Ave NE 	Yes
3.	J1 - End Juanita Sub	50 Av/50 Opp	x	Same as A-2			
4.	J1 - End Juanita Sub	40 Av/60 Opp	x	Same as A-2			
5.	J1 - End Juanita Sub	30 Av/70 Opp	x	Same as A-2			

Figure 6. Excerpt from SAG route outputs worksheet.

Recommendation of three route alternatives (February 2012)

At the SAG’s February meeting, PSE described the results of their route review and their resulting four options. The SAG then reviewed the six remaining outputs from the work done in January along with the new PSE-generated options.

PSE’s four options reflected SAG and community feedback and included the following modifications: avoided steep slopes, tree corridors, Native Growth Protection Easement parcels (NGPEs) and Transfer of Development Rights (TDR) parcels; eliminated segments where the lines crossed over or through buildings; took advantage of the railroad corridor in Kirkland to avoid residential areas; and used 120th Avenue Northeast and 116th Avenue Northeast to avoid Totem Lake Mall.

Again using a worksheet, the SAG identified the pros and cons of each option and discussed possible community concerns with each. The SAG considered how different options affected residential areas, an elementary school and the City of Redmond’s designated view corridor, and worked to ensure at least one route alternative used commercial areas thereby lessening impacts to the areas of concern.

After much discussion, the SAG narrowed the field to three potential route options – Route Alternatives 1, 2 and 3 (shown in Figure 7). Route Alternatives 1 and 2

went through residential areas, while Route Alternative 3 went behind commercial buildings on part of Willows Road and along the railroad corridor east of Interstate 405 (I-405). The SAG also recommended PSE consider the following modifications to Route Alternative 1:

- Site along Northeast 90th Street to avoid Mark Twain Elementary School.
- Site behind the commercial buildings along Northeast 124th Street (west of I-405).

The SAG requested PSE study these alternatives in detail and make modifications as necessary.

PSE’s feasibility study and route modifications (February-May 2012)

Based on the SAG’s request, PSE studied the three route alternatives for feasibility and constructability. PSE’s goal was to share the most viable route alternatives possible with the SAG and the community.

During the route feasibility study, PSE identified a number of challenges, which led to further conversations, research and routing modifications. PSE considered the constructability and feasibility of each route alternative by studying the project area to identify possible regulatory issues, better understanding the existing conditions, and looking for ways to reduce overall project effects. PSE had conversations with some property owners, Seattle City Light, Washington

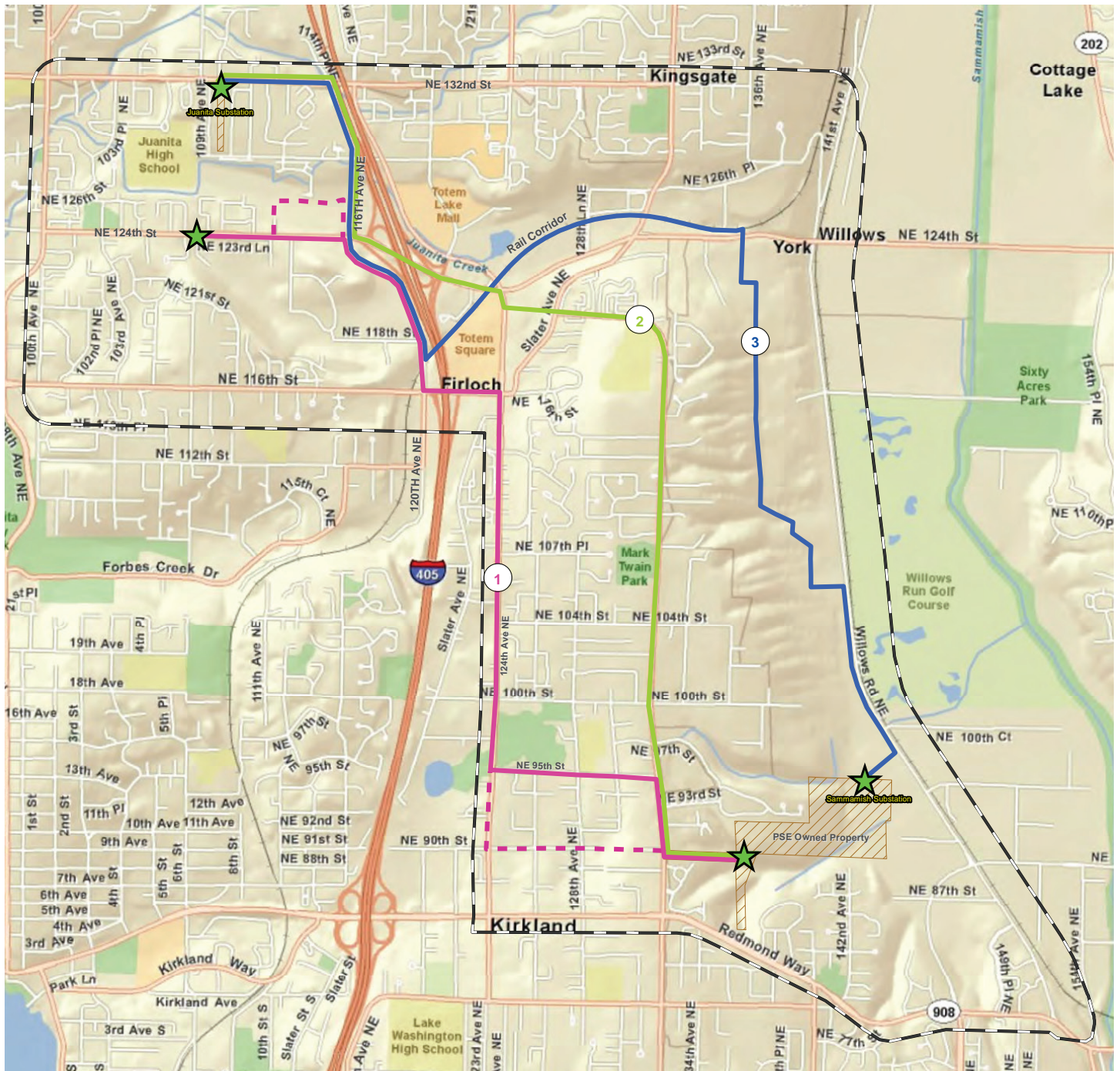


Figure 7.
Map of three route alternatives with SAG's recommended modifications.

State Department of Transportation and affected jurisdictions about siting challenges.

In addition, PSE received questions and comments from the community about the three route alternatives, specifically on routing on Northeast 95th Street versus Northeast 90th Street and concerns about a nearby school, suggestions to avoid residential areas and use commercial areas, and questions and concerns about EMF. PSE seriously considered these comments while reviewing the route alternatives.

The results of the feasibility study highlighted the challenges of siting a new transmission line in an urban area. In general, the major challenges related to crossing the Seattle City Light transmission lines and I-405, environmental impacts and property restrictions.

Reviewing PSE’s feasibility study and route modifications (May 2012)

In May, PSE shared their findings with the SAG. PSE modified the route alternatives as follows:

- **Route Alternative 1:** PSE determined the SAG’s modifications were infeasible and suggested using the non-modified route alternative.
 - Behind the buildings along Northeast 124th Street would have impacted wetlands and presented access issues.
 - The modification to use Northeast 90th Street presented challenges for crossing the Seattle City Light 230 kV transmission lines and would add a second transmission line to the street. PSE believed adding the second line would result in a need to double-circuit the lines or adding a line on the opposite side of the street, which would necessitate significant tree removal, increase maintenance and reliability risks, and have greater impacts to critical areas and wetlands. Cumulatively these factors lead PSE to select Northeast 95th Street as the viable segment.
- **Route Alternative 2:** PSE made minor modifications to this route alternative to facilitate crossing Seattle City Light power lines and I-405.

- **Route Alternative 3:** This route presented the most challenges due to building setback restrictions, easement restrictions, critical areas, tree removal and other issues. After discussions with some property owners and the City of Redmond, PSE modified this alternative to go between or behind buildings along parts of Willows Road. Due to uncertainty related to building restrictions and easement acquisition, PSE added a “fallback” route that continues on Willows Road in case the preferred segment is not achievable.

The SAG concurred with PSE’s modifications to the three route alternatives and with sharing the modified route alternatives (shown in Figure 8) with the public through community meetings to gather input to help the SAG make their preferred route recommendation.



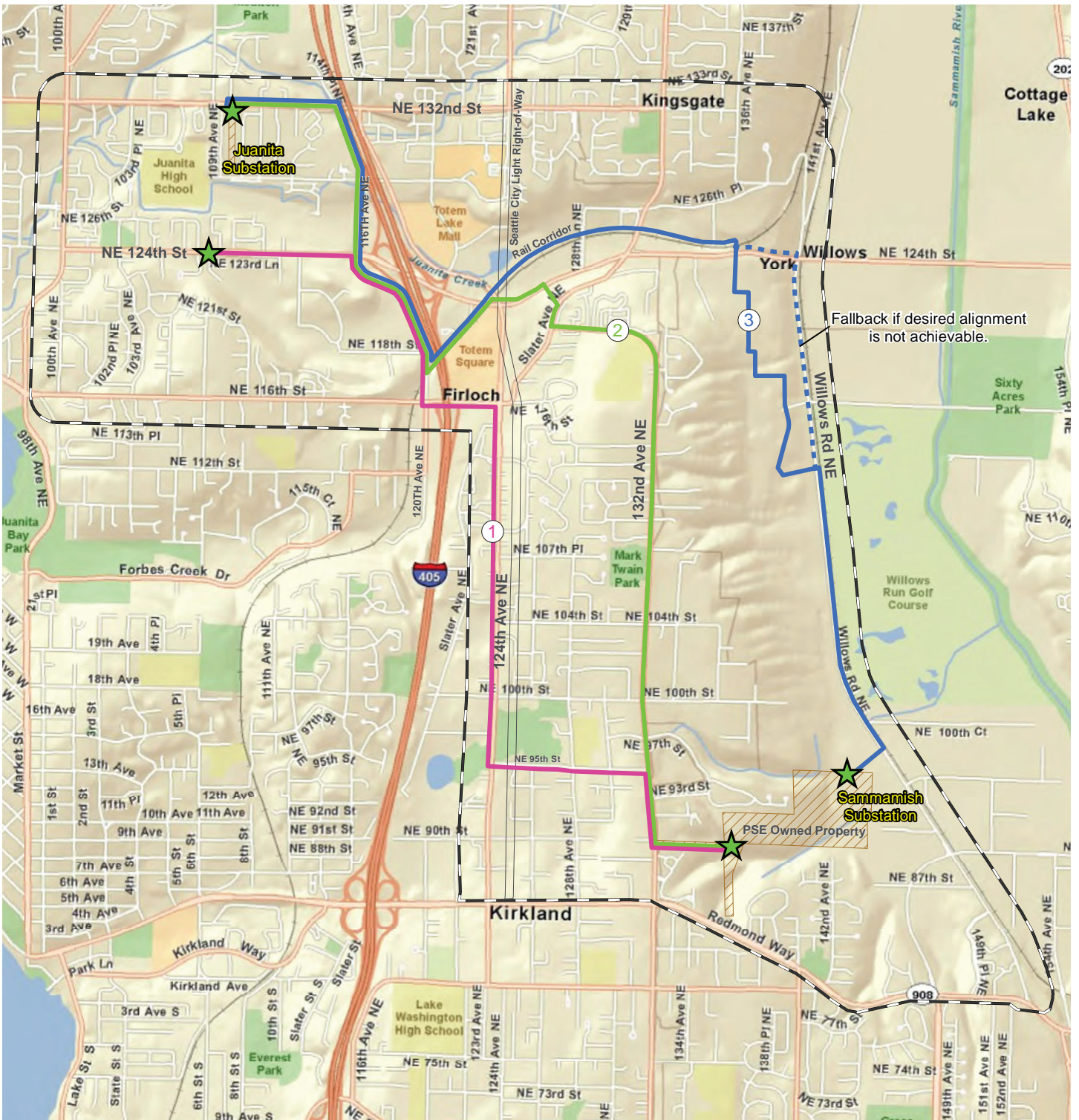


Figure 8.
Map of the modified route alternatives.

Identifying the preferred route (July 2012)

After hosting two community meetings and collecting more than 400 comments from the public regarding the three route alternatives, PSE shared the community's input with the SAG. Based on community input, PSE recommended the SAG consider the end points separately as part of their decision-making process and thus divided the alternatives into segments east of I-405 and west of I-405.

To get to a preferred route recommendation, the SAG used a multi-objective decision analysis process. (Review the sidebar on page 18 to learn more about the Multi-Objective Decision Analysis (MODA) process.)

The SAG decided to use the following criteria to evaluate the three route alternatives east of I-405 and two routes west of I-405:

1. **Least proximity to community land use areas:** The location of the transmission line in relation to schools, parks, homes, etc.
2. **Least impact to mature vegetation:** The amount of mature vegetation that must be removed or trimmed for construction and operation of the transmission line.
3. **Least proximity to critical and designated areas:** The location of the transmission line in relation to critical areas such as wetland, streams, and steep slopes; and designated view corridors, NGPEs and TDRs, etc.
4. **Public support:** Public support for the transmission line route balanced against established comprehensive and functional plans adopted by both cities.

5. **Opportunity areas:** The location of the transmission line in relation to the Kirkland railroad corridor, arterial streets (by classification or traffic counts), and existing utility lines/corridors
6. **Least proximity to commercial uses:** The location of the transmission line in relation to places of employment, businesses, stores, etc.

SAG members then individually ranked the importance of each criterion, which was combined to develop weighting for each. The results are shown in Table 1.

SAG members scored each alternative against each criterion, and then the weighting was applied to each to develop the final scores per route alternative.¹ See Tables 2 and 3 and Figures 9 and 10 for the results. The SAG discussed the results and recommended combining Route Alternative 3 east of I-405 and Route Alternative 1 west of I-405 as their preferred route.

Criteria List	Final Weighting Value
Least proximity to community land use areas	23.81%
Least impact to mature vegetation	13.27%
Least proximity to critical and designated areas	16.33%
Public support	19.05%
Opportunity areas	14.29%
Least proximity to commercial uses	13.27%
TOTAL	100.00%

Table 1.
Final weighted criteria.

¹During the meeting, there was public comment and confusion on the mathematical development of the criteria rankings. The SAG members were asked to rank all of the criteria to show their opinion of the relative importance, and the averages were converted to percentages. The SAG discussed minor adjustments to the final weighting values. However, a rounding issue in the spreadsheet meant adjusted values did not calculate to 100 percent. After additional discussion, since the modifications were to be so minor, the group decided to keep the originally generated numbers as their criteria weighting.

Using MODA

Multi-objective decision analysis (MODA) is a process for making decisions when there are very complex issues involving multiple criteria, and there are also many parties who may be deeply affected from the consequences of the decisions. Using MODA allows individual decision-makers to consider and weigh qualitative factors and trade-offs while evaluating each alternative. The individual decision-makers then discuss the combined group results to help decide on a recommendation.

The process includes four major steps for decision-makers to:

1. Discuss and agree on evaluation criteria.
2. Individually rank the importance of each criterion. The individual rankings are combined to develop weighting for each criterion. The decision-makers discuss the mathematical outcome to ensure the weightings are reflective of the group's values, adjust as needed and finalize the criteria weighting.
3. Individually score each alternative against each criterion – the better the alternative meets the criterion the higher the points given. The individual results are combined and weighted to develop the final scores.
4. Discuss the results to ensure they are reflective of the group's values and make a final recommendation.



Weighted Score Results							
		Route Alternative 1		Route Alternative 2		Route Alternative 3	
Criteria List	Weight	Score	Weighted Score	Score	Weighted Score	Score	Weighted Score
Least proximity to community land uses	23.81	1.6	39.1	1.9	44.2	4.4	105.4
Least impact to mature vegetation	13.27	2.9	38.8	2.6	34.1	2.2	29.4
Least proximity to critical areas	16.33	2.7	44.3	2.9	47.8	2.5	40.8
Public support	19.05	1.7	32.7	1.8	34.0	4.1	78.9
Opportunity areas	14.29	2.7	38.8	2.9	40.8	3.4	48.0
Least proximity to commercial uses	13.27	3.1	40.7	3.0	39.8	2.4	32.2
Total	100	14.8	234.5	15.0	240.8	19.1	334.7

Table 2.
Weighted score results for route alternatives east of I-405.

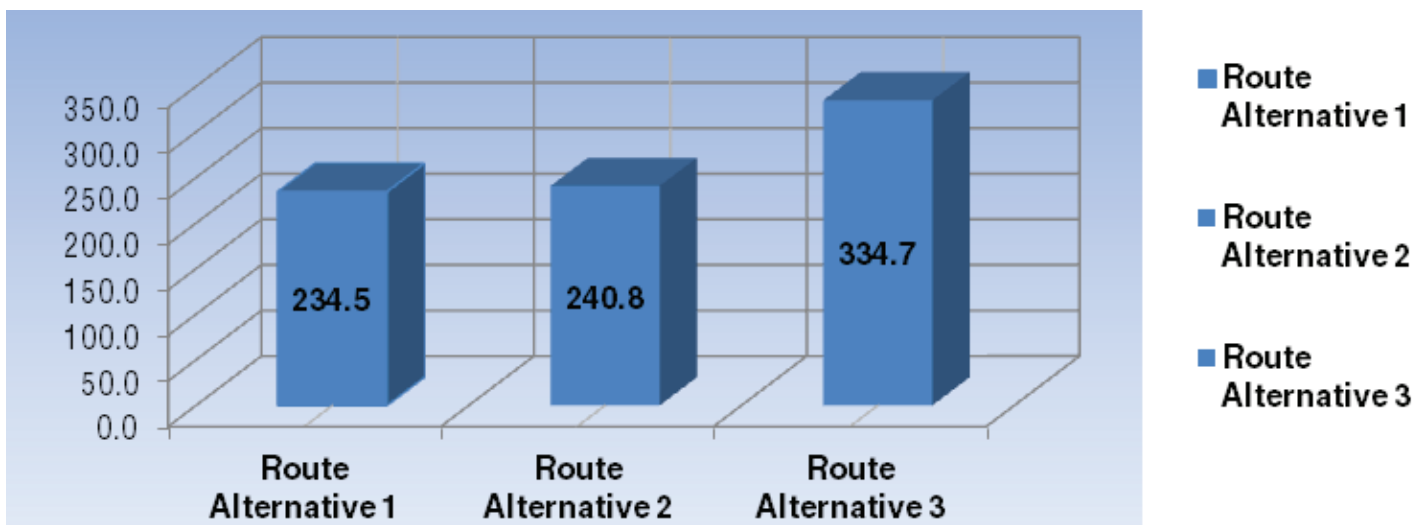


Figure 9.
Weighted scores of route alternatives east of I-405.

Weighted Score Results					
		Route Alternative 1		Route Alternatives 2 and 3	
Criteria List	Weight	Score	Weighted Score	Score	Weighted Score
Least proximity to community land use areas	23.81	3.9	91.8	2.2	52.7
Least impact to mature vegetation	13.27	3.1	41.7	2.7	36.0
Least proximity to critical and designated areas	16.33	3.4	54.8	2.8	45.5
Public support	19.05	3.2	61.2	2.6	49.0
Opportunity areas	14.29	2.7	38.8	2.7	38.8
Least proximity to commercial uses	13.27	2.8	37.0	2.8	37.0
Total	100	19.1	325.3	15.8	258.9

Table 3.
Weighted score results for route alternatives west of I-405.

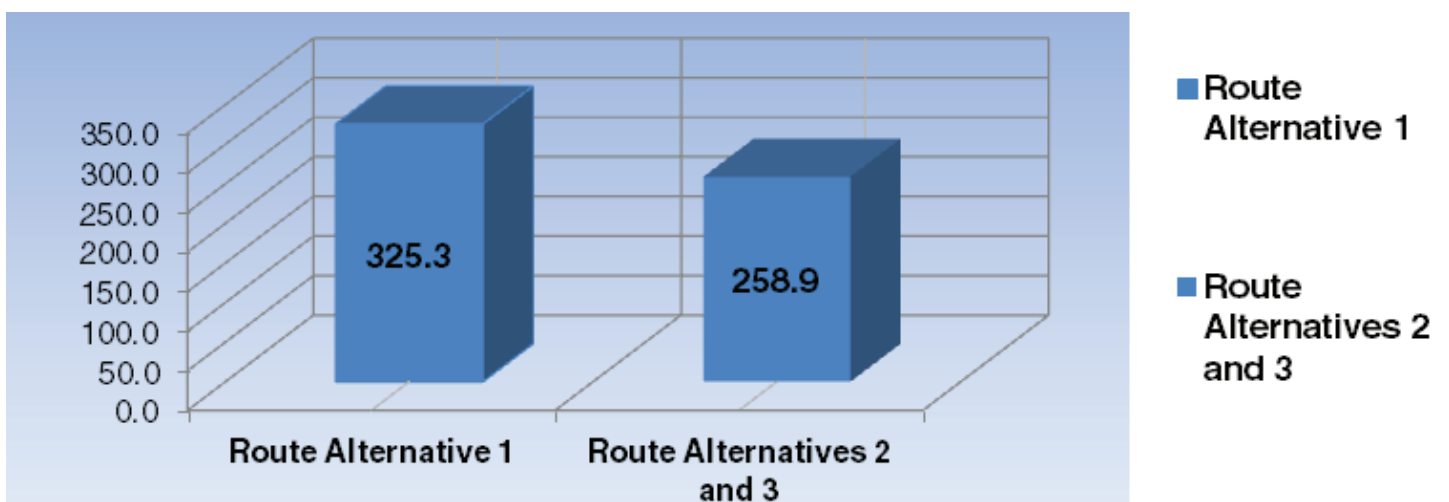


Figure 10.
Weighted scores of route alternatives west of I-405.

Community Involvement

In addition to working with the SAG, PSE also hosted community meetings, gathered comments and briefed organizations about the project's progress.

PSE's community-involved siting process included:

- Eight meetings with the SAG. Members shared their constituents' feedback during each meeting.
- Five community meetings at three key milestones: sample GeoRoute model outputs using the SAG's weightings, the three route alternatives and the SAG's recommended preferred route.
- More than 400 public communications submitted about the project, which were shared with the SAG for their consideration. In addition, communications from 2008 and 2009 were also shared with the SAG.
- Briefings to the City of Kirkland City Council, Greater Redmond Chamber of Commerce's Government Affairs Committee, Evergreen Neighborhood, Juanita Neighborhood, and North Rose Hill Neighborhood.



Recommendations of the Stakeholder Advisory Group

Based on 10 months of discussion and consideration of community input, the SAG recommended their preferred route to PSE (shown in Figure 11) on July 18, 2012. The recommended route uses commercial areas, existing rights of way and the railroad corridor to the extent possible.

The recommended preferred route exits the Sammamish substation to the east, generally travels along the Willows Road corridor and then moves northwest behind and between commercial buildings until it meets up with the railroad corridor north of Northeast 124th Street. From there it follows the railroad corridor over I-405, then north on 120th Avenue Northeast until intersecting with Northeast 124th Street. The new transmission line then follows Northeast 124th Street to the transmission corridor west of 109th Court Northeast where it ends by connecting with an existing transmission line that extends north to the Juanita substation. The segment of existing transmission line between the connection point and Juanita substation

will need to be reconducted (rebuilt) to match the capacity of the new transmission line.

The SAG's recommended preferred route includes the fallback route on Willows Road in case PSE is unable to use the preferred segment between the buildings.

The SAG agreed on the recommended route; however, City of Redmond representatives noted the City prefers a route that stays as far away from the designated view corridor on Willows Road as possible. The City also urged PSE to continue investigating how to keep the route off Willows Road. Other SAG members noted that both the preferred recommended route and the fallback option were acceptable to them.



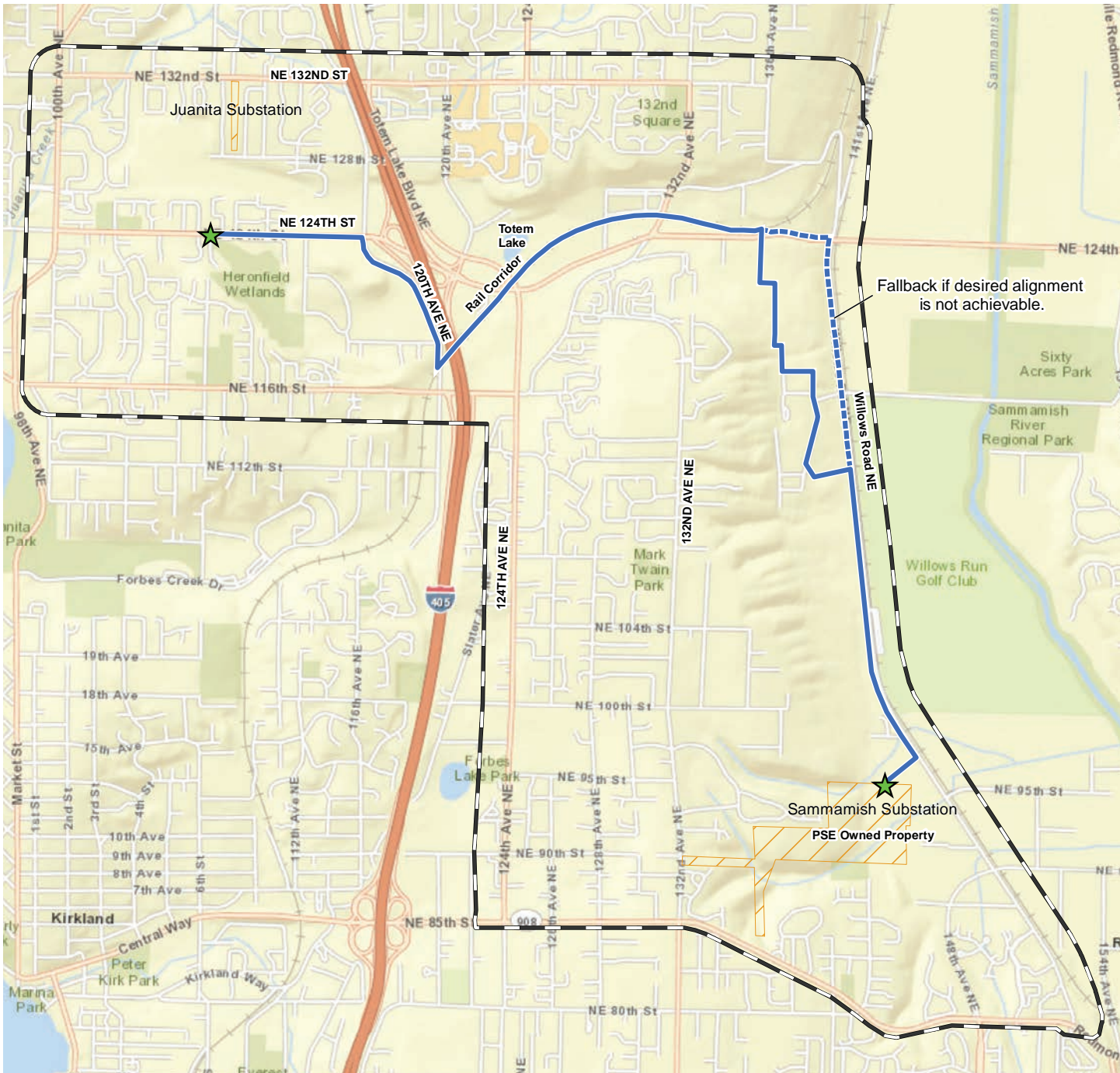


Figure 11.
Map of the SAG's recommended preferred route.

