SandyNet Proposed Ranking System for Rural Expansion

The purpose of this document is to provide supporting information regarding the expansion strategy for the City of Sandy's municipally owned and operated Internet Service Provider, SandyNet. This document includes the driving forces behind the expansion strategy's purpose with respect to SandyNet's prior, current, and future goals. Many of SandyNet's goals were updated under SandyNet's 2024 Telecommunications Master plan, which at the time of writing this document, has not yet been adopted by the City of Sandy City Council.

One of the prerequisites for the master plan's approval has been to include a rubric for ranking and identifying new broadband serving areas. SandyNet staff has worked with the City of Sandy's Administration department, as well as its SandyNet Advisory Board to create a system for identifying and vetting new service territories.

There are several factors and priorities that SandyNet must weigh prior to determining a service area. The ranking of those various criteria has been identified to be best represented in the form of a weighted table, where each identified service area is assessed and determined to be feasible or otherwise viable. The factors for the rural expansion rubric include exclusivity, proximity to existing infrastructure, the cost incurred per subscriber, fiscal feasibility for revenue, important political or community factors, fitness within SandyNet's network, and the level of capital investment required.

BACKGROUND

On March 25, 2024, Staff announced an intent to award the contract for the SandyNet Telecommunications Master Plan to Rural Innovation Strategies Inc (RISI). RISI conducted interviews with key stakeholders, analyzed SandyNet assets and financials and compiled a master plan that lays out opportunities, challenges, and recommendations to continue and improve the SandyNet public utility. On November 21, 2024, the SandyNet Advisory Board reviewed, discussed, and endorsed the SandyNet Telecommunications Master Plan. The master plan was presented to Sandy City Council on December 16, 2024 and has not yet been adopted.

On January 6, 2025, SandyNet staff was informed that the master plan required additional information on how the department expected to expand into areas outside of Sandy city limits. That request was further updated at the 2025 City of Sandy Council Goal Setting on February 1, 2025. Council goals were adopted in March 2025, which include two main goals and one subgoal for SandyNet.

First, to "Complete, adopt, and implement the SandyNet Master Plan to ensure the resilience and sustainability of the utility, including staffing levels and space needs."[1] In addition to the first goal, the driving force behind this document, SandyNet is to "[d]evelop clear criteria for determining when and where SandyNet expansion will occur."[2] The second goal was for SandyNet to "[a]dvocate for development of a Clackamas County CBX master plan that

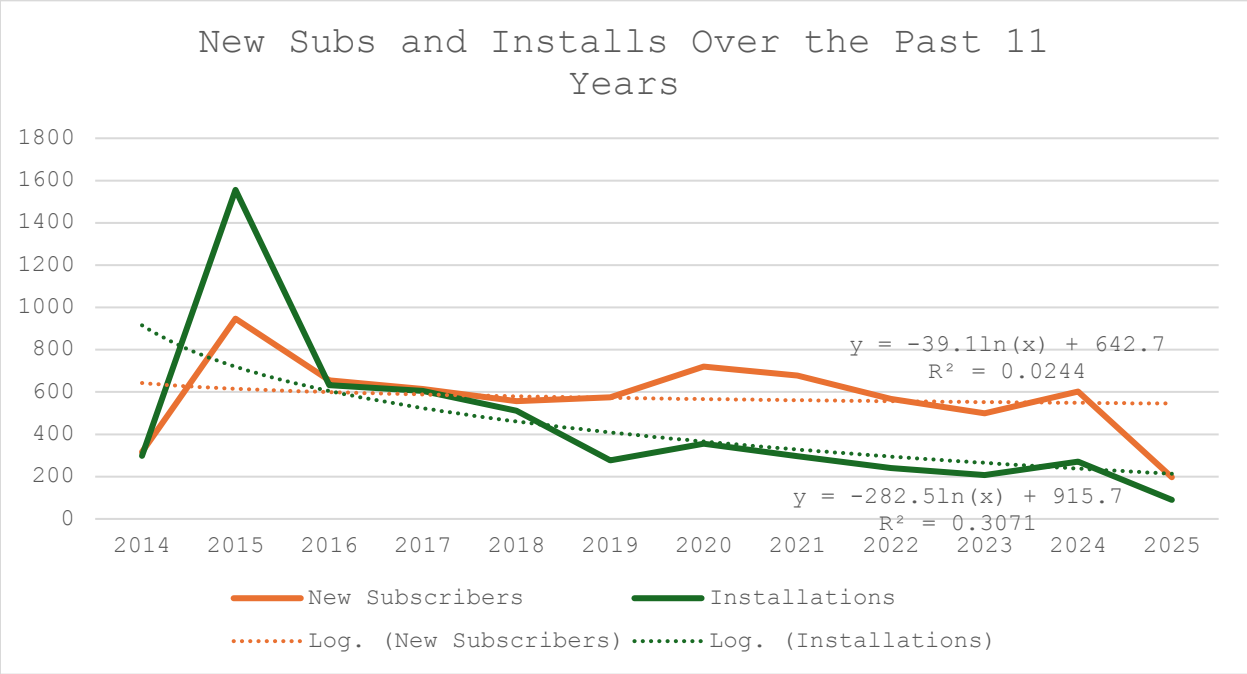
[1] City of Sandy. City Council Goals for FY 2025-2027. https://www.ci.sandy.or.us/citycouncil/page/2025-27-city-council-goals.
[2] Ibid.

incorporates Sandy's needs and priorities into the decision-making process for CBX system expansion in the Sandy area."[3]

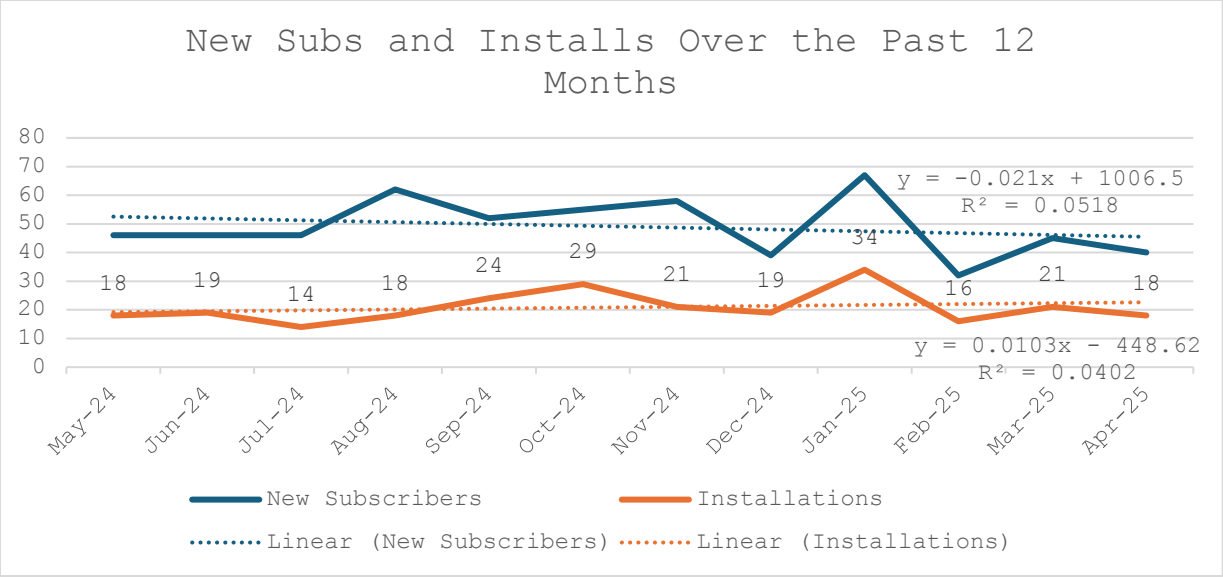
In addition to the Council goals, there are other circumstances that contribute to the structure of SandyNet's expansion criteria. At the time of writing this document, there are three main drivers that need to be explained prior to discussing the rubric, which include the need for additional revenue, explanation of the current building moratorium within city limits, and the addressing of unserved/underserved areas in and around Sandy.

Revenue

SandyNet has historically used new service connections as its main driver for revenue. Since 2014, SandyNet has seen a steady decline in new installations being performed, and a consistent level of new subscribers. New installations have occurred when either new equipment is installed in a home for the first time, or replaced after a prior subscriber has removed the equipment upon moving out. New subscribers are both new installations and those moving in where equipment is pre-existing inside the home. The number of new subscribers has not declined at the same rate as installations. Details for new subscribers and installations can be found in the charts below, along with their trendlines.

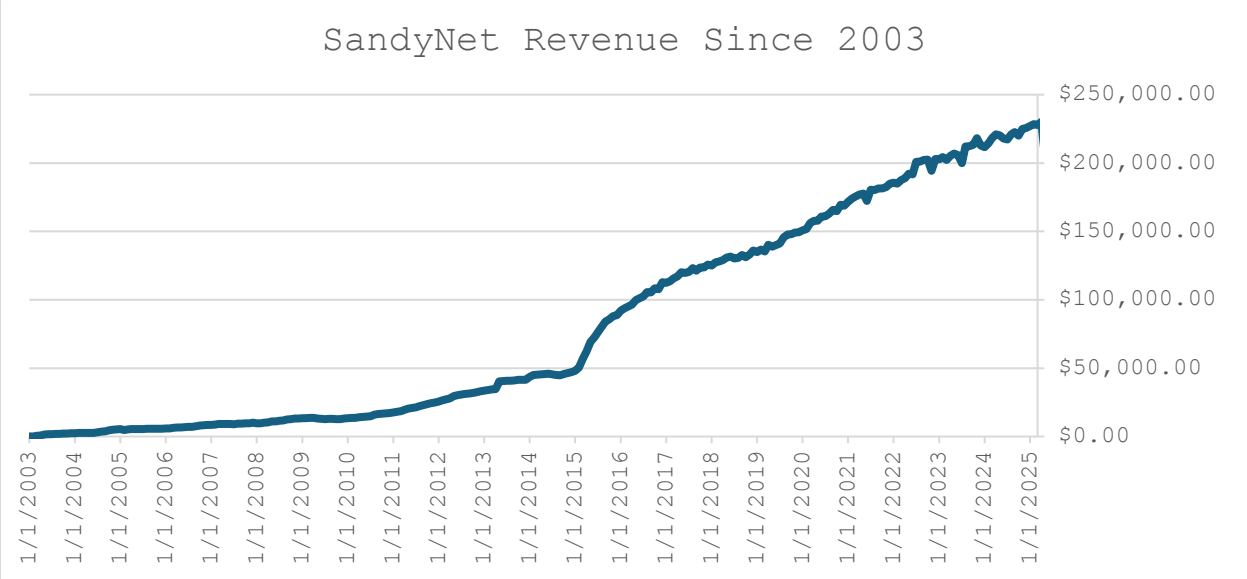


[3] Ibid.



The decline in new installations is likely attributed to SandyNet's saturation rate of roughly 80%. In addition, the sewer moratorium, which is explained in the next topic, has contributed to fewer new homes in Sandy, which has resulted in fewer new installations. The bump in installations that was observed in 2020 is likely related to the COVID-19 pandemic and the bump in 2024 is due to major milestones achieved during the Colorado and Gunderson Rd project. Under the Colorado and Gunderson Rd project, SandyNet partnered with CBX to construct and operate rural fiber outside of city limits.

Contrary to the declining installations, revenues have steadily increased over time. This is due in part to higher profile accounts and periodic rate increases for residential fiber service.



SandyNet originally had set its tiers at 100/100Mbps for $39.95 in 2014. In 2017 SandyNet increased its base tier speed to 300/300Mbps. In June 2019, SandyNet increased its rates from

$39.95 to $41.95 for its 300Mbps tier.[4] That price increased again in June 2022, due to high inflation costs for materials and services.[5] The speed of the 300/300Mbps package was also increased to 500Mbps. SandyNet has now proposed a rate increase, in response to rising costs for materials, salaries, benefits and services. In July 2025, pending adoption of the Master Fee Schedule for FY 25-27, the rate for 500/500Mbps service will increase to $52 and $67 for gigabit service. This rate increase is also called for in the SandyNet Master Plan, which indicated the need for a $12 increase in Annual Revenue Per User (ARPU) to replenish the replacement fund for physical and electronic assets.[6]

Building Moratorium

In 2022 Sandy City Council adopted a moratorium that would prevent the processing of new land use applications. The building moratorium was adopted because of a mandated limit on new connections for the City of Sandy's wastewater collection and treatment systems.[7]

Since then, the City has made progress towards increasing capacity. Capacity is measured in Equivalent Residential Units (ERUs), where one ERU is equal to one single family residential home. In June 2024, resolution 2024-11was adopted, which enabled access to 570 ERUs[8].

Since the increase in available ERUs, SandyNet has seen several developments approved and begin construction. New connections are expected to come in over the next couple years, which will provide some growth within city limits, but not enough to achieve the ARPU laid out in the master plan. There is also no guarantee at this time that the moratorium will be lifted, or that additional ERUs will be allocated after the all of the existing ERUs are allocated

Unserved/Underserved Areas

The within this document, the terms unserved and underserved are defined by the Federal Communications Commission (FCC). An unserved area is defined as a location that cannot achieve a download speed of 25Mbps and upload speed of 3Mbps. On March 14, 2024 the FCC defined underserved as is a location that is not unserved, but unable to achieve download speeds of 100Mbps and upload speeds of 25Mbps.[9] Even before the FCC updated its definition for broadband, many funding opportunities required 100/25Mbps speeds, such as the Coronavirus

---

[4] Tyler Deems. City of Sandy Staff Report for City of Sandy Council Meeting on June 17, 2019.
[5] Tyler Deems. City of Sandy Staff Report for City of Sandy Council Meeting on June 20, 2022.
[6] City of Sandy. SandyNet Master Plan, November 2024. P.15
[7] City of Sandy. Equivalent Residential Units (ERUs) Currently Available for New Development. https://www.ci.sandy.or.us/development-services/page/equivalent-residential-units-erus-currently-available-new-development.
[8] City of Sandy. A Resolution Approving a Moratorium on Development Pursuant to ORS 197.505 to 197.540 Based on Limited Sanitary Sewer Capacity. https://www.ci.sandy.or.us/sites/default/files/fileattachments/administration/page/21509/resolution_2024-11_-_approving_a_moratorium_on_development_pursuant_to_ors_197.505_to_197.540_based_on_limited_sanitary_sewer_capacity.pdf
[9] Federal Communications Commission, FCC Increases broadband Speed Benchmark. March 14, 2024. https://docs.fcc.gov/public/attachments/DOC-401205A1.pdf

State and Local Fiscal Recovery Funds, which were distributed to states and local governments through the Department of Treasury.[10]

Federal and state funds typically focus on providing service to unserved areas. There are pockets of unserved homes near city limits, but most areas that are unserved are far beyond SandyNet's existing footprint. Most recently, the Broadband Equity and Access Deployment (BEAD) program identified 2440 unserved locations within the Oregon Trail School District (OTSD). At the time of writing this document, the BEAD program has been placed on hold as determined by the Oregon Broadband Office (OBO). SandyNet knows the locations of unserved households in the OTSD school district.

DISCUSSION

In line with the first Council goal and subgoal, SandyNet needs to provide a clear criterion for when and where it will expand its territory. The ranked table below is written to include the considerations outlined in the background section and provide supporting information each of the ranked criteria.

Revenue generation was outlined as one of the easiest ways to achieve effective economies of scale for SandyNet. "At just under 4,000 customers, SandyNet has the foundational management staff and systems in place to allow for efficient scaling."[11] SandyNet needs to continue growing to gain additional efficiencies. "SandyNet's high penetration rate within city limits does not allow for much growth inside their current footprint, making expansion of the fiber network a more viable path to growth."[12] Coupled with uncertainty from the sewer moratorium, SandyNet sees expansion outside city limits as an increasing priority for increasing the number of new installations and ARPU.

The SandyNet Master Plan outlines several strategies for expansion, such as connecting homes and businesses along existing fiber routes, building out the Urban Reserve Boundary (URB) and prioritizing construction to unserved areas, of which there is no provider currently supplying service that meets the FCC's definition of broadband.[13] Finally the master plan mentions a need to be sensitive to any optics issues or challenges that may present themselves by choosing one location over another.[14]

Ranked Criteria

The rank table below provides a list of each criterion and its maximum score. By assessing these different criteria for new deployment territories, SandyNet can determine which projects are feasible, and then prioritize those areas by combining both quantitative and qualitative information into an overall assessment. This criterion can also accommodate projects with CBX, which is mostly discussed under the capital investment section.

---

[10] Department of the Treasury, Coronavirus State and Local Fiscal Recovery Funds, Final Rule. May 17, 2021. P.294.
[11] SandyNet Master Plan. P.23.
[12] Ibid.
[13] Ibid at P.25.
[14] Ibid.

Description	Score Possibility
Exclusivity	(1-5)
Existing Infrastructure	(1-5)
Subscriber Cost	(1-5)
Revenue Opportunity	(1-5)
Political/Community Factors	(1-5)
Fit w/Existing System	(1-5)
Capital Investment Required	(1-5)

Exclusivity

Exclusivity speaks to access, zoning and other factors that make up the location its surrounding area. One factor that can be considered includes the location's status as defined by the FCC (served, unserved, underserved). Another factor includes the location's current access to other providers. In an unserved status, there are no other providers, but when the area is already served, or underserved, those locations may not have any other viable alternatives. Density or zoning may also play a factor in determining a location's exclusivity. At the county level, classifications of agricultural, farm, rural commercial, or residential may add some weight to the exclusivity rating.

Finally, there is an optics component to the exclusivity ranking. Locations that are part of a larger development, or that have higher assessed property value and density are likely to have more access to broadband via other service providers. When multiple providers compete in one area, the cost of broadband is typically driven down through competition, which in turn makes those with higher assessed property values more likely to have more affordable broadband service than unserved areas. This is a mechanism that will not always fit every location, and if SandyNet ranks and builds an area that is determined to be more exclusive, it needs to consider any negative optics for servicing that area.

Existing Infrastructure

Middle mile costs for broadband are significant, and using existing infrastructure can help drive down deployment costs as well as optimize the usage of conduits, Passive Optical Network (PON) ports, and other assets. Efficiencies gained through usage of existing assets require fewer to no additional right of way permits for expansion.

SandyNet has infrastructure along several large roads heading outside of its city limits. Additionally, fiber infrastructure is extended to many City own facilities that are operated by the City's Public Works department. There are two significant expansions of Public Works fiber facilities expected to be completed within the next two years. The first is to connect to the new Portland Water Bureau treatment plant, and the second is the extension of fiber to several water producing sites east of Sandy. Two of the four projects appear to be ideal for reaching unserved areas as well as providing access to higher density areas.

Subscriber Cost

This ranking is for the cost that would be incurred by SandyNet to extend to a specified location or within a project. In unserved areas, the cost to construct fiber to a single home may cost tens of thousands of dollars, but when coupled with other areas, or a larger deployment, that cost can drop to a manageable level. This rank considers the ideal break even point for deploying fiber, and the expected take rate. The expected take rate is somewhat coupled with exclusivity, where more exclusive areas have traditionally yielded lower take rates. Cost, existing/future competition, speed/offerings, exclusivity, political factors and larger macro-economic factors all contribute to expected take rate in a deployed area.

This section also contains the results of an area's return on investment. SandyNet's return also feeds into revenue considerations as well as capital investment considerations. A return on investment is ideally less than five years, but depending on the area and other factors, that ROI can sometimes be extended, or reduced. Additionally, the subscriber costs are generally too high, when deployment area's density is less than 12 subscribers per mile.

Revenue Opportunity
This rank speaks primarily to the SandyNet budget and ARPU requirements. Increasing ARPU requirements in accordance with operational and capital expenditures works towards SandyNet's fiscal goals. It's also important to note that rural fiber rates are higher than in-city rates, because of the higher cost required to build broadband into low density areas.

It is also worth noting that revenue opportunities as well as many other factors may be weighed differently depending on the current economic climate and other factors like a sewer moratorium.

Political/Community Factors
This section aims to consider any relevant political or community factors. Some factors may be local, and others may be at the county, state or federal level. Examples include items like funding opportunities, community perceptions towards the City or SandyNet, controversy over the selection of areas, the perceived role of municipal ISPs, etc.

Local or micro factors are important to consider when assessing this section. Assessing each area as a unit and surveying interest prior to beginning construction is likely to reduce many negative factors.

It is also important to note that the scores for each potential build location may change over time. Cost changes, efficiencies can increase or decrease, community factors might look different in five years, etc. Some factors are stickier than others, such as community perception of SandyNet or a community's potential lack of desire for construction in their area.

Fit with Existing System
SandyNet uses a universal method for deploying fiber optic service within city limits. To put it more accurately, SandyNet has integrated all its existing deployment methods over the past 10 years to create a network and set of operating procedures that equip them to run and maintain the existing system.

SandyNet has always recognized the balance and need to both innovate new ways to get work done and maintain their existing model. When there is a good fit or reason to adjust or deviate

from a standard method, it is often accepted, however there must be some valid rationale driving the decision.

Examples of fitness may include necessary changes to deployment strategies, like a phased approach, delivering service overhead versus underground, changing fiber vendors for specific deployment areas[15], etc.

SandyNet Staff will need to determine if there are significant deviations from the norm in order to achieve a successful deployment, and determine if that change is worth the risk, cost, overhead or to time to complete. Fitness may change over time, as barriers to change increase or decrease.

When the level of fitness is reassessed or modified, prior projects should be revisited and reassessed to determine if they are still not feasible. For example, if SandyNet were to begin deploying fiber from poles, some areas may see a drastic reduction in deployment costs, that may now make them feasible.

Capital Investment Required

This section speaks to the level of effort that is required to reach an area, with a focus on capital. This includes materials, labor, electronics, and other assets like IP addresses and new facilities. Between revenue and subscriber cost considerations, this section is also used to assess the additional impact an area would have on SandyNet's replacement schedule.

The separation and recording of capital investments helps identify the one-time costs from the recurring costs for operation or service delivery. Those assets are depreciated across their useful life, meaning that SandyNet must now consider the future cost to replace equipment like fiber optic cables. It's also important to note that those replacement costs may be higher in rural areas. Another consideration around asset replacement and the labor required to replace those assets is the differentiation between one time construction costs and replacement costs. The cost to place conduit is likely a onetime charge and should not need to be replaced, whereas the cost to pull replacement fiber inside of a conduit is likely to be on a 20–30-year schedule.

Finally, another aspect that must be considered is SandyNet's partnership with CBX. When CBX focuses on new areas of deployment, they have historically gone to areas that are considered unserved and are available for state and federal funds. When CBX invites SandyNet to service a rural area with residential fiber service, the capital investment required by SandyNet is drastically reduced. In all prior agreements between SandyNet and CBX, CBX has constructed and maintained the fiber plant and assets, and SandyNet has only had to focus on electronics, IP addresses and in-home equipment.

CONCLUSION

This criterion aims to consider many aspects of rural fiber deployment and weigh them against each other to determine their feasibility and potential priority. While many of the rankings are qualitative, they add up to a total score that helps weed out areas that are not feasible or practical. SandyNet believes that this model offers enough due diligence to effectively identify new areas

[15] This refers to back-office equipment that may provide PON-on-a-stick or a one, two or four port OLT system.

to construct fiber. Project assessments should use the rubric defined in this document and show that a substantial effort was made to properly assess and grade the area. Areas that are deemed unfeasible for construction should be visited from time to time to verify that no major factors have changed that might now make a project feasible.