



Upskilling the Broadband Workforce in Puerto Rico: Development of Short-Form Programs and Broadband-Relevant Credentials

Notice of Funding Availability

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1. Introduction

The Puerto Rico Office of Management and Budget (“OMB”) through the Puerto Rico Broadband Program (“PRBP”) and the Department of Economic Development and Commerce (“DDEC”, for its Spanish acronym), issue this Notice of Funding Availability (“NOFA”) to obtain proposals from duly competent firms that can provide PRBP and/or the Government of Puerto Rico (“Commonwealth”; together with OMB, the “Government Agencies”) the professional services defined in this NOFA (“Services”).

The OMB and DDEC are seeking responses from qualified vendors (Respondents) to develop a productive relationship with the Government Agencies and stakeholders to design and implement short-form education programs for broadband technicians, as well as to enhance existing degrees with credentials and certifications related to broadband and telecommunications. The objective is to support the broadband industry’s talent needs by investing in education and training programs that expand career opportunities in Puerto Rico. By upskilling students and workers with industry knowledge and skills, residents and the island’s economy will prosper from the significant public investments in broadband infrastructure development. The OMB through the Puerto Rico Broadband Program (PRBP) is administering a total of \$5.1 million in funding to successful Respondents.

The PRBP was created in 2022 within the OMB to ensure all Puerto Ricans have access to fast and reliable internet service, using both local and federal funds. The PRBP coordinates, authorizes, and executes the disbursement of Puerto Rico’s broadband funding, working with Internet Service Providers (ISPs) and other key stakeholders. The program is designed to increase digital equity by bringing essential broadband infrastructure to all residents over five years through the deployment of broadband infrastructure projects and digital equity programs. To effectively execute its mission, the Government Agencies must ensure that Puerto Rico has the necessary broadband workforce, with the appropriate knowledge and skills, to build and maintain these projects. It is estimated that an additional 2,500 workers are needed by 2028. Puerto Rico’s highest demand broadband industry occupations are broadband technicians, construction workers, and customer representatives, among other positions.

To meet these workforce needs as outlined in the Smart Island initiatives, the PRBP is funding several initiatives that use both local and Federal funds and implementing a cross-functional approach by: convening ISPs and other industry leaders; engaging with academic institutions, training providers, unions, and other key stakeholders to develop plans to recruit and train talent; funding workforce grant programs, standing up a set of accessible career pathways to solve urgent workforce needs; and mobilizing community-based organizations and job centers to market opportunities and recruit diverse talent.

The OMB and DDEC are issuing this NOFA to solicit proposals from interested Respondents to provide short-form education programs for broadband technicians, as well as to enhance existing degrees with stackable credentials and / or certifications related to broadband and telecommunications.

To address the broadband workforce shortage, the PRBP has allocated \$5,100,000 to provide “Grants” to training providers to:

- Develop curriculum to support short-form credentials that address the highest demand occupations in the broadband industry, including broadband technician, broadband construction, and customer service training.
- Enhance curriculum to support advanced-degree roles in broadband.
- Design and launch pilot programs to address gaps in short-form credential and advanced degree broadband career pathways.
- Hire or train faculty/instructors in applicable broadband topics, as needed.
- Engage external training providers for faculty training and curriculum development, as needed.

- Invest in equipment/facilities.
- Dedicate employee capacity to support curriculum and program development, align with employers and other institutions, measure impact, and support marketing and outreach initiatives.
- Provide scholarships and wraparound services to program participants.

Examples of projects that could be funded by this grant program include, but are not limited to:

- Standing up a rapid training program for broadband technicians that provides both theoretical coursework and practical experience aligned with employer needs.
- Embedding new broadband and telecommunications-related topics into existing courses for advanced degrees, such as RF engineering.

The Government Agencies invite interested parties to submit their responses to this NOFA, which should include details on the use of funds, as well as any innovative solutions, if awarded. If a Respondent is selected for grant funding in this round of funding, the PRBP will contact the appropriate individual to communicate any further information required.

The deadline for this NOFA is May 31, 2024. Please send any queries to FAQ@smartisland.pr.gov.

2. Scope of Work, Project Objectives & Outcomes

The Government Agencies are hereby seeking proposals from duly competent firms that can provide the following professional services in connection with the PRBP (collectively, the “Services,” and/or “Scope of Works”):

- Develop one or more of the following workforce programs for broadband technicians, broadband construction, broadband sales and customer service, engineering field support, broadband engineering and planning, and/or broadband regulations:
 - Short-form credential program
 - Expansion/enhancement of existing short-form credential program
 - Advanced degree program
 - Expansion/enhancement of existing advanced degree program
- Convene broadband career partners for participant job placement opportunities.
- Measure and monitor program progress.
- Share results of data collection, including student retention and graduation rates, job placements, skills improvements, and other metrics.
- Incidental and/or related endeavors under the Scope of Work, as reasonably requested by the Government Agencies.

The Government Agencies will support programs that equip participants, in both degree and non-degree programs, with broadband knowledge through broadband-related topics, courses, certifications, and specializations.

Short-form credentials include non-degree credentials, certificates, or associate degrees with broadband related topics and specializations. **Advanced degrees** relevant for the broadband industry are 4-year degrees and beyond that can produce specialists for the broadband industry. See the Appendix for more information on broadband industry roles.

The Government Agencies have identified the following objectives and outcomes for this NOFA.

Objectives:

- Develop or expand short-form or advanced degree programs that are broadband-related and aligned to employer needs.
- Ensure accessibility and affordability of broadband-related training programs.
- Create broadband-related career opportunities for students through both degree and non-degree programs.

Outcomes:

- Develop, enhance, or expand the following for broadband-industry roles:
 - Certificate programs
 - Two-year degree programs
 - Advanced degree programs (4-year degrees and beyond)
- Improve student retention and graduation rates for short-form credential programs and relevant degree programs.
- Increase size of technical talent pool, including by upskilling incumbent workers, under-employed and unemployed individuals.
- Foster partnerships between training providers and employers to ensure Puerto Rico has the talent it needs to meet its broadband goals.

3. Funding Mechanism

Funding for this training grant program will come from the state fund, known as the Puerto Rico Broadband Infrastructure Fund (PRBIF), under the OMB. This training grant program will be supplemented by funding from Puerto Rico’s Broadband Equity, Access, and Deployment (BEAD) program when those funds are available in 2025.

The grant program does not require matching funds.

4. Funding Disbursement & Allowable Use of Funds

A total of \$5.1 million is available through this NOFA for pilot programs and enhancing/expanding existing programs. The OMB anticipates offering awards between \$400,000-\$900,000 for developing short-form programs to 5-10 institutions and \$200,000-\$300,000 for enhancing / tailoring relevant degree programs to better meet specific broadband industry needs for up to 5 institutions, but can offer flexibility for compelling proposals, with an emphasis rapidly scaling quality programs. Respondents can apply for either or both grant types.

Estimated amounts and dates are not final and are subject to change. Proposed funding and awarding decisions are based on the anticipated availability of relevant funds. The PRBP reserves the right to adjust based on the level of funding.

Final awards and participant counts may be adjusted depending on the number of successfully submitted proposals. The Government Agencies can offer flexibility for compelling proposals, with an emphasis on rapidly scaling quality broadband programs in Puerto Rico for both short-form credentials and advanced degrees.

Eligible grant activities and costs may include:

- Development of new curriculum or enhancement of existing curriculum.
- Faculty and instructor training.
- Program coordinator(s).
- Equipment and facility rental or acquisition.
- Participant scholarships and support services.
- Program evaluation and data collection.

Grant funding must only be used for activities listed in the Scope of Work. Allowable grant costs must be:

- Necessary, reasonable, and allocable to the award.
- Determined in accordance with generally accepted accounting principles.
- Adequately documented.

5. Work Plan

Under this Section respondents must provide a detailed Work Plan indicating how they plan to execute the Scope of Work and meet the objectives of this NOFA. The PRBP is prioritizing programs that can rapidly scale to meet employer needs and advance Puerto Rico's broadband goals.

As outlined in the Scope of Work, proposals may include one or more of the following workforce programs for broadband technicians, broadband construction, broadband sales and customer service, engineering field support, broadband engineering and planning, and/or broadband regulations:

- Development of short-form credential program
- Expansion/enhancement of existing short-form credential program
- Development of advanced degree program
- Expansion/enhancement of existing advanced degree program

Applicants must submit one Proposal Package, including a maximum of 30 slides in PowerPoint or 20 pages in Word. Additional details can be included as appendix to the proposal.

Respondents should outline the following information as relevant for their proposed programs.

5.1 Program Design

(5-7 slides/pages suggested)

For Short-Form Credential Programs:

- Note if the proposed program is a pilot program or an expansion/enhancement of an existing program.
- Describe the program's purpose, including target participants and how the short-form credential of value will impact the broadband industry in Puerto Rico.
- Provide the program's strategic plan, including key the course sequence.
- Include a detailed timeline of activities, proposed targets, and milestones to evaluate progress toward program goals.
- Describe capacity to develop and execute a short-form credential program, including the Respondent's relevant experience, plans, and ability to engage external partners to deploy such programs.

- Describe Respondent’s experience launching non-degree programs, certifications, short-form credentials, and associate degrees, if any, including the performance results of such programs.
- Share a preliminary plan on (i) engaging internal resources and curriculum for the program and (ii) if necessary, engaging third-party providers for training and curriculum development.
- Share a preliminary plan on what other resources will be needed to launch the program (e.g. instructor training, equipment, training facilities, marketing).
- Quantify current (if applicable) and/or projected (through 2028) metrics with and without this grant:
 1. Capacity (e.g., number of students/employees/trainees per year)
 2. Enrollment, retention, and graduation rates
 3. Tuition costs/pricing structure
- Provide details on the Respondent’s ability for programs to be offered in multiple formats (online, campus, hybrid).
- Describe the approach to ensure the credential program is focused on skills related to broadband target roles (please see Appendix for target role category definitions) and which industry-recognized credentials will be awarded.
- Identify and describe the key project risks/barriers throughout the project timeline.
- Describe possible solutions to address the risks.

For Advanced Degree Programs:

(5-7 slides/pages suggested)

- Note if the proposed program is a pilot program or an expansion/enhancement of an existing program.
- Share list of current advanced degree programs that will be considered for broadband and telecommunications curriculum enhancements.
- Provide details on retention rate and graduation rate for the Respondent’s telecommunication program and/or other relevant programs.
- Provide details on existing career placement services and/or connections to employers.
- Share an initial proposal for degrees and courses to be enhanced to make relevant to the broadband industry.
- Share a preliminary plan on (i) engaging internal resources and curriculum for the program and/or (ii) if necessary, engaging third-party providers for training and curriculum development.
- Share a preliminary plan on what other resources will be needed to launch the program (e.g., instructor training, equipment, training facilities, marketing).
- Quantify current (if applicable) and/or projected (through 2028) metrics with and without this grant:
 1. Capacity (e.g., number of students per year)
 2. Enrollment, retention, and graduation rates
 3. Tuition costs/pricing structure
- Provide details on the Respondent’s ability for programs to be offered in multiple formats (online, campus, hybrid).
- Describe the approach to ensure the program is focused on skills related to broadband target roles (please see Appendix for target role category definitions) and which industry-recognized credentials/degrees will be awarded.
- Identify and describe the key project risks/barriers throughout the project timeline.
- Describe possible solutions to address the risks.

5.2 Joint Development

(2-3 slides/pages suggested)

- Describe how the program will be developed or enhanced using input from industry leaders, other educational institutions or third-party training providers.
- Describe any existing or anticipated partnerships, and explain how they will be used to coordinate, provide services, and ensure that students have access to high-quality employment options after completing the program.

5.3 Cost Efficiency & Efficacy

(2-3 slides/pages suggested)

- Describe where funds will be allocated, including justification of expenses.
- Demonstrate how the program will plan for future sustainability beyond the life of the grant.
- Describe cost to participant, scholarship availability or opportunities for paid work experience.

5.4 Cost to Participants

(2-3 slides/pages suggested)

- Provide details on projected tuition rates/cost to students. If the program will be an expansion/enhancement of an existing program, also provide the current cost to students.
- Describe paid work-based experiences available to the participant, if any.

5.5 Accreditation Process

(2-3 slides/pages suggested)

- Describe the internal accreditation process and its expected timeline.
- Describe the external accreditation process and its expected timeline.

6. Requirements

6.1 Key Requirements

Respondents must meet the following requirements:

- Respondents that are educational institutions based in Puerto Rico shall be properly accredited to provide educational services in Puerto Rico at the time of the submission of their Proposals and comply with all applicable Puerto Rico or U.S. laws and/or requirements.
- Respondent has adequate resources to perform the project, or the ability to obtain them.
- Respondent has a satisfactory record of performance, integrity, and business ethics.
- Respondent has the necessary organization, experience, and technical skills.
- Neither Respondent nor any person or entity associated who is partnering with Respondent has been the subject of any adverse findings that would prevent PRBP from selecting Respondent. Respondents shall provide a listing and brief description of legal actions for the past five years.
- Complete Proposal covering all necessary topics outlined in this NOFA.
- Upload required documents as attachments with response.

6.2 Performance Goals and Measurements

The OMB performance goals are provided as a point of reference for applicants when determining their performance goals for the purposes of this application. Metrics will be measured regularly on an agreed

schedule throughout the period of work. Additional metrics may be determined and required as the project develops.

Metrics include:

- Number of total and / or additional students enrolled.
- Proportion of students enrolled in Registered Apprenticeships or other paid-work experiences.
- Growth in program enrollment over time,
- Cost to students,
- Wrap-around supports provided to students.
- Penetration of underserved student groups (i.e., % of students from low-income backgrounds, racial and regional diversity of student population).
- Number of incumbent workers trained.
- Application and acceptance rates for short-form and/or enhanced advanced degree credential programs.
- Student retention and graduation rates for short-form and/or enhanced advanced degree credential programs.
- Student placement/employment rates following for short-form and/or enhanced advanced degree credential programs.
- Number of partnerships between the grantee and employers.
- Depth of industry alignment and partnership (i.e., number of employers interviewed to confirm alignment to industry demand, number of employers that confirm industry-recognition of short-form credentials).

6.3 Project Term

The period of performance for this grant will be approximately fourteen (14) months, resulting in two cycles of Broadband programs being launched. PRBP will prioritize programs that can be built, prepared, and deployed by the start of the 2024-2025 school year (Summer/Fall 2024). Nonetheless, applications for programs that require a more extended accreditation, projected to launch by the 2025-2026 school year (Summer/Fall 2025), are also welcome. Programs would not be subject to an end date and awarded grant can be used to continuously develop and improve the programs, subject to allowable use of funds and Scope of Work.

6.4 Cost Sharing

There is no required match for this project. However, the applicant is encouraged to leverage other resources to maximize the impact and success of the project.

6.5 Allowable Uses of Funds

The funds awarded in this RFP must be used to assist PRBP program awardees in the activities listed in the Scope of Work.

In general, to be an allowable charge under the grant, a cost must meet the following criteria:

- Be necessary, reasonable, and allocable to the award.
- Be determined in accordance with generally accepted accounting principles.
- Be adequately documented.

If granted an award, respondents may utilize grant funds to:

- Hire program coordinator(s) responsible for supporting program development, aligning with employers and other institutions, marketing, measuring impact, and coordinating with PRBP office.
- Sign contracts with external training providers for faculty training, curriculum development and marketing.
- Make investments in equipment/facilities necessary for learning.
- Increase salary, hire additional faculty/trainers, if necessary.
- Acquire external assistance for launch.
- Administer funds to students in the form of scholarships/tuition reimbursements to increase accessibility and appeal of the programs.

6.6 Payment Terms and Method

Funding will be awarded in two payments the first starts when NOFA is awarded, second at a future mutually agreed date dependent on timely and complete monthly reporting on progress/KPIs and on-track status with outlined workplan).

Payment will be made upon presentation of invoices evidenced by the services provided and duly authorized by the OMB. Invoices must be detailed, specific and itemized accompanied by a description of the services provided as previously approved by the OMB. The OMB reserves the right to review the correctness of invoices and perform the audits, as it deems fit.

7 Proposal Submission

Responses to the NOFA submitted after the prescribed deadline will not be accepted. Proposals must include any exhibits, appendices and/or attachments to be deemed complete. All correspondence, documents and related information submitted by Respondents in connection with this NOFA shall be written in the English. If documents are submitted in a language other than English, a full English translation shall also be provided. All applications must adhere to Proposal Package requirements, use the required format, and include all the requested information. Only one Proposal Package will be accepted from each applicant. A maximum of thirty (30) slides in PowerPoint or twenty (20) pages in Word will be accepted. Applicants have the flexibility to decide how they want to distribute up to thirty (30) slides or twenty (20) pages. All applications must include a certification and signature that all the information submitted in the Proposal is true and accurate. Clearly identify one designated contact person for the Proposal engagement.

Respondents should submit their responses to the smartisland.pr.gov website, including the following:

- Proposal package as described above, as uploaded attachment.
- A detailed project plan, including timelines and milestones.
- A cost breakdown that includes projected expenses within the eligible expenses (see section below).
- Additional supporting documentation added to the proposal as uploaded attachments.

7.1 Registration for Technical Assistance

To be considered a Registered Proponent and receive technical assistance on a proposal, the Proponent must email info@smartisland.pr.gov by April 29 at 4:30pm **sharing**:

- name of the institution
- name of the person responsible
- email and phone number for contact
- In the subject line add “Outreach Partner NOFA | Interest from [name of your organization]”.

Please note that each Registered Proponent agrees to and shall be bound by all the terms and conditions of this NOFA.

Respondents that do not register by the deadline are still permitted to participate in the NOFA but will not receive technical assistance during the process.

7.2 Questions & Answers

Any questions regarding this NOFA or the evaluation shall be submitted in writing via electronic mail only to the following address: FAQ@smartisland.pr.gov and must reference this specific NOFA in the subject line of the email. No telephone inquiries will be accepted. Answers will be posted on PRBP’s website at <https://www.smartisland.pr.gov>. All information posted on PRBP’s website is deemed incorporated into this NOFA.

Questions must be submitted by May 6, 2024 at 4.30 pm; answers will be provided by May 13, 2024 at 4.30 pm. The Government Agencies reserve the right to extend this deadline based on the volume and timing of questions.

8 Response Evaluation

Responses to this NOFA will be evaluated based on the following criteria:

- Compliance with the requirements outlined in this NOFA.
- Ability to launch and increase accessibility and attractiveness of short-form / relevant advanced degree programs in broadband.
- Ability to engage with employers and other stakeholders to create industry-relevant curriculum and other trainings.

The Government Agencies will examine all Proposals in a proper and timely manner to determine if they meet the proposal submission requirements. The final evaluation and selection will be based upon the criteria listed below:

Maximum points	Category	Description
40	Program Design	Relevance of new program / program enhancements to employers and/or students, applicant’s track record of instituting innovative program design. Accessibility of proposed programs to various student groups and inclusion of wrap-around services
30	Joint Development	Joint development with stakeholders, including but not limited to industry leaders, other educational institutions, third-party training providers

20	Cost-Efficiency and Efficacy	Program is cost effective and can be completed in a reasonable time. Evaluates leadership commitment/engagement, the ability to sustain program over time, and the ability to continue scaling.
10	Cost to Participant	Program is free or low-cost for students. Programs with paid work experience prioritized.

9 Selection Process

A committee of OMB and DDEC staff and/or consultants will review the proposals and evaluate them based on the aforementioned criteria. The OMB and DEEC staff and/or consultants reserve the right to request additional information from Respondents on an as-needed basis during the evaluation process. Following this, the OMB may enter negotiations with the Respondent to expand or contract the scope of work and adjust the grant amount accordingly.

10 Timeline: Important Dates & Deadlines

The following is the proposed timeline for this project:

Target Date	Event
April 19, 2024	Publication of NOFA
April 29, 2024	Registration Deadline Technical assistance will be provided to all Proposer's who register as potential applicants to this NOFA by the deadline.
May 6, 2024	Questions & Answers Submission Deadline
May 13, 2024	Submission of PRBP Responses to Questions
May 31, 2024	Proposal Submission Deadline
Jun 14, 2024	Notice of Award Expected
August 12, 2024	Programs expected to launch for the 2024/2025 academic year

Please note that each deadline above is set by end-of-day at 4:30 pm (local Puerto Rico time).

Please note that the NOFA timeline includes target dates and may change subject to the sole discretion of PRBP. It is the responsibility of Respondents to periodically review PRBP's website for regular updates to the NOFA timeline and other important information.

11 Appendix

Pathway 1 | Broadband construction

Civil construction laborer (incl. electrical)

1. Must have degrees
 - N/A

2. Required hard skills (for roles including but not limited to Maintenance/field technician, Cable installer, Fiber splicer, Tower climber, Fixed wireless technician):
 - Construction knowledge
 - Heavy equipment operations
 - Excavation
 - Installation and repair
3. Bonus hard skills and certificates (usually taught on-the-job):
 - OSHA 10

Expected industry demand of 160-240 for the next 5 years.

Construction Manager

1. Must have degrees
 - N/A
2. Required hard skills (for roles including but not limited to Maintenance/field technician, Cable installer, Fiber splicer, Tower climber, Fixed wireless technician):
 - Construction knowledge
3. Bonus hard skills and certificates (usually taught on-the-job):
 - OSHA 10

Expected industry demand of 50-75 for the next 5 years.

Other: Welder, Concrete Finisher, etc.

1. Must have degrees
 - N/A
2. Required hard skills (for roles including but not limited to Maintenance/field technician, Cable installer, Fiber splicer, Tower climber, Fixed wireless technician):
 - Specific tools operation
 - Concrete/Paving knowledge
 - Fabrication
3. Bonus hard skills and certificates (usually taught on-the-job):
 - OSHA 10

Expected industry demand of 65-95 for the next 5 years.

Machinery Operator

1. Must have degrees
 - N/A
2. Required hard skills (for roles including but not limited to Maintenance/field technician, Cable installer, Fiber splicer, Tower climber, Fixed wireless technician):
 - Construction knowledge
 - Specific tools operation
 - Excavation
 - Concrete/Paving knowledge
3. Bonus hard skills and certificates (usually taught on-the-job):
 - Internal specific training
 - Bobcat
 - Category 9 License
 - OSHA 10

Expected industry demand of 145-220 for the next 5 years.

Pathway 2 | Broadband sales & customer service

Customer Service Representative

1. Must have degrees
 - N/A
2. Required hard skills (for roles including but not limited to Maintenance/field technician, Cable installer, Fiber splicer, Tower climber, Fixed wireless technician):
 - Telecommunications infrastructure
 - Customer Service/Communication
3. Bonus hard skills and certificates (usually taught on-the-job):
 - N/A

Expected industry demand of 375-560 for the next 5 years.

Pathway 3 | Engineering field support

Land Surveyor

1. Must have degrees
 - N/A
2. Required hard skills (for roles including but not limited to Maintenance/field technician, Cable installer, Fiber splicer, Tower climber, Fixed wireless technician):
 - Telecommunications infrastructure
3. Bonus hard skills and certificates (usually taught on-the-job):
 - N/A

Expected industry demand of 5-10 for the next 5 years.

GIS Specialist

1. Must have degrees
 - N/A
2. Required hard skills (for roles including but not limited to Maintenance/field technician, Cable installer, Fiber splicer, Tower climber, Fixed wireless technician):
 - Telecommunications infrastructure
 - Customer Service/Communication
3. Bonus hard skills and certificates (usually taught on-the-job):
 - GIS software

Expected industry demand of 5-10 for the next 5 years.

Pathway 4 | Broadband technicians' requirements

Maintenance/Field Technician

1. Must have degrees
 - N/A
2. Required hard skills (for roles including but not limited to Maintenance/field technician, Cable installer, Fiber splicer, Tower climber, Fixed wireless technician):
 - Fiber Optics and Broadband
 - Telecommunications infrastructure
 - Equipment testing
 - Fiber optic installation and maintenance
 - Quality control
 - Customer Service/Communication

3. Bonus hard skills and certificates (usually taught on-the-job):
 - OSHA

Expected industry demand of 430-645 for the next 5 years.

Tower Climber

1. Must have degrees
 - N/A
2. Required hard skills (for roles including but not limited to Maintenance/field technician, Cable installer, Fiber splicer, Tower climber, Fixed wireless technician):
 - Fiber Optics and Broadband
 - Telecommunications infrastructure
 - Equipment testing
 - Fiber optic installation and maintenance
 - Antenna Installation and maintenance
 - Safety practices
3. Bonus hard skills and certificates (usually taught on-the-job):
 - OSHA
 - Tower Climber/Elevating Aerial
 - CPR

Expected industry demand of 65-100 for the next 5 years.
Potentially needs other certifications required by regulations

Installers

1. Must have degrees
 - N/A
2. Required hard skills (for roles including but not limited to Maintenance/field technician, Cable installer, Fiber splicer, Tower climber, Fixed wireless technician):
 - Fiber Optics and Broadband
 - Telecommunications infrastructure
 - Circuiting design/Cabling
 - Splicing
 - Equipment testing
 - Fiber optic installation and maintenance
 - Customer Service/Communication
3. Bonus hard skills and certificates (usually taught on-the-job):

- OSHA
- Tower Climber/Elevating Aerial
- CPR

Expected industry demand of 135-200 for the next 5 years.

Fiber Splicer

1. Must have degrees
 - N/A
2. Required hard skills (for roles including but not limited to Maintenance/field technician, Cable installer, Fiber splicer, Tower climber, Fixed wireless technician):
 - Fiber Optics and Broadband
 - Telecommunications infrastructure
 - Electric systems
 - Circuiting design/Cabling
 - Safety practices
 - Customer Service/Communication
3. Bonus hard skills and certificates (usually taught on-the-job):
 - OSHA
 - Tower Climber/Elevating Aerial
 - CPR
 - Splicing Certificate

Expected industry demand of 125-185 for the next 5 years.

Fixed Wireless Technician

1. Must have degrees
 - N/A
2. Required hard skills (for roles including but not limited to Maintenance/field technician, Cable installer, Fiber splicer, Tower climber, Fixed wireless technician):
 - Fiber Optics and Broadband
 - Telecommunications infrastructure
 - Circuiting design/Cabling
 - Splicing
 - Equipment testing
 - Customer Service/Communication
3. Bonus hard skills and certificates (usually taught on-the-job):

- Cisco network certificate

Expected industry demand of 60-90 for the next 5 years.

Pathway 5| Broadband engineering & planning

Project Manager

1. Must have degrees
 - Bachelor Degree
 - Engineering Degree
2. Required hard skills (for roles including but not limited to Maintenance/field technician, Cable installer, Fiber splicer, Tower climber, Fixed wireless technician):
 - Telecommunications infrastructure
 - Auditing
 - Software tools
 - MS Office
3. Bonus hard skills and certificates (usually taught on-the-job):
 - Project Manager Certificate
 - CRM (Customer relationship management)

Expected industry demand of 20-30 for the next 5 years.

Civil Engineer

1. Must have degrees
 - Bachelor Degree
 - Engineering Degree
2. Required hard skills (for roles including but not limited to Maintenance/field technician, Cable installer, Fiber splicer, Tower climber, Fixed wireless technician):
 - Construction Knowledge
 - Telecommunications infrastructure
 - MS Office
3. Bonus hard skills and certificates (usually taught on-the-job):
 - N/A

Expected industry demand of 35-50 for the next 5 years.

Design Engineer

1. Must have degrees
 - Bachelor Degree
 - Engineering Degree
 - Electrical Engineer Degree
2. Required hard skills (for roles including but not limited to Maintenance/field technician, Cable installer, Fiber splicer, Tower climber, Fixed wireless technician):
 - Construction Knowledge
 - Telecommunications infrastructure
 - Best Safety practices
 - Cabling/Circuiting
 - RF/microwave communications systems
3. Bonus hard skills and certificates (usually taught on-the-job):
 - CRM (Customer relationship management)

Expected industry demand of 20-30 for the next 5 years.

OSP Engineer

1. Must have degrees
 - Bachelor Degree
 - Engineering Degree
 - Electrical Engineer Degree
 - Mechanical Engineer Degree
2. Required hard skills (for roles including but not limited to Maintenance/field technician, Cable installer, Fiber splicer, Tower climber, Fixed wireless technician):
 - Construction Knowledge
 - Telecommunications infrastructure
 - Administrative skills
3. Bonus hard skills and certificates (usually taught on-the-job):
 - N/A

Expected industry demand of 45-70 for the next 5 years.

RF Engineer

1. Must have degrees

- Bachelor Degree
 - Engineering Degree
 - Computer Science Degree
2. Required hard skills (for roles including but not limited to Maintenance/field technician, Cable installer, Fiber splicer, Tower climber, Fixed wireless technician):
 - Telecommunications infrastructure
 - Cabling/Circuiting
 - RF/microwave communications systems
 - Test and Verification
 - Design
 3. Bonus hard skills and certificates (usually taught on-the-job):
 - CRM (Customer relationship management)

Expected industry demand of 55-85 for the next 5 years.

Network Architect\ planner

1. Must have degrees
 - Bachelor Degree
 - Computer Science Degree
2. Required hard skills (for roles including but not limited to Maintenance/field technician, Cable installer, Fiber splicer, Tower climber, Fixed wireless technician):
 - Telecommunications infrastructure
3. Bonus hard skills and certificates (usually taught on-the-job):
 - Cisco Certificate
 - CRM (Customer relationship management)

Expected industry demand of 15-20 for the next 5 years.

Procurement Lead

1. Must have degrees
 - Bachelor Degree
2. Required hard skills (for roles including but not limited to Maintenance/field technician, Cable installer, Fiber splicer, Tower climber, Fixed wireless technician):
 - Telecommunications infrastructure
 - MS Office

3. Bonus hard skills and certificates (usually taught on-the-job):
 - N/A

Expected industry demand of 10-15 for the next 5 years.

Safety Lead

1. Must have degrees
 - Bachelor Degree
2. Required hard skills (for roles including but not limited to Maintenance/field technician, Cable installer, Fiber splicer, Tower climber, Fixed wireless technician):
 - Telecommunications infrastructure
3. Bonus hard skills and certificates (usually taught on-the-job):
 - OSHA

Expected industry demand of 15-25 for the next 5 years.

Quality Inspector

1. Must have degrees
 - Bachelor Degree
 - Computer Science Degree
2. Required hard skills (for roles including but not limited to Maintenance/field technician, Cable installer, Fiber splicer, Tower climber, Fixed wireless technician):
 - Telecommunications infrastructure
 - Customer Service/Communication
3. Bonus hard skills and certificates (usually taught on-the-job):
 - CPR

Expected industry demand of 35-55 for the next 5 years.

5G Microcell technician

1. Must have degrees
 - Bachelor Degree
2. Required hard skills (for roles including but not limited to Maintenance/field technician, Cable installer, Fiber splicer, Tower climber, Fixed wireless technician):

- Fiber Optics and Broadband
 - Telecommunications infrastructure
 - Cabling/Circuiting
 - Splicing
 - Test and Verification
 - Customer Service/Communication
3. Bonus hard skills and certificates (usually taught on-the-job):
- Cisco Certificate

Expected industry demand of 60-90 for the next 5 years.

Pathway 6| Broadband regulations

Permitting Specialist

1. Must have degrees
 - Bachelor Degree
 - Engineering Degree
2. Required hard skills (for roles including but not limited to Maintenance/field technician, Cable installer, Fiber splicer, Tower climber, Fixed wireless technician):
 - Telecommunications infrastructure
 - RF/microwave communications systems
3. Bonus hard skills and certificates (usually taught on-the-job):
 - Internal specific training
 - CRM (Customer relationship management)

Expected industry demand of 15-20 for the next 5 years.

Grant Manager

1. Must have degrees
 - Bachelor Degree
 - Engineering Degree
2. Required hard skills (for roles including but not limited to Maintenance/field technician, Cable installer, Fiber splicer, Tower climber, Fixed wireless technician):
 - Construction Knowledge
 - Administrative skills

3. Bonus hard skills and certificates (usually taught on-the-job):
 - N/A

Expected industry demand of 10-15 for the next 5 years.

Compliance Officer

1. Must have degrees
 - Bachelor Degree
 - Law Degree
2. Required hard skills (for roles including but not limited to Maintenance/field technician, Cable installer, Fiber splicer, Tower climber, Fixed wireless technician):
 - HIM
 - Cybersecurity
3. Bonus hard skills and certificates (usually taught on-the-job):
 - Internal specific training
 - RHIA
 - CRM (Customer relationship management)

Expected industry demand of 5-10 for the next 5 years.

Needed soft skills across all roles

- Flexibility
- Critical Thinking
- Detail oriented
- Problem Solving
- Team working