



NAVAJO NATION Empowering Navajo Communities with High-Speed Connections





The Navajo Nation **DR. BUU NYGREN** *PRESIDENT*
Yideeskáądi Nitsáhákees **RICHELLE MONTOYA** *VICE PRESIDENT*

BROADBAND OFFICE
Office of the President and Vice President

Navajo Nation Broadband Deployment & Adoption

Date: Friday, July 12, 2024
Time: 8:00 AM – 4:00 PM Mountain Standard Time (Phoenix Time)
9:00 AM – 5:00 PM Mountain Daylight Time (Navajo Nation Time)
Location: Gila River Telecommunications Inc. – Conference Room
7065 W Allison Rd # 5015, Chandler, AZ 85226

AM Session Agenda

AM AGENDA (Draft - Subject to change)

8:00 – 8:15 AM	- Intro/Overview - OPVP Remarks - NNC Remarks	Sonia Nez , NNBO Dept. Manager TBD TBD
8:15 – 9:00 am	<i>Update Only</i> - Navajo Nation Broadband Deployment Plan - ERate Program Update	Navajo Nation Digital Equity Initiative Team Sonia Nez, Maddy Kee, Budweena Harrison, Bernardo Portilla, Brian Gilbert, Teresa Hopkins
9:00 – 9:30 am	Ramah, NM Fiber project - ARPA	Margaret Merrill , CEO – Oso Internet Solutions, Inc.
9:30 – 10:00 am	NTIA projects - \$50.8M	Brian Thomason , Deputy General Manager David Greer , Manager Communication Systems Division, NTUA
10:00 – 10:15 am	Break	
10:15 am – 10:30 am	NTIA Dilkon project - \$33M	Teresa Hopkins , DEI
10:30 am – 11:00 am	Digital Equity Hands-On Session	Erin Lorandos , Digital Equity Program Manager Kelly Kruse , Broadband Community Engagement Manager Arizona Commerce Authority
11:00 – 12:00 pm	- Utah, New Mexico, Arizona Update - Navajo County Update	Rebecca Dilg , Director, Utah Broadband Center Drew Lovelace , Acting Director, NM OBAE Sandip Bhowmick , Broadband Director, Arizona Commerce Authority Supervisor Lena Fowler
12:00 pm – 1:00 pm	Lunch provided	
	Next Meeting	September 12, 2024

PM Session Agenda

PM AGENDA

SERVICE PROVIDERS Work Session

1:00 – 2:30 PM	Telecom & Broadband Regulations	NNLD – NNBO - NNTRC - DEI
2:30 – 2:45 PM	Break	
2:45 pm – 4:00 PM	Telecom & Broadband Regulations	NNLD – NNBO - NNTRC - DEI

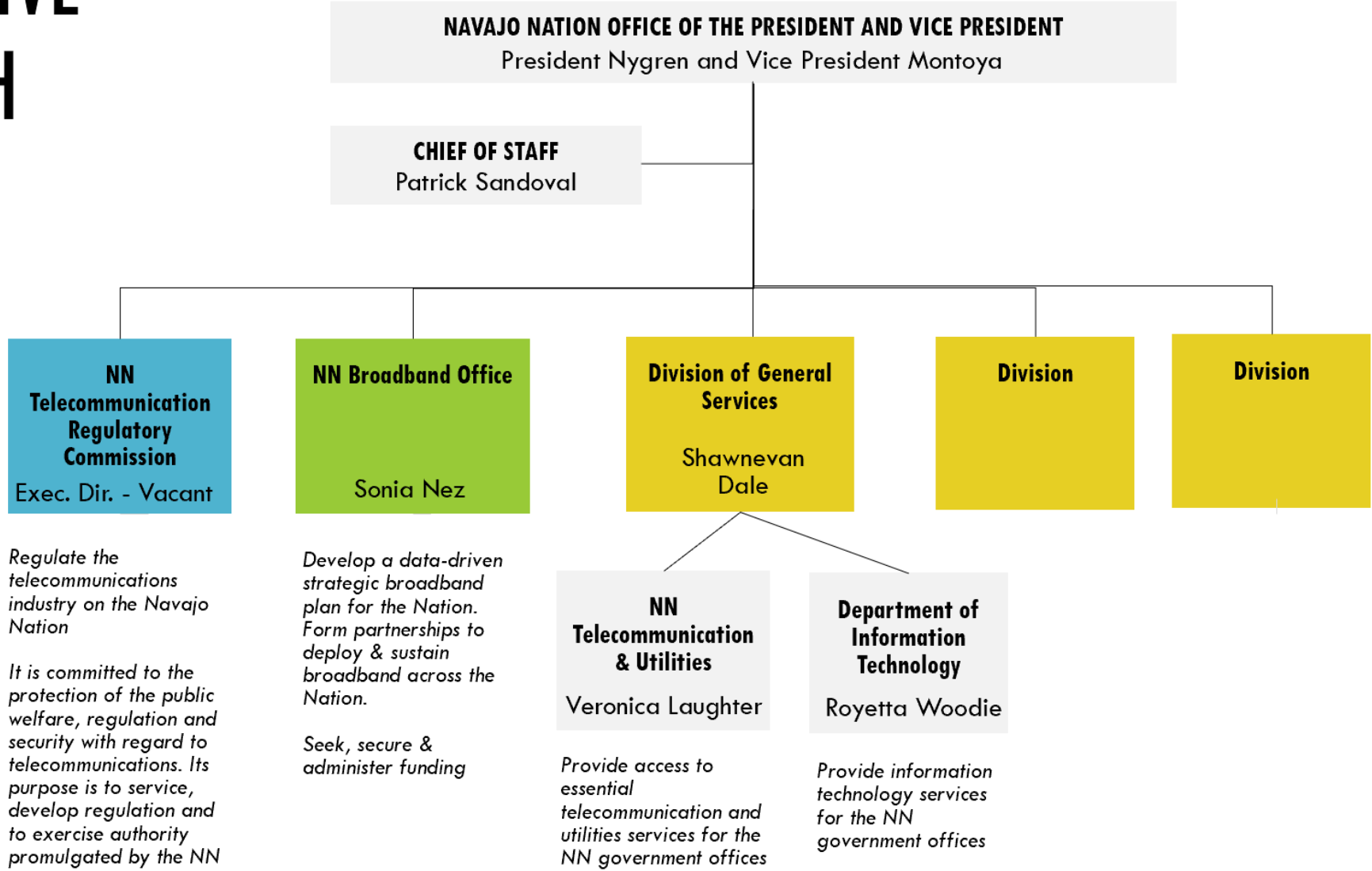
OPVP Chief of Staff Patrick Sandoval



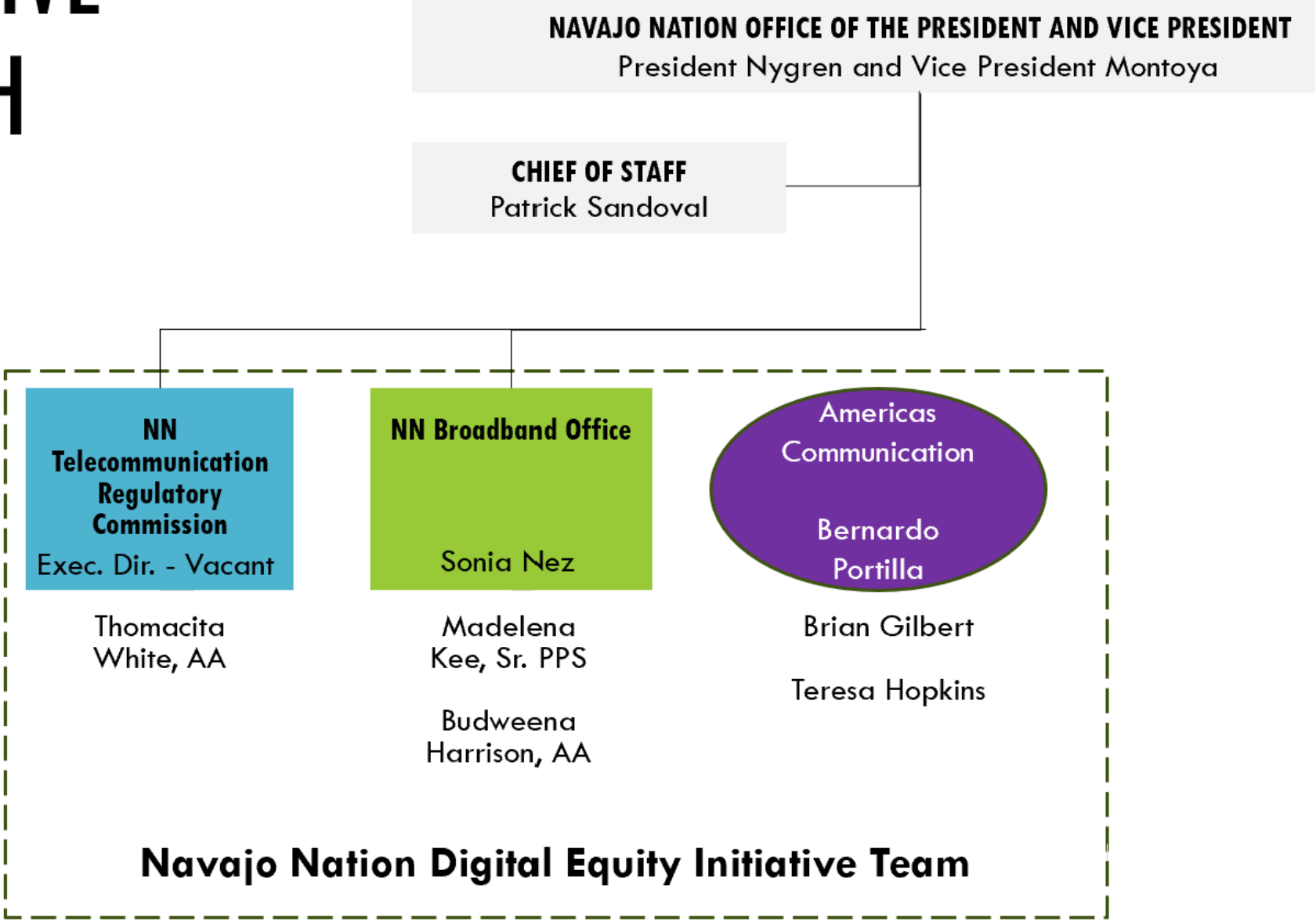
Honorable Delegate Carl Roessel Slater



EXECUTIVE BRANCH



EXECUTIVE BRANCH



www.broadband.navajo-nsn.gov



HOME CONTACTS

Empowering Navajo Communities with high-speed connections

NAVAJO NATION BROADBAND OFFICE

The Navajo Nation Broadband Office (NNBBO) was established to provide the Navajo Nation Residents with access to affordable high-speed broadband connectivity by developing a comprehensive strategic broadband plan for the Navajo Nation and working with the Navajo Nation and outside vendors to achieve broadband initiatives. The Navajo Nation's Telecommunication Regulatory Commission will assist the NNBBO with the development of proposed laws, regulations, policies, and procedures that will govern how the Office will manage and oversee current and future broadband infrastructure projects that will facilitate the Navajo Nation's control over its broadband goals. The NNBBO will represent the Navajo Nation government's best interests in negotiating with developers seeking to provide broadband services in the Navajo Nation by; centralizing and streamlining the planning, actively seeking funding, serving as the sole conduit of information regarding funds for broadband infrastructure projects in the Navajo Nation: including but not limited to maps, access points, connection speeds, rights-of-way, and lease and connection rates for all existing and future broadband infrastructure projects in the Navajo Nation. The NNBBO may serve as a co-designee on grants for the development of broadband infrastructure projects on the Navajo Nation by entities within, owned, and/or controlled by the Navajo Nation government.

Source: [Navajo Nation Council Resolution RDCD-33-22](#)

- Contact Us
- Broadband Request Form
- Presentations
- Reports
- Upcoming Events
- News

Navajo Nation Council Resolution RDCD-33-22

Is NNBO an ISP?

- The Navajo Nation Broadband Office (NNBBO) was established to provide the Navajo Nation Residents with access to affordable high-speed broadband connectivity by developing a comprehensive strategic broadband plan for the Navajo Nation and working with the Navajo Nation and outside vendors to achieve broadband initiatives.

3 Parts of Digital Equity

INTERNET ACCESS



Do you have connection
to the internet?

DEVICES



What will you use to
connect to the internet?

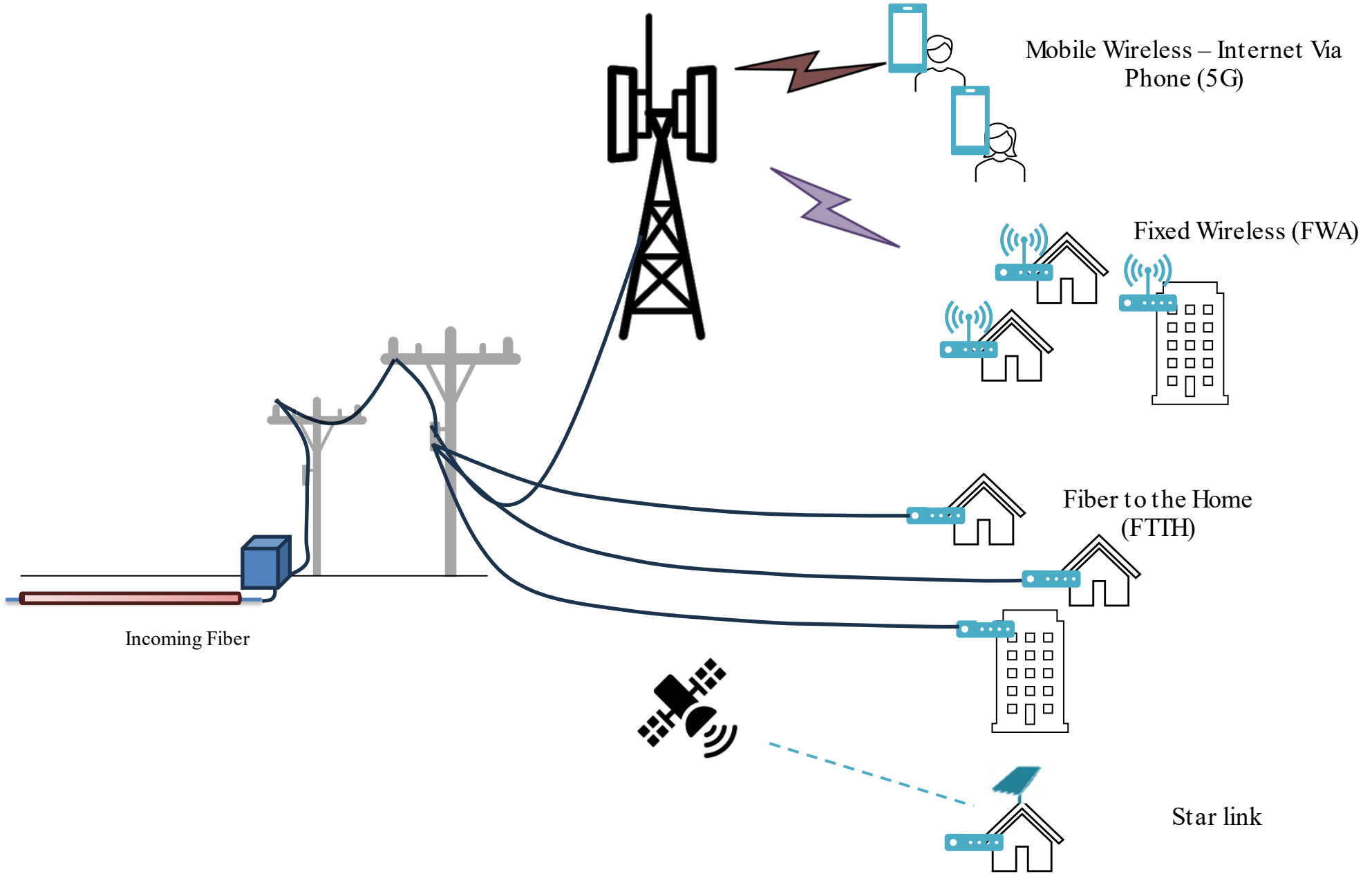
DIGITAL SKILLS



What kind of digital
skills do you need?

MIDDLE MILE

LAST MILE



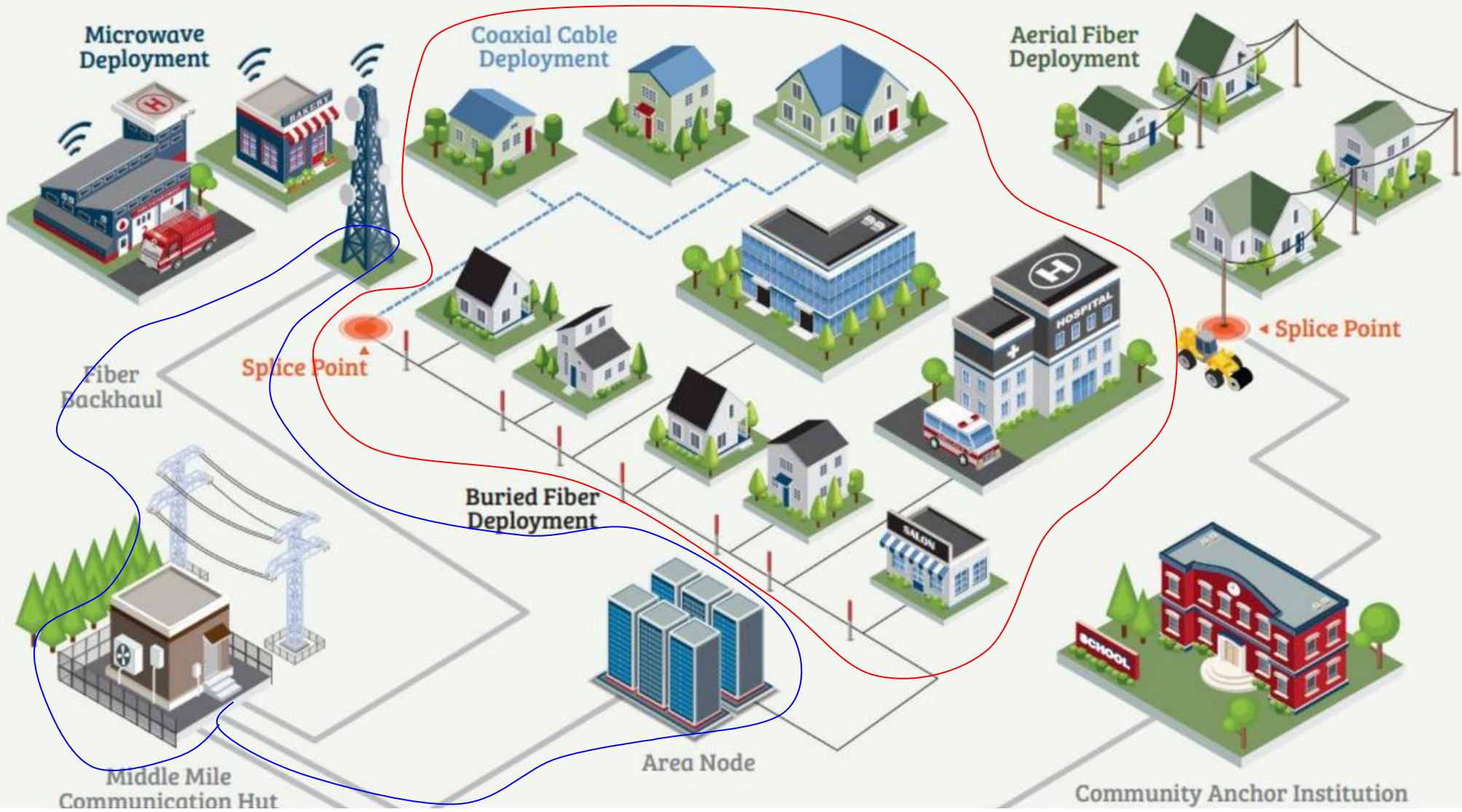
Mobile Wireless – Internet Via Phone (5G)

Fixed Wireless (FWA)

Fiber to the Home (FTTH)

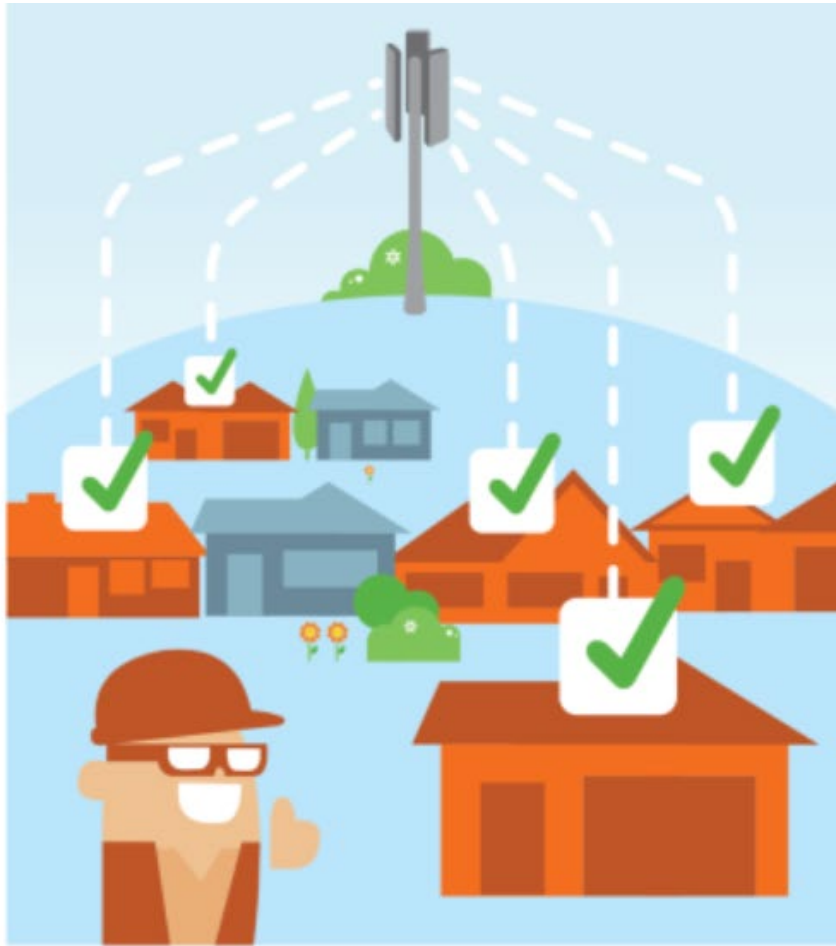
Incoming Fiber

Star link



Broadband

Last Mile
 Middle Mile
 Backbone Core Internet



Fixed Wireless

Single type of device with a fixed number of connections operating at a fixed cell boundary



Mobile Wireless

Variable numbers and types of devices, operating at variable cell boundaries

E-Rate: Universal Service Program for Schools and Libraries

The FCC's E-Rate program makes telecommunications and information services more affordable for schools and libraries.

Fiber Construction cost: FCC pays for 90-95%. State or Nation pays 5%.
If the Total Cost is \$100: 95% = \$95 5% = \$5

Monthly Recurring Cost: FCC pays for 90% and Nation/Chapter/Head Start pays 10%
If the total cost is \$20: 90% = \$18 10% = \$2

Total Chapters	110	
Chapter Libraries Awarded	89	
Chapter - Libraries Fiber Installed	44	49%
Chapter - Libraries Training Completed	35	39%
HS Awarded	57	
HS - Fiber Installed	22	39%

NAVAJO NATION DIGITAL EQUITY INITIATIVE

Ensure digital equity and foster economic opportunities for Navajo People to be equal or better to National Standard
NN OPVP



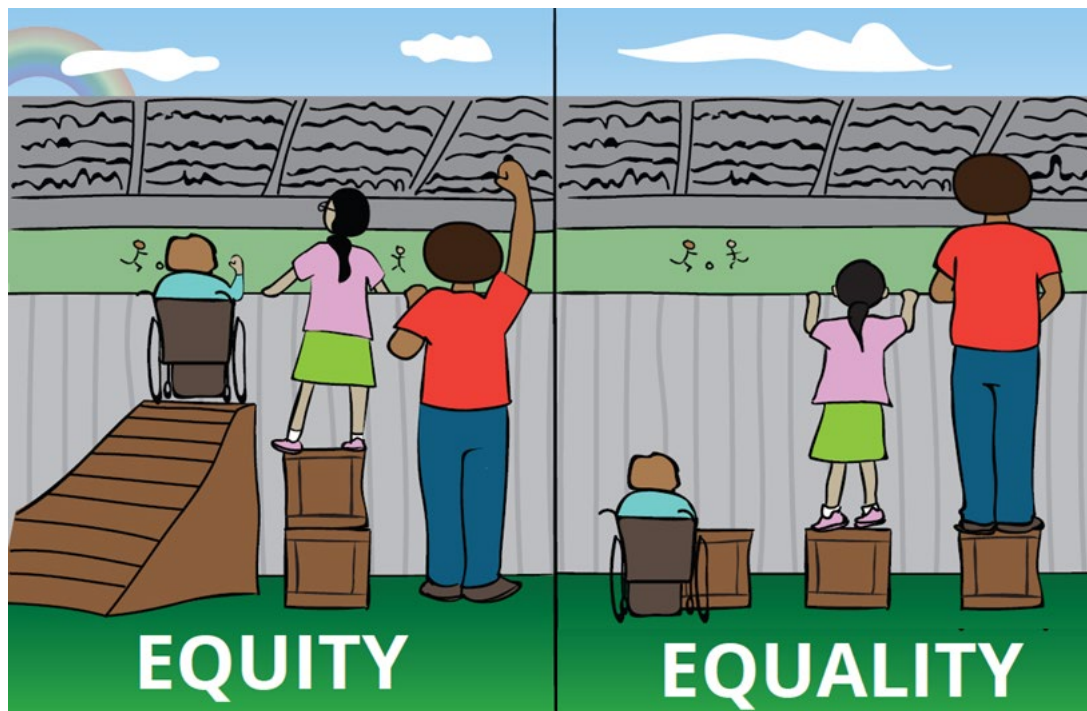
5G available for most of the populated areas

o Close the 10 year gap seen in Navajo People

Establish the necessary infrastructure to support next generation services and bring current offerings to the Nation

o Populated areas, main corridors, cultural and touristic places with access to fiber and/or ultra high-speed wireless by 2030

Equity vs Equality



Strategic Allocation of Resources.

Funding has been planned based on a strategic allocation of resources. The data-driven approach employs engineering principles to determine the optimal deployment of infrastructure, aiming to maximize the impact of funding. This method prioritizes efficiency and effectiveness over equal distribution of funds.

Navajo Nation – Telecommunications Operational Plan 2030

1. Immediate Action Plan – (Current)

- Streamline pending broadband projects by expeditiously utilizing remaining ARPANTIA and other funded projects
- Develop a comprehensive Broadband Expansion and Development (BEAD) plan across AZ, NM and UT
- Strengthen ties with the telecom and broadband industry and relevant NN entities
- Positioning NNTRC and NNBO
- Optimize or Completely Modify new site development and Collocation process.

2. Strategic Digital Equity Plan- 2024

- Comprehensive planning effort to formulate a strategic broadband plan guiding future allocations and RFPs
- Establish an agreement and conditions between the Office of the President and Vice President (OPVP) and the industry for proper 5G implementation in NN.
- Understand the current status of key programs such cybersecurity, 911 and NIG911, and an open access fiber Right of Way (ROW) program and outline future implementation

3. Economic Development 2025/2026

- Align tribal government programs to cultivate a modern telecom market, providing competitive choices and pricing for the Navajo public.
- Explore opportunities for acquisition, restructuring, and establishment of tribal government companies to support telecom infrastructure development, job creation, and service provision for Navajo people.
- Foster collaboration with educational institutes, training offices, tribal programs, and local/regional entities (public and private) to engage in technology related initiatives, enhancing lives and creating strategies and skills training opportunities to apply initially within and outside the Navajo Nation.

Main Projects In Navajo Nation

ERate Projects

Connect America Fund (CAF I and II)

NMPRC

Community Connect Grant

NTIA – Navajo Nation Grant – \$50.8M

- NTUA, SW, SBI, Choice Wireless
- Fiber, Electronics, Towers, FWA, LTE Adds, Connectivity

NTIA – Dilcon Chapter – \$33.2M

- FWA(towers, fiber, MW, Internet Service)

Defunded Cares

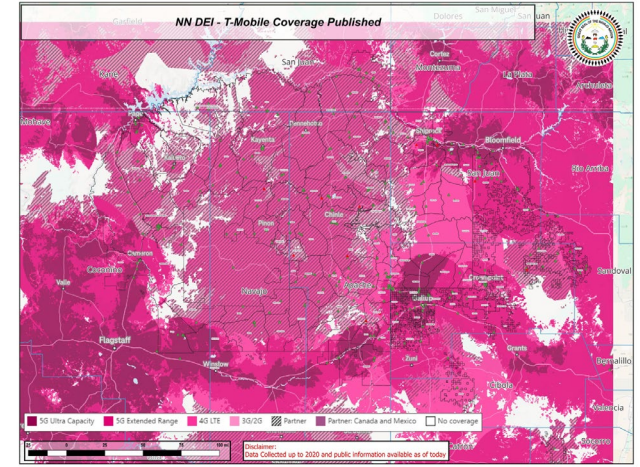
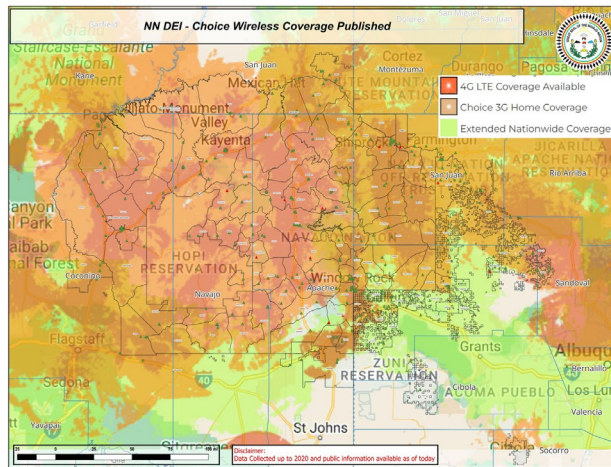
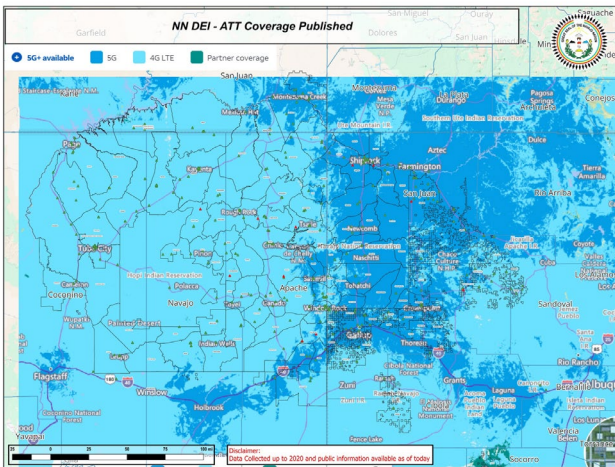
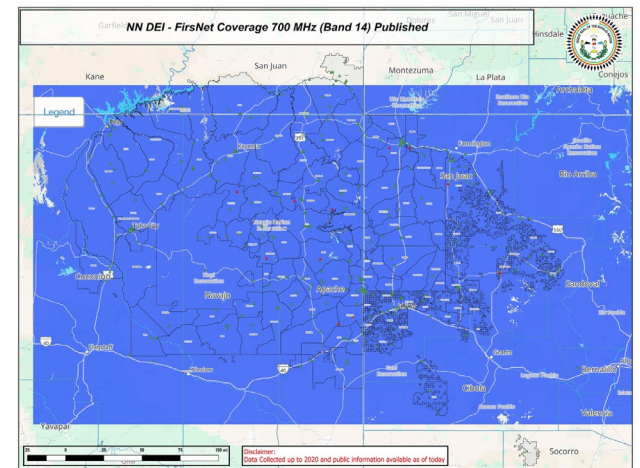
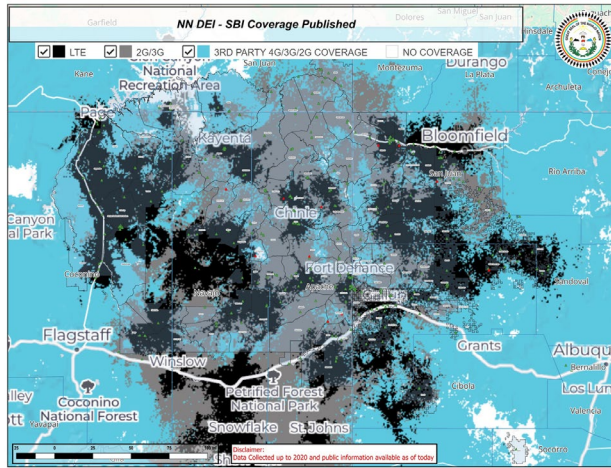
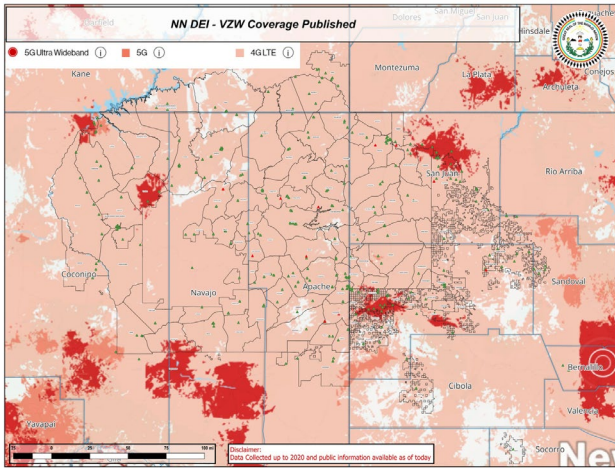
The Rural Digital Opportunity Fund (RDOF)

Connect NM (Wave 1,2,3)

Wireless Mobile Services in Navajo Nation @ 2024

Information taken from Service Provider Webpage
Published Coverage

NAVAJO NATION MOBILE SERVICE



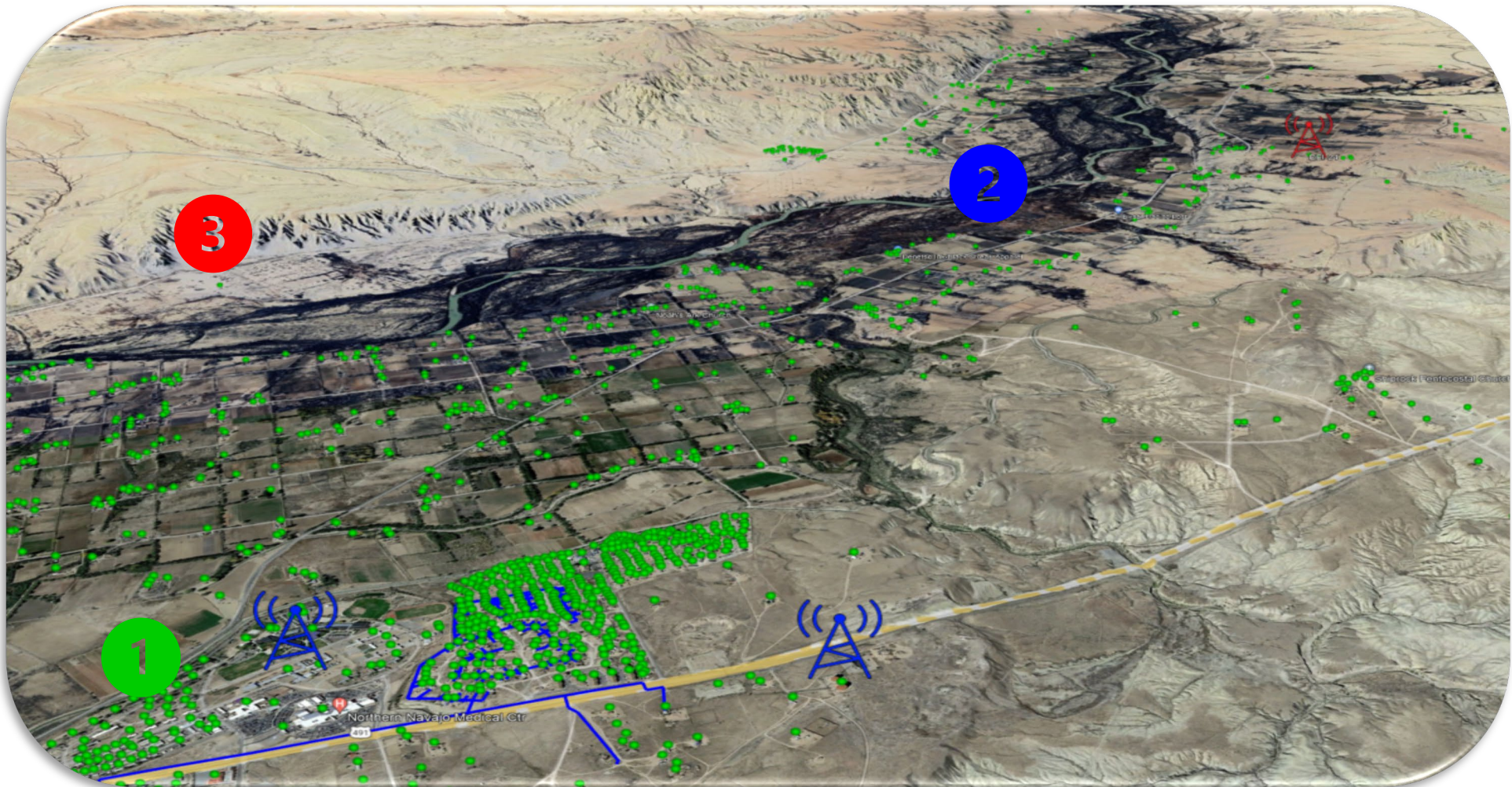
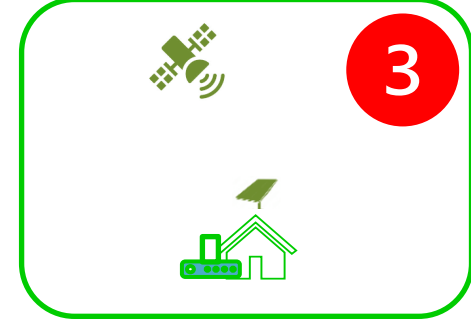
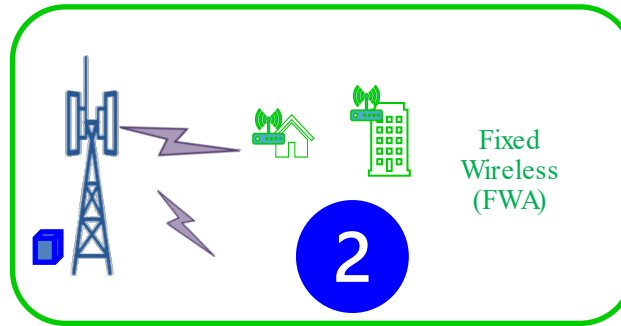
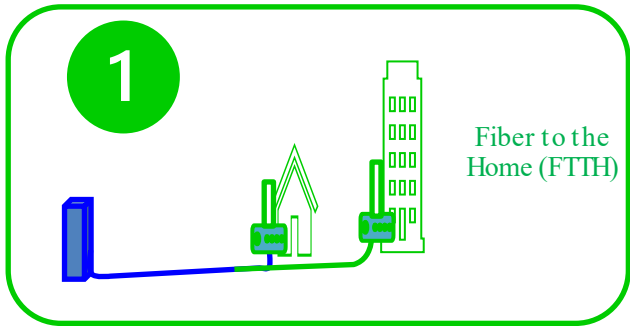
NN Broadband Office Development Plan

Actions:

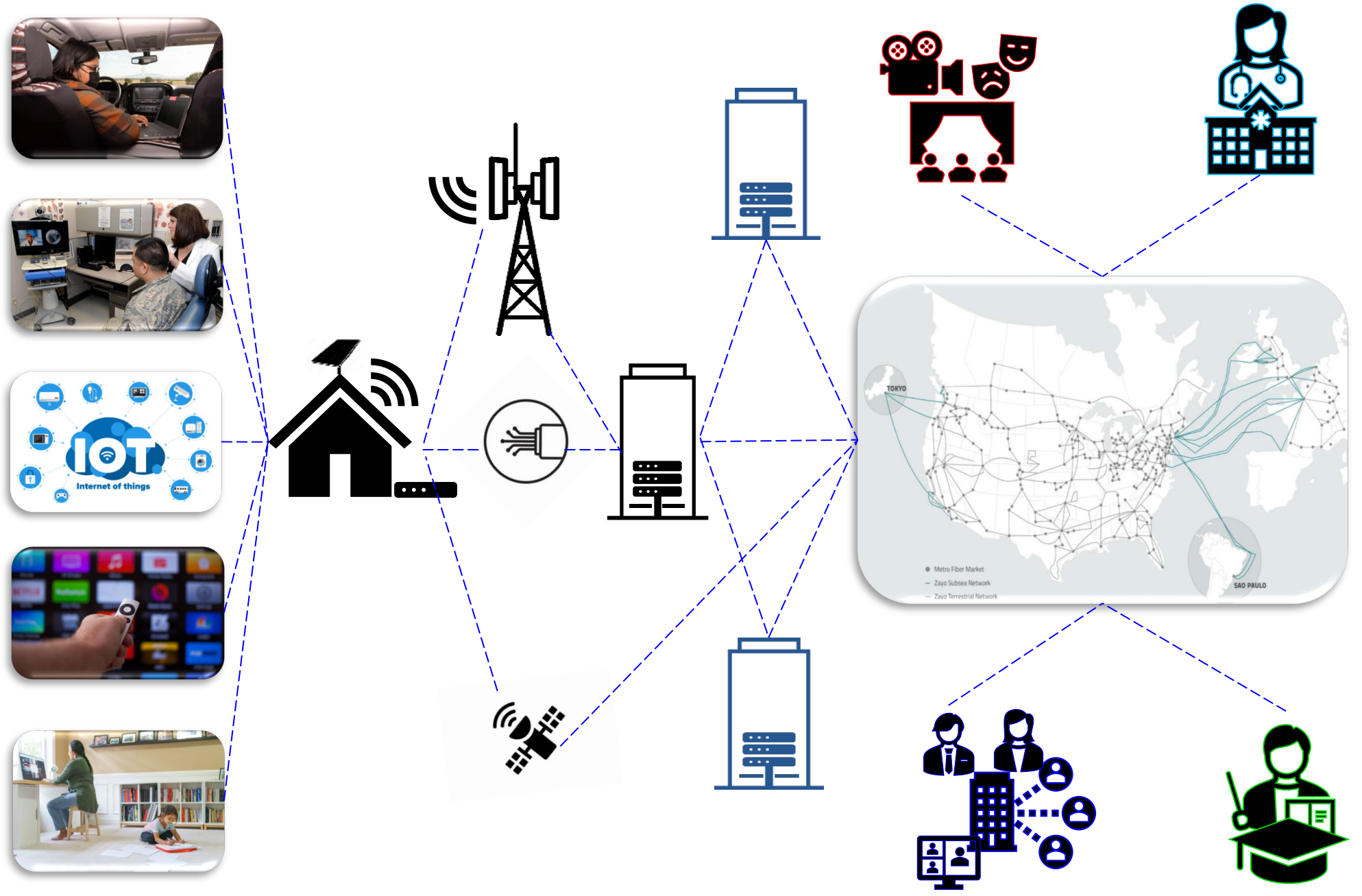
- ARPA funding converted to General Funding
- BEAD preparation
- Navajo Ownership of towers and fiber
- RFP for Towers and Fiber
- Navajo Broadband Support for the Digital Equity Initiative
- Adoption of Policy or another regulatory figure to expedite deployment
- Telecommunications Regulations in progress for Wireless and Fiber
 - Following Public Notification Process
- Searching to fully fund infrastructure for middle mile to support BEAD and 5G



Broadband Equity Access and Deployment Program BEAD



How BEAD will Connect Navajo



Broadband Equity Access and Deployment Program BEAD Summary NN

Items	AZ	NM	UT
State Funding:	\$993M	\$675M	\$317
NNHouseHolds	31.2K	25.6K	2.3K
Service Areas:	AZ single area	Delegate Areas	TBD after run 1 of applications
Objective:	Cover Unserved and Underserved (less than 100/20)		
*Tech Requirement:	100/20mbps	100/20mbps	100/20mbps
Current Status:	Rebuttal Process	Rebuttal Process	Rebuttal Process
Tribal Consent Must	Y	Y	Y

*

- Speed 100 Mbps DL/20 Mbps UL.
- 95% of latency measurements =< 100 milliseconds

RTS

Navajo Nation High Level Plan – NNBO/ NN DEI

Time Lapse

- Release for Public Review May 2024
- Expected Release as RFP by July 2024
- Encumbering on Funds by Dec 2024

Objectives

- Lay groundwork for 5G
- Prioritize middle mile infrastructure.
- Tower infrastructure in underserved areas
- Fiber to wireless structures and Chapter Houses.
- Foundation for BEAD
- Allocate funding for Government Efforts

Budget – NNBO/ NN DEI

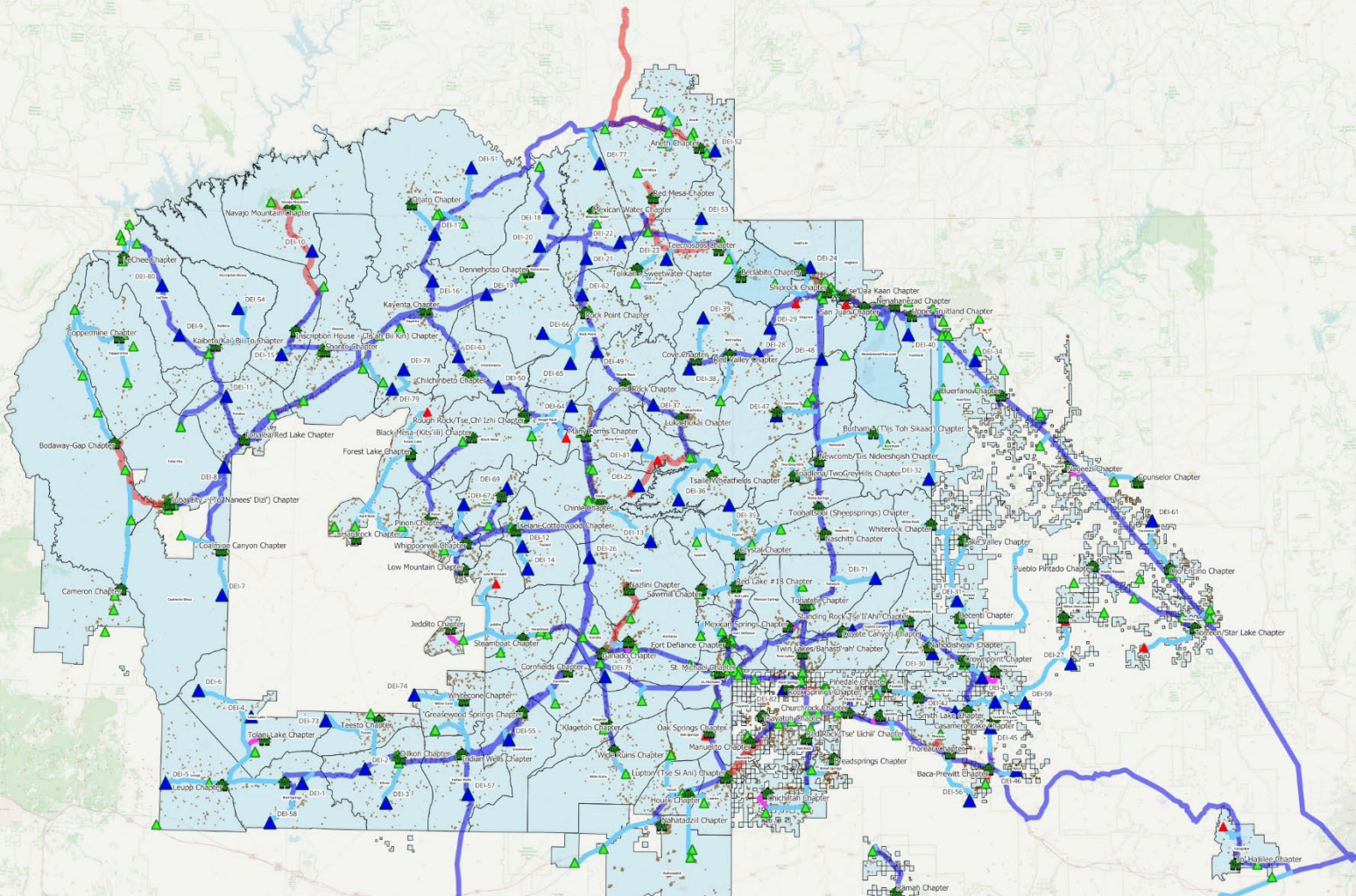
Requirements for 5G and Broadband

- ~ 78 Towers
- ~ 1260 Miles of Fiber to Towers
- ~ 269 Miles of Fiber to Chapter

Budget

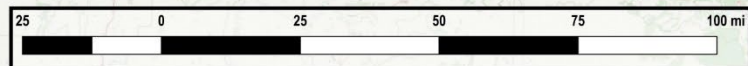
- USD \$267M for full implementation for MM infrastructure (5G, for FTTH ~\$1.2B will be required)
- Not including any Permitting, Assessment or ROW fees

OPVP - BO - DEI - Navajo Nation Telecommunications Infrastructure - Structures and Fiber - Broadband Plan for the Navajo Nation



LEGEND - 07/2024

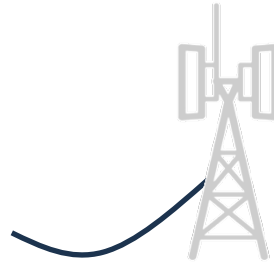
- NN Chapter Houses
- NN Household
- Existing Structures Capable for Broadband
- Existing Fiber
- Structures - In progress
- Fiber - In progress
- New Proposed Structures
- New Proposed Fiber



Disclaimer:
Data Collected up to 2020 and public information available as of 07/2024



Budget – NNBO/ NN DEI



Full Plan

78

1265 270

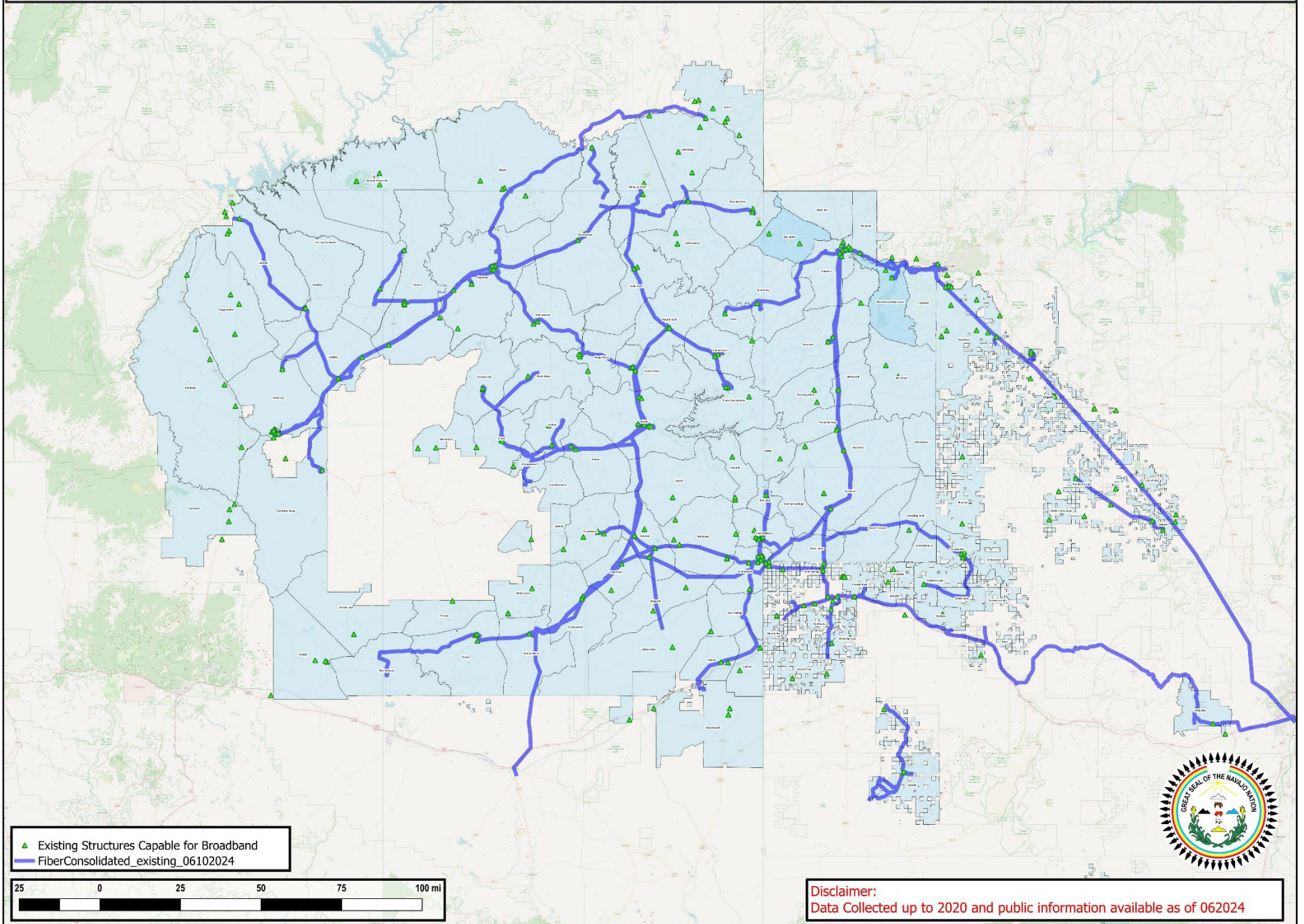
\$ 267M

Structures

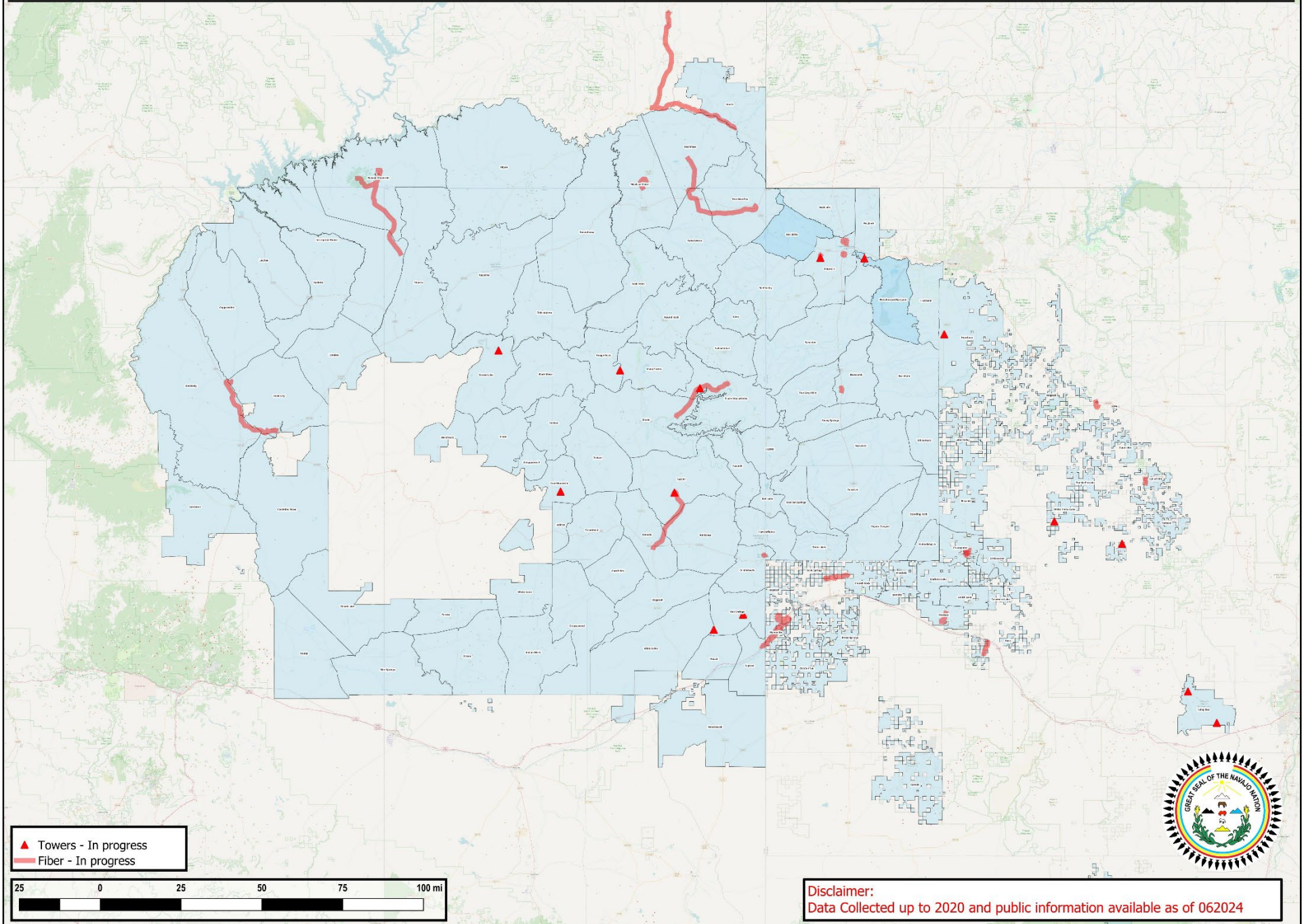
Miles of Fiber

USD

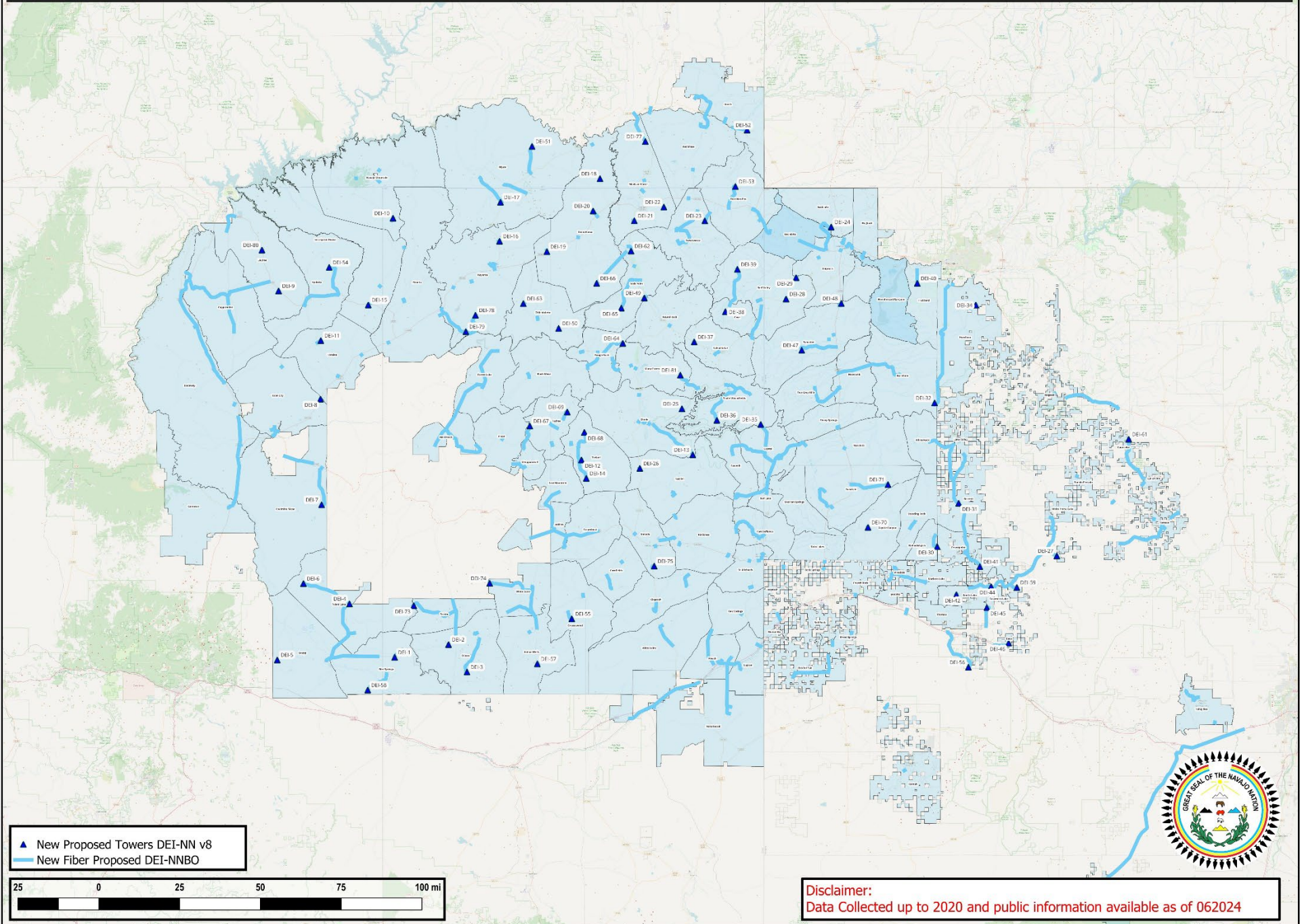
NN DEI - Navajo Nation Telecommunications Infrastructure - Structures and Fiber - NOW



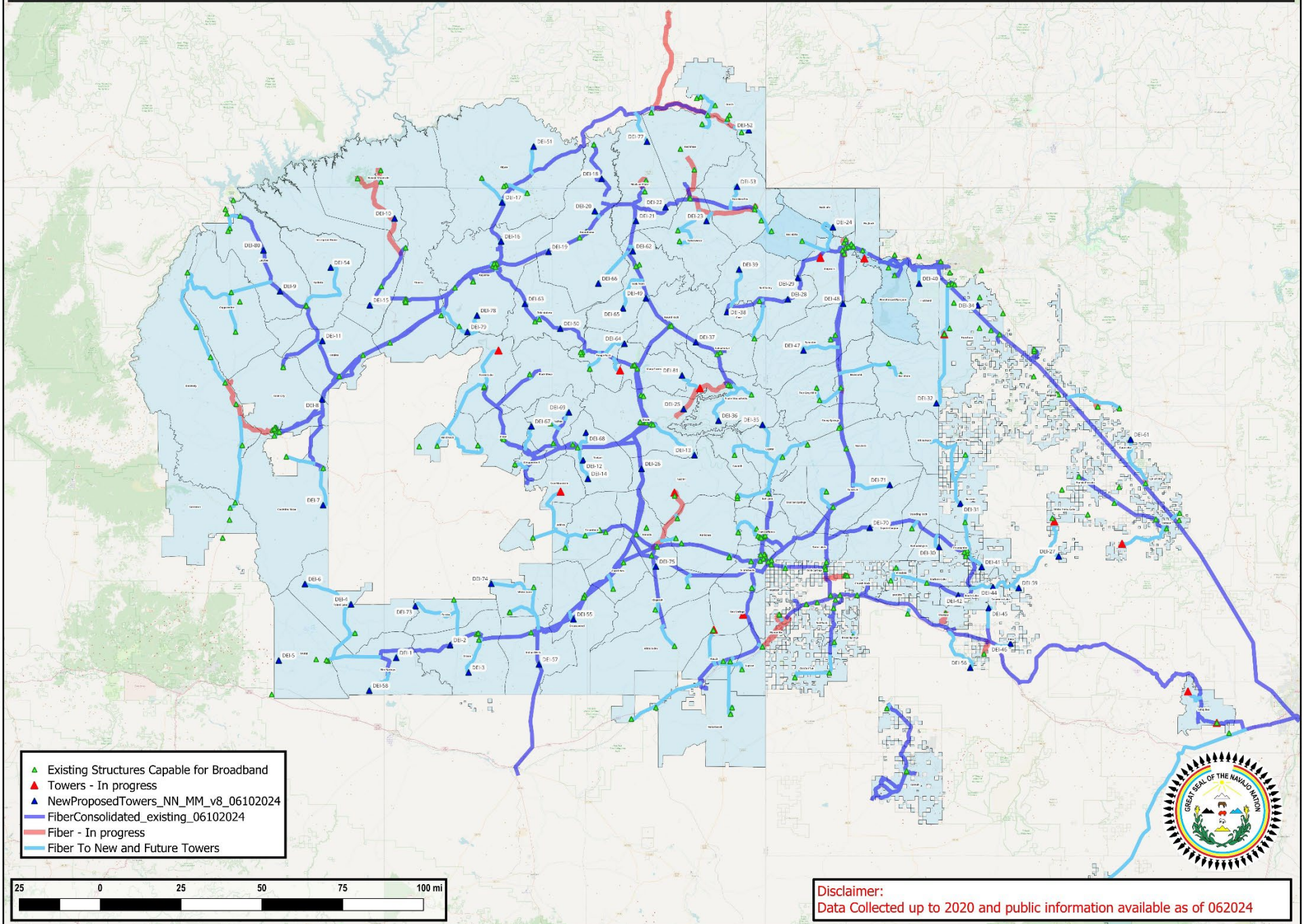
NN DEI - Navajo Nation Telecommunications Infrastructure - IN PROGRESS



NN DEI - Navajo Nation New Telecommunications Infrastructure - Structures and Fiber PLAN



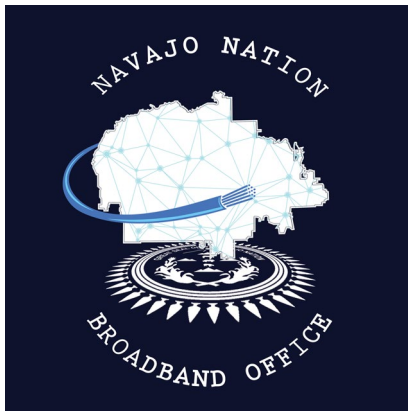
NN DEI - Navajo Nation Telecommunications Infrastructure - Structures and Fiber - NOW - IN PROGRESS - PLAN



Telecommunications and Broadband Regulations Providers Work Session

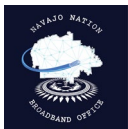
July 12, 2024

Regulatory Update DEI and NLD



Regulatory Status

- May 2024- The RDC Vice Chair Johnson and Committee member Simpson requested that the NLD/DEI undertake a new draft for submission within 6 weeks.
- A new draft is now in the works with the collaboration of the NLD and DEI: “Telecommunications and Broadband Regulations” (TBR).
- In parallel, DEI is working with the NLD on internal policies necessary to advance the Broadband Development and Equity Plan.



Policy under development NLD and NNBO/DEI





BROADBAND OFFICE
Office of the President and Vice President

NOTICE OF PROPOSED RULEMAKING (NPRM)
NAVAJO NATION BROADBAND OFFICE
INVITATION FOR PUBLIC COMMENTS REGARDING
SEC. II. WIRELESS TELECOMMUNICATIONS
FACILITIES REGULATIONS

Summary:

The Navajo Land Department (NLD), in collaboration with the Navajo Nation Broadband Office (NNBO), is inviting public participation in the development of Telecommunications and Broadband Regulations. These regulations aim to comprehensively govern the installation of fiber and wireless infrastructure and the delivery of broadband services across Navajo lands. At this time the group is seeking public comments on a draft of Section I, Administration and II, Wireless Telecommunication Facilities (see attached), which pertains to Wireless Telecommunication Facilities.

Following thorough public engagement, which may include future notices of proposed rulemaking (NPRMs), NNTRC reviews, and public work sessions and hearings, these drafts will be finalized and submitted to the Resources and Development Committee (RDC) for further consideration and potential adoption.

It is requested that public comments on the draft be submitted within (15) calendar days from publication of this NPRM by electronic and/or newsprint notification. The document to review can be downloaded from the Navajo Nation Broadband Office website <https://broadband.navajonnsn.gov/>

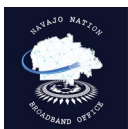
All comments are due no later than 5:00 PM, July 23rd of 2024 and shall be submitted, preferably ONLINE via the following link, where respondents will upload their comments. Please provide your response as minimum the Point of Contact Information of the responder and/or entity name.

The link to upload responses is:

<https://bit.ly/4cLNVHt>

A web portal with the following title will open:

“NOTICE OF PROPOSED RULEMAKING (NPRM) -INVITATION FOR PUBLIC COMMENTS REGARDING WIRELESS TELECOMMUNICATIONS FACILITIES REGULATIONS”

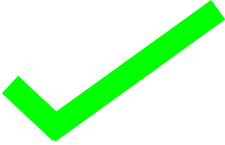


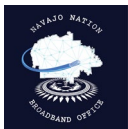
NPRM Input

1. **Public Engagement**
2. **Preservation of Prior and Nonconforming Agreements**
3. **Subleasing**
4. **Collocation**
5. **Permit Application Procedures**
6. **Design Standards**
7. **Lease and Permit Fees**



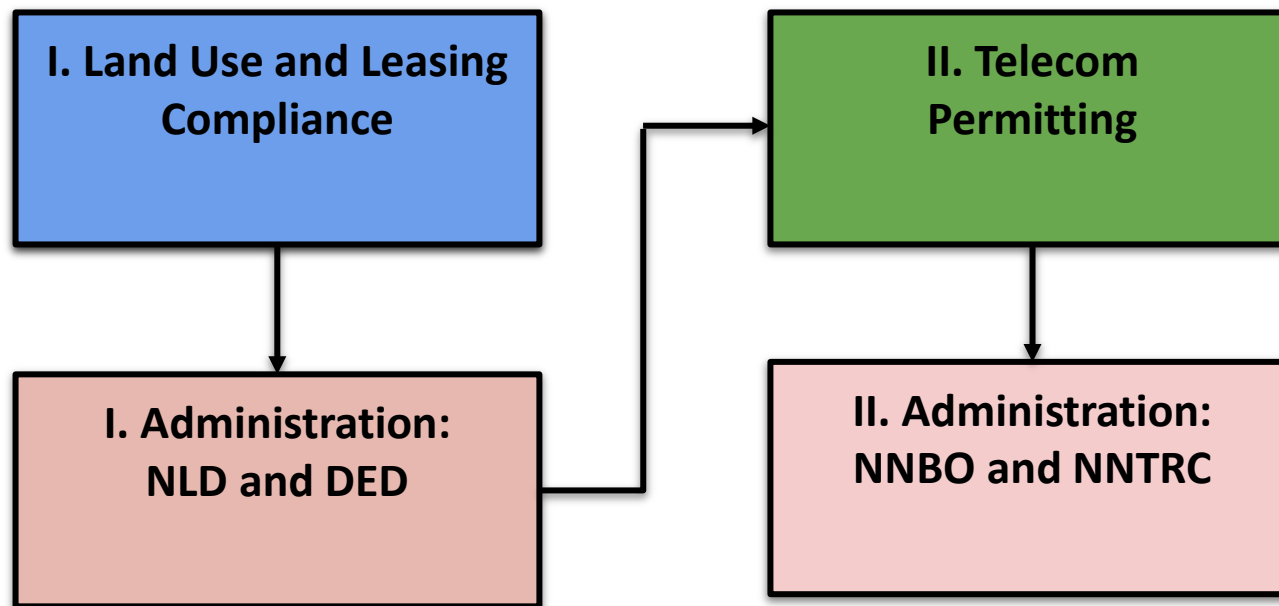
Collaboration

- Navajo Land Department 
- Navajo Broadband Office 
- Navajo Nation Telecommunications Regulatory Commission 
- Telecom Carriers and Providers 

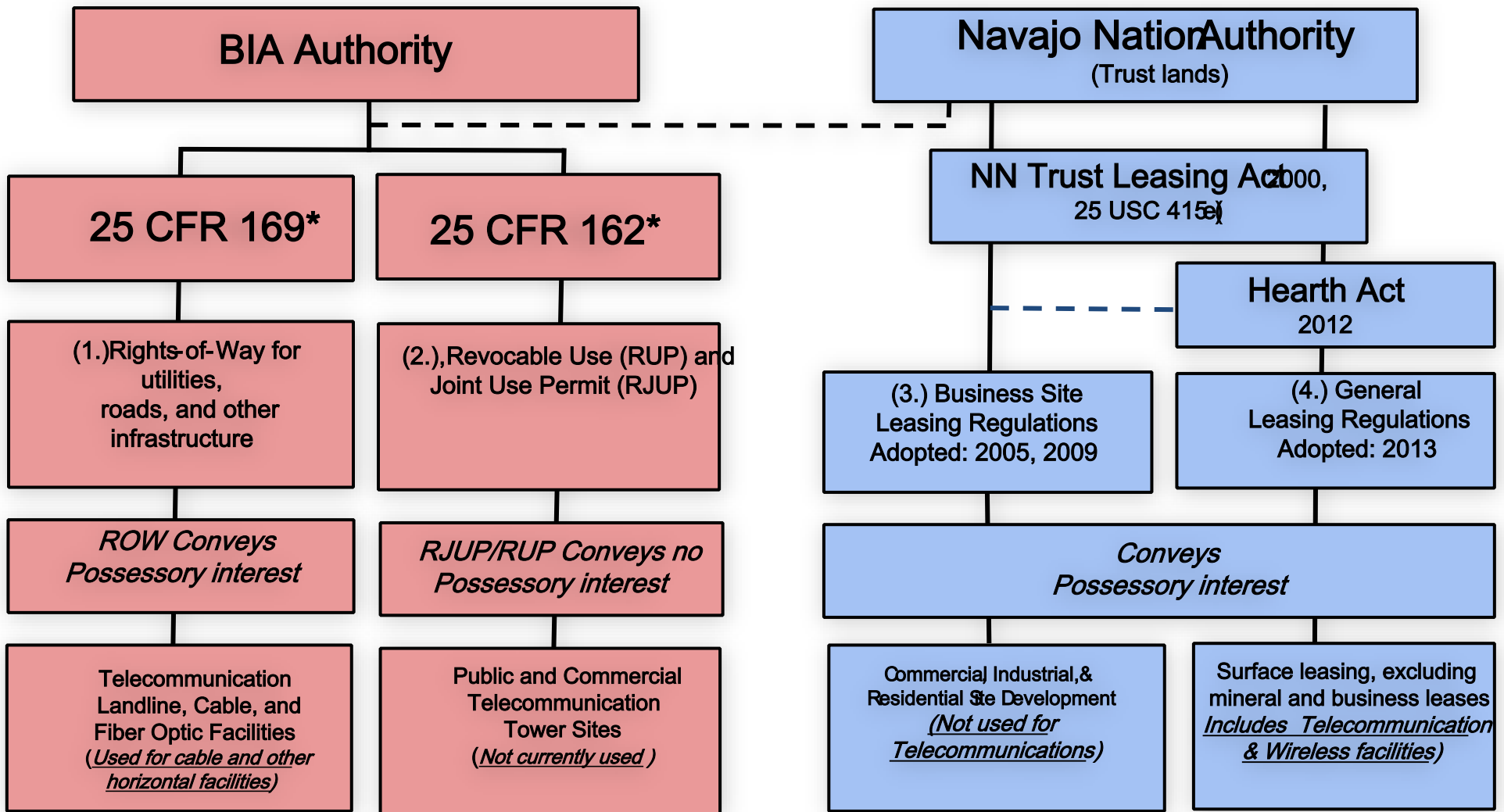


Telecommunications and Broadband Regulations Framework

- Codify a new approval process by permit conditioned on Land Compliance.
- Comprehensive Regulations for fiber, wireless, and broadband services delivery.
- Shared Administrative Authority by DNR, DED, NNBO, and NNTRC.



Navajo Trust Lands Leasing and Permit Authority



* Requires Tribal Consent

REV2/1/2024



§ 2305. Scope

A. These Regulations apply to all Leases and Permits for use or possession of Navajo Nation Trust Lands authorized under 25 U.S.C. §§ 415(a), 415(e) and 635(a), including Leases for the development or utilization of natural resources, including renewable energy Leases and agricultural Leases, telecommunications site Leases, and Leases for public, religious, educational, recreational, or residential purposes, except business site leases which are authorized pursuant to Navajo Nation Business Leasing Regulations of 2005 approved by the Secretary on July 10, 2006. These Regulations shall not apply to mineral Leases. Nothing herein shall be construed to affect the terms and conditions of an existing Lease.

B. Leases are mandatory for any short or long term use of Navajo trust land or where any permanent structure is fixed or located on Navajo trust land. Failure to comply with this section shall be addressed pursuant to Navajo Nation law.

** Requires Tribal Consent*



Projected Timeline: Telecommunications and Broadband Regulations

- 5/24 - Submit timeline for implementation of NN Telecommunications and Broadband Regulations to RDC
- 6/5 - Finalize Internal Draft Outline
- 6/12 - Public Meeting- Public, Carriers, and Stakeholder feedback (Location: Gallup UNM campus)
- 7/9 - 1st Draft of Regs & Notice of Public Rulemaking (NPRM)
- 8/10 - 2nd Draft of Regs and (NPRM)
- 8/22 - Public Release
- 8/29 - Public Presentation
- 9/12 - RDC Presentation



Policy under development NLD and NNBO/DEI

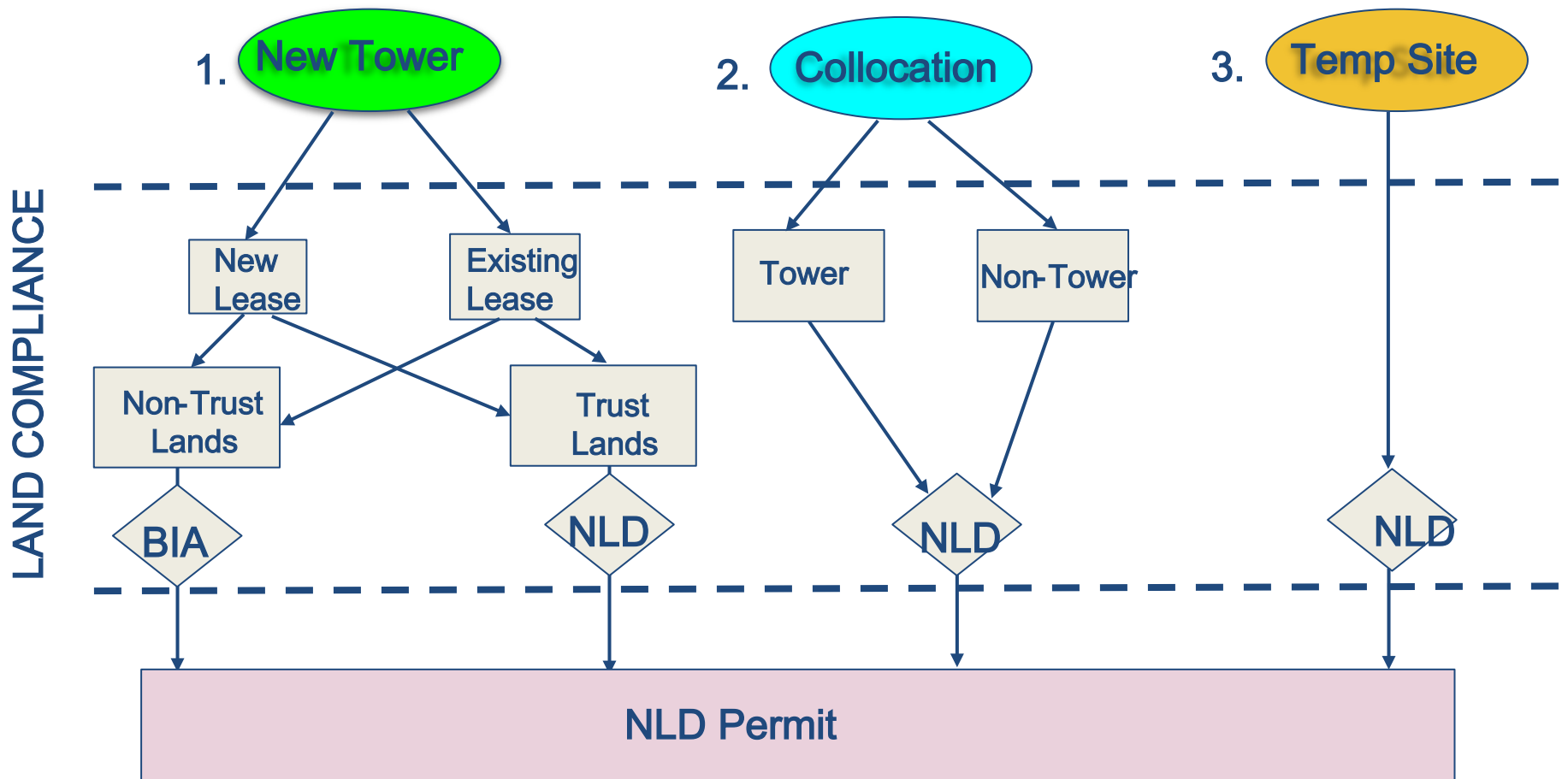


Wireless Policy Recommendations

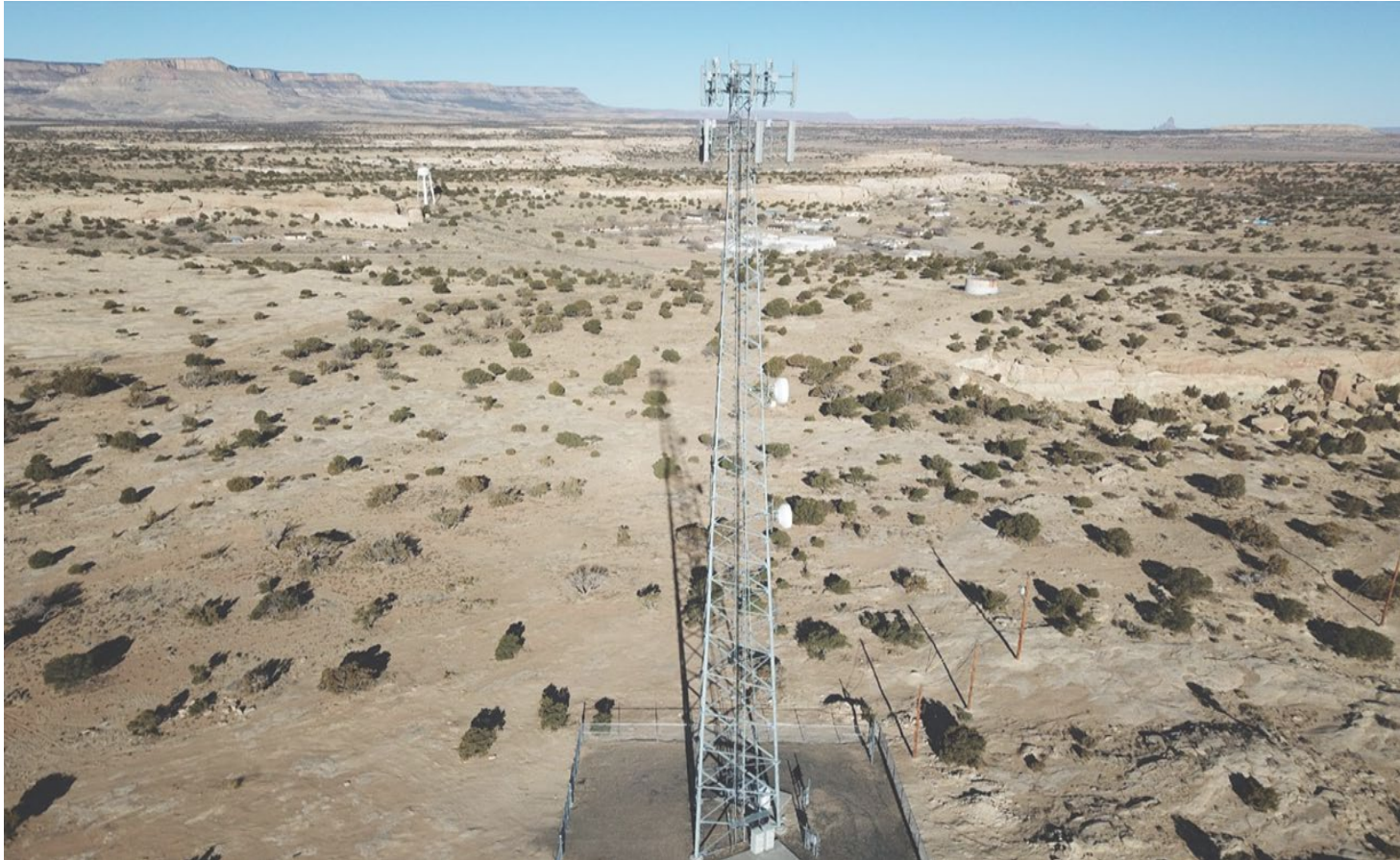
1. Legitimize existing tower and ~~net~~ tower infrastructure for carrier collocation of fixed broadband and mobile 5G.
2. Allow new tower development via sublease on General and Business Site lease areas.
3. Permit requirements to enforce building and safety codes.
4. Design Standards for tower and ~~net~~ tower infrastructure.
5. Market-based lease and permit fees.



Permit Process



QA & Next Steps



Infrastructure Maintenance

- Preventive Maintenance Towers

Annual Maintenance Telecommunications Site Cost	Structural Cost	Average
Structures > 20YO	\$	10,500.0
Structure 10-20 YO	\$	6,000.0
Structure 5-10YO	\$	4,850.0
Sites <5YO following IBC	\$	3,500.0

- Maintenance Fiber

- \$250 - \$2000/ mile (estimated)
 - Great variation based on fiber type, weather conditions, general safety area

Navajo Nation Estimated Telecom Revenue - Ground and Collocation @ 7/2024

Cellular-Like Services and Broadband

- Sites Distribution in NN used for Cellular-Like Services

Topic	Sites Reported by Vertical Bridge	DEI preliminary Count Structures Inside NN	Expected Structures Paying Site Lease	Estimated Revenue from Lease Tribe LL
Total Structures (Used and not used for Broadband and broadcast but capable of supporting collocations)	368	300	146	\$ 1,752,000*

- Sites Distribution in NN used for Cellular-Like Services with Collocation

Topic4	DEI preliminary Count Structures Inside NN	Estimated Sublease Collocations	Estimated Revenue from Lease Tribe LL
Total Structures (Used and not used for Broadband and broadcast but capable of supporting collocations)	300	272	\$ 544,000*

** Not including escalators*

Sites Total: 368

Broadcast Sites Inside NN: 300

Number of Collocation: 272

Ground Lease Revenue – (\$ 1.75M)

Collocation Sublease Fee Revenue – (\$ 544K)

ACP – Affordable Connectivity Program

Entity	Area	ACP Subs	Speed Offered	Data Cap	Usage
Entity 1	Ramah	358	250 Fib/ 25 Wirel	UNL	762 Gbps/m
Entity 2	NNAZ NM UT	24,277	10 DL /2UL	100 GB	24 Gbps/m
Entity 3	Partial NN AZ NM UT	8,400	6-25 mbps	UNL	319 Gbps/m
Entity 4	Partial NN NM	2,211	15-50 mbps	UNL	319 Gbps/m
Entity 5	NN COs	434	3mbps - 1gbps	UNL	No info
Totals		35,680			

What are we doing for it???

-
-
-
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<https://www.fcc.gov/acp>

Community Engagement – Data Driven - Summary

NNBO REQUEST FORMS FY 24								
Case_#	Date Received	Name	Chapter/Community	Council Delegate	Lat.	Long	Date sent for Assesment	Assesment Results
Case_0	4/9/2024	A. Deneso	Shiprock/Klagetoh	N/A			4/15/2024	Offering services as IT support, N/A for BB request
Case_1	4/9/2024	D. Begay	Nazlini	Crystalyn Curley			4/15/2024	Area has been included a new site DEI-26 is expected in the area with in 2-3 miles of the homestead
Case_2	4/9/2024	E. Brown	Sanostee	Amber Crotty	36°27'43.70"N	108°32'59.09"W	4/15/2024	data does not show HH in the location 10 miles E from HW5092, please confirm with coordinates of dwelling. A fiber extension is requested, most likely a FWA solution will be provided via BEAD
Case_3	4/9/2024	C. Paul	Oak Springs	Brenda Jesus	35°28'29.66"N	109°8'28.07"W	4/15/2024	A new site funded by NTIA - NN NTUA grant should will be place, this site will take care of the issue
Case_4	4/16/2024	G. Edison	Wheatfields	Carl Slater	36°18'40.44"N	109°13'5.56"W	4/16/2024	The area should be covered very well, may be issue with devices, it is located ~1.5 miles from existing site
Case_5	4/16/2024	M. Bado	Chilchinbeto	Shaandii Parrish	36°30'59.63"N	110°0'18.95"W	4/16/2024	A new site is identified DEI-50 around 5-6 miles SE of Chilchinbeto that should help that area
Case_6	4/16/2024	V. Vicenti	Lukachukai	Carl Slater	36°24'24.35"N	109°14'22.26"W	4/16/2024	The area should be covered very well, may be issue with devices, it is located ~0.6 miles from existing sites
Case_7	4/16/2024	M. Vecenti	Lukachukai	Carl Slater	36°24'39.33"N	109°14'16.15"W	4/16/2024	The area should be covered very well, may be issue with devices, it is located ~0.5 miles from existing sites
Case_8	4/17/2024	B. Johnson	St. Michaels, AZ	Brenda Jesus	35°40'30"N	109°06'26"W	4/22/2024	



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