



Broadband Business Overview and Planning Guidebook: Business Plan and Financial Model

May 2024



Introduction

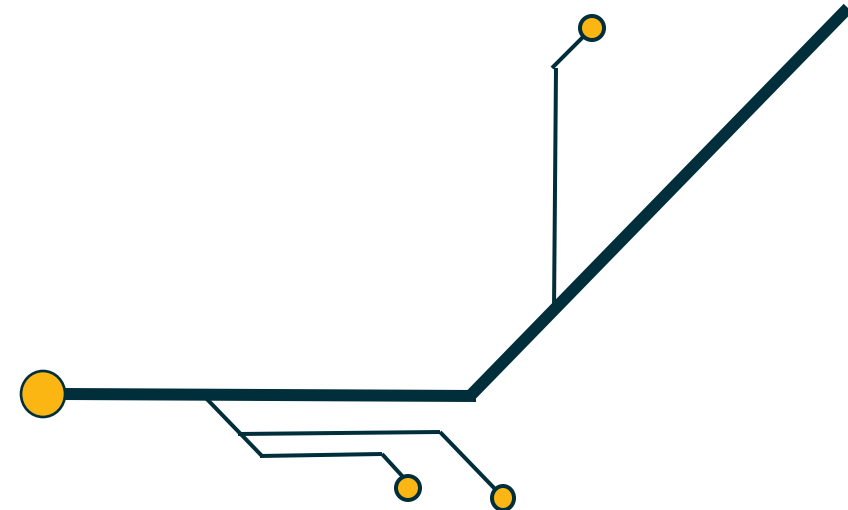
This guidebook is designed to introduce community broadband planners to the basic elements of a broadband business plan, including financial modeling, and the functioning of the broadband market and larger ecosystem.

This guidebook is one in a series of resources developed by OBAE to prepare localities, Pueblos, Tribes, Nations, and their partners to apply for the state's Broadband Equity, Access, and Deployment (BEAD) grant funding.



Part 1: Understanding the broadband market

Part 2: Developing a business plan



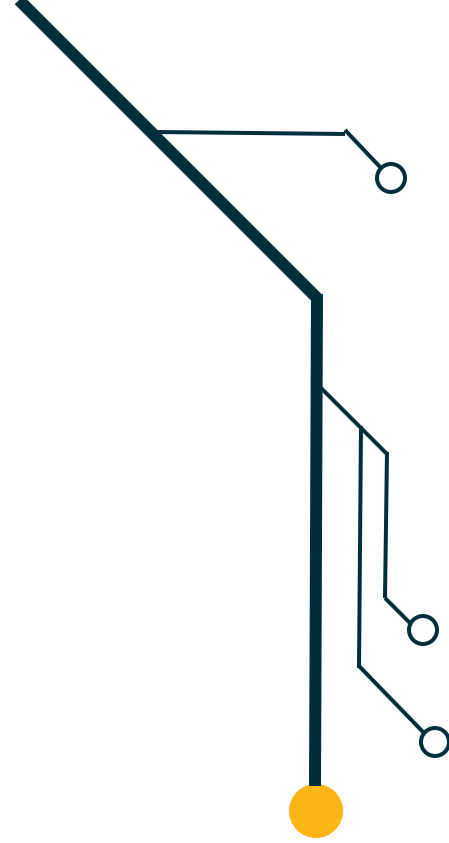


Part 1: Understanding the Broadband Market



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1. The last-mile and middle-mile markets
2. How the various markets fit together
3. Introduction to public-private partnerships

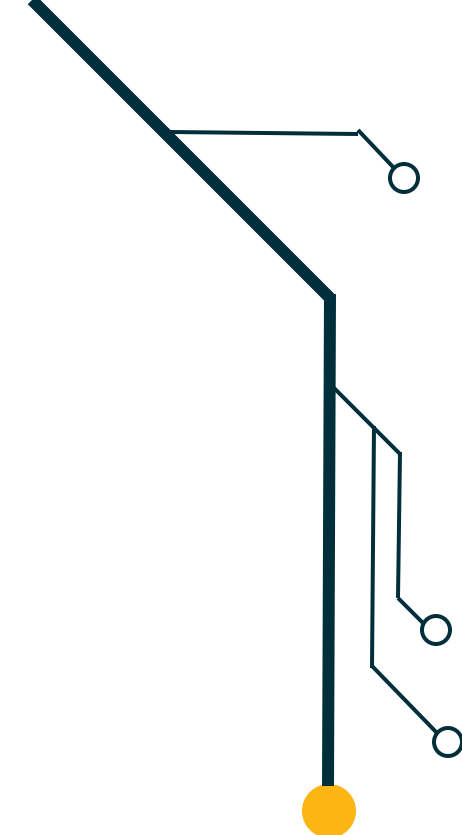


The Last-Mile and Middle-Mile Markets



The Last-Mile and Middle-Mile Markets

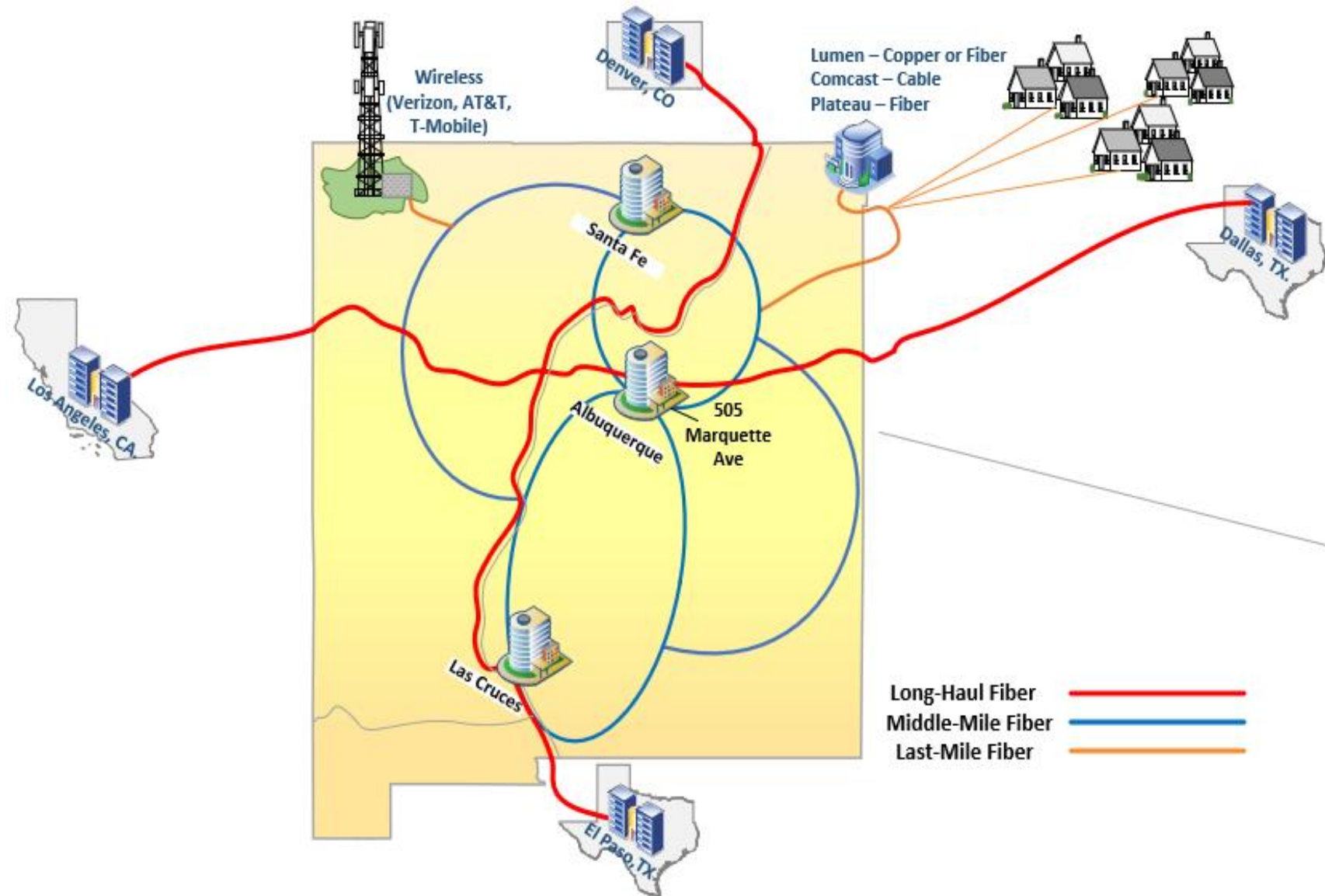
- Understand the service providers in the market
- Understand the customer segments
- Understand the products and services
- Put all this together to understand how the last-mile market functions



Market Elements

As with the physical structure of the network itself, the market is divided by types of providers and services based on:

1. Long-haul
2. Middle-mile
3. Last-mile



Last-Mile Services Connect the Customer to the Local Network and, thereby, to the Internet

1

Consumer-grade internet services are sold to households and cost-conscious small businesses

These are “best efforts” rather than guaranteed levels of service, which is indicated by advertisements for speeds “up to” a certain level

2

Business-class internet services are sold to smaller and mid-size businesses that require more support than households

Still “best efforts” but they may include symmetry (i.e., matching download and upload speeds), lower levels of oversubscription (meaning the infrastructure will be supporting fewer customers), and prioritization at the ISP’s network operations center

3

Enterprise-level services are sold to sophisticated institutions and businesses that require “quality of service” guarantees

These are high-end services that include point-to-point transport and point-to-point dark fiber

Middle-Mile Services Bridge the Local Network and the Internet

1

Transport is a service from one point to another over a middle-mile network that enables the buyer to transport its traffic between its local network and a major network hub; this is a high-end service, often with service-level guarantees, that is used by more sophisticated ISPs

2

Commodity internet bandwidth enables local ISPs to put their traffic on the internet. It can be purchased locally (at the interconnection point with the middle-mile provider), offering simplicity for the local ISP. Alternatively, it can be purchased at a data center in a city, and paired with transport to deliver it to the local area

3

Dark fiber enables very sophisticated ISPs to use their own electronics to “light” and operate fiber strands along a middle-mile route; the dark fiber owner offers physical maintenance guarantees and splicing and related services to access the fiber

The Critical Companies to Understand for Last-Mile Broadband

Wireline



Telephone Companies
("ILEC")



Cable Companies



Competitors ("CLEC")

Wireless



Mobile Companies



Fixed Wireless



Mobile/Fixed

Last-Mile Wireline



Incumbent telephone companies

Dial-up

DSL

Fiber-to-the-premises (in select markets)



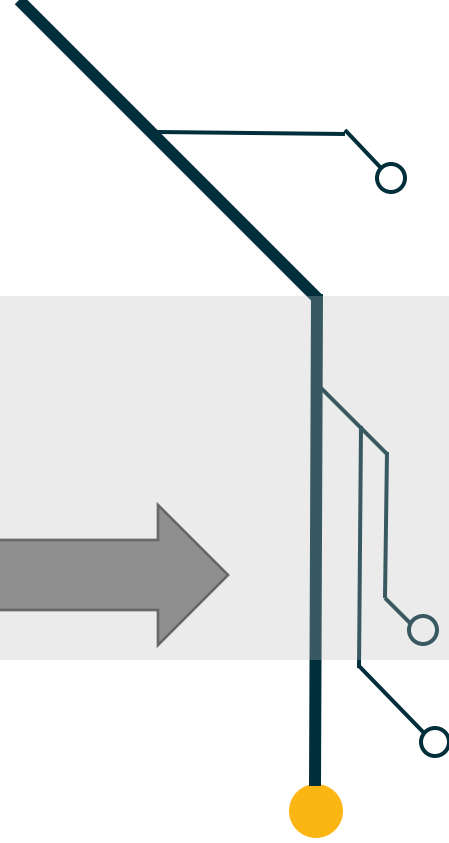
Incumbent cable companies

Cable broadband (in towns and cities)



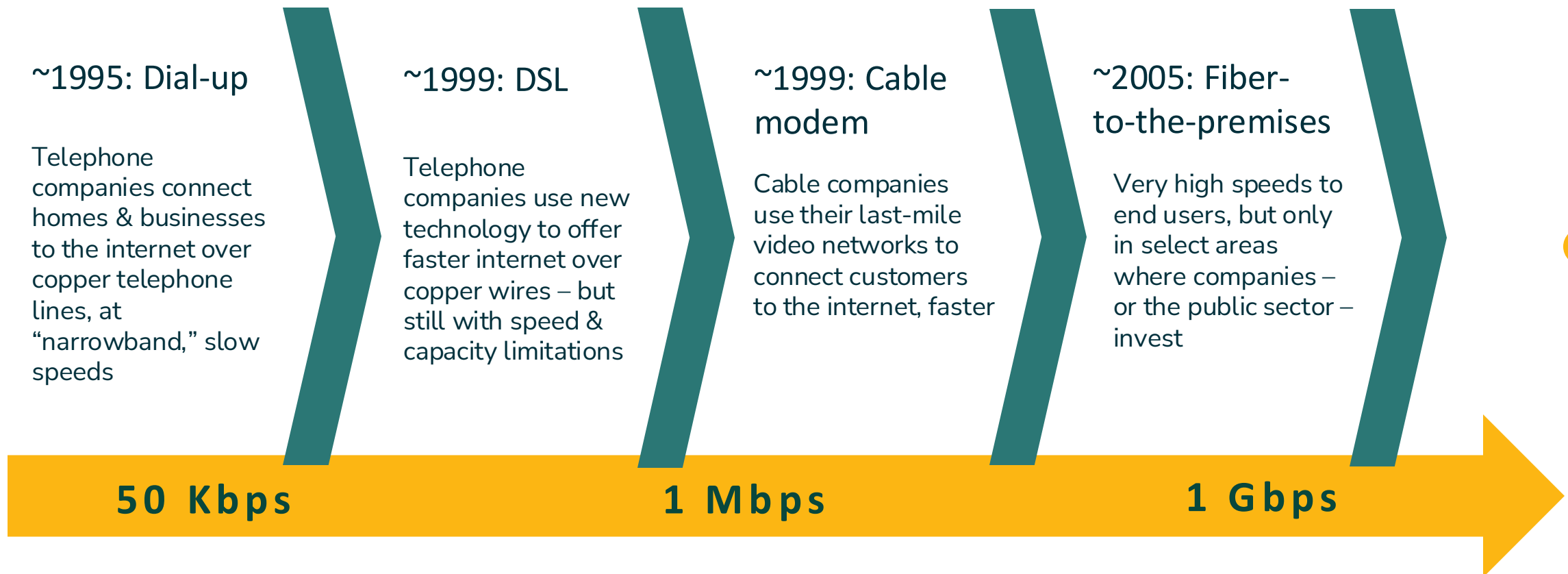
Competitors

Fiber-to-the-premises (in select markets)

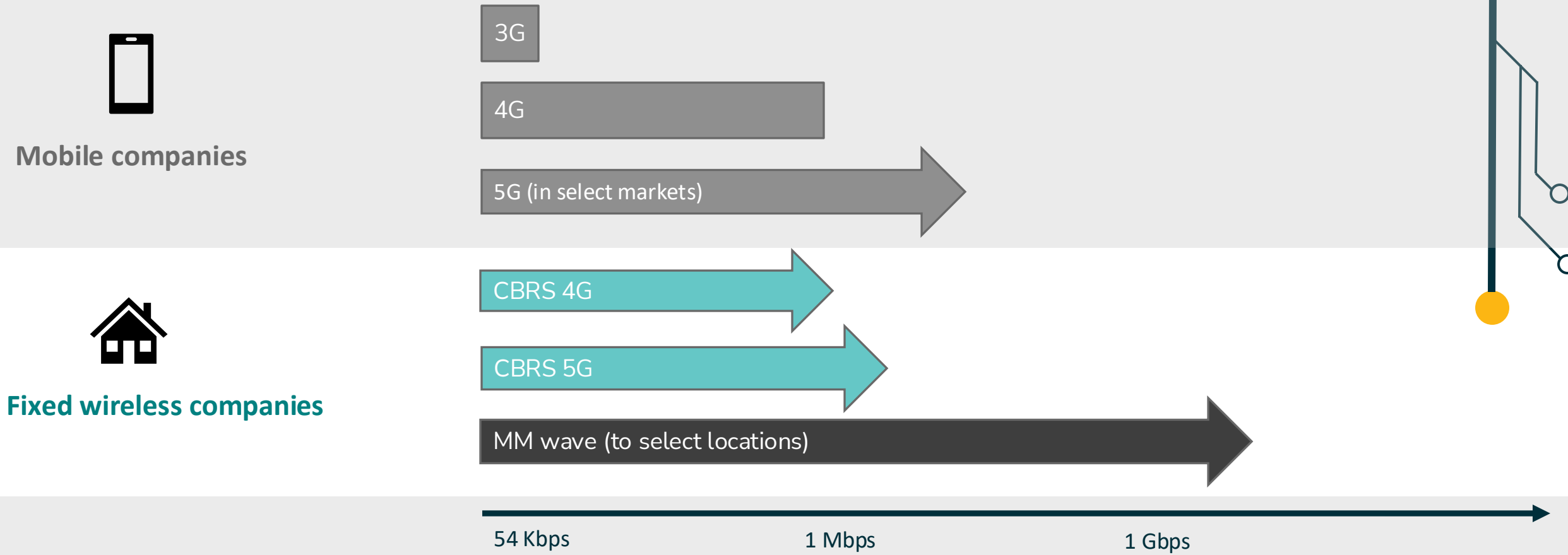


How Does This Relate to Broadband Technology?

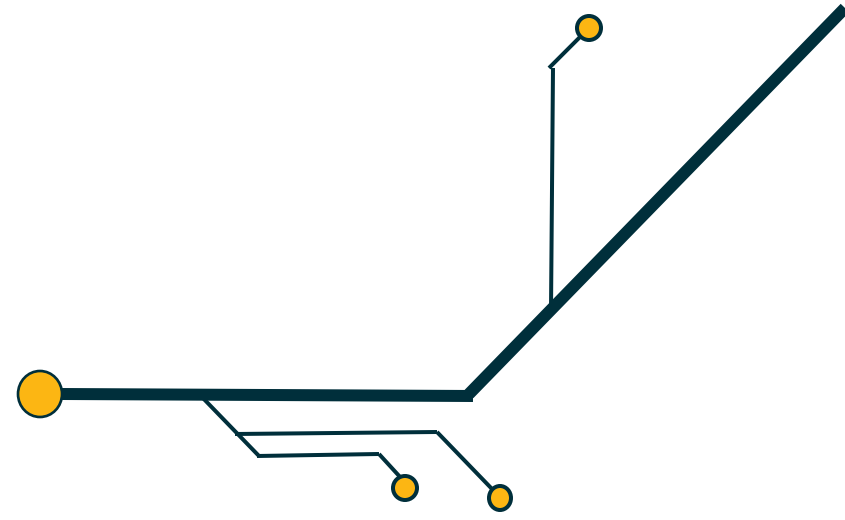
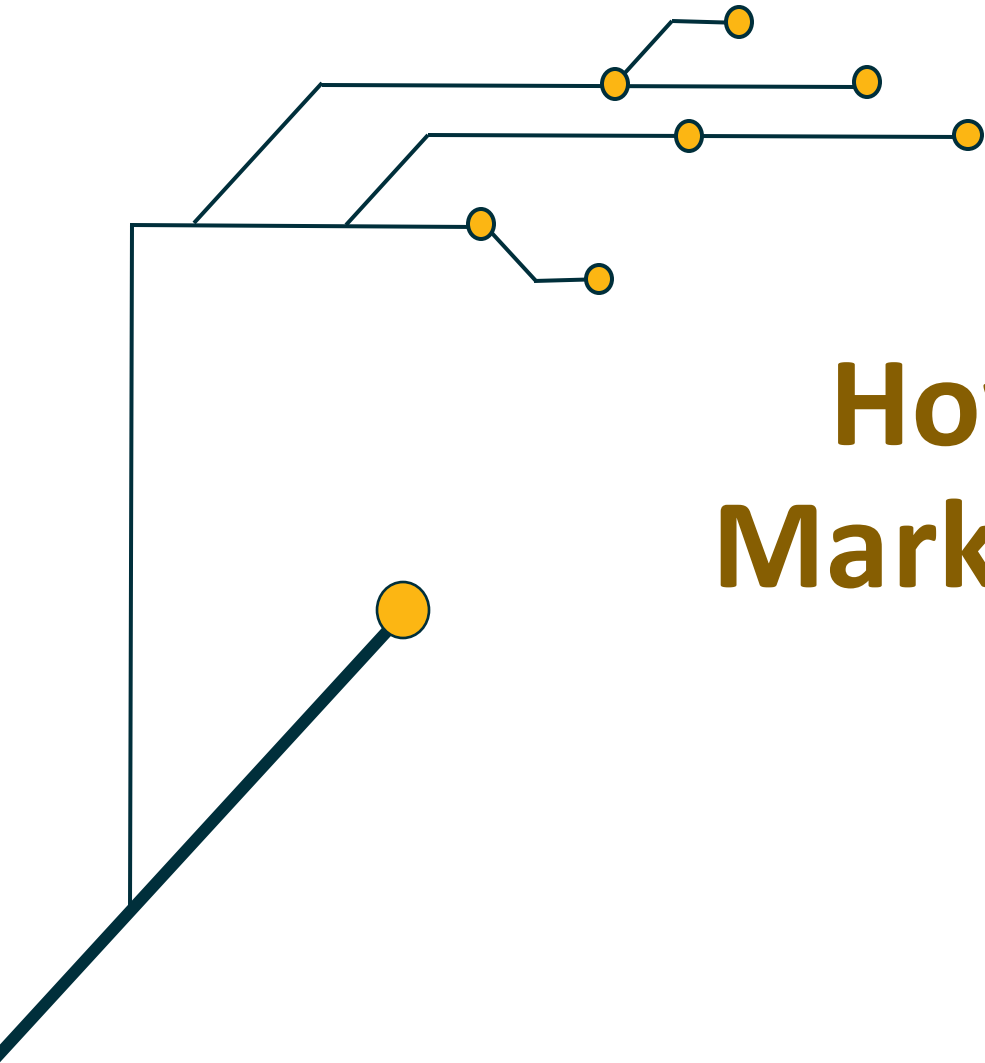
The evolution of broadband technology:



Last-Mile Wireless



How the Various Markets Fit Together



Overview of the Full Market

- Understand the relationships between middle-mile and last-mile market segments, services, providers, customers
- Understand where a community network might fit in for a locality, Pueblo, Tribe, or Nation



Overview of the Full Market

1

Understand the relationships between middle-mile and last-mile market segments, services, providers, customers

2

Understand where a community network might fit in for a locality, Pueblo, Tribe, or Nation



Providers, Customers, and Products

	Infrastructure company Leverages real estate and infrastructure to support ISPs	Enterprise service provider Sells high-end services to sophisticated end users and ISPs	Incumbent Uses legacy networks to serve multiple market segments	Competitor Builds new networks to compete with incumbents	Community provider Offers community-focused solutions at the micro-level
Middle-mile	1. Middle-mile (transport & internet bandwidth) ISP customers				
	2. Wireless backhaul Wireless ISP customers				
Last-mile	3. Enterprise Business & institutional customers				
	4. Business class Small/medium business customers				
	5. Consumer-grade Residential & small business customers				
	Extenet Crown Castle	Zayo Lumen	AT&T Comcast	Vexus Fiber	Local entity

Take Rates: Demographics and Competition

Market competition

- DSL only
- Cable & DSL
- Cable & partial fiber or VDSL
- Cable & fiber-to-the-premises (FTTP)

Demographics

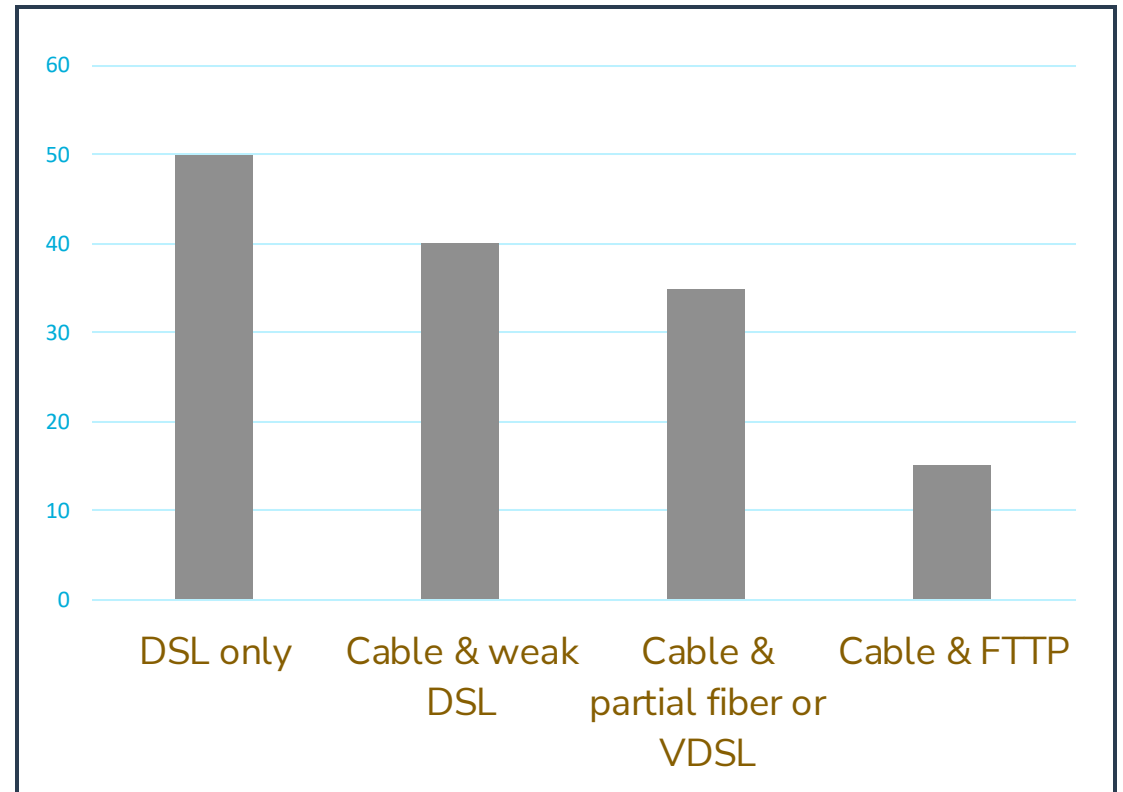
- Age
- Income
- Education

Brand, localism, & other local factors

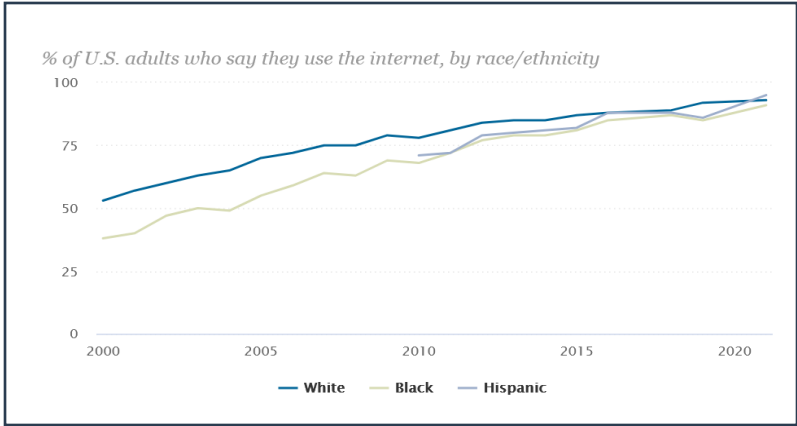
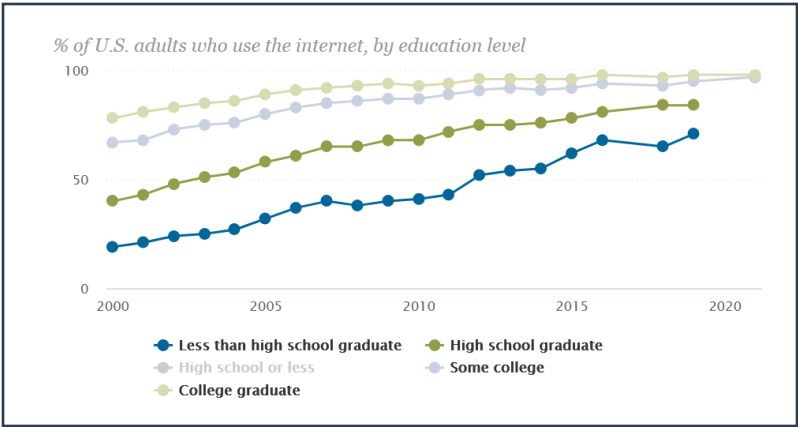
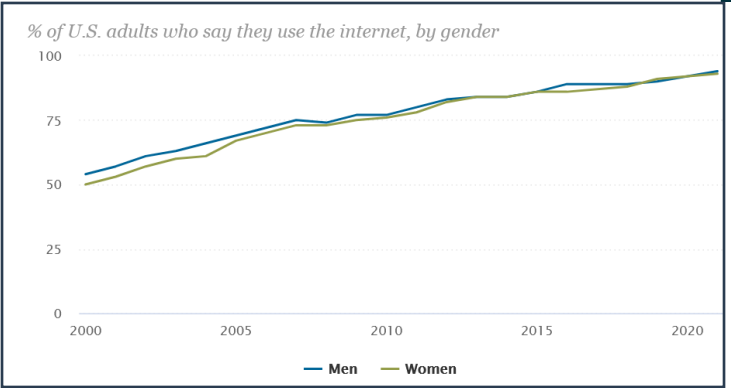
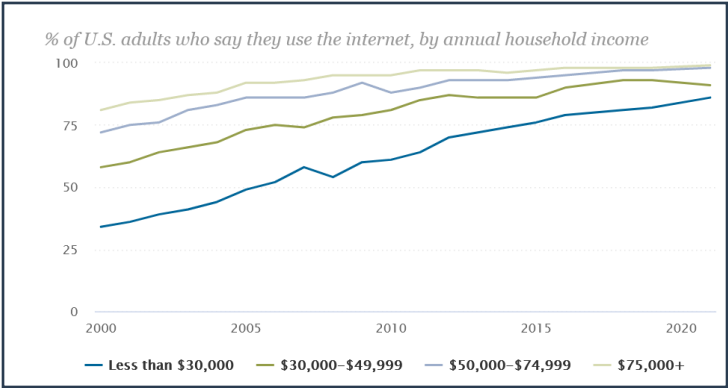
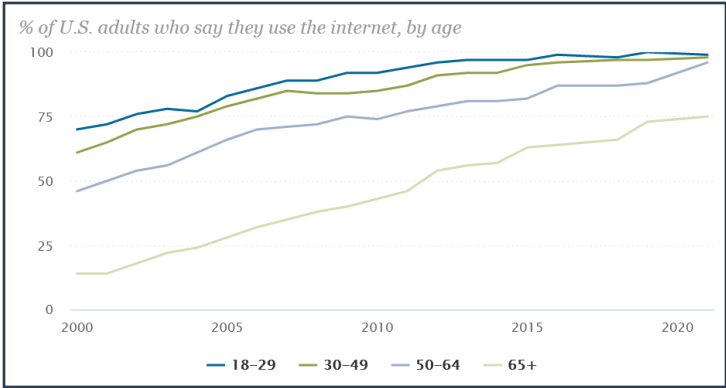
- ISP characteristics & capabilities
- Local brand a factor in smaller markets
- Customer service & consumer experience
- All slightly offset by bundling

Take-Rates: Competition

Number of competitors	Take-rate range for new competitor
Telco: Weak DSL	High '40s & above
Telco: Weak DSL Cable: DOCSIS 3.1	35-40%
Telco: Partial fiber or VDSL Cable: DOCSIS 3.1	30-40%
Telco: Extensive fiber Cable: DOCSIS 3.1	12-30%



Understanding the Interplay of Demographics and Take-Rates



Source: Pew

Take-Rate Timing and Elements

Take-rate ramp for competitive FTTP providers

- 25% of year 5 take-rate in year 1
- 50% in year 2
- 75% in year 3

Take-rate elements

- Number & identity of competitors
- Demographics
- Execution by ISP

Factors in ramp

- Speed of network activation & drop installation—may lag construction & requires available capacity & logistics
- Incumbent tools: lock-in, promotions
- Early word-of-mouth

Understanding “churn”: A challenge for Small Providers that do not have pricing as a tool to retain price shoppers

Churn is a function of price shopping for residential customers, reliability for businesses

Incumbent churn is much lower on fiber than copper

For business customers, the fiber industry average is 6-8%/year

For residential customers, the fiber industry average is 8-18%/year (25% and more for copper)

Incumbents address churn through pricing

Promotional pricing to attract & retain customers

Lock-in through multi-year contracts, particularly for small and medium businesses

Special incentives that can change weekly or more: “free” streaming services, gift cards

Small providers challenged to limit residential churn

Residential churn is a function of price shopping and customer service frustration

Churn is particularly costly because of sunk costs (installing the customer “drop” and equipment)

Customer service is the critical retention tool to reduce churn

Part 2: Developing a Business Plan



Purpose of a Business Plan

1

A business plan serves as a roadmap for your ISP's future

2

It outlines the goals and details of the business, including its mission, target market, competitive landscape, and financial projections

3

The plan helps you and your colleagues clarify the vision and strategy, making it easier to communicate with stakeholders, secure funding, and track progress

4

A business plan also enables you to think critically about your ISP business model, potential challenges, and how to overcome them



Elements of a Business Plan for an ISP

- Executive summary
- Business description
- Market analysis
- Services offered
- Marketing and sales strategy
- Infrastructure and technology
- Regulatory and legal considerations
- Financial projections
- Risk management

By addressing these elements in a business plan, an ISP can develop a clear roadmap for success and attract investors and partners to support its growth

Elements of a Business Plan: Executive Summary

1

The executive summary provides an overview of the business concept, target market, competitive landscape, and financial projections

2

This section of the business plan will be first in the document, but should be written last, after all the other sections are complete and can be summarized

Elements of a Business Plan: Business Description

1

A detailed description of the business, including its mission, vision, values, and key objectives

2

It also outlines the industry sector, target market, and competitive landscape

3

This section would also include information about the type of broadband services offered (e.g., residential, commercial, wireless)

Elements of a Business Plan: Market Analysis

1

A thorough analysis of the target market, based on market research and survey data

2

The analysis of the broadband market should include size, growth trends, demographics, and competition

3

This section also assesses the competition and identifies the business's unique selling propositions

4

This section would also include a SWOT analysis (Strengths, Weaknesses, Opportunities, Threats) to identify key factors affecting the business

Elements of a Business Plan: Services Offered

1

This part of the business plan should contain a detailed description of the broadband services offered, including internet speeds and pricing plans

2

This section should also include a discussion of any additional services you might offer, such as Voice over Internet Protocol, security services, or streaming services



Elements of a Business Plan: Marketing and Sales Strategy

1

This part of the business plan describes the strategy for how the ISP will attract and retain customers, including advertising, promotions, and partnerships with other businesses (e.g., real estate developers, technology companies, building owners)

2

This section should also include any market research data and analysis that inform the marketing strategy

Elements of a Business Plan: Infrastructure and Technology

1

This part of the business plan includes an overview of the ISP's network infrastructure, including information about the technology used (e.g., fiber optic, cable, wireless)

2

This section should also describe any plans for expansion or upgrades



Elements of a Business Plan: Regulatory and Legal Considerations

1

An overview of the regulatory environment for ISPs, including any licenses or permits required to operate

2

This should include consideration of both federal (e.g., FCC) and state (e.g., Public Regulation Commission and OBAE) requirements

3

This section would also include information about compliance with laws related to data protection and consumer rights

Elements of a Business Plan: Financial Model and Projections

The financial model is a tool to explore the financial viability of your business plan – and to build an understanding of risk and potential challenges

1

A financial model is a critical tool that helps entities entering into a new business understand the impact of various decisions and factors on the potential financial performance of the enterprise.

2

For a broadband network, the model will take into account how factors such as project financing, customer take rate, capital costs, and a broad range of other considerations will affect the financial viability of the project.

3

Collecting and analyzing the right information allows a decision-maker to assess a range of potential scenarios and make informed decisions moving through other phases of project development.

4

The model should include detailed financial forecasts, including revenue projections, expenses, and cash flow. It should also include a break-even analysis and information about funding requirements.

The Role of the Financial Model in your Business Plan

A financial model within a business plan serves several key functions

Forecasting

The model helps predict future financial performance based on assumptions about revenue, expenses, and other factors. This forecasting is crucial for setting realistic goals and making informed decisions, including about how to develop grant strategy.

Budgeting

A financial model helps allocate resources effectively by detailing expected costs and revenues. This is essential for managing cash flow and ensuring the ISP remains financially stable.

Financing

If you are seeking financing to support your ISP's development or growth, a financial model can help you determine how much to borrow and allow your potential lender to understand the risk of giving you a loan.

Sensitivity Analysis

By testing different scenarios and assumptions, a financial model can help identify potential risks and opportunities. This analysis enables businesses to prepare for various outcomes and make informed decisions.

Performance Monitoring

Once your ISP is operational, the financial model serves as a benchmark for comparing actual financial performance against projections—and to tweak your strategy and efforts if necessary.

Elements of the Financial Model or “Pro Forma”

The financial model is designed to enable development of a financial pro forma—a forward-looking projection of an entity’s financial picture that includes the key financial statements that an enterprise would typically maintain, including:

Balance Sheet

A statement of assets (what the entity owns) and liabilities (what it owes)

Income Statement

A statement of revenues and expenses, and how those amounts compare

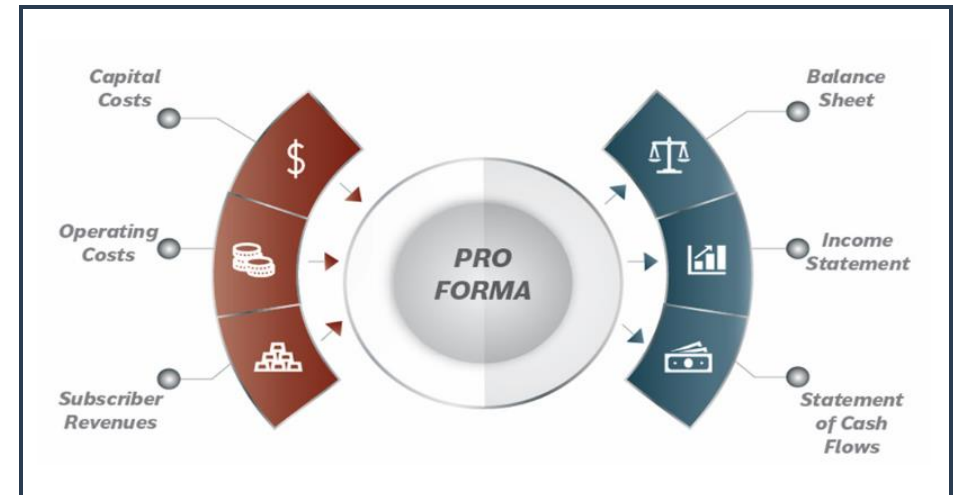
Statement of Cash Flows

A comparison of cash in and cash out on a monthly basis

Data Required for the Financial Model

The financial model requires thoughtful, accurate data to enable realistic projections of financial results

- **Capital costs**
- **Operating costs**
- **Expected subscriber revenues:** Subscriber revenues can be estimated based on an expected take-rate (the percentage of people that will subscribe to service when it is made available) and a pricing model for services; market research efforts can help determine estimated take-rates for various types of service



A well-crafted financial model will use all this data to enable projection of the potential financial performance of a project over time—in five years, 10 years, or beyond—and to evaluate potential stability. The model can also enable an understanding of how much grant and other support funding will be necessary to make a project economically feasible or to reduce financial risk.

Elements of a Business Plan: Risk Management

1

An assessment of potential risks to the business, such as competition, regulatory changes, and technological advances

2

This section would also include strategies for mitigating these risks