



Prospects for Gigabit Broadband

CYBR 4400 / 5400: Principles of Internet Policy, Lecture 2-6

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Today's Lecture

- ❖ **Reminder: attend Silicon Flatirons conference
keynote of FCC Commission Michael O'Rielly next
Monday!!! No class lecture in classroom!!!**
- ❖ Framework discussion
- ❖ Prospects for Gigabit Broadband Lecture
- ❖ Unit Summary and Wrap-up

Summary of Framework Steps

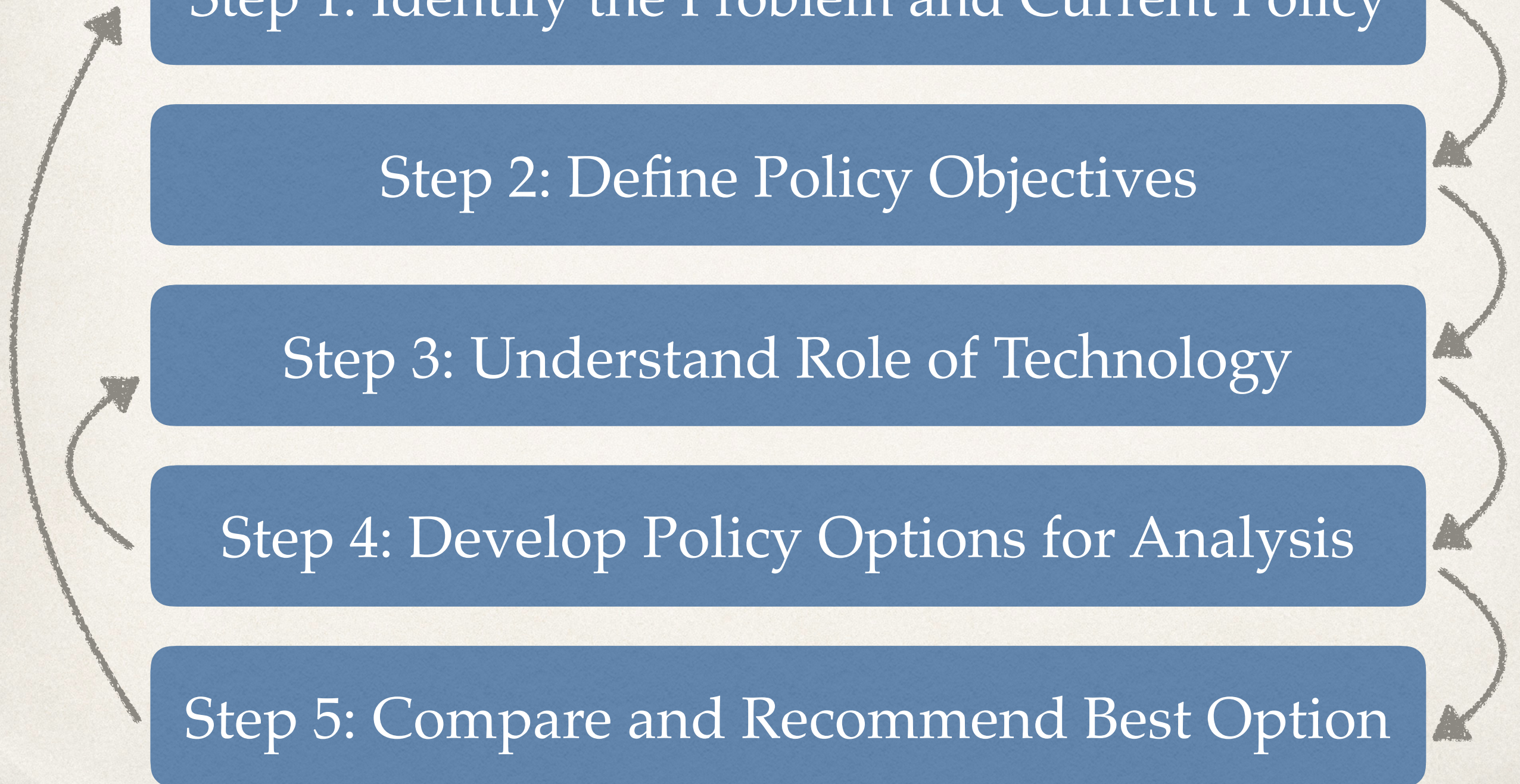
Step 1: Identify the Problem and Current Policy

Step 2: Define Policy Objectives

Step 3: Understand Role of Technology

Step 4: Develop Policy Options for Analysis

Step 5: Compare and Recommend Best Option



Step 1: Identify the Problem and Current Policy

- ❖ Describe the nature and extent of the problem
- ❖ Describe status quo (current policies; what will happen without new policy action)
- ❖ Definition of Broadband
 - ❖ Whether all Americans have access to broadband internet services with advanced telecommunications capability
 - ❖ Current definition of broadband is 25/3 Mbps down/upstream for fixed, no definition for mobile

Step 2: Define Policy Objectives

- ❖ Describe objectives that correspond to main problem and its root causes that may justify regulation
- ❖ Definition of Broadband
 - ❖ Section 706: FCC must be able to “determine whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion.”
 - ❖ Market or regulatory failures: lack of competition, lack of market viability in some areas, lack of investment, technical limitations
- ❖ Identify benchmarks required to meet definition of broadband service
- ❖ Measure and evaluate progress in increasing the availability of households with advanced telecom capability

Step 3: Understand Role of Technology

- ❖ Identify technology creating the problem
- ❖ Definition of Broadband
 - ❖ Many answers possible (for example, definition should reflect support for new applications, complexity of Internet architecture, diversity of emerging broadband network options...)

Step 4: Develop Policy Options and Analytical Factors

- ❖ Identify policy options with major variations in significant attributes linked to policy objectives
 - ❖ Always include *status quo* option of existing policy
- ❖ Identify important technical, economic and social factors that reveal substantial and important differences in the evaluation of the efficacy of policy options

Step 4 - Definition of Broadband

- ❖ Create a table that clearly using attributes to describe the policy options (there should be a paragraph that describes the table)

Policy Attribute	Option 1 (Status Quo)	Policy Option 2	Policy Option 3
Speed	25 / 3 Mbps	10 / 1 Mbps	100 / 1 Mbps
Broadband Technology	Fixed	Fixed and Mobile	Fixed
Latency	<30 ms	<75 ms	<10 ms

- ❖ Analytical Factors (description here should be sufficient to clearly define each factor)
 - ❖ Cost of network deployment to meet benchmarks
 - ❖ Diversity of applications supported
 - ❖ Existing footprint of advanced capability

Step 5: Compare Options

- ❖ Clearly support prioritization of factors
- ❖ Compare and present positive and negative impacts overall for each option based upon analysis using factors (e.g., cost benefit analysis)
- ❖ Identify preferred option

Step 5 Definition of Broadband

- ❖ Provide ranking (prioritization) of Analytical Factors
 - ❖ Existing footprint of advanced capability
 - ❖ Cost of network deployment to meet benchmarks
 - ❖ Diversity of applications supported
- ❖ Analysis (should include paragraph describing table, and concluding paragraph with recommendation)

Analytical Factor	Option 1 (Status Quo)	Policy Option 2	Policy Option 3
Advanced Footprint	More than 50%	More than 90%	Less than 30%
Application Diversity	High	Medium	High
Deployment Cost	Medium	Low	High

Don't forget your recommendation based upon your
analysis!

Prospects for Broadband



The Unequal Geography of the Gig Economy (The Atlantic)

- ❖ What is the definition of the “Gig Economy”?
- ❖ What is the Upwork web site?
- ❖ Is this a reasonable expectation today?

“All Dumas residents needed, the thinking went, was some instruction about self promotion and digital literacy, and an internet connection. An 80-hour program, to teach all this, would span 10 weeks.”

The Unequal Geography of the Gig Economy (The Atlantic)

- ❖ What is your opinion on why Samaschool struggled to introduce workers into the Gig Economy?
- ❖ What would you have done differently?

“Davenport’s ideas were multi-dimensional where Silicon Valley’s solutions were simple; they were individual rather than scalable; and, they would definitely not come on-demand”

The Unequal Geography of the Gig Economy (The Atlantic)

- ❖ How valid is the notion of the Gig Economy as the key enabler of employment throughout the economy?
- ❖ How can, or should, national broadband plans adapt to stories like this?
- ❖ The article in the Atlantic provided an example of a technocratic solution to unemployment by utilizing the Upwork site for connecting freelancers to gigs usually requiring Internet connectivity.

Another issue about Working in the Gig Economy

Unit #2 Summary

- ❖ Understand focus of U.S. national broadband plan
 - ❖ Maximize competition
 - ❖ Add broadband to universal service plan
 - ❖ Efficient allocation of government assets

Unit #2 Summary

- ❖ Universal service
 - ❖ Government-sponsored subsidy to add or keep users of a desirable service by low rates
 - ❖ Principal market / regulatory failures justification: network effects or lack of market solutions
 - ❖ Connect America Fund (CAF) established to fund broadband (fixed and mobile)

Unit #2 Summary

- ❖ Definition of Broadband for universal service
 - ❖ Factors
 - ❖ Speed (advertised and consistency)/ Latency
 - ❖ Usage allowances and price
 - ❖ Policy benchmark (Section 706)
 - ❖ Status of mobile
- ❖ Local access network technologies
 - ❖ Types of local access networks
 - ❖ Comparative advantages of different types

Unit #2 Summary

- ❖ Comparison of international NBPs
 - ❖ Difference between broadband / Internet Access defined as a legal versus human rights
 - ❖ Timeline of focus for NBPs; popularity of NBPs
 - ❖ Best practices of NBPs
 - ❖ Impact of NBPs on fixed and mobile broadband adoption