# Government funding considerations

USTTI 2023 Training Program

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## Vision: Limitless connectivity

# U.S. with \$65B USD in infrastructure funding; other countries funding broadband from public funds as well



Source: OECD, World Bank | 2023-06-07 | Ericsson Commercial in Confidence | Page 3

## U.S. Buy America provisions could apply to all Agencies and their fed financial assistance programs pending Final Rule; ~\$26b of fed funding relevant to wireless



Total current broadband funding available

Wireless-relevant

\$71b of total funding for broadband deployment programs, balance for Digital Equity programs as part of closing the Digital Divide

\$26b Ericsson at-risk SAM applies to those funding mechanisms relevant for Ericsson's portfolio. Digital Equity and fiber-likely funding portions are removed from this total

### Timelines for federal broadband infrastructure measured in years



#### History of funding broadband in the U.S.A



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#### Fiber Costs Profile in Distribution of ~16M Un-/Underserved US HH Estimate based on HH density pattern in projects sample **Digital-Divide Deployments** 6.1M Sources: 132 state-funded +Alabama (n=21) fiber broadband O California (46) 3.5 3.2 projects, 2019-2022, X Michigan (20) 1.9 △ Nebraska (25) in... 0.03 Cost ♦ Virginia (20) Project average \$ per HH served 750 HH/mi<sup>2</sup> 20 50 250 100 500 0 100k Cost = f(Density) Model from Fiber-Project Actuals 0 Using log-log regression, applied at density-class average \$18k/HH served $\cap$ 10k \$3.3k 1k ~\$230B BEAD Funds Required for 100% Fiber On top of 25% operator matches (\$78B) Log-log regression R<sup>2</sup>~25% \$191B (grant + match) \$19.2k/HH average for 16M served 100 10 100 1,000 Density 10 0.2 HH per mi<sup>2</sup>, in project area 750 HH/mi<sup>2</sup> 20 50 100 250 500 0

#### ...but it comes at a high cost

Source: US state broadband offices in AL, CA, MI, NE, & VA. FCC Broadband Map. US Census & Labor Bureaus. OEM statistical analysis. 2023-06-07 | Ericsson Commercial in Confidence | Page 7



# Traditional infrastructure funding through contracting under public provision is well established but susceptible to gaming

 Government entities can create public provision through bond and debt facilities or through capital improvement and operating budget planning for funding P3 initiatives



#### Successful Public Provisioning

#### — Plan conservatively when budgeting

- Align incentives for build and O&M contractors – manage service quality with vendor-managed SLAs and cost overruns with fixed-price contracts and completion triggers
- Provide debt service ramp to allow buffer for project to get going
- Set up project selection governance criteria and team; screen against white elephants or pork barrel projects

Source: inCode Consulting | 2023-06-07 | Ericsson Commercial in Confidence | Page 9

## Common P3 models set up an SPV as the managing entity

 Concession terms, payment risk, and delivery risk factor into the go-forward decision for the entities setting up the P3 Special Purpose Vehicle, or Concessionaire, to complete the work



#### Common P3 Construct

- SPVs are typically set up by the shareholders, usually the contractors or companies related to the contractors. Companies or private equity can fund the risk capital or debt
- SPVs are regulated by concessions from the government entity
- Bank lenders will assess the risk (project net present value) based on the payment model to the SPV
- Payments come from the government entity or the market or a combination of both. Risk is proportional to payment certainty
- Suppliers will provide goods and services to the SPV who bundles services for scale benefits

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## Payments to SPV typically based on Availability or Market Risk models 🗧

 Lower risk to the SPV with the Availability model; translates to lower risk capital requirements as part of the concession agreement. Market risk model more susceptible to adoption and force majeure risks

	Availability model	Market risk model
Compensation	Predetermined	End-user fees
Project company's responsibility/rights	Responsible for providing availability and service to an agreed standard	Right to collect end-user fees e.g. toll-road usage, subscription fees
Capital structure	5-10% equity	20-40% equity
Typical location	Europe	U.S., Latin America

- Availability model where the payments are fixed, usually from the government entity as a fixed contract, where the government entity agrees to recurring payments as compensation for the service
- Market risk model where the SPV actually gets paid by enduser fess, such as for example toll road fees. This model is much more difficult to finance and requires a lot more equity in the SPV plus a detailed analysis of the specific market to model risks

## Case: AT&T takes the role of the SPV entity in the FirstNet P3 model

—AT&T has the responsibility to build, deploy, operate, and maintain the FirstNet public safety network. Slow public safety adoption, lack of device support, and low commercial adoption are risks to model



#### Keys to FirstNet Contract Success

- Needed all states for scale benefit.
  States weren't forced into the solution.
  All states opted-in, but any state could have opted-out, set up its own SPV and funded a public safety network with private equity.
- AT&T maintains ownership of its network assets. The FirstNet contract is a DBFOM P3 concession model
- P3 project NPV justified the business risk. AT&T's business case for payments offset forecasted build and O&M costs.

### Case: Framework designed to incentivize operators at the margin

— The financial model assumes a P3 agreement between the Regulator and a wireless operator selected to build and operate the Public Safety Broadband Network. Goal was no to little additional public funding





Impact of 2021 Build America, Buy America Act

## U.S. Buy America provisions in IIJA patterned from past Buy American Acts and rulemaking; trending towards no general applicability waivers

key Buy America provisions in interim IIJA



Source: IIJA rule, Buy America CRS "IF11989.pdf"

Note: Component is any "article, material, or supply incorporated directly into an end product or construction material", FARC = Federal Acquisition Regulation Council

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U.S. Buy America Final Rule for financial assistance due May 14; no rules set yet, but guidance provided through memorandums and precedence



→ Broadband is now classified as infrastructure with IIJA. Broadband programs under NTIA, USDA, and FCC could now be under the same Buy America rules the Department of Transportation and others have been using for infrastructure

Source: inCode analysis, https://www.madeinamerica.gov/ Note: FARC = Federal Acquisition Regulation Council for setting federal acquisition funding rules, EO = executive order

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Right tool for the job a case primer



## Providing gig-cable FWA for home broadband

#### T-Mobile Home customer speeds



#### UScellular Iowa demo at 850 / 100 Mbps



Source: https://www.fiercewireless.com/tech/uscellular-demos-5g-fwa-small-iowa-town | 2023-06-07 | Ericsson Commercial in Confidence | Page 19

# FWA connections to reach 300m generating \$67b in CSP revenues

#### FWA connections (millions)





## 5G FWA surging in the U.S.



## FWA capturing >90% of net adds in the U.S.



Source: Public information shared in company reports

Reach all unserved and underserved locations

with a way to provide affordable Internet



## Stay within BEAD funding

# Determine how far fiber will go





https://www.ericsson.com/en/fixed-wireless-access