

**Hey Everyone! Thank you for coming to our webinar today.
Please make sure to call in for the audio portion and use the conference code 768-205-514**



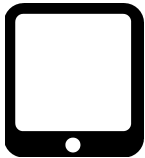
Education
SUPERHIGHWAY

**Avoid Common Mistakes on Your E-rate Applications:
Help with Your Category 1 Requests**

Welcome Oregon Schools & Districts!

EducationSuperHighway Overview

Non-partisan non-profit whose mission is to upgrade the Internet access in every public school in America



Digital learning is the most scalable path to equal educational opportunity



Access to sufficient bandwidth is a prerequisite



Upgrading schools is a national priority

Our partnership with ODE



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Why providing quality data matters

Provide you with meaningful analysis

- Accurately communicating your district's connectivity purchases will allow us to identify aggregate broadband trends within your state

Measure your progress towards ConnectEd goals

- Accurately representing what your district is purchasing will allow you to understand your progress towards the 2018 goals
- Contribute to our national understanding of the broadband progress of America's schools

Minimize your USAC follow up

- Providing more clarity in your application minimizes follow up required by USAC

Most common mistakes

Basic Information

Discount Calculation

Funding Requests

Certifications & Signature

Discount Calculation

Connectivity Questions #1 & #2

FRN Key Information

- Telecommunications vs Internet Access vs Voice
- Pricing Confidentiality

FRN Item 21 Line Items

- Service Type Categorization
- Determining Purpose
- Define Terminology: Burstable, Last Mile, WAN

Calculate Internet access Mbps per student

Connectivity Question 1

To calculate your school district's bandwidth per 1000 users, simply divide the total Internet access bandwidth your district receives by the total number of users (students and staff). Multiply your answer by 1000 and choose the appropriate selection.

Ex: 2000 Internet Mbps ÷ 1500 users × 1000 = 1,333 Mbps per 1000 users

Does the school district (or school, if not part of a district) have Internet access of

- ☐ less than 100 Mbps per 1,000 users (students and staff)
- ☐ at least 100 Mbps per 1,000 users but less than 1Gbps per 1,000 users
- ☒ at least 1 Gbps per 1,000 users



Identify number of fiber WAN connections

Connectivity Question 2

How many of the schools in the school district have Wide Area Networking connections that are scalable to 10 Gbps?

This question is trying to understand the number of schools in your district that have a fiber connection. If only a portion of schools in your district have fiber circuits, indicate the number of schools.

The only broadband type of connection scalable to 10 Gbps is FIBER.



Select the correct Category 1 service type

Category 1: Telecommunication vs Internet Access vs Voice

Category 1	Possible Services
Telecommunications	Services from an eligible telecomm carrier
Internet Access	Internet Access Wide Area Network
Voice Services	Local & Long Distance Cell Phone Voice T1/DS1 circuits for phone lines

- All services provided by an eligible telecomm carrier should be categorized under **Telecommunications**
- Most services that supply broadband connectivity to your district and/or school , including Internet Access and Wide Area Network should be categorized under **Internet Access**
- Any service or product used for **Voice Services** MUST be categorized appropriately as it is subject to the 20% phasedown

Choose “no” for the pricing confidentiality clause

Pricing Confidentiality

Is there a statute, rule, or other restriction which prohibits publication of the pricing information?

Yes

No ✓

USAC will follow-up with all FRN’s that are identified as restricted under a privacy clause

- If you select “Yes,” you will be asked to cite the type of restriction and the specific citation.
- If you are unsure, ask your service provider to provide the specific documentation in your contract that prohibits you from sharing pricing information.

Select Digital Transmission Service for most broadband connections

Category 1 Service Types

Service Type	Item 21 Service Description
Digital Transmission Service	Internet Access Wide Area Network
IA Only (no circuit)	ISP Services
Wireless Service	Wireless broadband connections Data Cards
Voice Services	Cell phone voice Local & long distance

Do not choose IA Only (no circuit) for Internet access

The majority of broadband connectivity should be categorized under the Digital Transmission Service. This will allow you to choose a Type of Connection (Lit fiber, DSL, etc.)

Select the correct “Type of Connection”

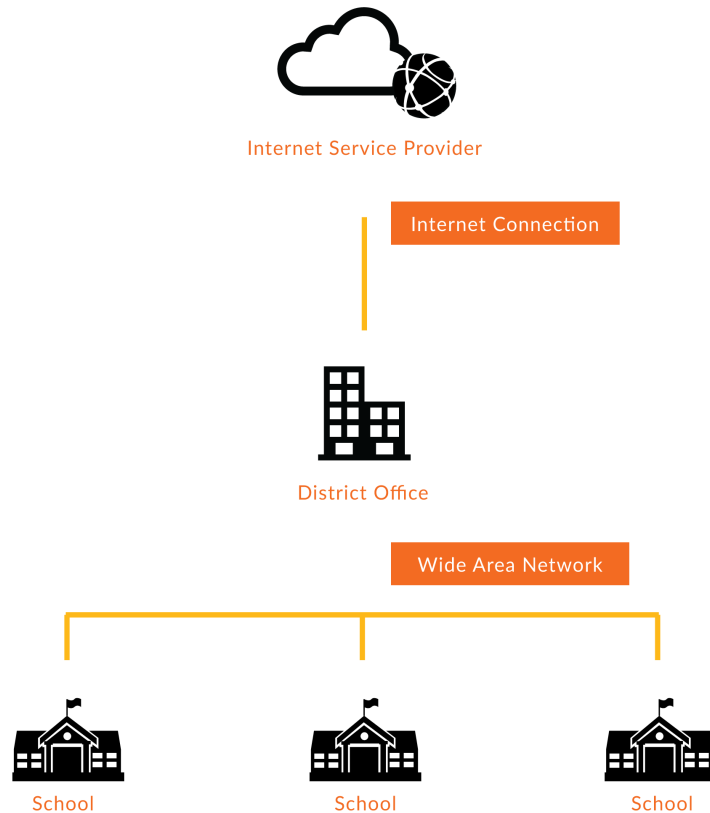
For Metro Ethernet connections choose

Lit Fiber Service as your connection type

Do you have...?	Select one of these type of connections...	You should have a bandwidth within the range...
Metro Ethernet or other Lit Fiber Service	Lit Fiber Service OC-X	0-100 Gbps
Dark Fiber	Dark Fiber Service	1-100 Gbps
Digital Subscriber Line (DSL)	DSL	0-10 Mbps
Cable Modem	Cable	0-100 Mbps
Legacy Copper Services	T-1 (DS-1) T-3 (DS-3) Telephone Dial-Up	0-100 Mbps

Select the correct “Purpose”

Broadband purpose



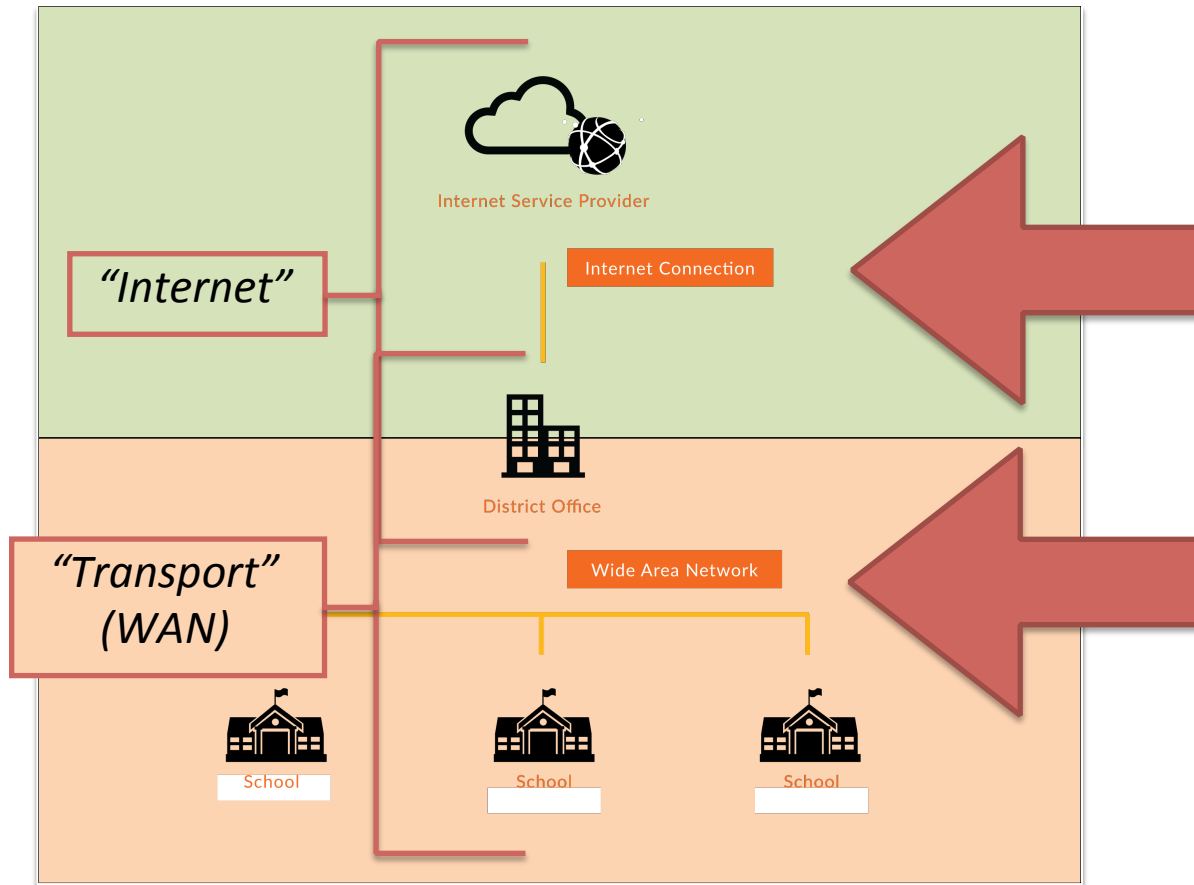
Identify HOW the broadband service is being used within your school or district’s network connectivity

Select the correct “Purpose”

Purpose	Item 21 Service
<i>Internet</i>	<ul style="list-style-type: none"> <i>Internet access</i> <i>ISP Services (transport to your school or district bought separately)</i>
<i>Transport</i>	<ul style="list-style-type: none"> <i>Wide Area Network (WAN) connecting your buildings</i> <i>A transport connection from your district office to your ISP (Internet access to your school or district bought separately)</i>
<i>Transport and Internet</i>	<ul style="list-style-type: none"> <i>A bundled service including both your Internet access and WAN, however you should be able to itemize your services. If unsure, please ask your service provider to itemize your services.</i>

Network Architecture Checklist

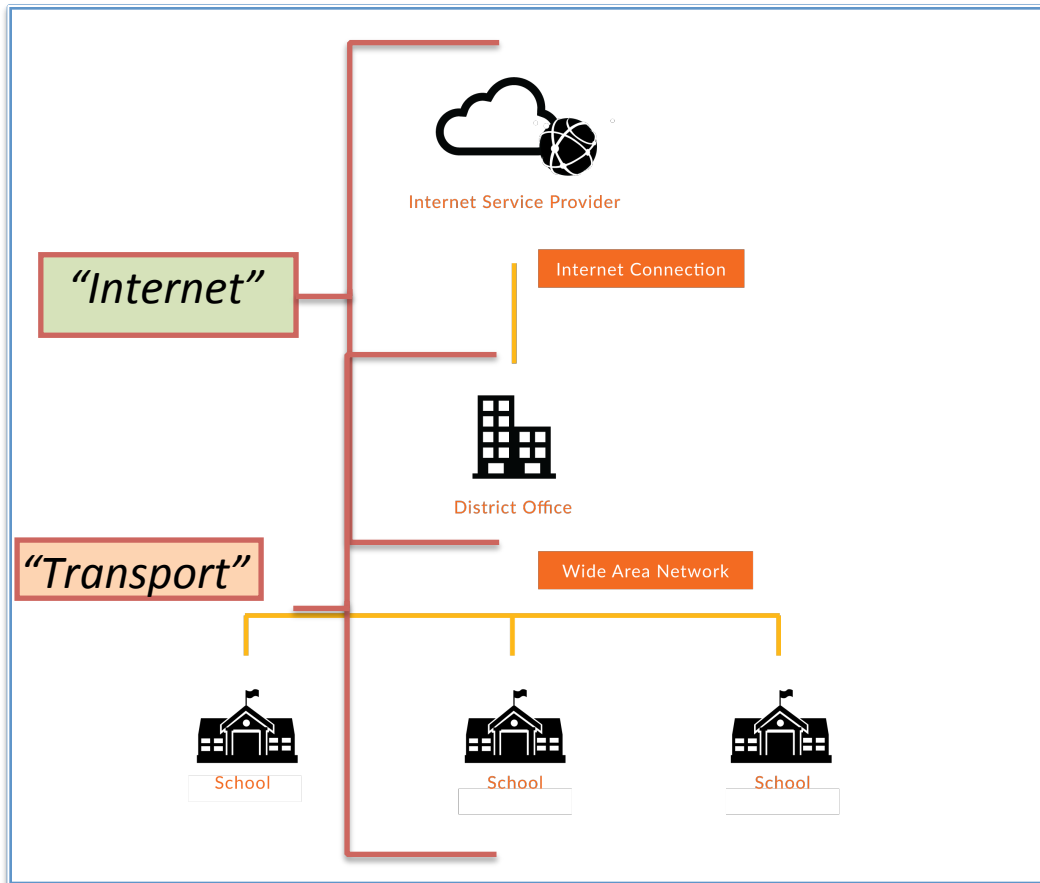
Complete Network Architecture = “Internet” + “Transport”



1. Internet Access	<u><i>USAC calls this:</i></u> "Internet"
2. WAN (Wide Area Network)	<u><i>USAC calls this:</i></u> "Transport"

Network Architecture Checklist

Complete Network Architecture = "Internet" + "Transport"



Our analysis suggests that...

25% of districts indicated only "Internet"

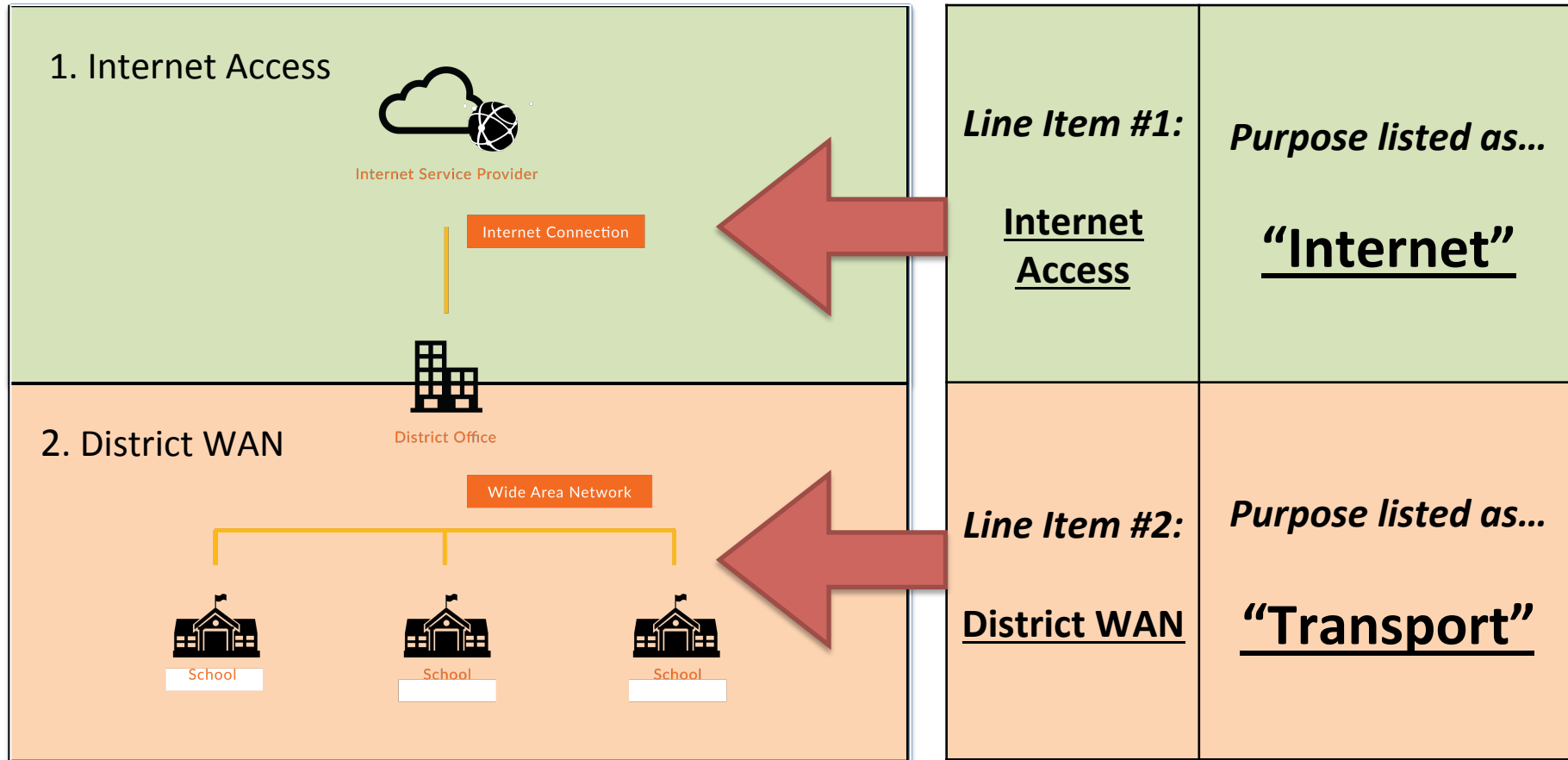
Another **25%** of districts indicated "Transport Only"

Thus, fully *one-half* of the sample districts did not account for their complete network architecture!

Note: Key findings on this slide are based on a sub-set of 300 2015 Form 471 Applications


Network Architecture Checklist

Sample District E-Rate Application #1- *two line items*



Itemize services according to “Purpose”

Provide a separate Item 21 line item for Internet access as well as your Wide Area Network



Type of Service Requested	Digital Transmission Service
Type of Connection	Lit Fiber Service
Purpose	Transport and Internet
Qty or # of Lines	11

In our district E-rate sample, 13% of districts left their Internet Access and WAN services bundled.

Itemize services according to “Purpose”

Line Item for Internet access

Type of Service Requested	Digital Transmission Service
Type of Connection	Lit Fiber Service
Purpose	Internet
Qty or # of Lines	1
Bandwidth Upload Speed	1000
Bandwidth Upload Units	Mbps
Bandwidth Download Speed	1000
Bandwidth Download Units	Mbps
Burstable Bandwidth?	No
Firewall Protection Included?	Yes
Last Mile Connection?	No
WAN	No

Line Item for Wide Area Network

Type of Service Requested	Digital Transmission Service
Type of Connection	Lit Fiber Service
Purpose	Transport
Qty or # of Lines	10
Bandwidth Upload Speed	100
Bandwidth Upload Units	Mbps
Bandwidth Download Speed	100
Bandwidth Download Units	Mbps
Burstable Bandwidth?	No
Firewall Protection Included?	No
Last Mile Connection?	Yes
WAN	Yes

Understand USAC Terms

Burstable

Burstable Bandwidth is the customer's ability to use more bandwidth, temporarily, than what is contracted for. Sometimes you may incur overage charges with this service. Ask your service provider.

Purpose: Internet

WAN

No

Burstable Bandwidth?

Yes

Burstable Speed

Burstable Units

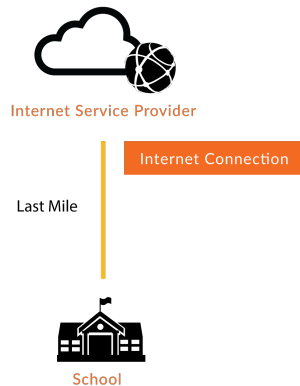
WAN (Y/N)

A Wide Area Network is the broadband connectivity between all of the schools within your district. This does not include the connection from the Internet to the district office.

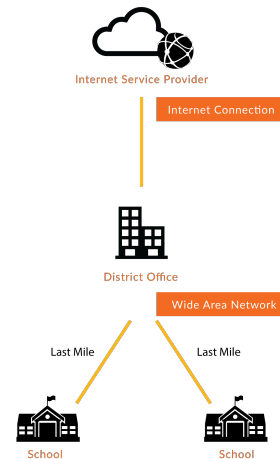
Purpose: Transport

Choose Last Mile connections

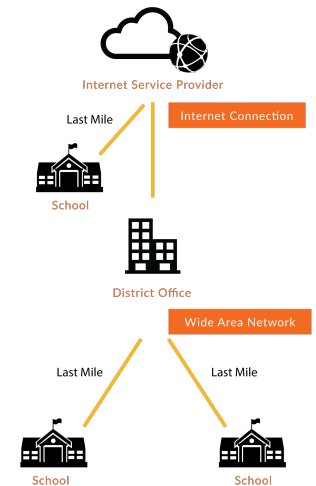
- A last mile connection is a connection to an individual building, such as a WAN connection OR a direct Internet connection for any school or library that does not have a WAN.
- The main Internet access connection from the service provider to a district hub DOES NOT qualify as a last mile connection.



Single School



School District



**School District
w/outlying school**

In summary

- **Connectivity Q#1:** Calculate Mbps per 1000 users
- **Connectivity Q#2:** Specify number of schools with fiber
- **Category 1:** Determine Telecommunications vs Internet Access vs Voice
- **Privacy Clause:** Choose no, unless you have documentation
- **Service Type:** Choose Digital Transmission for most broadband services
- **Type of Connection:** Choose Lit Fiber for Ethernet connections
- **Purpose:** Identify how the broadband service is used
- **Itemize your Services:** Separate Internet access from WAN line items
- **Burstable:** Identify on invoice or check with your service provider
- **WAN:** Choose Yes, only if service is “Transport” connections between buildings
- **Last Mile:** Identify and assign connections

Next Step Resources

- Contact your local ESD
- Read ESH FAQ & recorded webinar
 - <http://www.educationsuperhighway.org/form-471-help/>
- USAC videos and newsletters
 - <http://www.usac.org/sl/tools/modernization-order/default.aspx>

Network Architecture Checklist

Sample District E-Rate Application #2 - *three line items*

