SCHOOL BROADBAND USE SCENARIOS IN ALASKA

Achievable Bandwidth Recommendations for Common Education Tasks

BANDWIDTH REFERENCE TABLE

Kilobits (Kb)	10,000
Megabits (Mb)	10
Gigabits (Gb)	0.01

RECOMMENDED BANDWIDTH

General Internet Use and Online Testing (Source: CDL Research, DEED Website)	500 Kbps
Online Courses (Source: Vendor Recommendation)	384 Kbps
VTC Classroom via Robot (Source: Vendor Recommendation) 1 robot per classroom	2 Mbps per robot
VTC Classroom (Source: Vendor Recommendation)	2 Mbps Dedicated up & down

CURRENT BANDWIDTH/STUDENT

The most recent 2014 bandwidth audit showed, of 53 total school districts:	
5 districts	above 400 Kbps
7 districts	200-400 Kbps
15 districts	100-200 Kbps
26 districts	below 100 Kbps

Sources: Connect Alaska, Broadband Audit 2014

BANDWIDTH USE SCENARIOS - MEDIUM SIZE 200 STUDENT SCHOOL

TASK DESCRIPTIONS Excluding Non-Education Administrative Uses	SPEEDS (in Kbps or Mbps)	SCENARIO 1 Low Usage 200 Student School		SCENARIO 2 Average Usage 200 Student School		SCENARIO 3 High Usage 200 Student School	
		Number of students engaged in task	Bandwidth needed for task (Mbps)	Number of students engaged in task	Bandwidth needed for task (Mbps)	Number of students engaged in task	Bandwidth needed for task (Mbps)
Offline Use Students involved in earning offline working without internet, often with digital devices.	0	140	0	80	0	20	0
General Internet Use or Online Testing Students online doing research, using email, etc.	500	40	20	30	15	60	30
Online Courses Students taking online courses, each using a dedicated computing device.	384	10	3.8	40	15.4	100	38.4
VTC Classroom via Robot Students in a classroom with one videoconferencing robot.	2	0	0	20	2	20	2
VTC Classroom Students in a VTC classroom (2 Mbps dedicated per classroom).	2	10	2	10	2	20	4
TOTAL RECOMMENDED BANDWIDTH NEED			**25.8 Mbps** 129 Kbps per Student		**34.4 Mbps** 172 Kbps per Student		**74.4 Mbps** 372 Kbps per Student

Summary prepared by the Association of Alaska School Boards, Consortium for Digital Learning.

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Achievable Bandwidth Recommendations for Common Education Tasks

BANDWIDTH REFERENCE TABLE

Kilobits (Kb)	10,000
Megabits (Mb)	10
Gigabits (Gb)	0.01

RECOMMENDED BANDWIDTH

General Internet Use and Online Testing (Source: CDL Research, DEED Website)	500 Kbps
Online Courses (Source: Vendor Recommendation)	384 Kbps
VTC Classroom via Robot (Source: Vendor Recommendation) 1 robot per classroom	2 Mbps per robot
VTC Classroom (Source: Vendor Recommendation)	2 Mbps Dedicated up & down

CURRENT BANDWIDTH/STUDENT

The most recent 2014 bandwidth audit showed, of 53 total school districts:	
5 districts	above 400 Kbps
7 districts	200-400 Kbps
15 districts	100-200 Kbps
26 districts	below 100 Kbps

Sources: Connect Alaska, Broadband Audit 2014

BANDWIDTH USE SCENARIOS - SMALL SIZE 40 STUDENT SCHOOL

TASK DESCRIPTIONS Excluding Non-Education Administrative Uses	SPEEDS (in Kbps or Mbps)	SCENARIO 1 Low Usage 40 Student School		SCENARIO 2 Average Usage 40 Student School		SCENARIO 3 High Usage 40 Student School 3 VTC opportunities	
		Number of students engaged in task	Bandwidth needed for task (Mbps)	Number of students engaged in task	Bandwidth needed for task (Mbps)	Number of students engaged in task	Bandwidth needed for task (Mbps)
Offline Use Students offline working without internet.	0	20	0	8	0	0	0
General Internet Use or Online Testing Students online doing research, using email, etc.	500	10	5.0	10	5.0	16	8
Online Courses Students taking online courses, each using a dedicated computing device.	384	6	2.3	12	4.6	12	4.6
VTC Classroom via Robot Students in a classroom with one videoconferencing robot.	2	0	0	6	2	6	2
VTC Classroom Students in a VTC classroom (2 Mbps dedicated per classroom).	2	4	2	4	2	6	4
TOTAL RECOMMENDED BANDWIDTH NEED			**9.3 Mbps** 232.5 Kbps per Student		**13.6 Mbps** 390 Kbps per Student		**18.6 Mbps** 509 Kbps per Student

Summary prepared by the Association of Alaska School Boards, Consortium for Digital Learning.