

# Network Infrastructure Modernization Project



Colorado General Assembly Joint Technology Committee

December 16, 2024

# Auraria Campus: Who We Are

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The largest college campus in the state of Colorado

- Home to the Community College of Denver, Metropolitan State University of Denver, and the University of Colorado Denver:
  - 38,000 students
  - 5,000 faculty and staff
- All three institutions are designated Hispanic Serving Institutions (HSI); CU Denver is a designated Asian American Native American Pacific Islander Serving Institution (AANAPISI).
- We support and sustain 19,273 Colorado jobs annually.
- Auraria Campus owns, manages, and operates the 150-acre campus.

# Network Modernization



## Campus Networking Problems

Poor wireless connectivity has consistently been raised as a major issue for students

- 60% - Campus Wi-Fi is their primary connectivity
- Large inventory of Outdated/End of Life equipment needing replacement
  - 650+ network switches/routers
  - 350+ Wireless APs and 140,000 ft. of insufficient data cabling
  - 6,000+ ft of underground Campus Fiber Optic cabling improvement
- Incapable of supporting Institutional/CDHE Strategic Plans
- Lapses in wireless coverage classrooms/study areas, offices, and event spaces
- Inefficient design - Multiple SSIDs broadcast degraded performance (user experience)
- Wireless inoperable in densely populated Campus areas

The JTC's commitment to this project has allowed us to address the issues (thank you!)



# Thank You!

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## Phase I Funding

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The Joint Technology Committee (JTC) approved Phase I of the project for a total funding amount of \$4.2M

The institutions are on track to spend \$4.1M\* for FY 2024-25:

**AHEC - \$1.2M**

**CCD - \$0.5M**

**CU Denver - \$1.9M**

**MSU Denver - \$0.6M**

\*Small amount remaining will be spent in FY25/26

# Project Status (Dec. 2024)



## Auraria Higher Education Center

Cisco BOM – (\$1.1M)  
- PO completion Dec 2024  
- Equipment delivery Feb 2025  
Cat 6a cabling (\$60k).  
- Began mid-November.  
Anticipated completion - Jan 2025  
Installation Contractor (\$30k)  
(95) – Switches. Installation begins Spring 2025  
  
Phase I - Anticipated completion - July 2025

## Community College of Denver

Cisco BOM – (\$0.3M)  
- PO completion December 2024  
- Equipment delivery Feb 2025  
Fiber install 1 of 2: (\$68k)  
- PO issued. Materials ordered  
- Anticipated completion - Feb 2025.  
Fiber install 2 of 2: (\$82k)  
- Scheduled start – Jan -2026  
- Building renovation beginning Jan 2025.  
- Network upgrades after the majority of construction is completed. Summer 2025  
Phase I - Anticipated completion – Dec. 2026 (due to building construction)

## University of Colorado Denver

Cisco BOM – (\$1.5M)  
- PO issued mid-November  
- Equipment delivery Jan 2025  
Equipment installation  
-Begins Feb 2025  
  
Phase I - Anticipated completion Aug 2025

## Metropolitan State University of Denver

Cisco BOM – (\$0.3M)  
- PO completion Dec 2024  
- Equipment delivery Feb 2025  
Equipment installation  
-Begins March 2025  
  
Phase I - Anticipated completion May 2025

# Phase II Funding – (\$3.5M)



## Auraria Higher Education Center

## Community College of Denver

## University of Colorado Denver

## Metropolitan State University of Denver

Phase II Budget (\$0.5M)

Cisco BOM

- 54 network switches

Phase II Budget (\$0.3M)

Cisco BOM

- 14 network switches

- 45 APs and associated cabling

Phase II Budget (\$2.0M)

Cisco BOM

- 190 switches

- 11 routers

Phase II Budget (\$0.6M)

Cisco BOM

- 38 switches

- 97 APs and associated cabling

Phase II - Anticipated completion - July 2026

Phase II - Anticipated completion - June 2027 (due to building construction)

Phase II - Anticipated completion May 2026

Phase II - Anticipated completion - Dec 2026

# Impacts

## Phase II Critical Funding

- Phase II funding is critical to the success of the Network Modernization Project.
- Lack of funding would leave the project incomplete for all institutions, resulting in a continuation of the Campus-Wide networking problems.
- Phase I funding lays the groundwork for critical improvements.
- **Phase II fully implements these improvements.**

## AHEC

Phase II funding is critical for planned Life Safety system improvements to Door Access, Camera, and Security/Panic alarms.

## CCD

Phase I provides a fiber backbone between CCD buildings and replaces our soon-to-be End of Life campus core switch. Phase II will allow us to fully utilize this expanded bandwidth and modernize our offerings to faculty, students, and the community.

## CU Denver

Phase I provides improvements in Wi-Fi deployments. Phase II funding will support the creation of the network environment to fully utilize the new Wi-Fi infrastructure.

## MSU Denver

Phase II will complete the MSU Denver network upgrade, providing students a modern and consistent experience across all campus buildings.





## Discussion

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### **Zach Hermsen**

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### **Kevin Taylor**

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**THANK YOU**