

JCPS District Level Strategic Technology Road Map



This is a status update and long-range plan.

What's the current state?

What's the optimal solution?

What can we do right now to improve?

Three Key Focus Areas

Infrastructure
Processes
Systems



Key Takeaways

The Network, Wireless Access, & Bandwidth are greatly improved.

Systems and processes need to be improved and constantly reevaluated.

Uniform District standards are needed to ensure consistency and the highest level of service and efficacy to schools.

Stakeholder voice is essential.

Our Goal

To create world class infrastructure and processes that support a school system, not a “system of schools.”



Kentucky Educational Technology (KETS) Funding

50/50 Match between KDE & JCPS

10/11	\$4.22 Million
11/12	\$4.42 Million
12/13	\$3.43 Million
13/14	\$2.75 Million
14/15	\$3.43 Million*

*Projection with JCPS funding at
previous levels.

KETS Historical Allocation

\$1.5 Million – Replace Teacher Computers
\$1.0 Million – Allocated to Schools by ADA
\$210K – Used to offset IT salaries

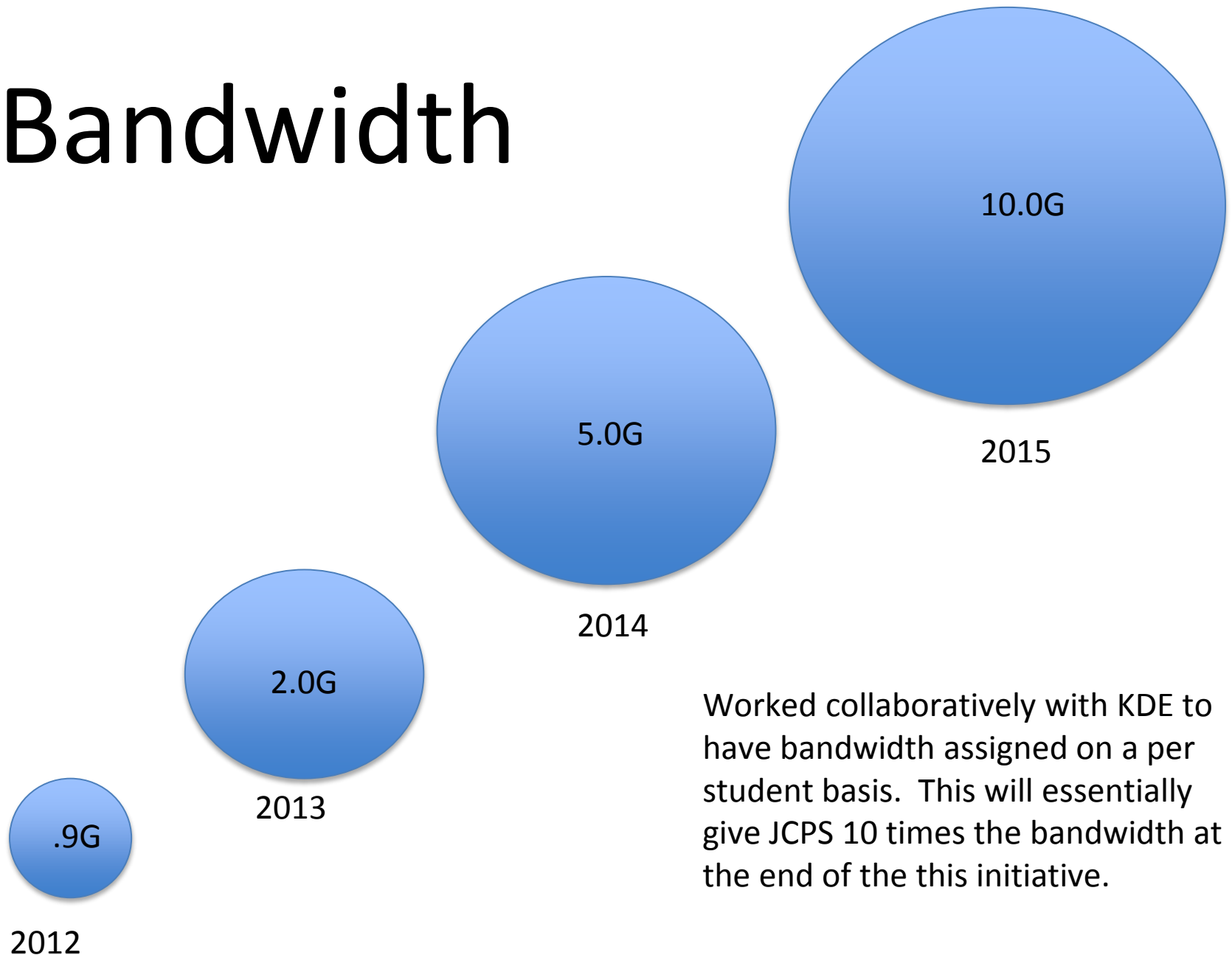
\$2.7 Million

**Remainder used to fund district wide
technology initiatives and infrastructure**

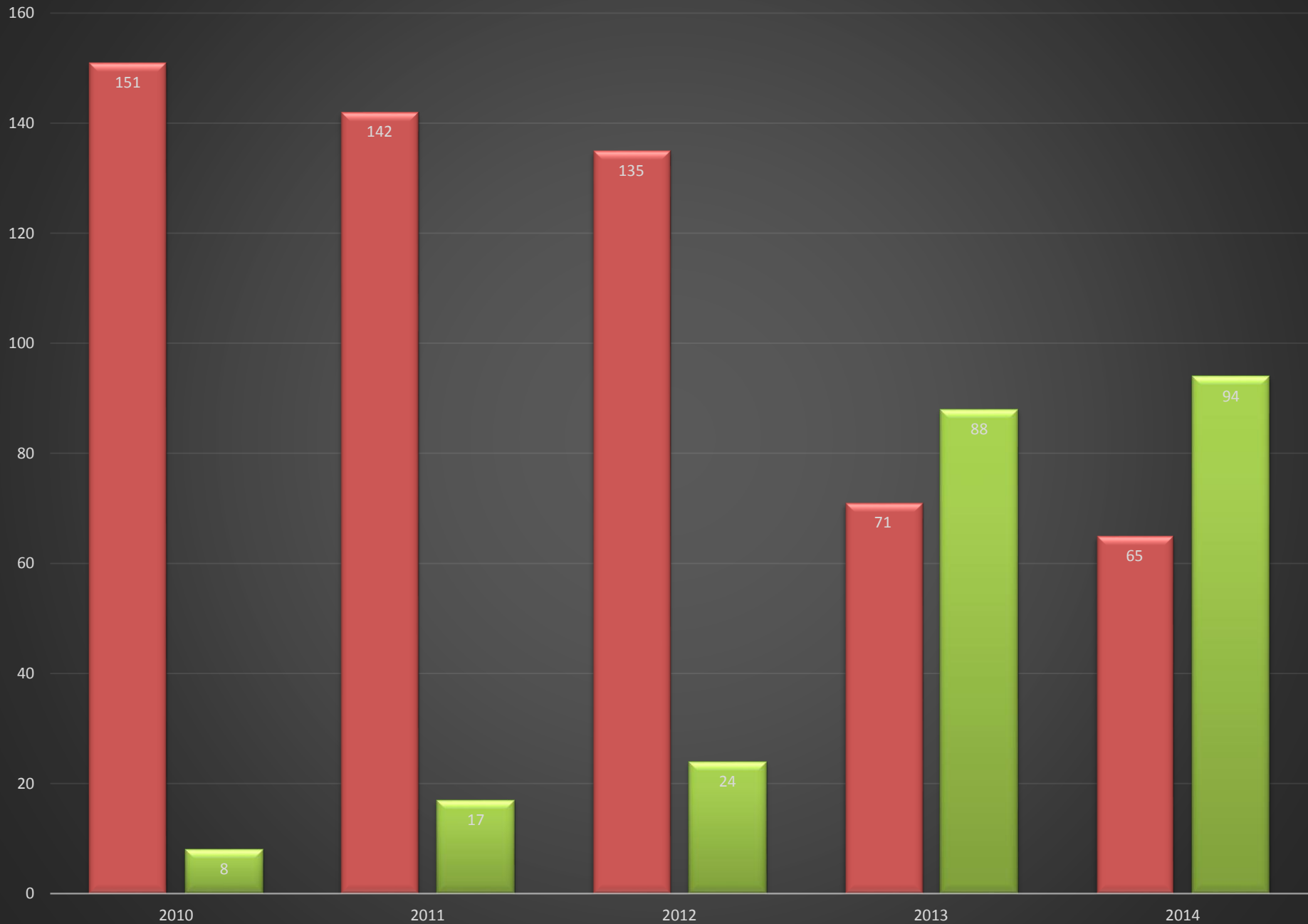
Network Capability

In summer 2013, JCPS went from having the Commonwealth's oldest network equipment to a state of the art modern platform for both wired and wireless networks.

Bandwidth



Wireless Capacity



Wireless Access

Goal: all schools at 2-to-1 capacity or greater
AND with self-registering BYOD (all Enterasys
WAPs)

Year	Schools Below Standard (1 Access Point per 2+ Classrooms)	Schools At or Above Standard (1 Access Point per every 2 Classrooms OR per every Classroom)	Schools with Self- Register BYOD
2010	151	8	0
2011	142	17	0
2012	135	24	0
2013	71	88	79
2014	65*	94	84

***Costs to bring remaining schools to
Standard and Self-Register BYOD:
\$700,000 (estimated)**

Cloud Technology

We currently have several systems that run and store data in the cloud.

Our critical systems still run on the premises.

KDE has moved all other district Munis functions to the cloud, but our processes are so massive that interrupted service would cripple our employee services.

Phone System

We currently are operating under an “end of life” analog phone system.

In the next 18 months, schools and offices will transition to a state of the art digital (VOIP) phone solution.

Wired Ethernet (internal wires)

We are operating on 1990's (CAT 5) wiring. Currently this infrastructure is still viable, however over the next 5 years a plan should be devised to upgrade the wiring.

This is not just a JCPS issue, but the nation in general.

We currently upgrade when possible during renovations.

District Security & Camera Systems

Currently JCPS buildings use “legacy,” disparate systems that do not integrate with new modern infrastructure.

Current system is adequate, but cost savings could be realized with a uniform district-wide system

Our infrastructure can support state of the art systems that combine security, surveillance, and access control.

(\$2 Million Estimate)



Underutilization of Current Technology

Within the district, there is a 20th Century reliance on paper and outmoded technology

Most forms are not automated

Copiers are not networked

Printers and Fax machines are outdated

Microsoft Office Tools not maximized

A stakeholder committee will be formed to create transition plans to modern.

Server Virtualization

From 2012 – 2014, the district “virtualized” all school based servers into one smaller data center.

The cost to replace the servers was approximately \$1 Million.

The cost to do this was \$34,000.
Replacement savings over \$900,000.

Network Operations Center

Currently, there is no central monitoring system for the district. Security, HVAC, Network, and other systems are all separately monitored and supported.

Technology now exists to create a “mission control” where all systems are monitored by one central station accessible from anywhere for less than \$100K per year – paid for through attrition.

Vendor Selection

Currently, there is a disconnect between schools, vendors, and the district.

This creates “one off” purchases of sometimes redundant products.

It is recommended that a stakeholder committee be formed to create district standard of recommended products which the district will support and service.

Policies & Procedures

IT policies need to be updated to match current needs and usage of technology.

BYOD

Unauthorized Devices / Rogue IT

Password Change

Sanitation and Disposal

Uniform Best Practices

A stakeholder committee will be formed to create modern internal technology standards.

Job Description and Function

Over time, IT's job descriptions and responsibilities have changed, and in some cases, have become outdated.

We strive to remain current and nimble to adapt to new technology and circumstances.

IT is being reorganized to meet the needs of the district and today's realities while realizing cost savings.



Data Analytics

We are one of the only districts in the state to have a true data warehouse.

We have tons of information in the data warehouse.

As we grapple with “BIG DATA,” we must strive toward data informed decision making. We have the capability to create predictive models.



Maintenance & Replacement Cycles

Teacher computers are currently on a five year replacement cycle through KETS funding.

Departments and administrators currently set their own cycles.

It is recommended that the district take over this process to create a more uniform replacement and maintenance cycle.

Backup and Disaster Recovery

Infinite Campus
MUNIS
Student Data
System Data
Network
Internet
Electricity

Vendor Managed
Vendor Managed
District Backup
District Backup
No Backup Core
No Backup Pipe
72 hr Generator

We have been in talks with Metro Government regarding a disaster recovery site. Currently, we are unable to do this because of KDE restriction.

Website

The current website is static. It has lots of content, but is not interactive or easy to navigate.

Efforts should be taken to create a redesigned Templated-based website with better functionality. The new website should be user-friendly, and updatable by departmental staff.

Uniformity and Standardization

Everything is currently “up for grabs.”

We do not have standard, recommended devices or systems.

This creates problems in management and maintenance of service.

Using the stakeholder committee, the district should set “company standards” of devices and software it will service.

Timeline & Summary

2014

Bandwidth from 2 to 5 G

Website redesigned

Stakeholder Committees formed & recommendations created.

Wireless Capacity continues to be addressed.

VOIP Phone installation begins.

2015

Bandwidth from 5 to 10 G

District-wide Wireless Capacity complete

**VOIP Phone System installation
complete**

Universal District Monitoring



TBD

**Security & Access Control
(2017 if KETS funding restored)**

**Ethernet Replacement
(Recommended initiative in 5-10 years)**

Key Takeaways

The Network, Wireless Access, & Bandwidth are greatly improved.

Systems and processes need improved and constantly reevaluated.

Uniform District standards are needed to ensure consistency and the highest level of service and efficacy to schools.

Stakeholder voice is essential.

