KentuckyWired Status Report
June 2019

History

In early 2014, Governor Steve Beshear and US Representative Hal Rogers announced a statewide project to construct a high-speed optical fiber network.[1] The network, now known as KentuckyWired, was intended to bring high-speed internet access to every county in the state, promoting economic development and equity in rural areas.[2] The idea for KentuckyWired originated in eastern Kentucky as regional leaders and organizations expressed a need for increased accessibility to high-speed internet.

By late 2011 or early 2012, the Center for Rural Development in Somerset began working on the concept of a statewide fiber "middle-mile" network.[3] Such a network could provide what is called the middle mile: high-speed broadband between the main internet backbone and any local utilities that might want to offer local internet, cell phone, and other services in remote parts of the state. Another group, Shaping Our Appalachian Region, repeatedly recommended that the state invest in fiber infrastructure to improve connectivity in Kentucky's rural communities.[4] The goal was to serve companies that wanted to locate in rural Kentucky and to give local entrepreneurs a platform from which to compete globally.

On Dec. 4, 2013, the Finance and Administration Cabinet (FAC) began the process of soliciting a consultant to assist with planning a statewide fiber-optic network.[5] After the Shaping Our Appalachian Region conference on Dec. 9, the request for proposals (RFP) for the consultant was published.[6] The governor's proposed 2014-2016 budget included $100 million for the project.[7] The General Assembly authorized $70 million for the project: $20 million in federal funding, $30 million in state bonds, and $20 million from other sources.[8] Also in early 2014, Columbia Telecommunications Corporation (Columbia) began to assist the state in the design and development of a statewide network.[9]

In April 2014, FAC issued a request for information to determine potential vendor interest and to obtain vendors' advice about designing and building the network.[10] In July, Columbia provided a detailed report on all major elements of building the network.[11] The report suggested the state consider pursuing a concessionaire model—a public-private partnership (P3)—because of the need to meet numerous financial and technical challenges.[12] Columbia estimated construction costs at $410 million.[a] [13] A few days later, FAC issued an RFP for a P3 concessionaire.[14]

In December 2014, a contract was awarded to Macquarie Infrastructure Developments. The contract scope was "to explore the feasibility of the finance, design, construction, operation, maintenance, and refreshing" of the network. [15] In August 2015, the governor established the

[a] Columbia estimated $340 million for the middle-mile backbone and $70 million to reach specific sites around the state.

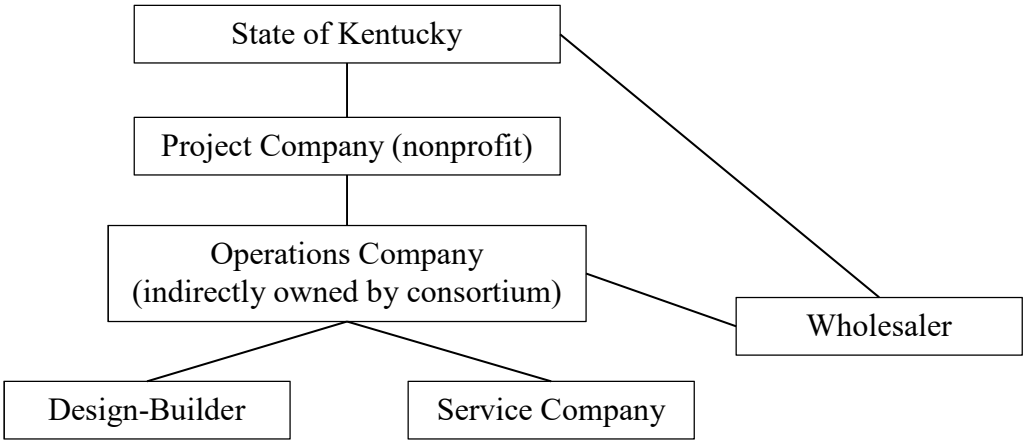
Kentucky Communications Network Authority (KCNA) within the Governor's Office to oversee the project and provide access to the network (Executive Order 2015-0574).

In September 2015, after extensive negotiations, state officials and Macquarie rewrote the contract as a set of several new contracts. Those agreements projected that the network would be completed by July 2018 with a construction cost of $274.8 million.[16] The design included more than 3,200 miles of fiber-optic cable across the state and connections to 1,100 government facilities.[17] The term of the contract was 30 years for construction, operation, maintenance, and debt repayment.

At the same time, several series of bonds were sold for more than $313 million to finance design, construction, and other startup costs.[b] [18] The Macquarie consortium also directly contributed $6.5 million in equity with the expectation of a significant return over 30 years.

The state established the KentuckyWired Infrastructure Company (Project Company), a private nonprofit, in order to borrow via less expensive tax-exempt bonds. Macquarie assigned all its responsibilities for building and operating the network to Project Company. Further, the Macquarie consortium created the KentuckyWired Operations Company (Operations Company) to manage the network's design, construction, and operation, and Project Company assigned almost all of its responsibilities to Operations Company. The consortium also formed a construction company (Design-Builder) and a service company (Service Company), and Operations Company assigned design, construction, and service responsibilities to those companies. The figure below illustrates this structure.

Figure
KentuckyWired Consortium Structure



Note: Lines represent direct contractual relationships.
Source: Program Review staff compilation of terms from relevant contracts.

[b] Other costs were to pay debt service during the construction period and to pay for issuing the bonds.

The funding described above was common with P3s and was technically non-recourse private funds, meaning that the lenders could not turn directly to the state if the borrower, Project Company, was unable to pay the debt. However, consistent with many P3s, the state promised to make what are called availability payments to Project Company, beginning when the first network sections became operational, increasing as each later section was completed, and continuing with annual adjustments for the remainder of the 30-year term. Availability payments include repayment of the private-sector borrowing and equity investment, along with additional funds for ongoing operation and borrowing-related expenses.

State officials assumed that all executive branch agencies along with K-12 schools and higher education would use the network as soon as portions of it became operational. The money those agencies were spending on network services would be used to make the availability payments. The financial model also assumed that broadband spending would increase over the 30-year period. Working from this expected income, state officials and the vendor estimated what the state could afford.

However, it soon became clear that KCNA would not be eligible for an important federal K-12 subsidy called the E-rate program. If the Kentucky Department of Education (KDE) were to switch its K-12 network to KentuckyWired, the state would lose several million dollars in federal rebates. Starting as early as January 2014, KDE frequently informed project leaders of the need to protect E-rate eligibility. FAC attempted to resolve this problem by issuing a new RFP in October 2015, but the RFP was canceled without explanation after the existing K-12 network provider, AT&T, protested. This left a shortfall of about 45 percent of the money needed for availability payments.

The Columbia report and Macquarie proposal advised creating a wholesaler, a separate company to market and lease extra capacity in the KentuckyWired network. Macquarie projected more than $1 billion in wholesale revenue for the state through 2045, but this number has not been verified. Wholesale revenues have been mentioned as a way to cover shortfalls such as the loss of K-12 spending and expenses that were not covered by availability payments. In June 2015, FAC entered into a memorandum of agreement (MOA) with the Center for Rural Development. There is an unsigned copy of a revenue-sharing addendum that, if valid, would reduce the funds available for KentuckyWired.

Within 4 weeks of executing the rewritten contracts, the Design-Builder filed the first of many claims requesting schedule changes and compensation from the state beyond the availability payments. The contract provided such schedule and monetary relief for so-called supervening events not under Design-Builder's control. Eventually, these claims were estimated to be more than $191 million of additional expense to the state. Between March and December 2018, the state and the consortium negotiated a settlement, agreeing to decrease the amount paid Design-Builder to approximately $101 million, streamline future construction, minimize future claims, and set a new completion target of October 2020. The settlement was executed in March 2019 after bondholder approval. In order to make payments on the settlement, KCNA received authorization from the General Assembly to borrow up to $110 million of additional funds.

Major Conclusions

This section outlines conclusions that Program Review staff view as the most significant. The Detailed Findings section lists specifics that support these conclusions, along with other findings worth noting.

Financing And Funding. KentuckyWired faces significant funding challenges, most of which should have been anticipated. These include loss of expected K-12 participation, possible revenue sharing, substantial costs outside the availability payments, and variations in market prices.

Project Structure And Risks. The risk allocation favored the private partners but might have been the only way to obtain financing and lower costs. State officials handled some risks poorly.

Policies And Procedures. Although the contract negotiations and bond sale technically followed all legislative oversight rules, the bond issue might have been inconsistent with the branch budget bill because Finance and Administration Cabinet officials committed the state to debt supported by appropriations that exceeded the budget authorization. Statutes do not appear to provide formal consequences for this and other apparent violations of policy.

Justification For KentuckyWired. High-speed broadband is necessary for many businesses but does not guarantee business development. It is possible that KentuckyWired is building alongside existing middle-mile cables, but increased demand was expected to justify the added capacity. It is not known whether KentuckyWired will facilitate local utilities' last-mile connections in rural areas.

Detailed Findings

Financing And Funding

The total cost of availability payments over the 30-year contract term is unknown and must be estimated because the amounts can be adjusted for various reasons. KentuckyWired faces two funding issues: shortfalls in funding these payments and additional costs not covered by them.

- The failure of KentuckyWired to obtain the contract to serve K-12 schools left an immediate shortfall of approximately 45 percent of the funds needed for availability payments. Under federal rules, KentuckyWired could probably provide E-rate-eligible services if it were to win a competitive procurement that met E-rate requirements, but without K-12 income, the state might have to fill a gap of more than $500 million during the term of the contract.
- Wholesale revenues might cover this and other shortfalls, but a 2015 agreement with the Center for Rural Development might give the center a significant share of this revenue. If the addendum was valid and if the projection of wholesale revenue at more than $1 billion was correct and distributed evenly across the state, then the center would receive more than $500 million in exchange for less than $24 million in federal grant funds.
- The state has to replace outmoded equipment and software (system refresh) twice, at 10 and 20 years after the rewritten contracts were executed. Each refresh was projected to cost

$43.7 million. There are multiple indications that the system will need to be refreshed more often in order to remain competitive. No refreshes are covered by the availability payments as originally calculated.[c]

- The cost of financing is the largest single cost to the project, so creating a nonprofit Project Company to obtain tax-exempt bonds resulted in lower financing cost. However, other tax-exempt bond structures might have been even less expensive.
- To finance the settlement and future supervening events, the state will have to borrow up to $110 million and repay that amount plus interest, in addition to all other project expenses.
- Wholesale revenues, originally proposed as a bonus, might be the only way to pay for project costs after the shortfalls and additional expenses. However, the basis of the revenue projections and their reliability are unknown.
- If market prices for broadband decreased for any reason, such as competition stimulated by KentuckyWired, there could be adverse funding effects.
  - KentukyWired would not be able to meet its income requirements unless state agencies paid above-market rates or moved up to more expensive services they might not need.
  - If KDE's broadband spending decreased, it would have less E-rate money to give school districts for technology support unless it purchased higher levels of service that it might not need.
  - Wholesale revenues might be lower than expected.

Project Structure And Risks

- Risk allocation was favorable to the private partners, but rating agencies found the allocation to be reasonable and perhaps necessary. As the first availability-payment-based P3 in Kentucky and the first statewide broadband P3, a rating agency said its rating depended on the state's accepting some of the risk. The state's promise to make availability payments and to cover the cost of supervening events shielded the lenders from risks. The state also accepted some additional risk in exchange for a lower fixed price.
- The final project structure was materially the same as Macquarie's RFP response, but the construction price increased 37 percent over Macquarie's original proposal.
- Availability payments are contractual obligations similar to debt, and failure to appropriate funds for them would seriously damage the state's credit rating.
- Establishing Project Company as the borrower had no effect on the state's risk, and state control of Project Company had no effect on the state's obligations. By agreeing to availability payments, the state would have faced the same risks and obligations regardless of the borrower.
- Kentucky's consultant in planning the RFP correctly predicted many of the project's key risks. The state poorly managed some of the risks that it accepted. The most significant were pole attachment agreements, state highway rights of way, and private easements.
- According to third-party assessments, the December 2018 settlement, including payments and amendments to the schedule, was a reasonable solution to the parties' disputes over

[c] Availability payments could be adjusted to cover these costs, but the state would still have to find funds to pay them.

supervening event claims. The amendments clarified terms and responsibilities and gave the state a reasonable opportunity to assist in minimizing future supervening events.
- Some potential KentuckyWired customers have expressed skepticism that the network can offer sufficiently reliable and comprehensive services for some time after operation begins.

Policies And Procedures

- The negotiations to amend the contract were technically consistent with the Kentucky Model Procurement Code and were typical of a P3 with availability payments, but they involved significant changes after the original award.
- The project's financing technically followed all required legislative oversight rules. Although the bond sale might have been inconsistent with the 2014 budget bill, several 2015 meetings of the Capital Projects and Bond Oversight Committee were canceled, so the committee did not review the sale. The committee can request an injunction to stop a bond sale.
- There were some violations of either state law or FAC policies. For example, the MOA with the Center for Rural Development and probably certain other agreements should have been submitted to the Government Contract Review Committee. The violations, however, appear to have no formal consequences.

Justification For KentuckyWired

The primary reason given for KentuckyWired was that it would enable economic development more effectively than private-sector broadband expansion. Secondary reasons were to increase competition, increase speeds, and lower costs. Although it might provide ready access to high-speed middle-mile broadband, most of the final (last-mile) connections will be built by private utilities.
- For many potential employers, high-speed broadband is a necessity like water and electricity. Adequate broadband availability does not guarantee business development, but its absence can deter development.
- There is no reliable information on the existing middle mile—its location, capacity, or medium (optical or copper). KentuckyWired acknowledged that it parallels some of the existing middle mile but assumed that demand would increase enough to require both the current and new capacity.
- Broadband expansion in rural areas faces the high cost of building the last mile to a small number of customers, and in rugged terrain the cost is even greater. It is not known whether KentuckyWired will expedite local providers' expansion of last-mile networks.

[1] John Cheves. "Beshear and Rogers tout $100 million plan to expand high-speed Internet access in Ky." *Lexington Herald-Leader*. January 22, 2014.
[2] Kentucky. Finance and Administration Cabinet. "Commonwealth of Kentucky Request for Proposal (RFP) For Next Generation Kentucky Information Highway (NG-KIH) Initiative Finance/Concessionaire Partner RFP 758 1500000003." July 11, 2014. p.8.
[3] Rep. Rogers's statement in video of press conference held Dec. 23, 2014. (37:10).
[4] Rural Policy Research Institute. *Shaping Our Appalachian Region: Final Report to The Executive Board*. September 23, 2014.
[5] Form EO1 079 14000003572.

[6] Form RFP 079 14000000126
[7] Kentucky. Office of State Budget Director. Governor's Office for Policy and Management. *Commonwealth of Kentucky 2014-2016 Executive Budget*. January 21, 2014. P.16.
[8] H.B. 235, Gen. Assem., Reg. Sess. (Ky.2014). p.126
[9] Kentucky. Finance and Administration Cabinet. Personal service contract PON2 079 1400001624 between The Commonwealth of Kentucky Finance and Administration Cabinet And Columbia Telecommunications Corporation d/b/a CTC Technology & Energy. March 17, 2014.
[10] Kentucky. Finance and Administration Cabinet. "Request For Information. Next Generation Kentucky Information Highway (NG-KIH) (Statewide Middle Mile Fiber Optic Infrastructure)." April 15, 2014.
[11] CTC Technology & Energy. *The Next Generation Kentucky Information Highway: Building Fiber Optic Infrastructure*. Kentucky. July 2014.
[12] CTC Technology & Energy. *The Next Generation Kentucky Information Highway: Building Fiber Optic Infrastructure*. Kentucky. July 2014. P. 76.
[13] CTC Technology & Energy. *The Next Generation Kentucky Information Highway: Building Fiber Optic Infrastructure*. Kentucky. July 2014. p.37.
[14] Kentucky. Finance and Administration Cabinet. "Commonwealth Of Kentucky Request For Proposal (RFP) For Next Generation Kentucky Information Highway (NG-KIH) Initiative Finance/Concessionaire Partner RFP 758 1500000003." July 11, 2014. Kentucky. Finance and Administration Cabinet. "Commonwealth of Kentucky Request for Proposal (RFP) For Next Generation Kentucky Information Highway (NG-KIH) Initiative Investment Partner RFP 758 1500000027." July 21, 2014.
[15] Kentucky. Finance and Administration Cabinet. "Master Agreement For Next Generation Kentucky Information Highway Initiative Concessionaire Partner." December 22, 2014.
[16] Kentucky Wired Operations Company LLC. "Design-Build Agreement Next Generation Kentucky Information Highway Project." September 3, 2015. P. 50.
[17] Kentucky. Finance and Administration Cabinet. "Project Agreement: Next Generation Kentucky Information Highway Project." September 3, 2015. Schedule 3, p.44.
[18] Kentucky. Kentucky Economic Development Finance Authority. *Official Statement*. September 1, 2015. P. 1.