

**EXAMINATION OF CERTAIN CONTRACTS,
OPERATIONS, AND ACTIVITIES OF THE
KENTUCKY COMMUNICATIONS NETWORK AUTHORITY**



**MIKE HARMON
AUDITOR OF PUBLIC ACCOUNTS**

Table of Contents

Letter from Auditor Harmon to the KCNA Executive Director	3
Chapter I: Questions Answered About KentuckyWired.....	5
Background Questions	5
Funding Questions	9
Cost Questions	11
Contract Questions.....	12
Construction Questions.....	13
Operation Questions.....	16
Termination Questions.....	17
Taxpayer Questions	19
Chapter II: Walkthrough of Project Development.....	21
Major Agreements and Parties.....	21
KWIC and the Commonwealth’s Obligations	28
Chapter III: Procurement, Structural, and Incentive Issues	35
Finding 1: The Structure of KentuckyWired Departs from Typical P3 Arrangements and the Original Design.....	35
Finding 2: Significant Terms Favorable to the Commonwealth Were Changed During Procurement	40
Finding 3: The Role of the Private Sector in Financing the Project has been Overstated Publicly	47
Finding 4: The Public Was Misled about Viable Revenue Streams Available to Finance the Project	54
Chapter IV: Findings Regarding Construction, Monitoring, and Operations.....	58
Finding 5: The Project Has Significant Cost Overruns	59
Finding 6: The Commonwealth Proceeded Despite Unrealistic Contract Terms Related to Pole Attachments, Permitting, and Easements.....	60
Finding 7: KCNA Has Inadequate Financial Analysis and Monitoring of Potential Costs.....	70
Finding 8: The \$88 Million Settlement MOU Lacked Sufficient Analysis.....	75
Finding 9: The Commonwealth is Relying on Speculative Wholesale Revenues	79
Chapter V: Conclusions and Recommendations	88
Appendices.....	94
KCNA’s Response to Report.....	122
Auditor’s Reply.....	124

Table of Figures & Appendices

Figure 1: KentuckyWired Contract Arrangements	7
Figure 2: Project Financing, Including Settlement MOU, Anticipated Borrowing, and Cost Overages Paid by the Commonwealth	10
Figure 3: Major Project Costs	11
Figure 4: KentuckyWired Ring Map	14
Figure 5: Ring Completion Comparison Timeline	14
Figure 6: Construction Status	15
Figure 7: Typical Design-Bid-Build	36
Figure 8: Typical DBFOM P3	36
Figure 1: KentuckyWired Contract Arrangements	37
Figure 9: Proposal of Project Funding Flows	38
Figure 10: KentuckyWired Funding Flows	39
Figure 11: KCNA Illustration of Project Financing	49
Figure 12: Pie Chart Illustration of Project Financing as Reported by KCNA	50
Figure 13: Planned Funding Distribution under Project Agreement	51
Figure 2: Project Financing, Including Settlement MOU, Anticipated Borrowing, and Cost Overages Paid by the Commonwealth	52
Figure 14: Projected General Fund Burden	57
Figure 15: Project Funding Requirements	58
Figure 16: Uses of KCNA Anticipated New Debt	77
Figure 17: Cautions to Electric Utilities Published on KentuckyWired Website.....	82
Figure 18: Anticipated Uses of Projected Wholesale Revenues.....	87
Appendix A: Correspondence with Leducor	95
Appendix B: Audit Right of First Refusal Letter	98
Appendix C: Center for Rural Development Memorandum of Agreement with Commonwealth and Addendum	99
Appendix D: KDE Letter to former FAC Secretary	114
Appendix E: Availability Payment Projected Deficits	116
Appendix F: Classification of Supervening Event Claims	117
Appendix G: Glossary of Terms Used in Report.....	118



MIKE HARMON
AUDITOR OF PUBLIC ACCOUNTS

September 27, 2018

Phillip K. Brown, Executive Director
Kentucky Communications Network Authority
209 St. Clair Street, 4th Floor
Frankfort, KY 40601

Dear Mr. Brown:

The Auditor of Public Accounts (APA) has completed its examination of the Kentucky Communications Network Authority (KCNA). This report summarizes the procedures performed and communicates the results of those procedures.

The focus of the examination was to evaluate contracts, procurement, financing structure, and other areas of concern related to KCNA and the KentuckyWired project. Our procedures included interviews with KCNA employees and outside parties, review of practices and procedures, analysis of financial documents and contracts, and other procedures as necessary.

The purpose of this examination was not to provide an opinion on the financial statements, but to ensure appropriate processes are in place to provide strong fiscal management and oversight of the activity of KCNA and to review specific issues brought to the attention of this office.

The conclusions, recommendations, and opinions expressed in this examination report are those of the APA. They are independent of KCNA or the general government of the Commonwealth, as provided for in KRS 43.050.

Detailed findings and recommendations based on our examination are presented in this report to assist KCNA in implementing corrective action. Overall, these findings indicate the following:

- Significant structural changes occurred between initial procurement and the final version of the project that shifted costs and responsibilities to the Commonwealth. These included not using proposed private sector non-recourse financing, and the Commonwealth taking responsibility for pole attachments, easements, and other permitting. Because of changed incentives due to these structural changes, KCNA should continue to improve its monitoring role for the project.



- At the time the project agreements were signed, there were foreseeable problems and ignored warnings related to K-12/E-rate funding and pole attachments.
- Greater scrutiny should be given to wholesale revenue projections, which are now being relied upon for project sustainability.

Multiple private companies are involved in the KentuckyWired project. Therefore, information regarding ownership is subject to change and has been provided as of the dates noted in this report.

Auditors requested to interview representatives of one of the primary contractors, NG-KIH Design-Build LLC (DB); however, that request was declined as shown in the correspondence attached as Appendix A: Correspondence with Leducor. Despite this fact, auditors determined they had sufficient information to conduct the examination. All vendors, including DB, provided documents in response to auditor requests during the examination.

Due to the ongoing nature of the project, data is not yet available regarding all construction and operational costs, nor for actual revenue generated from the network. Therefore, auditors used the most reliable data available and their professional judgment to analyze projections provided by third parties, and in some cases make reasonable projections of these costs. The report indicates where projections are used, as well as the variability of amounts. No one can predict future outcomes; but this report illustrates that healthy skepticism is warranted.

We appreciate your assistance and the assistance of your staff throughout the examination. If you have any questions or wish to discuss this report further, please contact me or L. Christopher Hunt, Executive Director, Auditor of Public Accounts.

Sincerely,

A handwritten signature in black ink, appearing to read "Mike Harmon", with a long horizontal stroke extending to the right.

Mike Harmon
Auditor of Public Accounts

CHAPTER I: QUESTIONS ANSWERED ABOUT KENTUCKYWIRE

Background Questions

Why is the Auditor of Public Accounts Examining KentuckyWired?

The Auditor of Public Accounts (APA) initiated a special examination of the Kentucky Communications Network Authority (KCNA) in response to the notice of the Finance and Administration Cabinet's intention to obtain similar services set forth in the letter dated December 8, 2017 at Appendix B: Audit Right of First Refusal Letter. The APA exercised its statutory right of first refusal to perform the services requested on December 21, 2017. After reviewing preliminary information, the APA determined that a special examination would best address the areas of concern noted in the Finance and Administration Cabinet's request for audit services.

The initial purpose of this examination was to evaluate contracts, billing, procurement, expenditures, planning, and other areas of concern related to KentuckyWired. Other areas of concern identified during the examination were addressed as well. The Commonwealth entered into a Memorandum of Understanding (settlement MOU) with private vendors during the course of the examination, which modified some of the planned scope of the examination. The purpose of the examination was not to provide an opinion on financial statements.

Auditors reviewed documents from accounting systems, evaluated contracts, conducted interviews, and performed data analysis. Any findings identified by the APA as part of this special examination are presented in this report, along with recommendations to ensure KCNA's operations are appropriate and transparent. In addition, due to the significant problems encountered during the KentuckyWired project, recommendations are made with regard to any future vendor arrangements of this nature, including those categorized as "Public-Private Partnerships" (P3).

What is KentuckyWired and who are the parties involved?

KentuckyWired is a statewide broadband infrastructure project. The project's primary goal is to construct a "middle mile" fiber optic network. The network does not connect directly to any home or business, but would allow users statewide to connect to the network through "last mile" access provided by internet service providers (ISPs) or other entities. Government sites will have access to the network when construction is complete, but the access of private businesses and citizens will depend on ISPs providing the link between their location and the KentuckyWired network.

The General Assembly established the Next Generation Kentucky Information Highway (NG-KIH) Fund and included the NG-KIH project as a capital project in the 2014-2016 budget to facilitate construction. KCNA is an agency of the General Government Cabinet, is administratively attached to the Office of the Governor, and was established by Executive Order on August 17, 2015. KCNA exists to oversee and maintain KentuckyWired, the Commonwealth's planned open-access broadband network; manage the contracts aimed to design, build, operate,

and maintain this network; and other related and supporting duties. KCNA's roles and responsibilities were codified by KRS 154.15-020, effective June 29, 2017.

The project was initially envisioned as a fixed price partnership between Kentucky and a consortium of contractors led by Macquarie Infrastructure Developments LLC. To take advantage of tax-exempt bonds, this approach was changed by creating and inserting Kentucky Wired Infrastructure Company, Inc. (KWIC), a non-profit corporation created by the Commonwealth, between the Commonwealth and the contractors. The contract between the Commonwealth and KWIC is called the Project Agreement (PA).

KWIC contracted with a three-company consortium, Kentucky Wired Operations Company, LLC (KWOC) to manage the construction and operations of the project. This contract is called the Project Implementation Agreement (PIA).

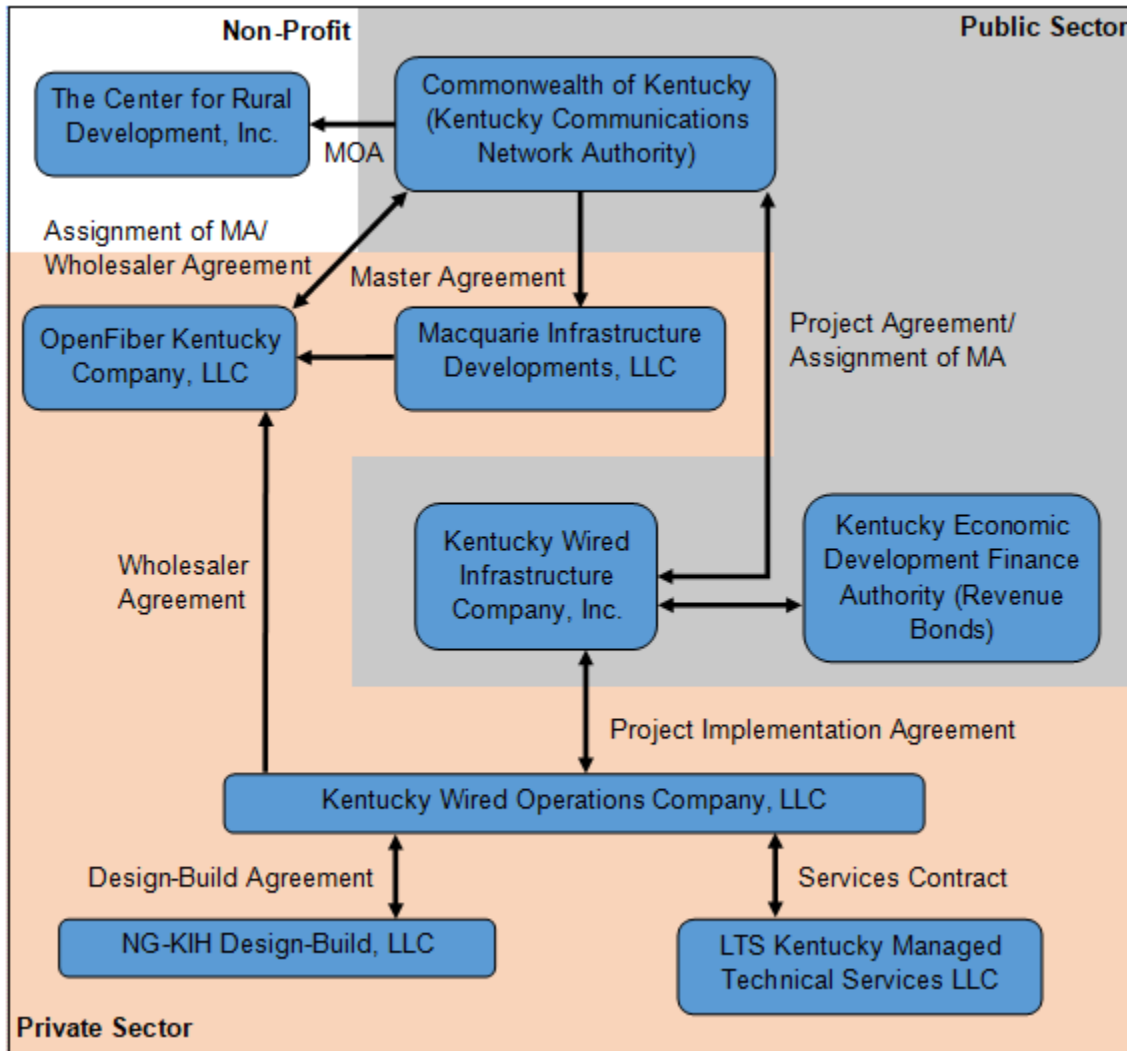
KWOC created two separate contracts to construct and operate the network. The first contract, the Design Build Agreement (DBA), is with a consortium called NG-KIH Design Build LLC (DB). The second contract, the Services Contract (SC), is with LTS Kentucky Managed Technical Services LLC (LTS).

Numerous other subcontractors and agreements are involved in the project, but the above summary presents the main participants and contracts related to the issues leading to the special examination. These contracts and relationships are graphically depicted in Figure 1 (below). This figure is repeated in Chapter III (page 35) of the report. The contracts and parties depicted are discussed in greater length in Chapter II (page 21).

A glossary of terms used in this report, including parties, for quick reference is at Appendix G: Glossary of Terms Used in Report.

Report continues with Figure 1 on next page.

Figure 1: KentuckyWired Contract Arrangements



Source: APA based on project agreements.

What was the funding plan?

The negotiated construction funding plan to build the network consisted mainly of KWIC issued bonds (\$312.8 million), direct state funding (\$30 million), an anticipated federal grant (\$23.5 million), and planned contractor contributions (\$6.5 million). Therefore, state-affiliated bonds, federal grants, and direct state funding represented approximately 98% of the initial plan, while the contractor’s share was approximately two percent. Commonwealth general funds have been appropriated to fund KCNA and to make up for funding shortfalls encountered after the project’s commencement.

What is a public-private partnership (PPP or P3)?

A public-private partnership is a long-term contract between the government and a private company, typically related to provision of infrastructure. The specific arrangements of a P3 can

vary, but a key purpose is transferring responsibilities and risks of a project to the private sector. When the responsibility of financing a project is given to the private sector, financing is secured by leveraging project revenues or payments from the government entity based on performance of the infrastructure asset. Typical P3 arrangements compared to KentuckyWired are addressed in Finding 1 (page 35).

How was KentuckyWired procured?

This report addresses deviations from procurement policies in effect at the time the project was initiated. The ending project structure and terms differed from both the RFP and Macquarie's response. KRS 45A.077 authorizes a competitive bidding process for awarding contracts using the public-private partnership delivery method. The statute was effective for projects initiated on or after April 8, 2016. The RFP for services leading to the KentuckyWired project was released on July 11, 2014. The KentuckyWired initiative has been described as a public-private partnership (P3 or PPP), even though laws specifically referring to this form of vendor relationship did not exist at the time in Kentucky.

This report refers to P3 as a concept or framework generally understood, rather than specific reference to Kentucky law, except where specifically discussing Kentucky's P3 laws and regulations.

Who will own the network?

Ownership of network infrastructure is divided among several entities. The Commonwealth will own the majority of the middle-mile infrastructure that is being constructed currently. According to a Memorandum of Agreement between the Commonwealth of Kentucky and the Center for Rural Development (CRD), CRD will own certain segments of the network in eastern Kentucky. CRD will also share wholesale revenue from additional network segments. At the end of a 30-year period, the CRD-owned segments will be conveyed to the Commonwealth. The Memorandum with CRD does not establish an end date for revenue-sharing. OpenFiber, the wholesaler, will own any infrastructure it places in service.

What were the intended benefits of the network to Kentucky?

The initial plan was to offset the project costs by migrating government sites to use the new network, including K-12 internet services further discussed in Finding 4 (page 54). In addition, wholesale revenues from additional network capacity were projected that would benefit the Commonwealth. Issues with those revenues are discussed throughout the report and Finding 9 (page 79). In addition, the network is intended to spur private investment in Kentucky by improving broadband access across the state.

Funding Questions

What was the funding plan for the project?

Over the life of the project, the bond redemption and interest, operations costs, and return on the contractor's investment were to be paid using an annual payment referred to as availability payments. The plan was to offset 55% of the availability payments by migrating government and higher education sites to use the new network. Of course, this migration cannot be accomplished until the network is operational. The remaining 45% of availability payments were to be offset by obtaining the contract to provide K-12 internet services. Problems with that plan are addressed in Finding 4 (page 54).

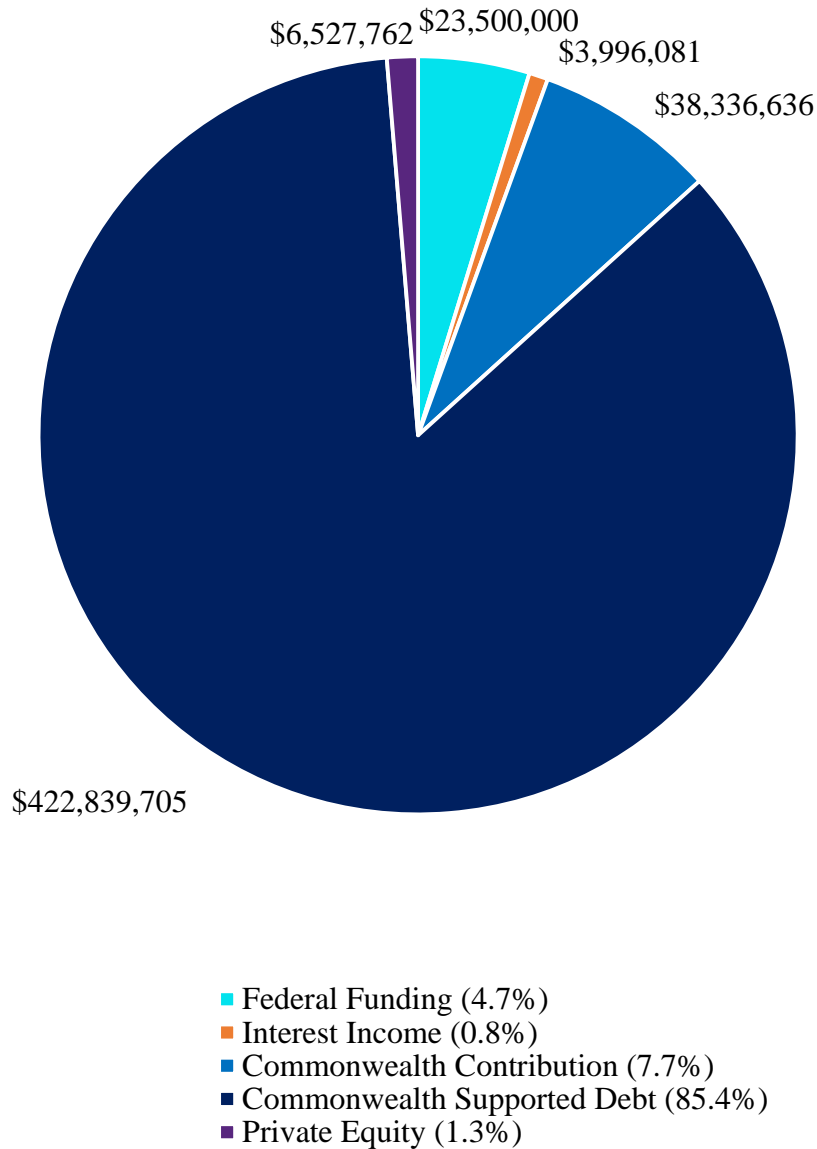
Costs that have emerged since the project commenced will ultimately have to be covered by Commonwealth funds. The largest examples of these costs are supervening events and associated litigation. Supervening event claims made are listed in Appendix F: Classification of Supervening Event Claims, but no amount is listed for associated costs of litigation. As of June 30, 2018, \$35.9 million claims have been made, of which the Commonwealth has paid approximately \$8.7 million, and another \$24.6 million are excluded from the settlement MOU. In addition, contracts call for the Commonwealth to pay for a minimum of two planned system refreshes at a total projected cost of \$87.4 million.

How is the project being funded?

The current construction funding plan calls for the Commonwealth to finance, directly or indirectly, by providing equipment or issuing bonds, over 90% of the cost, with the remaining funds to be provided by a deadline-based federal grant and contractor contributions. Figure 2 (below) shows the current funding percentages, assuming the Settlement Memorandum of Understanding between the Commonwealth and the contractors is finalized.

Report continues with Figure 2 on next page.

Figure 2: Project Financing, Including Settlement MOU, Anticipated Borrowing, and Cost Overages Paid by the Commonwealth



Source: APA based on data provided by the Cabinet for Economic Development to the Capital Project Bond Oversight Committee on August 7, 2015; KWOC, and Project Agreement.

What are Availability Payments?

Availability payments are the Commonwealth’s contractual payments to private vendors to design, construct, operate, and maintain the network. They represent a long-term commitment of the Commonwealth totaling a projected \$1.17 billion over 30 years. Typically, availability payments are made for infrastructure that is available and operational, and this is what Macquarie proposed in response to the RFP. However, the Commonwealth agreed to make availability payments prior to construction of an operational network, as discussed in Finding 2 (page 40).

Cost Questions

What are the major costs related to the project?

The major costs estimated for this project are presented in Figure 3 (below), totaling an estimated cost of over \$1.4 billion over the life of the project. Cost projections depend on future events, some occurring over several decades, as such there is some level of uncertainty regarding these projections. A short list of items that could affect the projections is provided.

Auditors' conservative estimate of the KentuckyWired project cost is over \$1.4 billion.

Figure 3: Major Project Costs

Cost Categories	Paid as of 6-30-18	Total Projected	Notes
		<i>Conservative Estimates</i>	
Availability Payments	\$ 34,658,223	\$ 1,171,570,021	Availability payments are established in the Official Statement of the Bonds.
KCNA Operations	4,985,069	83,698,195	Subject to change based on KCNA size and role.
Equipment Paid For By Commonwealth	17,689,975	26,541,393	Subject to change based on future IRUs or other scope changes. Original funding model provided for \$30 million as a Commonwealth commitment.
Paid Direct Loss Claims	8,732,478	96,732,478	KCNA expects future direct loss claims so the conservative estimate is based on current expectations factoring in the settlement negotiations and previously paid direct loss claims.
Provision for Future Direct Loss Claims		Unknown	\$22,000,000 in additional funding was authorized by the General Assembly. KCNA expects this funding to be used for an unknown amount in future direct loss claims.
Direct Losses Related to Easement Issues		Unknown	Cost subject to litigation as direct losses related to easements are currently excluded from settlement negotiations between the Commonwealth and DB. The most current data indicates \$24,600,000 in direct loss claims.
Network Refreshes		87,403,000	Amount could change based on frequency and scope of network refreshes.
Costs Associated with Change in IRU Scope		10,800,827	Project savings have been realized from IRUs; however, future costs are subject to negotiations between DB and the Commonwealth after a change to the scope of an IRU agreement and any possible additional IRU agreements. KCNA officials have indicated this additional cost could exceed \$20 million.
Economic Development Initiatives		Unknown	Wholesale contract contemplates the Commonwealth compensating OpenFiber for economic development efforts.
Local Government Last Mile Subsidization	Unknown	Unknown	Local governments may choose to further subsidize last mile expansion which is an unknown taxpayer cost at this time.
	<u>\$ 66,065,745</u>	<u>\$ 1,476,745,914</u>	

Source: APA based on contract documents, bond documents, eMARS reports, KWOC, and KCNA.

The June 30, 2018 column above represents amounts spent by the Commonwealth related to the project. The Commonwealth will pay the costs in Figure 3 (above), including the principal and interest on the bonds via the availability payments listed above. Using primarily the proceeds from those bonds, KWOC reported that as of May 2018, \$234 million had been spent on actual network construction.

Will the Commonwealth end up paying more for the project than was claimed when the project began?

Yes. Per the settlement Memorandum of Understanding (settlement MOU) discussed in Finding 8 (page 75), the Commonwealth would pay DB \$88 million to settle supervening events which occurred prior to January 18, 2018, with an additional \$22 million being set aside to settle future direct loss claims. Due to a scope change to a planned Indefeasible Right of Use (IRU), IRU costs may be increased between \$10,800,827 and \$22,000,000. Additional costs of system refreshes to which the Commonwealth committed have not been accounted for. Additional costs such as Commonwealth's possible investment in "economic development initiatives" under the Wholesaler Agreement discussed in Finding 9 (page 79), or claims and litigation costs related to obtaining easements discussed in Finding 6 (page 60), are unknown.

Contract Questions

Who was responsible for establishing the contracts?

The primary project and financing agreements were to be delivered by Macquarie Infrastructure Developments LLC according to the Master Agreement. While being responsible for delivering these documents to the Commonwealth that established the terms of the project, the Fourth Amended and Restated Master Agreement (Fourth MA) also states that Macquarie "has financial and other interests that differ from those of the Commonwealth" and includes an acknowledgement that the Commonwealth "has its own and [sic] legal and financial advisors." Commonwealth officials ultimately signed the majority of the primary agreements on September 3, 2015.

If the project is behind schedule, are contractor payments being reduced or withheld accordingly?

No. While the project is behind schedule, the reason for the delay has been attributed by KCNA to various supervening events. The contract requires that delays due to supervening events leave the payment schedule unaltered.

What is a supervening event?

Private contractors are entitled to claim losses through "supervening events," a mechanism in the contracts designed to account for events which interfere with the project schedule or lead to a direct loss for private contractors. The occurrence of a valid supervening event typically excuses the contractor from the project schedule to an applicable extent caused by the event. A subset of

these supervening events, “compensation events,” are defined and agreed to by both parties in the contract and allow the private contractors to make claims for direct losses attributable to the event. Further information related to supervening event claims is available at Appendix F: Classification of Supervening Event Claims.

As discussed in Finding 6 (page 60), several of these events should have been planned for and the associated costs avoided. The settlement MOU, discussed in detail in Finding 8 (page 75), was created in an attempt to address past direct loss claims due to supervening events, and it provides \$22 million for future direct loss claims.

What is a pole attachment agreement and why is it important?

Pole attachment agreements provide non-pole owning cable and telecommunication service providers with access to the owner’s poles so that, in the case of KentuckyWired, fiber can be attached to the poles. Federal statutes and regulations govern the process of obtaining pole attachment agreements. The KentuckyWired network requires the use of tens of thousands of poles owned by dozens of entities. Because the Commonwealth owned none of the poles in the network, extensive negotiations have been necessary to finalize the needed pole attachment agreements. Issues related to obtaining pole attachment agreements have delayed the project schedule and led to millions in direct losses claimed by the contractor. These issues are discussed in further detail in Finding 6 (page 60).

What is an Indefeasible Right of Use (IRU) Agreement?

An Indefeasible Right of Use (IRU) is an exclusive right to use specified telecommunications infrastructure. It does not convey title, ownership, or other rights to the property. KCNA has entered into IRU agreements with Cincinnati Bell Telephone (CBT), East Kentucky Network (EKN), Bluegrass Network (BGN), Owensboro Municipal Utility (OMU), MuniNet Fiber Agency (MuniNet), and Brandenburg Telephone (BBT).

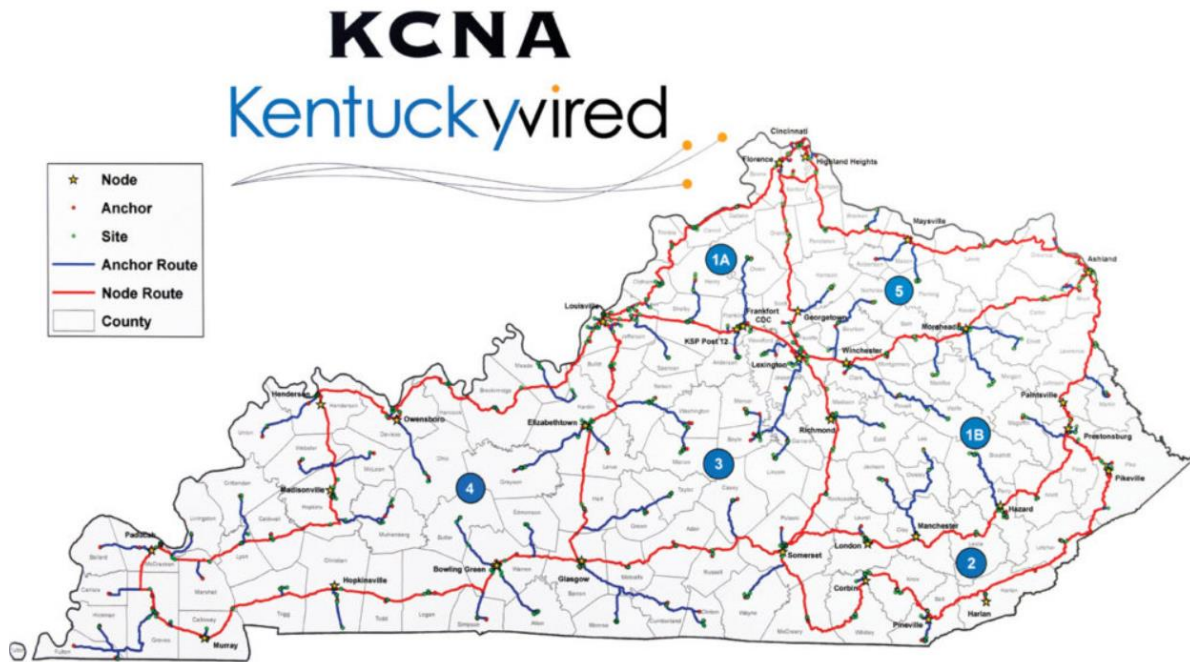
Construction Questions

When is the KentuckyWired network scheduled to be completed?

The network is planned to be constructed in geographic regions called “rings.” Figure 4 (below) shows the planned ring construction areas. According to the new schedule per the Memorandum of Understanding, the last ring will be completed on October 13, 2020.

Report continues with Figure 4 on next page.

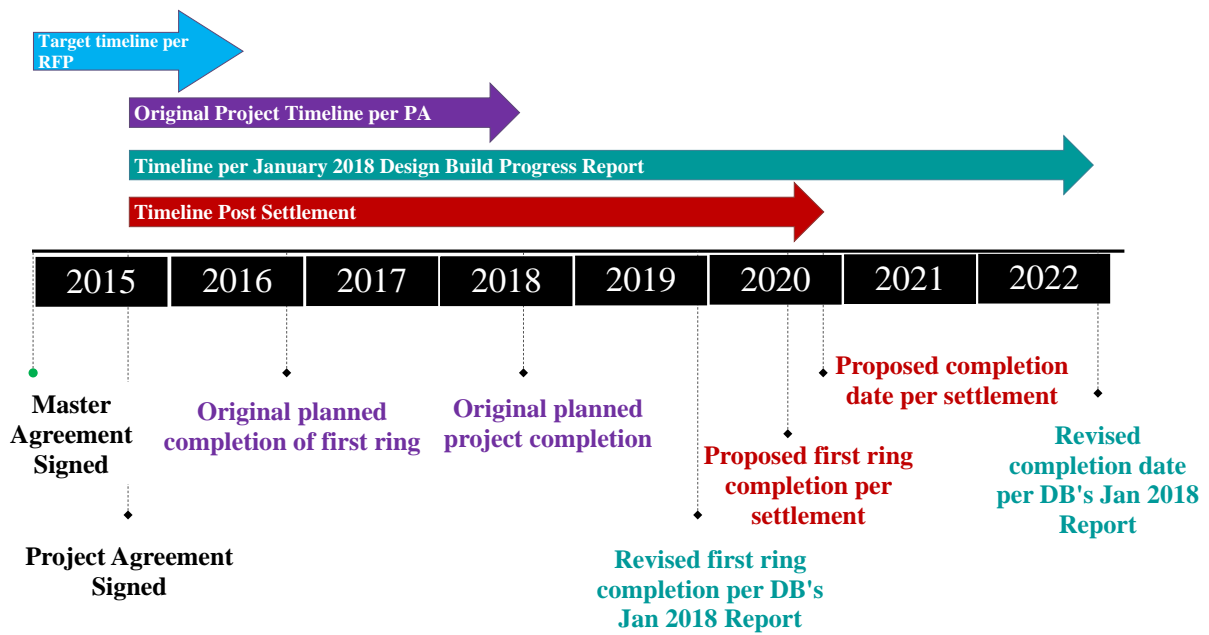
Figure 4: KentuckyWired Ring Map



Source: KCNA.

The current plan for completion, alongside other completion timelines during the project, are presented in Figure 5 (below).

Figure 5: Ring Completion Comparison Timeline

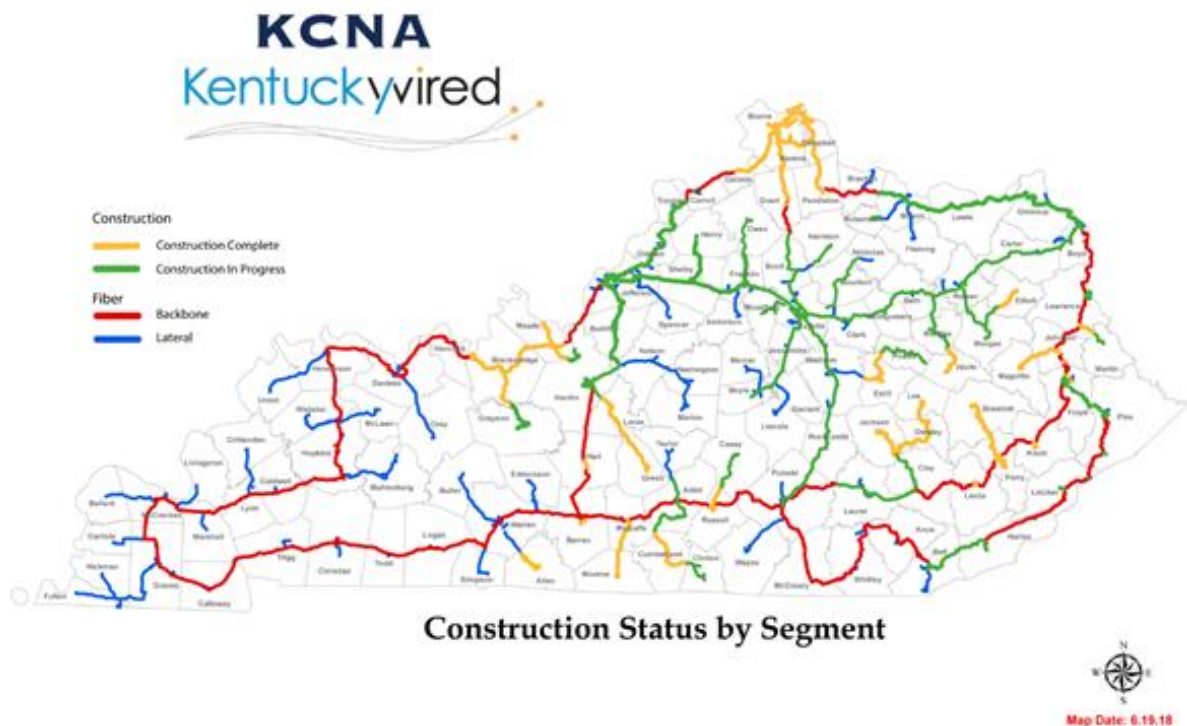


Source: APA based on Project Agreement, Settlement MOU, and data from DB.

Will the project be built in Eastern Kentucky first?

According to the new schedule per the settlement MOU, Ring 1A for Northern Kentucky will be completed first, on July 10, 2020, followed by Ring 1B for eastern Kentucky ten days later on July 20, 2020. The last ring completed will be Ring 4 for Western Kentucky on October 13, 2020. Construction progress is noted in Figure 6 (below). Estimated completion dates relate only to the middle mile network construction and government sites. Operational revenues would be collected as the network is leased to providers and users. End users would see the network operating once providers construct the last mile portions. Last mile construction is not estimated in Figure 6 (below).

Figure 6: Construction Status



Source: KCNA.

The yellow lines represent the portions of the network completed as of June 19, 2018. The green lines represent portions that KCNA has designated as “construction in progress.” The progress status in the green areas is not specified by this map.

Why was the network built statewide and not regionally?

Responses to the initial RFP indicated interested bidders were curious about the possibility of taking a regional approach to the network. One question stated: “Has the Commonwealth considered separating the project, awarding the metropolitan areas [such as] Lexington and Louisville? This could serve as a driver for economic development and to finance future suburban expansion.” The Commonwealth responded that eastern Kentucky was the priority and must be

considered in any response. Another question was: “Has the Commonwealth considered that economies of scale would result from a phased in approach that targeted specific geographic or regional areas?” The Commonwealth’s response did not address the question from the vendor.

Given the fact that these types of questions were being asked from the onset, the auditors inquired as to why the decision was made to pursue a statewide network rather than phasing in the whole state region by region or restricting the project to eastern Kentucky, the area to which the federal grant was tied. Reasons given included that a statewide network would generate more widespread support or that a project of this scale should benefit the entire Commonwealth rather than one region.

Operation Questions

Can sections of the network be brought online before the entire project is completed?

Yes. In a simple sense, once a signal can be exchanged between a site and one of the two access points to the internet (Louisville or Cincinnati) that part of the system can be considered online. However, according to KCNA, there is a cost to connecting KentuckyWired at Louisville and/or Cincinnati to enable internet access that has not been budgeted. KCNA officials were still working to determine the costs necessary to complete this task. Under the settlement MOU, it is expected that the six rings in the network will be progressively brought online within a four-month time frame in 2020. However, state government sites will also require connection to the Frankfort Data Center. Bringing a portion of the network online only relates to the middle mile and government sites, and does not connect other end users, which will rely on additional last-mile construction.

What are the revenue projections for the project and how will they be realized?

The Commonwealth has cited revenue projections prepared by private vendors that state \$1.9 billion will be generated over a 30-year term of operation from wholesaling excess network capacity. Of that amount, the Commonwealth anticipates \$1.3 billion for its revenue share. However, a portion of the \$1.3 billion projected wholesale revenues will be shared with the Center for Rural Development for revenues generated in eastern Kentucky and along I-75. These projections are specifically not guaranteed. Auditors found scant support or analysis for these projections, as discussed in Finding 9 (page 79). A private vendor, OpenFiber, is given the exclusive right to market wholesale network capacity, but their agreement calls for no minimum requirements of capital contribution or minimum targets, or performance incentives other than the revenue percentage of any fees generated.

What are system refreshes and who will pay for them?

Beyond normal maintenance of the network infrastructure, a minimum of two planned system refreshes are planned and called for in the contracts. The Project Agreement specifically excludes these system refreshes from the services to be provided under that contract. The initial estimated cost of these refreshes is a combined \$87.4 million over 30 years, but there is no

guaranteed limit on this cost. This cost is to be funded by the Commonwealth. The Project Agreement outlines that the Commonwealth may pay for the costs of the two system refreshes by either a lump-sum payment or increases in availability payments. Failure to complete these system refreshes according to the time frames set forth in the Project Agreement is a supervening event that excuses vendors from fault for failures of performance in the network or outages in the network.

These are the minimum number of system refreshes called for in the Project Agreement, but there could be a need for more than two refreshes in order to keep up with market and technical demands. These possibilities are contemplated by the Wholesaler Agreement, which states that OpenFiber “may, at any time but not more often than once every 3 years, request a System Refresh by demonstrating to the [Commonwealth] a business need for undertaking such System Refresh supported by evidence of User demand and economic feasibility.” A minimum of two system refreshes are also required under the Wholesaler Agreement.

Termination Questions

Can costs of termination be accurately measured?

Due to the potential for litigation in any termination scenario, the fact that the project is ongoing, and the inability to predict future costs, the following section discusses termination scenarios generally and only in terms of cost elements or factors. Any reference to amounts are not definitive and are being provided as indication of possible cost range for illustration purposes only. An additional implicit cost in any termination scenario is the credit rating impact to the Commonwealth. Because of these factors and the wide range of potential amounts involved, it is difficult to predict costs in any termination scenario.

What are the cancellation scenarios?

From a Commonwealth perspective, the contract can come to an end through four options. These options are “for convenience,” by mutual agreement (No Fault), through contractor default, and by the General Assembly ceasing to fund the project (Funding Out). The first three options are expressly set forth in the contract. The last option is available because the contract is subject to Kentucky law.

What are the cost elements of termination scenarios?

In public testimony, KCNA stated that costs to terminate for convenience approximated \$500 million, with the potential to be much larger. On the other hand, the “funding out” termination option could allow the contract to be ended for very little direct cost, but might include additional litigation costs and credit rating impact.

According to the terms of the Project Agreement, a contract entered into between the Commonwealth and KWIC, termination can require the Commonwealth to repay between 80% to 100% of outstanding bonds and certain interest on those bonds, depending on the circumstances

of project termination. However, this contractual obligation may be superseded by the Kentucky Constitution, which does not permit the Commonwealth to commit to general obligations over \$500,000 without submitting the question to voters. Revenue bonds are not general obligations of the Commonwealth. Repayment of revenue bonds derives from the revenues of a project and is contingent on project revenues or general fund appropriations each biennium. Despite this restriction, which was fully disclosed during the bond issuance, the Commonwealth agreed contractually to repay the bonds.

Contract cancellation can involve quantifiable items such as reimbursement of claimed and accepted expenses, repaying up to 100% of borrowed money, and payments associated with ending the contract, called “breakage.” In addition to these costs, there are costs which are less easily predicted, such as the repayment of a portion of claimed, but partially disputed, expenses. The termination for convenience option also requires the Commonwealth to pay the fair market value of the KWOC stock. Predicting the amount associated with these last two items is inherently imprecise.

The above areas, plus some additional costs, were used by KCNA to establish the \$500 million dollar figure associated with the termination for convenience option. At that time, KCNA’s estimate included \$230.7 million which had been spent on the project already. These costs represent “sunk costs” and should not be considered a cost of cancelling the contract because they would be a cost regardless of whether the contract was continued or stopped. A more accurate estimate of the quantifiable termination for convenience costs as of January 18, 2018 is \$261.8 million, which does not include the sunk costs. This amount also does not include costs of litigation, contractual payments owed to private partners for their equity in the project, disputed contractor direct loss claims incurred during construction, and the negative effects arising from a potential downgrade of the Commonwealth’s credit rating.

The final cost category relates to costs that might emerge. This includes the potential for more expensive financing costs for the Commonwealth in the future. If Kentucky cancelled the contract and redeemed bonds earlier than the full term, or even cancelled repayment of the bonds completely, the market may demand higher rates on future Commonwealth debt. Determining the long-term impact on the Commonwealth’s credit rating was beyond the scope of this exam, so it remains an open question how large this cost could be. However, those individuals interviewed during the examination believed the negative impact would be significant to the Commonwealth.

Another potential cost is the expense resulting from civil lawsuits by contractors or subcontractors attempting to recoup lost profits from cancelled contracts. Among the potential profits mentioned by KCNA was the estimated \$600 million in profits the contractors have projected under the Wholesaler Agreement. The questionable nature of the wholesale number, discussed in Finding 9 (page 79), the fact that the Wholesaler has no customers signed up as of May 31, 2018, and the lack of clauses in the Wholesaler Agreement explicitly calling out this amount as a termination cost, are reasons to question this as a legitimate cost. Nevertheless, this amount is mentioned as an example of one of the many contracts supporting the project that represent an unquantifiable liability in a termination scenario.

The above discussion has focused primarily on the costs associated with a termination for convenience. This is the only option which has been discussed publicly. Alternatively, the Funding Out option could dramatically reduce the Commonwealth's liability compared to all the other options. The Funding Out option is a reference to 200 KAR 5:312, section 4. It allows a contract to be cancelled if the legislature does not provide funds in the biennial budget. On the surface, this clause would allow the Commonwealth to cancel the contract without having to pay the quantifiable costs discussed earlier. A comparable example of when this option has been exercised could not be identified, so some of the cost impacts, such as potential litigation and bond market interest increases, would still remain a factor. Again, those interviewed believed the negative impact to the Commonwealth's credit rating would be significant.

Taxpayer Questions

Were the problems with KentuckyWired foreseeable?

Many of the problems identified in this report were not only foreseeable, they were actually foreseen. Auditors learned of at least three written warnings given to Commonwealth officials in advance of the project agreements being signed:

- The Kentucky Department of Education warned that a significant portion of needed project revenue would not materialize because the bidding for K-12 services on the network would not be E-rate eligible.
- A private contractor warned of the potential for problems with obtaining pole attachment agreements which have led to major issues with the project schedule and resulted in additional compensation claims made by contractors.
- Commonwealth officials were given written advice by outside counsel, the full extent of which is still unknown due a claim of attorney-client privilege.

Was the procurement appropriate?

Commonwealth officials made major modifications to solicited contract terms and project structuring without restarting procurement. Procurement changes and problems include:

- The Commonwealth solicited private financing under two separate requests for proposal, and received an offer to privately finance the majority of project costs in a structure that was "non-recourse to the Commonwealth and is not taxpayer-supported debt." After awarding this offer, in subsequent negotiations Commonwealth officials agreed to a financing structure and contract terms that have obligated the Commonwealth to nearly all project costs. Finance and Administration Cabinet policies (FAPs) in effect at the time prohibited modifications from making major changes outside the original scope of the contract.
- The Commonwealth's request for proposal (RFP) specifically designated pole attachments as the responsibility of private vendors. However, in the resulting project agreements, the Commonwealth took on this responsibility, which has led to significant cost overruns and delays.

- The RFP and vendor proposals were superseded in the resulting Project Agreement, which is opposite of the more typical, best practice, of incorporating these materials by reference. 200 KAR 5:313, Section 3 states that response to a solicitation is deemed an agreement to comply with the terms and conditions of the solicitation.

Who is responsible?

Commonwealth officials made significant changes during procurement that created poor incentives for private contractors. Macquarie Infrastructure Developments LLC was responsible for delivering the project agreements that set up this structure. However, Commonwealth officials ultimately signed these agreements and agreed to the terms after receiving express written warnings of likely consequences and problems related to pole attachments and K-12/E-rate funding. For these reasons, this report will be referred to the Executive Branch Ethics Commission for consideration.

What can be done to reduce additional cost overruns for KentuckyWired?

Chapter V of this report (page 88) sets forth recommendations intended to reduce additional cost overruns, including the following:

- Regular reporting by KCNA regarding construction status, substantive delays, planned corrective actions, total expenditures, incurred claims not paid, balances of project funds, and other claim information, as well as events that could impact future wholesale revenue projections. In addition, an initial report to analyze the estimated costs of termination, including a realistic estimate of the net present value of the project's cash flows and costs. We recommend these reports be available early in the 2019 session of the Kentucky General Assembly.
- KCNA should increase its monitoring role for the project due to the absence of incentives for private vendors to do so.
- Permitting requests submitted to KYTC should be tracked and documented to show evidence of time frames and causes of delay.
- KCNA should ensure payments are properly classified in the state's accounting system, eMARS, and reconciled to any databases currently maintained by the agency.

What can be done to prevent problems like this in future projects?

Chapter V of this report (page 88) sets forth recommendations in this regard, including the following:

- Formal risk assessment in developing contract terms, including use of Commonwealth agency expertise and outside expertise where needed. Any experts retained should be acting in the Commonwealth's interests, without interests that may conflict with the Commonwealth's.

- Review of final contracts for consistency with the terms of RFP's, solicited responses, and original project designs, as well as review of incentives and risk-sharing in P3 projects in particular.
- Adherence to existing state policies for contract modifications that differ from solicitation terms after an award has been made.

CHAPTER II: WALKTHROUGH OF PROJECT DEVELOPMENT

Major Agreements and Parties

The procurement of KentuckyWired was a complicated and evolving process that changed during the course of its development. The documents setting up the project total over 3,750 pages, involving approximately two dozen primary agreements. The Master Agreement was entered into in December 2014 with Macquarie. In early 2016, Macquarie stated it was no longer doing business in the Commonwealth. From an original single agreement totaling 29 pages, the Commonwealth has ended up using the services of several contractors and subcontractors, with thousands of pages of contract terms, all under the umbrella of that original agreement. None of these resulting agreements were separately bid. The primary entities involved in the project discussed below—KWIC, KWOC, DB, OpenFiber, and LTS—were not in existence at the time of the RFP or original Master Agreement. To understand the significant changes and issues involved, a detailed walkthrough of the contracts, significant issues, and parties follows in chronological order. Findings related to these developments are addressed in subsequent chapters.

KentuckyWired began with a 29-page agreement and now includes multiple contractors, subcontractors, and thousands of pages of agreements.

The KentuckyWired initiative is a highly ambitious and unprecedented infrastructure project for the Commonwealth. The project has involved multiple public, private, and quasi-governmental entities working together in a highly complex structure in which private companies have formed jointly owned entities across all phases of the project. With so many aligned interests outside of the Commonwealth via interwoven business relationships, and with the Commonwealth embarking on, in the words of a major rating agency, a “first-of-its-kind” project, one might assume the procurement process would have been highly meticulous and methodical. Based on interviews describing the contract negotiation phase and the cost overruns, delays, and other issues attributable to errors or poor judgment in the negotiation phase, this does not appear to be the case.

Because of the evolution of the project plan, there were negotiations with multiple entities, in some cases entities other than Macquarie. This resulted in not everyone on the procurement team being aware of changes or developments as they occurred. This led to one procurement team member presenting concerns to their supervisor which resulted in the supervisor taking over because the employee was no longer comfortable with their ability to track the evolution of the arrangement.

Master Agreement with Macquarie Infrastructure Developments LLC

On December 22, 2014, the Commonwealth entered into an original Master Agreement (original MA) with Macquarie Infrastructure Developments LLC. The Master Agreement was modified eight times, with the final modification occurring on July 11, 2016.

The original MA was an agreement that contemplated Macquarie planning and setting up financing for the project, including proposing the required payment terms, that would result in a subsequent agreement between the Commonwealth and a Macquarie-led consortium of companies and subcontractors to design, build, finance, operate, and maintain the system. By its terms, the original MA appears to have served as the planning phase of the overall agreement, consisting of three milestones, or sets of deliverable items from Macquarie. The third and final milestone in the original MA states that Macquarie “will raise all private capital.” There is no indication in the MA or RFP of the Commonwealth’s desired ratio of public funding and private capital to be used for the project. However, in response to the RFP, Macquarie’s proposal states that the Commonwealth has “indicated that it may contribute up to \$60 million to support the network’s construction.”

Who Was Responsible for the Contracts?

Among the deliverables listed in the Fourth MA, Macquarie Infrastructure Developments LLC was to provide the Commonwealth with the following:

- Executable fixed price, date certain, design-build agreement (the “DB Contract”);
- Executable Concession Agreement, including without limitation a performance standards regime, and project design build schedule;
- Detailed term sheet of a Wholesaler Agreement, including without limitation a revenue sharing mechanism;
- Executable financing documentation.

While being responsible for delivering these documents to the Commonwealth that established the terms of the project, the Fourth MA also states that Macquarie “has financial and other interests that differ from those of the Commonwealth” and includes an acknowledgement that the Commonwealth “has its own and [sic] legal and financial advisors.” These reservations are troubling considering Macquarie Infrastructure Development LLC’s role as the developer and structurer of the project. Commonwealth officials ultimately agreed to the terms of the delivered agreements, but the Commonwealth incurred several million dollars in costs to develop and structure the project, among other services at the planning phase.

Center for Rural Development Memorandum of Agreement

On June 25, 2015, the Commonwealth of Kentucky entered into a Memorandum of Agreement (Memorandum) with the Center for Rural Development, Inc. (CRD). The Memorandum states the terms of federal funding for the project via the Appalachian Regional Commission (ARC). Project parties have operated under the assumption that a total of \$23.5 million is committed under this agreement, but in fact only \$15 million is obligated under the

memorandum, which states that “ARC may make an additional grant of up to \$8,500,000 to support the Project[.]”

Under the Memorandum, CRD will own certain segments of the network infrastructure located in eastern Kentucky. Those segments owned by CRD will be leased to the Commonwealth for a 30-year term, granting the Commonwealth “full access, use and control” during that time. At the end of the 30-year term, these segments are to be transferred to the Commonwealth “for no monetary consideration.”

Upon inquiry, CRD supplied auditors with an unsigned Addendum to Memorandum of Agreement (Addendum), with a printed date of June 25, 2015. The Addendum is not specifically referenced in the Memorandum of the same date. The Addendum sets forth revenue sharing between the Commonwealth and CRD on “any net revenues from the statewide fiber network” as follows:

- The Commonwealth and CRD will each receive 50% of net revenues for network segments in the “I-75 spine,” which the addendum identifies as network segments located from Cincinnati to Georgetown, Georgetown to Lexington, Lexington to Richmond, and Richmond to Somerset. (Even though Somerset is not along I-75, this is how the segment is defined in the Addendum).
- CRD will receive 100% of net revenues for Ring 1B, Ring 2, and Ring 5 (three of the six statewide rings), which are located in eastern Kentucky.
- The Commonwealth will receive 100% of net revenues for the remaining network segments.

Net revenues are not defined in the Addendum. However, the Addendum states that costs of the Network will be paid prior to any net revenues being distributed to the *Commonwealth* (emphasis added). It is not clear what authority a deputy finance secretary had to make such a significant outlay of Commonwealth funds without legislative appropriation. The Memorandum and Addendum were not reviewed by the legislative Government Contract Review Committee.

A former deputy Finance and Administration Cabinet Secretary signed an agreement transferring a significant amount of Commonwealth funds without legislative approval.

The revenue-sharing above pertains to network segments beyond the portions of the network owned by CRD. Although it seems that CRD contemplated that the Addendum will cover sharing revenues from wholesale or “additional capacity,” the addendum does not specify this. However, a CRD official expressed skepticism about both the projected wholesale revenues overall, and about wholesale revenues in eastern Kentucky specifically. As of late August 2018, representatives of Macquarie and OpenFiber were not aware of the specific terms of the Commonwealth’s revenue-sharing arrangements with CRD. The Memorandum and Addendum are attached as Appendix C: Center for Rural Development Memorandum of Agreement with Commonwealth and Addendum.

Project Revenue Bonds Were Issued Without Legislative Approval, Which Is Permissible Under Existing Law

To fund the project, revenue bonds were issued by the Kentucky Economic Development Finance Authority (KEDFA), with KWIC as the borrower. The timeline of this process is set forth below:

KEDFA Authorization:	June 25, 2015
State Property and Buildings Commission Authorization:	July 2, 2015
Letter from Co-Chairs:	July 9, 2015
Capital Projects and Bond Oversight Committee:	<i>Meeting Cancelled</i>
Secretary of Finance and Administration CPBO Override Letter:	July 20, 2015
Date of Sale:	August 26, 2015
Date of Issue:	September 3, 2015

KRS Chapter 45 provides for the legislative Capital Projects and Bond Oversight Committee (CPBO) to review bond issuances. However, no act of the General Assembly as a whole is required. Furthermore, the review by CPBO is non-binding. For the KentuckyWired bonds, the CPBO committee meeting to review the bonds prior to issuance was cancelled. According to a letter written from the committee co-chairs on July 9, 2015:

The committee understands that the sale of bonds is time-sensitive and that the various bond issues submitted to the committee may not be able to wait for committee action at the August meeting. Accordingly, the Cabinet should proceed with those sales. With regard to any other Cabinet projects or bond sales listed above that are not time-sensitive, the committee respectfully requests that the Cabinet forbear proceeding with those items until the committee has given them consideration at its July meeting.

According to KRS 45.790(2), the monthly CPBO meeting “may be canceled by agreement of both co-chairs.” The Secretary of the Finance and Administration Cabinet decided to proceed with the bond sales without this meeting.

If the CPBO committee does not recommend proceeding with a proposed project, the Secretary of the Finance and Administration Cabinet has the option to proceed pursuant to KRS 45.810. If CPBO determines that a project does not meet certain requirements, a majority of the committee may “request that [LRC] file a civil court proceeding to seek an injunction to prohibit further action on the capital project,” or certain other relief, according to KRS 45.795.

The lack of CPBO review, and the fact that hundreds of millions of dollars in obligations (moral or practical, if not legal obligations; see following discussion later in this chapter) can be incurred without legislative approval, is notable. The General Assembly was aware of the project and authorized initial bonding, but a more formal approval process is lacking. Beginning on July 1, 2020, KRS 45A.077 will require General Assembly approval for P3 capital project contracts in excess of \$25 million.

Assignment of Master Agreement

On September 3, 2015, an Assignment of Master Agreement was entered into among four parties: the Commonwealth of Kentucky, Macquarie, KWIC, and OpenFiber. Despite the RFP awarded to Macquarie Infrastructure Developments LLC to design, build, finance, operate, and maintain (DBFOM) the project, those obligations were assigned to KWIC, a non-profit entity created for the purpose of financing construction of the network. At that point, it was KWIC, whose board consisted of the Secretary of the Finance and Administration Cabinet and the two Deputy Secretaries of the Finance and Administration Cabinet, that was the entity responsible for all five components of the DBFOM model. Any rights and obligations relating to wholesale of excess capacity on the network were assigned from Macquarie to OpenFiber Kentucky Company, LLC.

The tax-exempt financing plan was intended to save on the overall costs of the project due to lower interest rates being available for tax-exempt bonds. This plan entailed the creation of a non-profit entity by the Commonwealth, which was KWIC. Structuring the arrangement around KWIC was accomplished via the agreements dated September 3, 2015, including the Assignment of the Master Agreement, the Project Agreement, the Project Implementation Agreement, the Design-Build Agreement, the Services Contract (referred to collectively in this report as the project agreements), and several ancillary contracts related to these.

Contract compliance staff were apparently surprised by the assignment. When FAC staff requested Macquarie Infrastructure Developments LLC to re-certify Equal Employment Opportunity compliance in March 2016, counsel for the original vendor stated that Macquarie was no longer doing business in the Commonwealth. FAC's Office of Procurement Services still listed Macquarie Infrastructure Developments LLC as having the contract. An FAC official stated at the time, "[w]e've never had this situation."

The Project Agreement, Project Implementation Agreement, and Design-Build Agreement contain many similar provisions. The obligations of parties under these contracts are depicted in Figure 1 (page 7), and are said to "pass-down" along the chain depicted there. Therefore, although the contracts discuss certain obligations of various parties related to the project, those terms must be read in light of the other agreements, which often assign those rights and obligations to other parties. Sometimes, these obligations must be traced through multiple contracts to reach the party ultimately responsible. For example, KWIC took on all aspects of the project design, construction, financing, operations, and maintenance in the Project Agreement. However, all aspects except financing were assigned to KWOC on the same date via the Project Implementation Agreement. In turn, KWOC assigned the design and construction aspects to NG-KIH Design-Build LLC via the Design-Build Agreement.

Project Agreement & KWIC

On September 3, 2015, the Commonwealth of Kentucky entered into a Project Agreement with KWIC. Under this agreement, it is KWIC, a non-profit created by the Commonwealth, that is responsible to design, build, finance, operate, and maintain the system. Each of these project

components, except the financing obligations, were later assigned to KWOC via the Project Implementation Agreement, discussed below. There is further discussion of KWIC's role as the financing vehicle for the project in Finding 2 (page 40).

Project Implementation Agreement & KWOC

On September 3, 2015, KWIC entered into the Project Implementation Agreement (PIA) with KWOC. The PIA explains that KWOC is taking on all the obligations of KWIC to carry out the project with the exception of financing obligations. The PIA states that KWOC "is not an obligor or guarantor with respect to [KWIC's] debt obligations[.]" This statement illustrates the structural change of financing being removed from the responsibility of the private vendor. The PIA includes a scheduled Capital Contribution Agreement, which states that the total private equity investment required for the project is \$6,526,761.56.

KWOC is a limited liability company managed by a sole member: the separate entity, Kentucky Wired Operations Holding Company, LLC (KWOHC). As of September 3, 2015, KWOHC was "the direct holder of 100% of the outstanding membership interests" of KWOC. In turn, the members of KWOHC were as of that time:

- Macquarie NG-KIH Holdings: 75% ownership. This is a separate entity from the original vendor under the Master Agreement, Macquarie Infrastructure Developments LLC.
- Ledcor US Ventures Inc.: 15% ownership.
- First Solutions LLC: 10% ownership.

Design-Build Agreement & DB

On September 3, 2015, KWOC entered into the Design-Build Agreement (DBA) with NG-KIH Design-Build LLC (DB). DB is a consortium of Overland Contracting, Inc. (50%) and LTS Solutions (USA) LLC (50%). Under this contract, DB took on "all aspects of the Design and Construction of the NG-KIH System" on behalf of KWOC. In other words, DB holds the subcontract to design and build the KentuckyWired infrastructure across the state. The contract price for these services is \$274,849,304, subject to adjustment by other terms of the agreement, including supervening events and changes.

Services Contract and LTS

On September 3, 2015, KWOC entered into the Services Contract with LTS Kentucky Managed Technical Services LLC (LTS). Under this contract, LTS is to perform service provider obligations for the KentuckyWired network operations, which include operating the network, but not including system refreshes. LTS Kentucky Managed Technical Services LLC is the wholly-owned subsidiary of LTS Solutions (USA) LLC.

Wholesaler Agreement and OpenFiber

On October 13, 2017, the Commonwealth of Kentucky entered into the Wholesaler Agreement with OpenFiber Kentucky Company, LLC (OpenFiber) and KWOC. OpenFiber was an assignee under the Assignment of the Master Agreement for the provisions related to wholesale revenue. Whereas the Service Contract allows LTS to provide services to the Commonwealth and other governments with respect to the network and operation and maintenance, the Wholesaler Agreement is limited to procuring agreements for use of excess network capacity to providers. The Wholesaler Agreement explains that the Commonwealth “has concluded that the provision of communications services to the [Commonwealth] through the Project and the commercialization of the Additional Capacity for third party Users should be organized under separate contracts and through separate companies.” Under this agreement, OpenFiber has the “exclusive right to use Additional Capacity” of the network.

OpenFiber is permitted to set the fees for any users “based on the size, scope, duration and other case-specific features of the relevant User Agreement,” with a requirement that similarly situated users be given similar fees. The Commonwealth’s percentage share of fees generated under the agreement by the wholesaler are as follows:

Core Dark Fiber:	90% of gross revenues
Ancillary Dark Fiber:	80% of net revenues
Lit Fiber Services:	75% of net revenues

For those fees based on net revenues, the Commonwealth will share in any portion of revenue remaining after OpenFiber has paid operating costs. These are the fees that form the basis of the wholesale revenue projections discussed in Finding 9 (page 79), where there is further discussion of elements of the wholesale arrangement.

OpenFiber is an affiliate of Macquarie. Ownership of OpenFiber may change and the Wholesaler Agreement is assignable.

Memorandum of Understanding (Settlement MOU)

On March 30, 2018, the Commonwealth entered into a Memorandum of Understanding (settlement MOU) with KWIC, KWOC, DB, and LTS. The impact and certain terms of the settlement are discussed more thoroughly in Finding 8 (page 75). The settlement MOU is structured as follows:

- Commonwealth agrees to its prior supervening event payments of \$7.8 million.
- First payment of \$2 million to DB on April 18, 2018.
- Second payment of \$13 million to DB on July 6, 2018, contingent on whether by that time “the parties have definitively documented the final settlement and release of the Relevant Supervening Event Claims by amending the NG-KIH Agreements.”
- Remaining \$73 million of settlement to be paid over the Construction Period.

As of September, 2018, negotiations continued regarding a definitive settlement agreement, despite a July 6, 2018 deadline in the settlement MOU for this step. The settlement MOU, at least until the final settlement and release deliverable with the \$13 million payment, may be terminated by either party upon thirty days notice, and in the event of termination, “all parties retain all rights and remedies” with respect to all Supervening Event Claims. In the event of termination, the MOU “will have no force and effect and shall be inadmissible to establish the existence of a settlement in any proceeding[.]” Some items not resolved by the settlement MOU include future supervening event claims and disputed easement costs.

For easy reference, a glossary of terms used in this report, including parties, is at Appendix G: Glossary of Terms Used in Report.

KWIC and the Commonwealth’s Obligations

KWIC is a Component Unit of the Commonwealth

KWIC is a component unit of the Commonwealth, which means that although it was organized as a legally separate non-profit entity, it meets criteria established by the Governmental Accounting Standards Board (GASB) to be considered an organization for which the Commonwealth is financially accountable. The GASB requires the financial activity of certain organizations to be reported as part of a government’s financial statements to ensure proper accountability, stating: “Financial reporting plays a major role in fulfilling a government’s duty to be publicly accountable in a democratic society.” KWIC was determined by the Commonwealth’s Finance and Administration Cabinet (FAC) to meet these requirements, and therefore, its financial information, including its debt, is reported in the Commonwealth’s Comprehensive Annual Financial Report (CAFR).

“[E]lected officials are accountable to [the] citizens for their public policy decisions, regardless of whether those decisions are carried out directly by the elected officials through the operations of the primary government or by their designees through the operations of specially created organizations.”
 –Governmental Accounting Standards Board

GASB defines a government as being financially accountable for a legally separate organization if the government appoints a voting majority of the organization’s board, and it is also able to impose its will on the organization or receives a financial benefit or burden from it. GASB has identified this as significant criteria in determining the financial accountability of an organization, concluding that “...elected officials are accountable to

those citizens for their public policy decisions, regardless of whether those decisions are carried out directly by the elected officials through the operations of the primary government or by their designees through the operations of specially created organizations.” All three KWIC board members are appointed by and serve at the pleasure of the Governor, meaning the Commonwealth has significant influence on the organization. Additionally, a financial burden to the Commonwealth exists as the availability payments used to repay KWIC’s debt are funded through legislatively enacted budget appropriations. Officials also contractually obligated the Commonwealth to repay KWIC’s debt by signing the Project Agreement in September 2015.

KWIC's bond obligations are reported in the Commonwealth's Comprehensive Annual Financial Report (CAFR) as a blended component unit. The CAFR is prepared each year by the Finance and Administration Cabinet. The Commonwealth's obligations to pay availability payments, termination payments, and supervening event claims (among other payments) are set forth in Section 3.1 of the Project Agreement. The Commonwealth therefore bears most of the financial burden of the project, with the exception of the anticipated federal contribution and minimal private equity. As of June 27, 2018, the Commonwealth had paid \$34.5 million toward availability payments, and has budgeted an additional \$72.6 million in appropriations in fiscal years 2019 and 2020 to fund KentuckyWired.

Termination Costs and Bond Liability

As discussed previously, \$312.8 million in bonds were issued to support the project. The borrower was KWIC, with the proceeds to be used to finance construction of the statewide fiber optic network.

The Project Agreement states that the Commonwealth will be responsible for termination costs that include repaying revenue bonds that were sold to finance the project. In the end, it appears any such obligations are "moral" or "practical" rather than legal obligations of the Commonwealth. With the general fund appropriations made toward availability payments in the 2018 Regular Session of the General Assembly, policymakers have decided to support these bond obligations. The following background discusses the legal and practical factors that may play into such a decision.

The Project Agreement between the Commonwealth of Kentucky and KentuckyWired Infrastructure Company, Inc. states that if that agreement "is terminated pursuant to its terms, compensation on termination will be determined and paid in accordance with Schedule 9." Schedule 9: Compensation on Termination, under No-Fault Termination, Calculation of Termination Payment, states as follows:

If either the Authority [Commonwealth] or Project Co [KWIC] terminates this Project Agreement pursuant to Section 6.3, Section 6.4, Section 6.10, Section 8.4, or Section 8.6, the Authority will pay to Project Co a Termination Payment equal to the aggregate of: (a) the Senior Debt as at the Termination Payment Date, with per diem interest on amounts falling within paragraph (a) of the definition of Senior Debt calculated at the non-default interest rate provided for such amounts in the Senior Financing Agreements for the period from (but excluding) the Termination Date until (and including) the Termination Payment Date; (b) the Employee Payments and the Project Contractor Breakage Costs; (c) any accrued but unpaid amounts owing and payable by the Authority to Project Co under this Project Agreement; (d) the amount, if any, by which the Junior Debt exceeds the amount of all Distributions made in respect of Junior Debt; and (e) the amount, if any, by which the amount of capital contributed to Operations Co by its equity investors exceeds the amount of all Distributions made by Operations Co to its equity investors, LESS (f) the amount of any Distributions other than those referred to in

(d) and (e) above; and (g) any other amounts that the Authority is entitled to set off or deduct pursuant to Section 9.11 of this Project Agreement. If the aggregate of the amount calculated above is less than the Senior Debt plus the amount referred to in (b) above, then the Termination Payment will be increased so that it is equal to the aggregate of the Senior Debt plus the amount referred to in (b) above.

If this clause is triggered, then the Project Implementation Agreement contains similar language stating that KWIC will, in turn, pay to KWOC (after payment of Senior Debt), employee payments, breakage costs, accrued amounts due, and equity in KWIC. This is triggered if the Commonwealth pays KWIC the amounts due in Schedule 9 of the Project Agreement.

A termination “for cause” in the event of certain breaches or deficiencies by KWIC requires, by the terms of the contract, the Commonwealth to pay project implementation costs actually incurred and 80% of senior debt outstanding at the termination date, less other amounts.

Revenue Bonds Issued and Purchased Contained Explicit and Repeated Disclosures That They Were Not Backed by the Commonwealth

The revenue bonds refer collectively to Series 2015A, Series 2015B, and Series 2015C. Each of these, according to their terms and clear and repeated disclosures, are not liabilities of the Commonwealth. The bond issuer for Series 2015A, KEDFA, has authority to issue revenue bonds of this type per KRS 154.10-035. The documents are replete with such disclosures, but one example from the Official Statement regarding Revenue Bonds, Series 2015A (\$231,950,000), follows (emphasis in original):

THE SOLE SOURCE OF PAYMENT FOR THE SERIES 2015A BONDS IS THE PROJECT REVENUES. PROJECT REVENUES ARE PRIMARILY COMPRISED OF AVAILABILITY PAYMENTS, AND IN CERTAIN CIRCUMSTANCES, A TERMINATION PAYMENT, MADE BY THE COMMONWEALTH TO THE BORROWER UNDER THE PROJECT AGREEMENT, WHICH PAYMENTS ARE SUBJECT TO APPROPRIATION BY THE GENERAL ASSEMBLY OF THE COMMONWEALTH OF KENTUCKY.

...THE SERIES 2015A BONDS ARE SPECIAL LIMITED OBLIGATIONS OF THE ISSUER AND DO NOT CONSTITUTE A DEBT, GENERAL OBLIGATION, PLEDGE OF FAITH AND CREDIT OR LIABILITY OF THE ISSUER, THE COMMONWEALTH OF KENTUCKY OR ANY AGENCY OR POLITICAL SUBDIVISION THEREOF WITHIN THE MEANING OF THE CONSTITUTION OR STATUTES OF THE COMMONWEALTH OF KENTUCKY, AND THE SERIES 2015A BONDS ARE PAYABLE SOLELY FROM THE FUNDS AND SECURITY PLEDGED THEREFOR. THE ISSUER HAS NO TAXING POWER.

In a section of the Official Statement entitled Risks Relating to the Commonwealth, the following statement appears: “Under the provisions of the Constitution of the Commonwealth, the Commonwealth is prohibited from entering into financing obligations extending beyond the biennial budget.”

The Kentucky Constitution Prohibits General Obligations Except with Voter Approval

One reason for these disclosures in the bond documents is that the Kentucky Constitution prohibits general obligations of the Commonwealth without voter approval. According to a 2011 report by the Legislative Research Commission, “[t]he state has not issued general obligation bonds that pledge the full faith, credit, and taxing power of the state since 1965.” The primary constitutional provision upon which this rule rests is section 50:

No act of the General Assembly shall authorize any debt to be contracted on behalf of the Commonwealth except for the purposes mentioned in Section 49, unless provision be made therein to levy and collect an annual tax sufficient to pay the interest stipulated, and to discharge the debt within thirty years; nor shall such act take effect until it shall have been submitted to the people at a general election, and shall have received a majority of all the votes cast for and against it: Provided, The General Assembly may contract debts by borrowing money to pay any part of the debt of the State, without submission to the people, and without making provision in the act authorizing the same for a tax to discharge the debt so contracted, or the interest thereon.

By 1977, this principle had been well established according to the Kentucky Supreme Court:

It does seem to us that by this time, with all of the cases that have been decided under Const. [section] 50, its simple message should be clear to all. No commitment against future general revenues can be made without a vote of the people. This is nothing less than the keystone guaranty of the state’s fiscal responsibility. No agency of the state, including its legislature, can place an obligation against the general funds otherwise available for appropriation and expenditure by a future legislature.

McGuffey v. Hall, 557 S.W.2d 401, 409 (Ky. 1977). In McGuffey, the special fund was “underwritten by a guaranty in which the general funds of the state derivable from future tax revenues are made the surety. If becoming a surety does not amount to a lending of credit, then there cannot be such a thing, in which event it must be concluded that in drafting Const. [section] 177 the members of the 1891 Convention were just whistling ‘Dixie.’” Id. at 410. The Supreme Court stated that this guarantor arrangement would only have been constitutional if conditional on future appropriations, in which case “persons having claims against the Fund would have been limited to its assets then existing without a guarantee of its solvency through recourse to the general funds of the state.” Id. at 411. The Supreme Court went further to state that the credit of the Commonwealth may not be pledged to “back the financial integrity” of an agency of the state

itself. *Id.* at 411. Even if a Court were to hold an obligation not to be a “debt” under section 50 of the Kentucky Constitution, section 177 is a “clincher” to prevent such an obligation from passing constitutional muster. *Id.* at 411.

Revenue Bonds or “Moral Obligation” Bonds

The type of revenue bonds issued for KentuckyWired do not fall within this constitutional prohibition, because they are payable from specific revenue sources, not the general backing of the Commonwealth. For example, in *Wilson v. Kentucky Transp. Cabinet*, 884 S.W.2d 641 (Ky. 1994), the Kentucky Supreme Court upheld a revenue bond issuance for the construction of roads secured through a lease agreement as constitutional. The court held that the revenue bonds were not a debt of the Commonwealth “because neither the full faith and credit, nor the taxing authority of the Commonwealth is pledged to the payment of the principal or interest of the bonds.” *Id.* at 641. The bondholders were not misled because the bond documents clearly stated in bold print that the bonds were “not an obligation of the Government.” Although the roads to be constructed were not themselves “revenue-producing,” the revenue to support the bond payments could be derived from future appropriations of the General Assembly, if such appropriations were made. *Id.* at 643. The Court explained:

The risk of renewal and ultimate payment falls to the holders of the bonds who can only hope that future legislators will appropriate biennial lease payments. There is no enforceable legal obligation and no debt within the meaning of the Constitution because the General Assembly has no obligation to appropriate the lease payments; general revenues are not pledged to pay outstanding sums and the Commonwealth has no legal obligation to levy taxes to pay the rentals for the nonrenewable terms of the lease... The distinction between debt as a legal obligation and any other type of financing is a real distinction. Bondholders cannot resort to the court to require the General Assembly to appropriate funds to pay bonds or to levy taxes in the absence of a legal obligation. The lack of legal obligation protects both the present and future generations of the Commonwealth from enforcement or execution. Revenue bonds do not create the evil which the constitutional provision was designed to prevent. Certain generations certainly have the opportunity to utilize those resources which they deem necessary and appropriate.

Id. at 644. In that case, Justice Stumbo argued in dissent that this technical distinction for revenue bonds should not suffice constitutionally, saying that “financing schemes such as this have been described as ‘moral obligation bonds’ in New York State.” *Id.* at 647 (Stumbo, J. dissenting). “That moral obligation is enforced by the very real and tangible fact that should the legislature fail to appropriate the money necessary to cover the bond obligation, the Commonwealth’s credit rating would plummet and future bond issues would be difficult, if not impossible.” *Id.* (Stumbo, J. dissenting).

Justice Stumbo’s argument about the practical implications of revenue bond defaults is a real issue. The monetary impact of allowing a default on revenue bonds issued in this manner cannot be accurately projected, but multiple people interviewed during this examination agreed it

would be significantly negative for the Commonwealth. However, that practical impact, along with the revenue bond option, appears to place the Commonwealth in roughly the same position as if Section 50 of the Kentucky Constitution did not exist. For that reason, references to these bonds as “obligations” of the Commonwealth in this report will reflect the practical or moral, if not legal, implications of this debt. This practical impact is why financing via revenue bonds rather than via private equity or borrowing by private vendors is identified as a critical decision for the KentuckyWired project in Chapter III (page 35).

May the Commonwealth Contractually Obligate Itself to Back Revenue Bonds?

State Highway Commission of Kentucky v. King, 82 S.W.2d 443 (Ky. App. 1935), dealt with the Murphy Toll Bridge Act, which authorized the state highway commission to build bridges on the state’s highway system. Id. at 444. Under this and a later Act, the highway commission issued revenue bonds. In the course of refinancing these bonds, the highway commission accepted a bid resulting in the “McNear contract” containing the following language:

It is further conditioned that such proceedings shall contain provisions that in the event there should at any time be a deficiency in bridge revenues for the payment of the interest on or principal of said refunding bonds as the same become due there shall be advanced from any other available funds under the control of Kentucky State Highway Commission such amounts as may be necessary to cover any such deficiency and that there shall be reimbursements of the amount of any such advancements whenever the bridge revenues from the project shall have accumulated sufficiently so to do and leave a balance of not less than the amount of principal and interest coming due within the next succeeding twelve months on the bonds then outstanding. In the event such other funds are not available to make such advancements for such purposes, the Kentucky State Highway Commission shall include, in its next biennial budget of the State Road Fund, such appropriations as may be necessary to cover such deficiency and in addition thereto to set up a contingent fund which shall be maintained and from which such further advancement shall be made as may from time to time be necessary for the payment of the interest on or principal of said refunding bonds as the same become due.

Id. at 445. A taxpayer challenged this arrangement on constitutional grounds. There was no serious dispute that the highway commission had authority to issue bonds to fund the activities, and pledge tolls received as security for those bonds. “Consonant with that main idea, the state highway commission as an administrative body was given authority to do all such things as might be found necessary within the limits of the act, and other laws on the subject, to carry into effect the purposes so expressed.” Id. at 447. The McNear contract was held unconstitutional under Sections 49 and 50 of the Kentucky Constitution because it “pledged the credit of the commission, an agency of the commonwealth of Kentucky, behind the proposed refunding bonds.” Id. at 447. Although the chance of triggering the advancements from the highway commission’s general fund was “remote and unlikely,” “the legal possibility of such a contingency exists.” “Consequently, the obligation to make the advancement constitutes a contingent liability to the full amount of the bonds.” Id. at 448. Although McNear confirmed in a letter its understanding that this did not create

a general obligation of the Commonwealth, the court disagreed, noting that bondholders are not bound to that interpretation:

The contract plainly provides that if bridge revenues are insufficient to meet the payments of principal or interest as they fall due the state highway commission shall make provision for such deficiencies out of the general road fund. It not only creates an obligation against the general fund of the highway commission, but the obligation extends beyond the biennial period to which the commission is limited in anticipating its revenues, and exceeds the amount of indebtedness that can be incurred under sections 49 and 50 of the Constitution.

Id. at 448. Interestingly, the opinion in King mentions a “contingent” obligation of the Commonwealth. In the case law, these are typically distinguished from “general” obligations, but King does not go into detail about why this “contingent” obligation violated the “general” obligation prohibition.

The Project Agreement is subject to the laws of the Commonwealth of Kentucky. According to counsel for the Finance and Administration Cabinet:

Since Section 230 of the constitution limits expenditure of state funds to monies appropriated by the General Assembly, we see no authority either for Finance [Cabinet] itself, or any delegate of Finance, to expend funds beyond the amounts appropriated in the current budget cycle. As with many long term agreements entered into by the Commonwealth, we view any proposed expenditures beyond the end of the current biennium to be contingent on appropriation of the necessary funds by the General Assembly. If the funds are not appropriated, then the agreements would terminate for lack of funds under 200 KAR 5:312.

200 KAR 5:312 Section 4 is entitled Funding Out Provision, and it states:

The commonwealth may terminate a contract if funds are not appropriated to the contracting agency or are not otherwise available for the purpose of making payments without incurring any obligation for payment after the date of termination, regardless of the terms of the contract. The contracting agency shall provide the contractor thirty (30) calendar days written notice of termination of the contract.

Whether the Commonwealth’s obligations are practical, or “moral,” the decision to back revenue bonds with continuing appropriations is the decision of each legislature. The 2018-2019 biennial budget appropriated over \$70 million in general funds for KentuckyWired, and the legislature authorized an additional \$110 million in borrowing by KCNA, discussed in Finding 8 (page 75). The moral obligation theory is important in that it appears to have committed the Commonwealth to repayment of the bonded debt for practical purposes, if not legally. This commitment changes the risk dynamic of KentuckyWired and the incentives of the various parties, as discussed in Chapter III (below).

CHAPTER III: PROCUREMENT, STRUCTURAL, AND INCENTIVE ISSUES

In a December 4, 2015 press release from former Governor Beshear’s office announcing that KentuckyWired had won a municipal bond industry publication’s “Deal of the Year,” a managing director from Macquarie was quoted as saying, “We firmly believe that the public-private partnership model is well established and enables projects like KentuckyWired to be completed on an accelerated timetable while transferring risk to the private sector.”

Officials in some cases received clear warnings about the allocation of risk between the Commonwealth and its private partners. For the project as a whole, the availability payment model backed by Commonwealth appropriations has lowered the risk for private partners while netting a minimal equity investment for the Commonwealth. Additionally, utilizing KWIC to borrow project funds put the debt on the books of the Commonwealth.

Finding 1: The Structure of KentuckyWired Departs from Typical P3 Arrangements and the Original Design

Typical DBFOM Structure & Risk Allocation

A public-private partnership can take several forms and can be the arrangement for a number of infrastructure projects. Macquarie described KentuckyWired as the “[f]irst fiber optic PPP in the United States” and “one of the first large scale projects in this sector globally.” One of the more comprehensive P3 approaches is where a private partner is responsible to design, build, finance, operate, and maintain (referred to by the acronym DBFOM) an infrastructure asset over a long term. According to one Commonwealth official involved in KentuckyWired, the vendor was to respond to the RFP with everything necessary to carry out the project, and this is typical of most P3 bids.

Macquarie’s proposal explains that “transferring development responsibility to a private entity, the public sector also transfers significant development risks, thereby reducing its exposure to cost overruns, schedule delays and design faults.” According to Macquarie, “[t]he importance of this risk transfer cannot be underestimated; North American studies of government projects have found that inadequate risk management led to average cost overruns of 40%.”

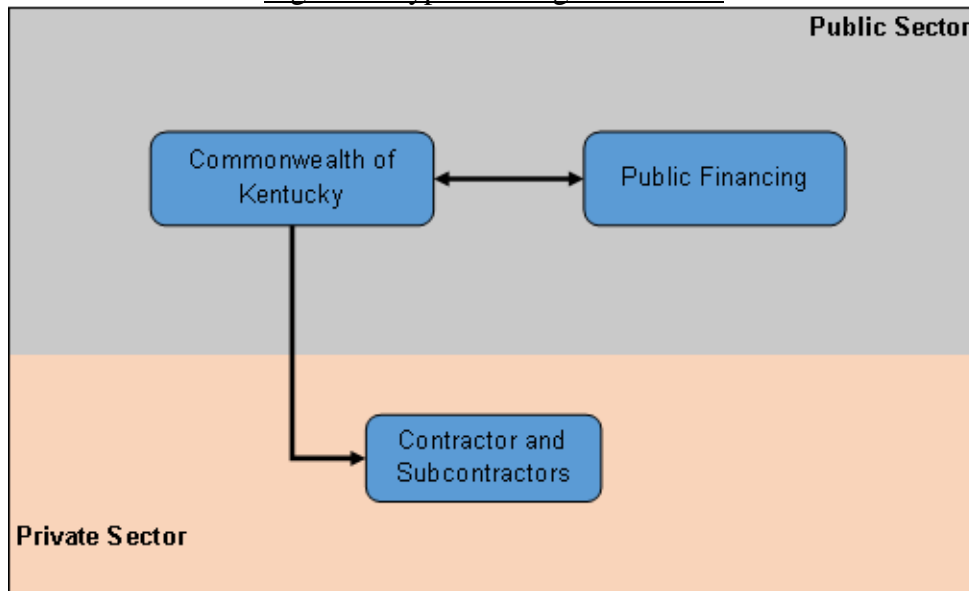
“The importance of this risk transfer cannot be underestimated[.]”

–Macquarie Infrastructure
Developments LLC

In a typical P3 structure, transfer of areas of responsibility also entails transfer of risk from the government to the private partner in these areas. For example, according to the Design Build Institute of America, when operations and maintenance are the responsibility of the private partner, “the degree of risk transfer exceeds that assumed under a design-build delivery model.” A design-build delivery model is the typical government contracting model illustrated by Figure 7 (below). When the responsibility for financing the project is transferred to the private partner, private partners commonly secure private financing by leveraging project revenues, which can come from

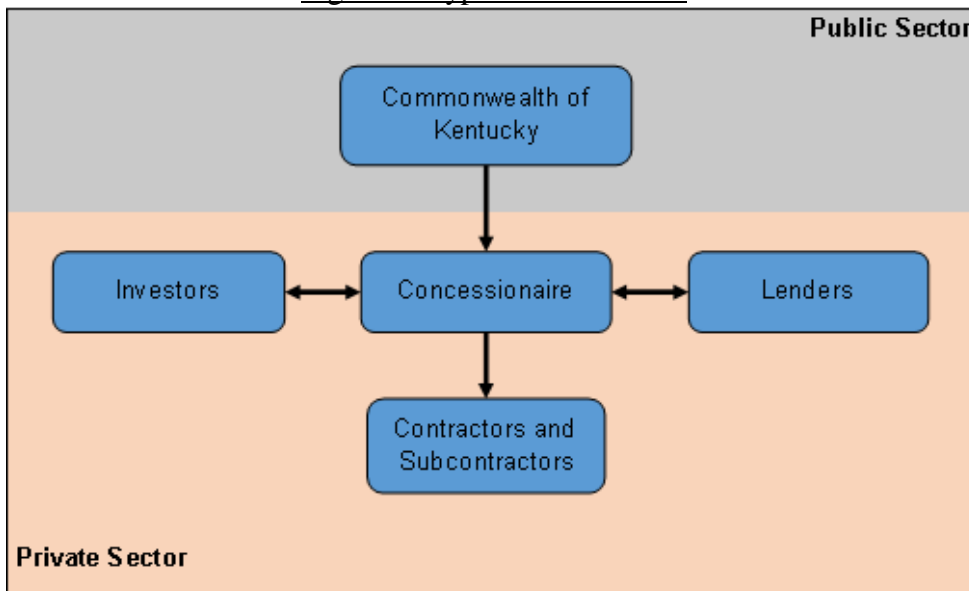
user fees (such as tolls for a road or bridge), or availability payments (amounts paid by the government based on performance). This arrangement is depicted in Figure 8 (below). Transfer of all “development, operations and technology risks” to the private sector should create discipline or incentives for the private vendor to meet its commitments. This risk allocation would typically, as Macquarie explained in its proposal for KentuckyWired, provide “a significant deterrent...to over promise and under deliver.”

Figure 7: Typical Design-Bid-Build



Source: APA based on industry publications.

Figure 8: Typical DBFOM P3

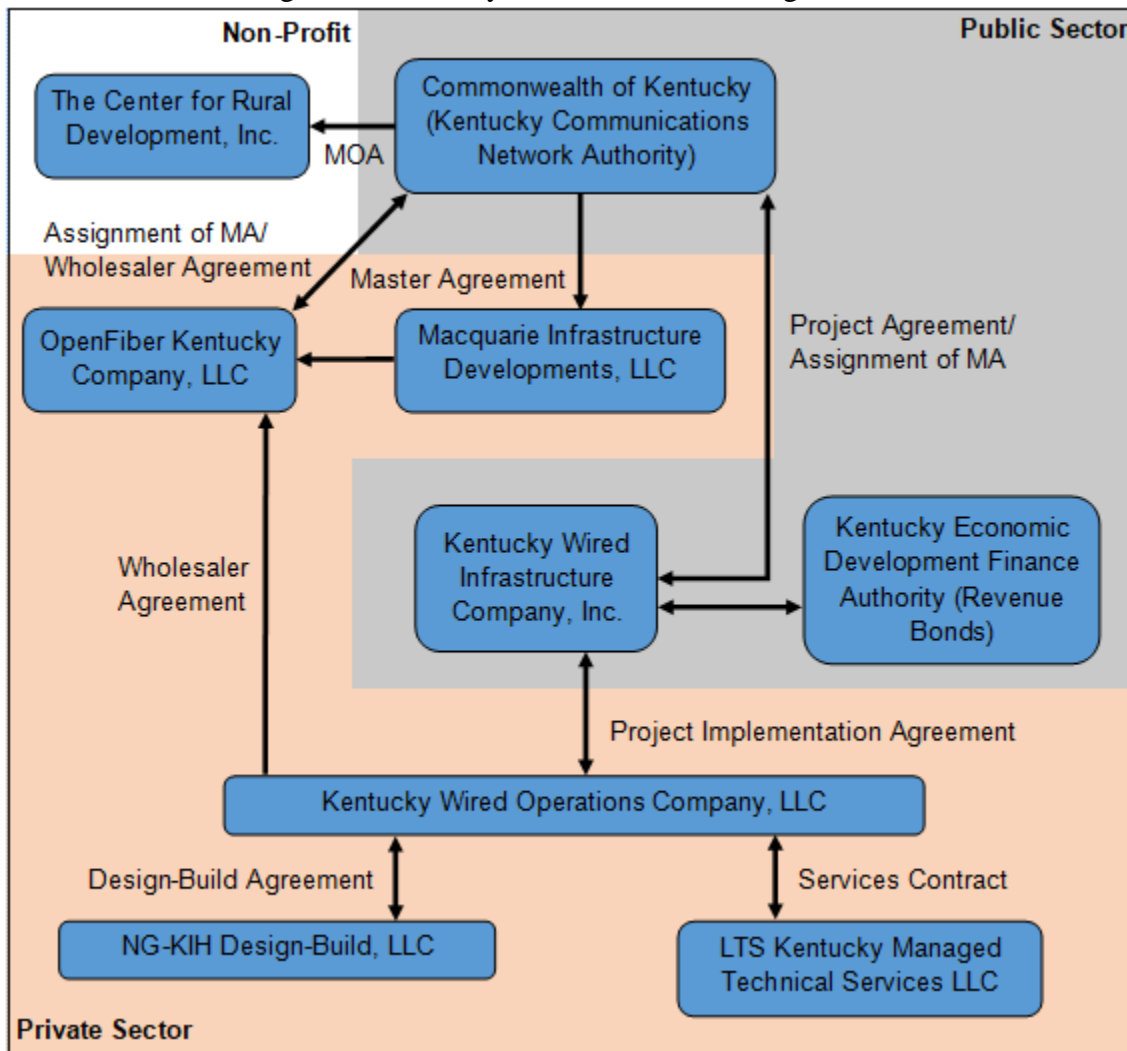


Source: APA based on industry publications.

Figure 8 (above), showing the typical DBFOM model of a P3, is similar to the arrangement contained in Macquarie’s proposal in response to the Commonwealth’s RFP. In that proposed structure, a private consortium, led by a Macquarie affiliate, would serve as the Concessionaire, or Special Purpose Vehicle (SPV) for the project. That Concessionaire would be the primary contractor, borrower of project funds, and entity for private investments in the project.

Rather than have the private sector company serve as the Concessionaire, the Commonwealth ended up agreeing to a structure illustrated as follows in Figure 1 (below). The Commonwealth-created non-profit corporation, KWIC, is identified as public sector due to the accounting treatment of this entity discussed previously.

Figure 1: KentuckyWired Contract Arrangements

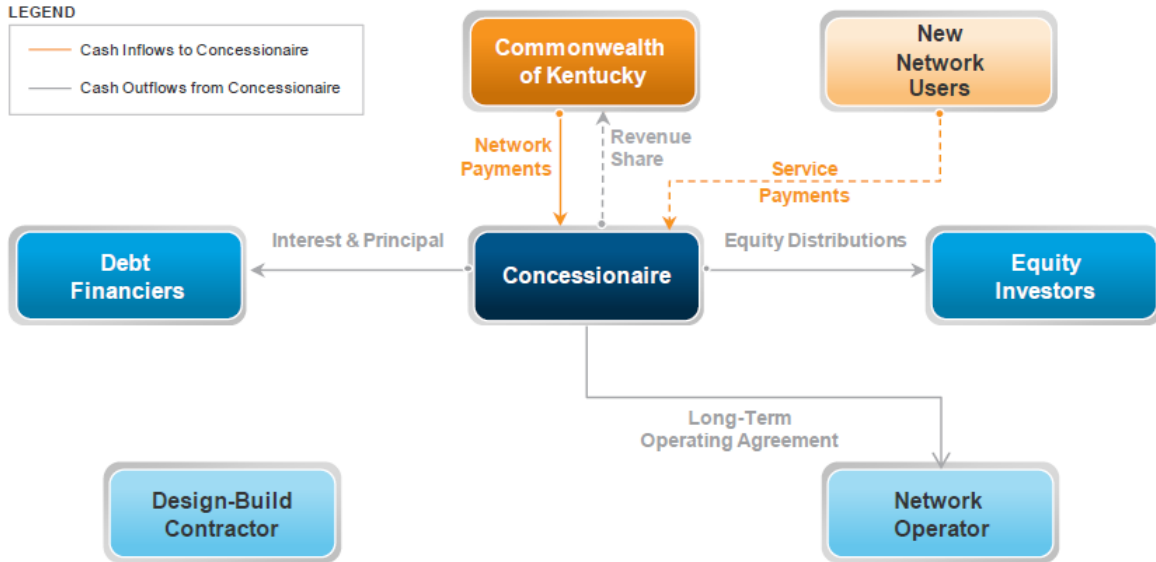


Source: APA based on review of project agreements.

The funding flows for the project as proposed by Macquarie Infrastructure Developments LLC in 2014 are presented in Figure 9 (below). In this scenario, the Concessionaire is a private company formed by Macquarie that raises equity and is responsible for its own debt, with no

recourse to taxpayers. Network payments would still have been made by the Commonwealth of Kentucky to the Concessionaire, and these are called availability payments in the KentuckyWired contracts.

Figure 9: Proposal of Project Funding Flows



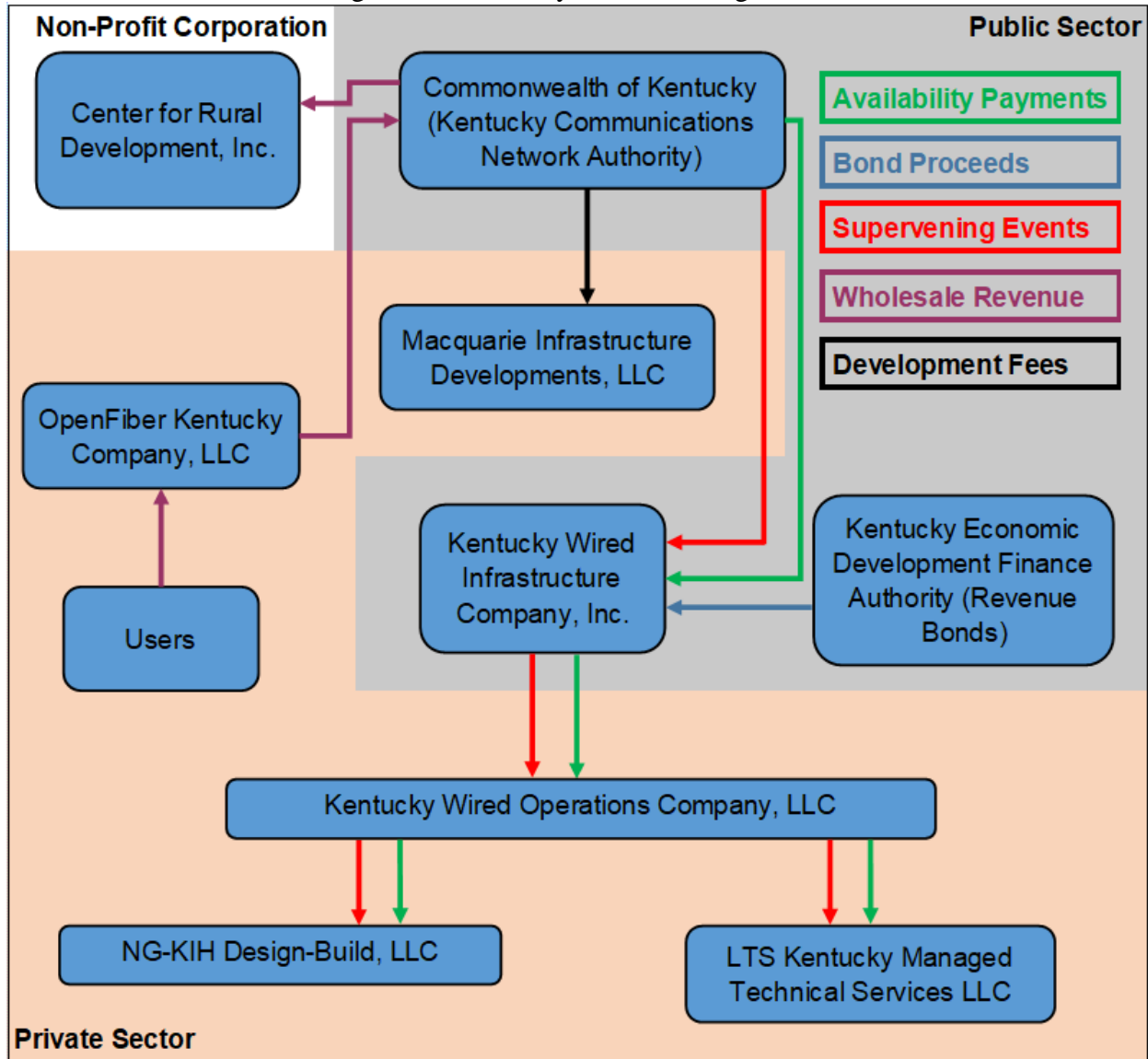
Source: Macquarie Proposal in response to RFP dated September 16, 2014.

Network payments are availability payments. Service payments and revenue share are those transfers to be made pursuant to the wholesale agreement.

Note the similarity of Figure 9 (above) to the typical P3 arrangement in Figure 8 (above). The resulting flow of funds arrangement after final negotiations is presented as follows in Figure 10 (below). This represents the current KentuckyWired arrangement, including the creation of KWIC, the issuance of tax exempt bonds, and the contractual agreements of the Commonwealth to back bond repayment as well as all project payments.

Report continues with Figure 10 on next page.

Figure 10: KentuckyWired Funding Flows



Source: APA based on review of project agreements.

Availability payments in green above are contractual payments made by the Commonwealth to support construction and operation of the network. Bond proceeds in blue show the funds transferred to KWIC by the issuance of bonds. Supervening events in red are direct loss claims resulting from compensation events called for in the project agreements. Although no supervening events have yet been claimed under the Services Contract, these events are defined in that contract as well. Anticipated wholesale revenues in purple cannot be realized until the network is operational. Development fees in black were payments made at the close of project financing to Macquarie Infrastructure Developments LLC for creating the project structure.

DBFOM Roles After Contracts

The preceding figures illustrate the departure from the typical DBFOM P3 structure for the KentuckyWired project as a result of the creation of KWIC. The settlement MOU entered into among various parties on March 30, 2018, describes the Project Agreement as a DBFOM arrangement and the Project Implementation Agreement as a DBOM arrangement, further illustrating the removal of financing as an obligation of the private vendors who entered into the Project Implementation Agreement. As a result of the decision to issue tax-exempt financing with the non-profit entity KWIC as a vehicle, financing was no longer the obligation of the same parties that were responsible for construction and operation of the network.

This structure created misaligned incentives as discussed in Finding 2 (below).

Finding 2: Significant Terms Favorable to the Commonwealth Were Changed During Procurement

Request for Proposal and Response of Macquarie Infrastructure Developments LLC

On July 11, 2014, the Commonwealth issued a request for proposal (RFP) for a “Finance/Concessionaire Partner” for the Next Generation Kentucky Information Highway (NG-KIH). In response, Macquarie Infrastructure Developments LLC submitted a 290-page proposal dated September 16, 2014. The response anticipates a “negotiation period with the Commonwealth,” and it is during this negotiation period that not only key terms, but the overall structure of the arrangement, changed to the Commonwealth’s detriment. Major items that changed from the Macquarie proposal to the resulting project agreements include:

- Removal of private equity/financing for all practical purposes.
- Availability payments became un-availability payments (to be paid before the network was operational).
- The fixed-price, date-certain concept did not materialize.
- A termination for failure to complete provision was not included.
- Responsibility for pole attachment agreements shifted to the Commonwealth.

These elements represent significant departures from the typical P3 arrangement, and from the proposal submitted by Macquarie in response to the RFP. These departures have had a real and adverse impact on the Commonwealth.

Significant Changes to Contracts Are Expressly Acknowledged in the Project Agreement

By the time of the Project Agreement in September 2015, the terms and structure of the arrangement had changed significantly enough that the parties to that agreement, KWIC and the Commonwealth, stated (emphasis added):

The parties acknowledge that, due to the size and complexity of the Project, they have clarified through extensive negotiation the contents of both the RFP and the

proposal(s) (including any clarifications, modification or amendments thereto) submitted in response to either the RFP or the Master Agreement. **Accordingly, the body of this Project Agreement and Schedules 1 to 20 expressly supersede the contents of both the RFP and the proposal(s) (including any clarifications, modifications or amendments thereto) submitted in response to either the RFP or the Master Agreement**, other than [various items are listed, such as disclosures, tax application, registrations, and required affidavits].

Similar language superseding the RFP is found in the Project Implementation Agreement. The clause above appears to acknowledge a significant departure or evolution of terms beyond the initial RFP and Master Agreement.

This language is notable for a couple of reasons. First, this type of contract language is not typical. According to FAC's Office of Procurement Services, RFP contents are typically incorporated by reference into contracts. The opposite occurred in the KentuckyWired procurement. Although not required by the Commonwealth's state procurement policies, incorporation is "a nationally recognized best practice." The contract language is also inconsistent with 200 KAR 5:313, Section 3, which states that "[s]ubmission of a response to a solicitation shall be deemed to be an agreement to comply with all terms, conditions, and specifications of the solicitation." Second, the RFP indicated that several key risks would be allocated to the vendor. These same risks have caused many of the delays and additional costs that continue to affect the project. Section 10.H. of the RFP stated:

The Commonwealth and the NG-KIH program manager will coordinate with points of contact within state and local government organizations and other third parties to expedite access and to clarify/mediate compliance issues throughout the life cycle of any contract awarded as a result of this RFP. **Access to rights of way, easements, conduit access, pole attachments and regulatory compliance shall be the responsibility of the vendor.**

(emphasis added). Instead, responsibility for pole attachments became a risk that was allocated to the Commonwealth in a supervening event clause in the project agreements. In the Project Agreement, if "a Pole Provider refuses to enter into a Simple Pole Attachment Agreement," this is a compensation event requiring schedule delays and possible monetary claims by the contractors. This risk is not controllable by either party, but the risk was allocated to the Commonwealth under this provision. Furthermore, the Commonwealth signed contract language in the Project Agreement suggesting that it shared responsibility for pole counts that have proven to be inaccurate. The Commonwealth has borne the risk, as well as the real costs, of pole attachments and easements as discussed in Finding 6 (page 60).

Significant changes raise the question of whether the modifications placed the final arrangement outside the original contract scope. FAP 111-11-00(1), as it was in effect at the time,

stated: “A Modification shall be used to make corrections or changes to a Solicitation or contract. A Modification shall not be used to: a. initiate a major change outside the original scope of the contract; or b. effect a new buy that would normally be placed by competitive bid.” It is possible that other bidders may have been interested in bidding the design, build, maintenance, and operations elements of the project without committing significant private equity, particularly in light of the capital requirement demonstration contained in the request for proposal. In order to receive competitive offers for meaningful evaluation and transparency, resulting contracts should match the advertised bid requirements. From a vendor’s point of view, there is a significantly different risk profile comparing the current arrangement described in this report to the proposed arrangement of contributing significant equity, raising private capital, and incurring private debt to carry out the project.

To receive competitive offers for meaningful evaluation and transparency, resulting contracts should match advertised solicitations.

The decision to issue debt under the Commonwealth-created entity KWIC and to back that debt with a contractual commitment to availability payments and other costs, meant that the Commonwealth effectively rejected Macquarie’s proposal to fully fund the project with private capital that would be non-recourse to the Commonwealth. Relevant statements from the proposal include:

- “Macquarie, on behalf of the Concessionaire, will raise the majority of the financing from the debt markets, with recourse only to the project assets and not to the Equity Members or Commonwealth taxpayers.”
- “The Project will be fully funded by private capital, with all capital committed at financial close. Debt raised by the Concessionaire is non-recourse and repaid solely by the cashflows from the project.”
- Financial Plan Objectives include: “Ensure that the financing structure is non-recourse to the Commonwealth and is not taxpayer-supported debt.”

The proposal did contemplate taxable and tax exempt bonding, if applicable. However, those bonds would have been the obligation of a private, for-profit “Concessionaire,” a term for a special entity created to lead the project. Instead of an entity such as KWOC—an entirely private sector company—being the Concessionaire carrying the debt obligations (as well as the remaining project obligations), the non-profit entity KWIC became the financing vehicle.

Private Financing Requirement is Removed from the Master Agreement

A significant change occurred with the Fourth Amended and Restated Master Agreement (Fourth MA) dated September 2, 2015—just one day prior to the date of the primary project agreements. The introductory language to the Fourth MA explains that:

[W]ith feedback from placement agents and underwriters, a viable financing plan utilizing tax-exempt and taxable municipal securities was identified as an

alternative to the corporate (taxable) financing that had previously been the basis of [Macquarie's] financial plan[.]

Around this time, a section of the Master Agreement was added that separated the financing component and placed responsibility for financing on the Commonwealth instead of Macquarie. In the Fourth MA, the deliverables for the third milestone require Macquarie to negotiate and provide contracts to the Commonwealth, including financing documentation, but no requirement for Macquarie to raise private capital. This was a change from the initial RFP, which contemplated private equity financing by including a requirement that the vendor demonstrate it has “the funds to meet the development costs and equity investment needed for the Project.” Macquarie’s proposal in response to the RFP had stated “[t]he Project will be fully funded by private capital, with all capital committed at financial close.” The Commonwealth reversed course on this plan in favor of tax-exempt bonding.

Shifting of Risk for Financing the Project to the Commonwealth

Rather than relying on private capital, the Commonwealth decided to take advantage of tax-exempt bonding and therefore decrease financing costs. The Commonwealth incorporated the non-profit entity KWIC for this purpose on June 24, 2015. Macquarie described KentuckyWired as the “[f]irst use of hybrid tax-exempt/taxable bond structure in a U.S PPP not eligible for exempt [private activity bonds].” There is a trend toward tax-exempt financing in P3’s, which has been questioned due to the shifting of risk: (i) to federal taxpayers, due to the exemptions on these bonds; (ii) to state and local taxpayers, if they are ultimately liable for the borrowing; and (iii) away from private partners, unless there are private equity requirements.

Scheduled private sector equity contributions total \$6,527,762, and the private partners had agreed to purchase bonds in the amount of \$15,229,110 (at 10% interest) to finance the project. As of July 1, 2018, the private partners had contributed \$4.2 million to the project. As of August 2018, the bonds purchased by private partners had not yet been drawn down.

The \$23.5 million in anticipated federal funding that was planned for construction has not yet been earned because the areas of the network for which this funding was earmarked are not complete. The Commonwealth is actually paying daily interest to the private partners because this federal money has not been earned, and this will continue until the relevant sections of the network are complete. As of December 2017, the Commonwealth had paid \$329,698. Those penalties will continue to accrue until the rings in eastern Kentucky for which the funds were earmarked are complete.

Financing Became the Obligation of the Commonwealth-Created Entity, KWIC

The significant shift in incentives and risk allocation occurred when financing for the project was removed from the Master Agreement as an obligation of the Macquarie-led Concessionaire. Although the proportion of private equity was not detailed in the initial RFP, the amount of private equity committed to the project is a small fraction of the state’s obligations. The Project Implementation Agreement describes the creation of KWIC as designed to “decrease the

cost to the [Commonwealth] of financing the project.” While there may have been savings to the overall cost based on lower interest rates obtained from tax-exempt financing, the changes in incentives created by this new structure must also be assessed in terms of impact on overall cost.

The cause of the shift in incentives can be found in the decision to insert KWIC as the financing vehicle, rather than have the private, for-profit vendors bear the risk of financing obligations related to the project. This structure, along with the contractual agreement of the Commonwealth to pay the bonds, created a situation in which there is a potential bond-rating impact in any termination scenario—even a termination at no fault of the Commonwealth. Due to credit rating implications and the “moral obligation” of the state backing revenue bonds discussed previously in this report, this change resulted in the transfer of key risks and costs from the private sector back to the Commonwealth.

The proportion of tax-exempt bond financing in relation to private equity has placed a considerable burden on the Commonwealth. It has also removed incentive from vendors to complete the project on time. If private sector vendors were bearing the time cost of money borrowed or invested, it would create a greater incentive to make the network operational—the point at which revenue can be generated to recoup equity or repay borrowed funds. Instead, private vendors are receiving availability payments from the Commonwealth’s general fund for a network that is not available.

Fixed Price, Date Certain, with Exceptions

The Project Agreement indicated it was a fixed price contract: “The parties acknowledge and agree that, other than as expressly provided for herein, this Project Agreement is a fixed price contract pursuant to which [KWIC] takes the risk of cost overruns and is entitled to the benefit of cost saving.” The Design-Build Agreement, by comparison, states a defined contract price that may be “amended as a result of Changes, Compensation Events and any other mechanisms specified herein which explicitly adjust the price.” These exceptions ended up being significant when it came to the amounts payable under these agreements. The compensation events are a type of “supervening event” discussed throughout this report. These events not only result in additional claims for payment due from the Commonwealth, but also extend the scheduled completion of the project, which has the added burden of deferring expected revenues.

The negotiated contracts are not consistent with the statements of Macquarie Infrastructure Developments LLC in its proposal dated September 16, 2014. In that proposal, Macquarie repeatedly discussed the fixed-price, date-certain nature of the project agreements. Some of the statements contained in that proposal follow:

- After a negotiation period, the Concessionaire will submit a binding proposal “on a fixed price and date certain basis, transferring project risks to the Concessionaire and creating cost and schedule certainty for the Commonwealth.”
- “The NG-KIH will be completed on a fixed-price, date-certain basis[.]”

- The design-build joint venture subcontractors “will develop the network on a fixed-price, date-certain basis, which provides capital providers the necessary certainty to commit all financing required for the project at financial close.”
- “The Macquarie consortium will, in the Concession Agreement, guarantee a specific date by which the NG-KIH will be fully operational; our base case for that date is March 31, 2016. The Concession Agreement protects the Commonwealth from downside risk through financial penalties, payable by the Concessionaire, for each day beyond March 31, 2016 that the NG-KIH has not been accepted as fully operational.”
- “Concessionaire will guarantee cost and completion date of the NG-KIH.”
- “[T]he Commonwealth will receive a superior product for reduced cost, and bear no impact should these costs unexpectedly increase.”

While the RFP and response contemplated further negotiations to take place after the initial award, the statements listed above have not materialized. Commonwealth officials ultimately negotiated and signed agreements that changed these proposed terms. Instead of a fixed price on a date certain, the Commonwealth has borne the risk of additional construction costs, with the delivery date long past, all while facing significant contractual termination costs.

Instead of a fixed price on a date certain, the Commonwealth has borne the risk of additional construction costs, delays, and termination costs.

Un-Availability Payments

Private partner revenues in the KentuckyWired project come from both user fees under the Wholesaler Agreement and availability payments under the Project Agreement. Choice of payment method can impact risk allocation. In his book, “The Economics of Public-Private Partnerships: A Basic Guide” (Cambridge University Press), Eduardo Engel states, “[t]o create strong incentives to complete the project on time, the firms should only receive payments after the facility is in service.” According to NIGP: The Institute for Public Procurement, availability payments are lump sum payments “made by the government to the private sector partner when the facility or infrastructure is open and available for use.” In response to the RFP, Macquarie proposed that availability payments be contingent on availability of the infrastructure. This was stated repeatedly:

- “[T]he monthly payments will only commence once the NG-KIH has been completed and accepted by the Commonwealth, and will not be adjusted for cost increases that are within the control of the Concessionaire[.]”
- “Availability payments will commence once construction has been completed and the Commonwealth has acknowledged final completion of the design-build contractor’s scope of work.”
- “PPPs have an efficient payment structure that matches the Commonwealth’s revenues to its costs and only requires payment upon satisfactory completion and operation of the network.”

- “This Concession Agreement, to be executed by the Commonwealth and the Concessionaire, will commit the Commonwealth to making fixed monthly payments over the contract term once the NG-KIH has been completed.”

The KentuckyWired availability payments are being made during construction, prior to availability of the infrastructure. Availability payments are subject to reduction for construction delays or for outages once the network is live; however, due to supervening event claims, the Commonwealth has not reduced availability payments for construction delays. Rather than reducing payments, these delays have increased cost to the Commonwealth. Supervening events may permit extension of the schedule and trigger additional compensation to contractors. In addition to Commonwealth-supported availability payments, OpenFiber, another private company, will share in revenue generated from the network.

A Proposed Termination Incentive Did Not Materialize

An important part of the Macquarie proposal that is not contained in the resulting project agreements was a termination provision. According to Macquarie’s proposal (emphasis added):

Should the network still not be completed 12 months after the agreed date, the Commonwealth will have the right to terminate the Concessionaire and rebid the contract, further increasing Macquarie’s incentive to perform.

Even if a clause permitting this termination scenario were present in the project agreements, the insertion of KWIC as the Concessionaire rather than a private sector vendor, along with contractually obligating the Commonwealth to repayment of bonded indebtedness over 30 years, would render it difficult to exercise. Due to the impact of allowing a Commonwealth-created entity to default on bonded indebtedness, it is questionable under the current structure whether the termination-and-re-bid scenario would be palatable. Therefore, the arrangement required by tax-exempt financing and the contract agreement making the Commonwealth the payor, are key changes that account for many of the misaligned incentives of the private sector in KentuckyWired.

Lack of KWOC Incentive to Monitor Project

The Master Agreement contemplated that the traditional DBFOM model would be used, wherein Macquarie Infrastructure Developments LLC, as the primary contractor, would be “solely responsible for performance of the entire Agreement whether or not subcontractors are used. The Commonwealth shall not be involved in the relationship between [Macquarie] and any subcontractor. Any issues that arise as a result of this relationship shall be resolved by [Macquarie].” In addition, Macquarie’s proposal stated that its consortium would “be the single point of contact with the Commonwealth and through the Concession Agreement will retain ultimate responsibility for all design, construction, finance, operations, maintenance, and network refresh functions considered in the Project scope.” Instead, the Commonwealth has ended up with significant responsibilities in contract management and monitoring.

Because of the Commonwealth's contractual obligation to pay for certain supervening event claims, the primary contractor, KWOC, does not absorb these cost overruns. Therefore, the Commonwealth is the party with the incentive to monitor and scrutinize supervening event claims, costs, and delays. In fact, KWOC has themselves claimed and been paid for direct losses throughout the project.

Finding 3: The Role of the Private Sector in Financing the Project has been Overstated Publicly

After the master agreement was signed with Macquarie in December 2014, a press release from former Governor Beshear's office stated, "this project will be paid for up front by leveraging private capital at no additional cost to Kentucky taxpayers." Governor Beshear was further quoted, "If we were to rely solely on state government funding to get this project off the ground, it would take years, if not decades. Those kinds of tax dollars just aren't available." While it remains to be seen how many years it will take to get this project completed, taxpayers have already incurred additional costs for this project.

"[T]his project will be paid for up front by leveraging private capital at no additional cost to Kentucky taxpayers." –2014 Press Release from Governor Beshear's office

The executive order creating KCNA on August 17, 2015, at which point the structure of the deal was well established, included the following passage:

A public-private partnership with Macquarie Capital has been established to design, build, operate, and maintain the network for 30 years. The public-private partnership leverages private sector funding for most of the construction cost of the project. The Commonwealth will shift its resources from payment for its current service to pay for the new and substantially faster state-owned network. The private sector partners bear the construction and operational performance risk of the project; the Commonwealth retains ownership of the network.

The above passage contains both doubtful claims and statements that were inaccurate at the time of the executive order. The indication that private sector funding would be leveraged for most of the construction costs and that the private sector partners bear the construction risk are not accurate based on the agreements signed prior to this date. Furthermore, the statement that the Commonwealth retains ownership of the network does not acknowledge the significant portions of the network owned by the Center for Rural Development pursuant to an MOA signed prior to this date.

Less than a month later, Macquarie would assign its rights under the Master Agreement to the Kentucky Wired Infrastructure Company. Later, in an email to Commonwealth officials in response to renewing their EEO and Contract Compliance certificate, counsel for Macquarie stated, "Macquarie Infrastructure Developments LLC is no longer doing business in the Commonwealth of Kentucky and is no longer a party to a contract with the Commonwealth of Kentucky."

The project has used outside funding. However, funding apart from debt the Commonwealth is backing via availability payments or direct contributions from the Commonwealth, is a small portion of the total project funding. On the KentuckyWired website the arrangement is defined as follows: “A public-private partnership with Macquarie Capital has been established to design, build, operate, and maintain the network for 30 years.” Notably absent from this description is the financing portion of the project, which was originally included in the 2014 master agreement. The vast majority of the financing has been contributed or backed by the Commonwealth via direct contributions, responsibility for the debt of KWIC as discussed in Chapter II (page 21), and termination clauses in additional contracts signed by Commonwealth officials.

Officials were aware that KCNA would have to win a fair and open competitive bid for an RFP to provide broadband services in school districts and maintain the Commonwealth’s ability to secure reimbursement through federal E-rate funding. K-12 broadband costs made up a significant portion of the “shifting of resources” referenced in the executive order, and at the time of the signing of the Project Agreement the KIH-3 contract was still in place and a new RFP to provide these services had not been issued. Yet the executive order read as if KCNA winning the bid was a foregone conclusion and the funding was already secure.

Although the cost of building the network itself has dominated the conversation, taxpayers should be made aware of their other responsibilities to the project. By the end of the project’s 30-year term, the Commonwealth will have paid \$1.17 billion in availability payments to cover debt service, private partner operational expenses, network maintenance, and private partner return on investment. This does not include the \$110 million expected to be borrowed (pursuant to an \$88 million settlement MOU and \$22 million in additional borrowing authority to cover additional cost overages and other expenses) and the \$8.7 million that had been paid to private partners as of June 2018. That availability payment total also does not cover additional funding for “network refreshes” which are estimated to total \$87.4 million over the term of the contract. The Commonwealth will either have to appropriate funds for these refresh costs, or, if sufficient wholesale revenues materialize, utilize those earnings to cover the refresh costs.

In a letter to the KEDFA board from the former FAC secretary on May 28, 2015 the secretary states that the Commonwealth has entered into a 30 year public private partnership to finance, design, build, and operate the network. While the original MA stated that the Concessionaire would raise all private capital, the MA was eventually amended to omit this language. She then states, “The commonwealth is contributing \$30 million in state funds and has received commitments for \$20 million in federal monies. The Commonwealth’s future financial commitment will be financed by Macquarie.” In fact, the purpose of this letter was to request a conduit debt issuance from KEDFA so that KWIC (a nonprofit organization that was formed by herself and two of her deputy secretaries in June 2015) could finance the majority of the project rather than Macquarie. While payments under the current Kentucky Information Highway contract are referenced in this letter as a possible source of the availability payments, officials had not yet secured this funding and had been warned of the possibility that the K-12 portion of these payments could not be transferred without jeopardizing federal funding.

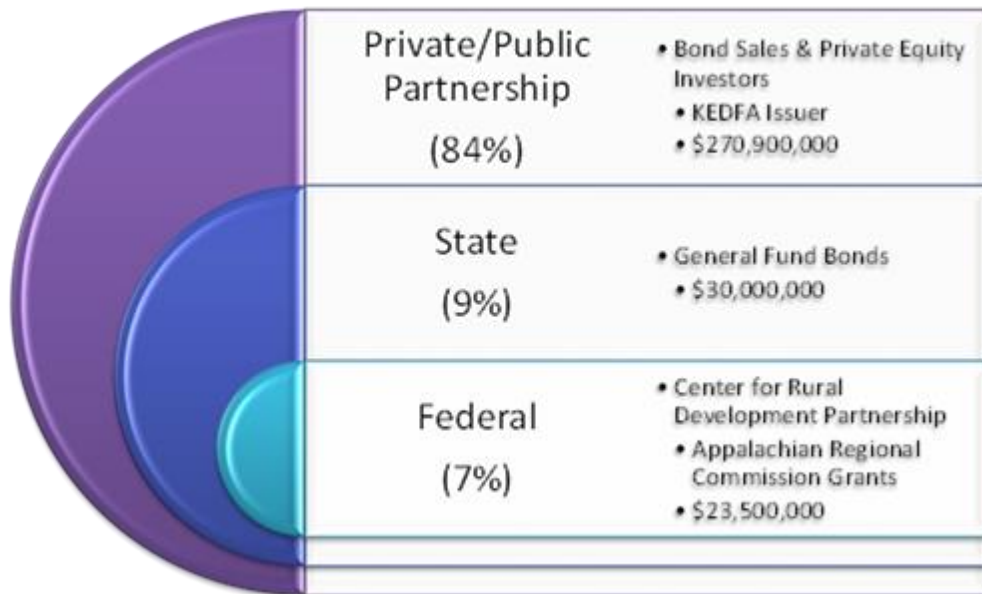
Later in the letter, the structure of the deal was discussed:

The preferred legal structure for tax-exempt bonds contemplates them being issued by a traditional, Kentucky conduit bond issuer (i.e. KEDFA). A nonprofit corporation (NPC) would need to be created and it would enter into the Project Agreement with the Commonwealth and implement the project. The NPC would be formed for the specific purpose of building and operating the KentuckyWired network and would be legally distinct from the Commonwealth.

The nonprofit corporation contemplated in the letter's purpose was not to build or operate the network as described above. The main purpose of KWIC was to borrow the project funds, and while legally distinct from the Commonwealth, the ultimate form of the project agreements resulted in a structure where the Commonwealth was backing KWIC's debt through availability payments supported by Commonwealth appropriations.

In a presentation to the Appropriations and Revenue Committee on October 22, 2015, the following slide (Figure 11, below) was presented by KCNA officials:

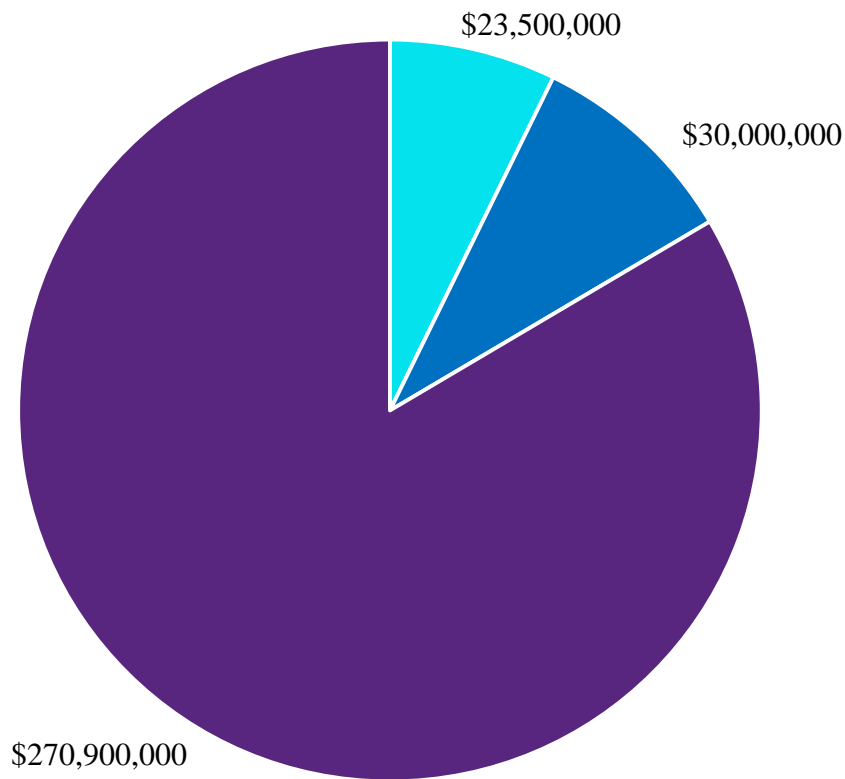
Figure 11: KCNA Illustration of Project Financing



Source: KCNA and Finance & Administration Cabinet's October 22, 2015 presentation to the Interim Joint Committee on Appropriations & Revenue

This illustration made appearances not only in General Assembly committee hearings but in public presentations throughout 2016. Figure 12 (below) is a representation of the information contained in the slide in pie chart format.

Figure 12: Pie Chart Illustration of Project Financing as Reported by KCNA

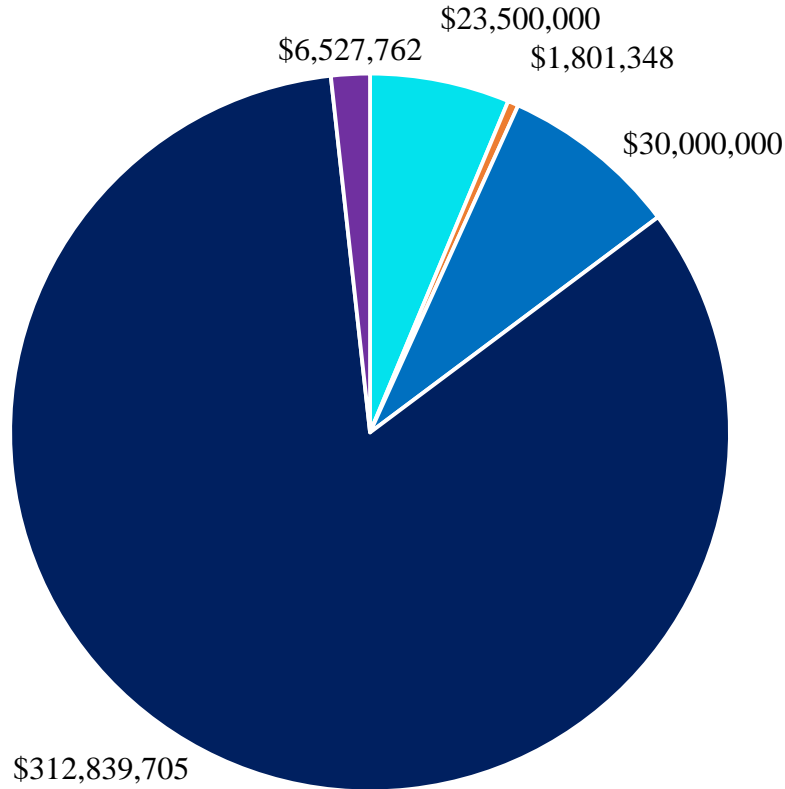


- Federal Funding (7.2%)
- Commonwealth Contribution (9.2%)
- Private/Public Partnership (83.5%)

Source: APA based on KCNA and Finance & Administration Cabinet's October 22, 2015 presentation to the Interim Joint Committee on Appropriations & Revenue

A more accurate presentation of the financing of the project at that time would have been Figure 13 (below), derived from information provided from the Cabinet for Economic Development (CED) to the Capital Project Bond Oversight Committee on August 7, 2015:

Figure 13: Planned Funding Distribution under Project Agreement

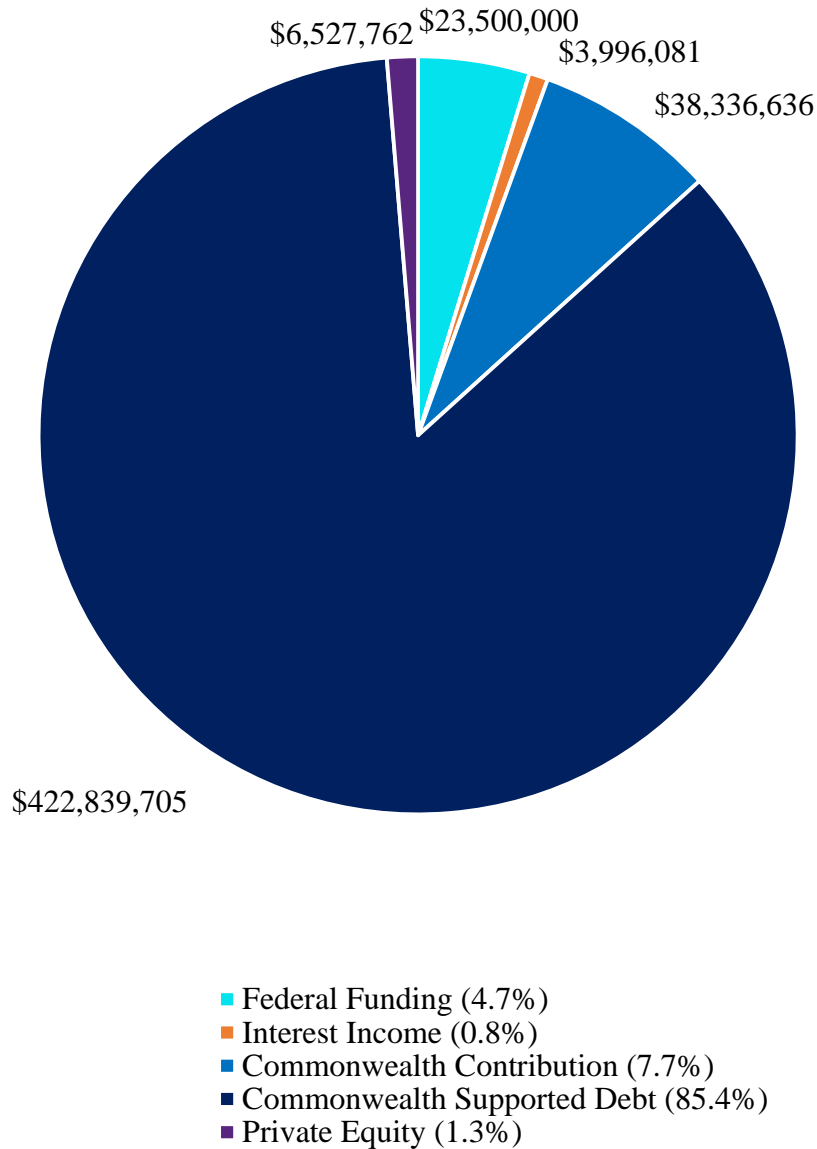


- Federal Funding (6.3%)
- Interest Income (0.5%)
- Commonwealth Contribution (8.0%)
- Commonwealth Supported Debt (83.5%)
- Private Equity (1.7%)

Source: APA based on data provided by the Cabinet for Economic Development to the Capital Project Bond Oversight Committee on August 7, 2015; and Project Agreement.

Figure 13 (above) reflects the accounting treatment of KWIC borrowing as Commonwealth debt, a treatment which is further justified by the contractual agreement of the Commonwealth to make debt-supporting payments. Factoring in the \$88 million settlement MOU, \$22 million in additional anticipated borrowing for cost overages or other expenses, and cost overages already paid by the Commonwealth, Figure 2 (below) is the visual representation of funding percentages:

Figure 2: Project Financing, Including Settlement MOU, Anticipated Borrowing, and Cost Overages Paid by the Commonwealth



Source: APA based on data provided by the Cabinet for Economic Development to the Capital Project Bond Oversight Committee on August 7, 2015; KWOC, and Project Agreement.

Figure 2 (above) is an updated representation of the Commonwealth’s commitment due to the settlement MOU with contractors. In both Figures 13 and 2, the Commonwealth’s portion of funding commitment greatly exceeds that of private parties or other sources.

An article published on September 13, 2015 included the following explanation from the FAC public information officer, “The project is expected to cost roughly \$330 million. The Kentucky General Assembly allocated \$30 million to the project in the 2014 legislative session and secured \$23.5 million in federal funds. Tax exempt bonds purchased by private sector

investors will pay for the remaining \$306.5 million.” While this serves as a valid description of bond financing, more relevant to quantifying the amount financed by the public versus private sector would have been disclosing by whom and in what manner those bonds would be repaid. While legally the bonds may not be obligations of the Commonwealth, in practice the debt is being paid via availability payments from general fund appropriations in the absence of project revenues or willingness to let KWIC default.

An article titled “Kentucky Issues Bonds for Statewide Internet System” published in a trade publication for members of the municipal bond industry on August 26, 2015 describes the transaction clearly in the title. The article called the project “a first-of-its kind P3 deal that market participants said should offer higher yields to investors.” The Executive Director of OFM agreed, “The nature of the deal...will potentially offer better yields to buyers that have participated in similar P3 transactions.” The article further states: “The [private partners’] contributions to the project include \$14.9 million in subordinate debt and \$6.4 million in equity, which is secured by an irrevocable, on-demand letter of credit.” The actual amounts differ slightly from what the article stated. Important to note is that the subordinate debt referenced above has yet to be drawn down. When the debt is drawn, the Commonwealth will pay this debt via availability payments. This debt has been secured by private partner letters of credit, the fees for which have been reimbursed by the Commonwealth.

In an interview with the media in October 2015, the then-Executive Director of KCNA, who had formerly held the position of Deputy Finance Secretary and had been involved with KentuckyWired, stated that “[KentuckyWired] is a public private partnership...state government is bringing \$30 million to the table...The Appalachian Region Commission has given us funds of about \$23 million but the rest of this is private equity that’s brought to the table by Macquarie and their subs.” The interviewer clarifies that the \$30 million is in the form of bonds, the Executive Director confirmed this, but added no clarification to the “private equity” brought to the table by Macquarie when in fact the vast majority of this funding was also bonds for which the Commonwealth will be responsible.

Later in the media interview, a reference is made to a municipality that spent more to build a fiber network than the entire, originally proposed, cost of the KentuckyWired network. The question is asked of KCNA’s Chief Operating Officer what happens if we end up having some overages? Who ends up footing the bill? The question ultimately goes unanswered but indicates that the KentuckyWired middle-mile model does not lend itself to the overages experienced by other governments that pursued fiber to the home or last mile models. Three years later this question has been decisively answered: the KentuckyWired model certainly lends itself to cost overages.

By the time of this interview, the contractor building the network had already filed notices of issues related to delays in obtaining pole attachment agreements from both ATT and Windstream. Because of this, there was evidence to indicate that the project schedule, which the official statement of the bonds referred to as particularly tight, might already be in jeopardy.

The Commonwealth, via the debt of the Kentucky Wired Infrastructure Company, availability payments backed by general fund appropriations, and contractual guarantees to pay off the debt in the event of a termination event, has borne most of the cost of the project. Macquarie, on the other hand, in exchange for a minimal equity investment, has received development and structuring costs and fees totaling \$12.1 million tied to the issuance of the debt and a practically guaranteed return on investment via the availability payment structure and contractual guarantees that make terminating the project costly for the Commonwealth.

Macquarie has received fees to develop and structure the project and will receive a stream of revenue via availability payments, all with minimal equity investment.

Finding 4: The Public Was Misled about Viable Revenue Streams Available to Finance the Project

In interviews with KCNA and other state government officials, a central tenet guiding the feasibility of the project was the leveraging of existing costs for broadband service into a revenue stream that could fund the project. Research leading up to the initiation of the project by decision-makers identified \$27.2 million in annual expenditures by the Commonwealth prior to the beginning of the KentuckyWired project for broadband services. Of the \$27.2 million, \$14.4 million included broadband charges for higher education and state government offices and \$12.8 million was attributed to K-12 school districts. Despite being less in total, the K-12 spending is more significant to the Commonwealth because those expenditures are eligible for reimbursement through the E-rate program. E-rate is the commonly used name for the Schools and Libraries Program of the Universal Service Fund, a federal program through which school districts and libraries can receive reimbursements for certain categories of information technology expenditures, including broadband internet services. The reimbursement rate is determined by location and the poverty levels of the area.

There are numerous eligibility requirements for E-rate program funding, which are outlined in 47 CFR Part 54. The most relevant for KentuckyWired is that the contracts through which internet service will be provided to E-rate applicants must be bid through a fair, open, and competitive process. The current contract through which K-12 districts receive broadband services, known as the third generation Kentucky Information Highway, or KIH-3, has been deemed E-rate eligible.

As early as January 2015, state government officials in the Kentucky Department of Education communicated to Kentucky's school district superintendents that "[t]he new state contract with Macquarie Corporation is not E-rate eligible for a variety of reasons, essentially governed by federal law." In June 2015, the Kentucky Department of Education Commissioner sent a letter to the Secretary of the Finance and Administration Cabinet warning, "[W]e continue to have serious concerns with transitioning Kentucky schools to a partial state network in 2016 and to date, we have not officially heard anything of any substance which mitigates our concerns." This letter is attached as Appendix D: KDE Letter to former FAC Secretary.

Later in the letter these concerns are explained as follows, “the contract mechanism for the Next Generation Network (aka KYWired) is not E-rate eligible, which, in light of the significant amount of annual federal funds that E-rate brings into Kentucky K-12 for Internet services..., eliminates this as an immediate option to provide Internet services to our school districts.”

As early as June 2015, Kentucky Department of Education officials warned the former Finance and Administration Cabinet Secretary that the project was not E-Rate eligible.

The same letter further states:

As we noted in February, we would anticipate that, once the new state network has been deployed statewide, and has been operating reliably for all 120 counties for at least a year, we would be open to issuing a competitive RFP to replace the KIH3 contract for K-12 entities (as in prior competitive procurements). In addition, we have significant concerns about the Finance and Administration Cabinet issuing this bid for K-12 customers, because of the perception of a conflict of interest, and believe that KDE should be the entity issuing any solicitation for K-12, to which the Finance and Administration Cabinet, or any affiliated entities, respond.

Despite these clear warnings, the Finance and Administration Cabinet moved forward with the KIH-4 RFP seeking statewide bandwidth services and fiber IRU services in October 2015, after the project agreements were signed.

Shortly after the RFP was released, AT&T, the current awardee of the KIH-3 contract, filed a letter of protest stating, “AT&T protests because this procurement is riddled with conflicts of interest and insider preferences that fly in the face of Federal E-rate regulations and Kentucky statutory requirements.” After reviewing the protest letter, the Kentucky Finance and Administration Cabinet canceled the RFP on November 30, 2015. With the cancellation of the RFP, a significant amount of the funding needed for availability payments was jeopardized.

Inquiry with KCNA officials indicated that, while the K-12 sites will hopefully be part of the network eventually, there is no current plan to replace this loss of funding. The Commonwealth is currently allocating funds to cover the cost of the availability payments, creating a burden on the Commonwealth’s general fund that will exist as long as the K-12 sites, and any other government sites not yet transitioned, remain off the network.

Auditors inquired with KCNA and FAC officials at the time, including the former FAC Secretary, about the project and E-rate eligibility. The auditors were specifically interested in why the project proceeded with such a large percentage of the needed funding for the availability payments having not been secured and with explicit warnings received from the former Commissioner of KDE. Auditors were provided evidence of meetings with the FCC in which E-rate eligibility was discussed with federal officials during 2015. No determination from the FCC was provided, but Commonwealth officials expressed confidence that the KCNA model would not compromise the Commonwealth’s E-rate eligibility based on their discussions with the FCC.

Nevertheless, the RFP designed to enable the migration of government sites was canceled due to a protest by AT&T based largely on the appointment of a former FAC Deputy Secretary being named Executive Director of KCNA. Auditors inquired as to why the former FAC Deputy Secretary had assumed the role of Executive Director of KCNA despite having been involved in the KentuckyWired project while working at FAC, and who had authorized this appointment. No officials interviewed by the auditors provided an explanation for why this personnel change was made or the justification for such a move in light of the E-rate concerns.

The auditors inquired with the former FAC Secretary as to why the KIH-4 RFP was canceled if officials were confident the KCNA structure would not impact the Commonwealth's E-rate eligibility. Auditors were told by the former FAC Secretary this was done so that the project

The former Finance and Administration Cabinet Secretary told auditors she was unaware of the importance of the K-12 contract, which was the basis for 45% of project funding.

was not stopped before it could begin due to an RFP dispute. When auditors inquired about the logic of this decision given that K-12 sites constituted 45% of the needed funding for the availability payments over the 30-year term, the former FAC secretary expressed she would not have authorized the cancellation had she known of the impact of losing K-12 to the availability payments. The former FAC Secretary told auditors that she was not aware and not informed by her staff of the importance of K-12 to the availability payments, despite FAC officials leading the KentuckyWired effort throughout 2014 and 2015. The auditors specifically asked if she had inquired with her staff about the impact of canceling the KIH-4 RFP on the bond funding prior to the cancellation and she affirmed she had and she was informed it would not be a problem.

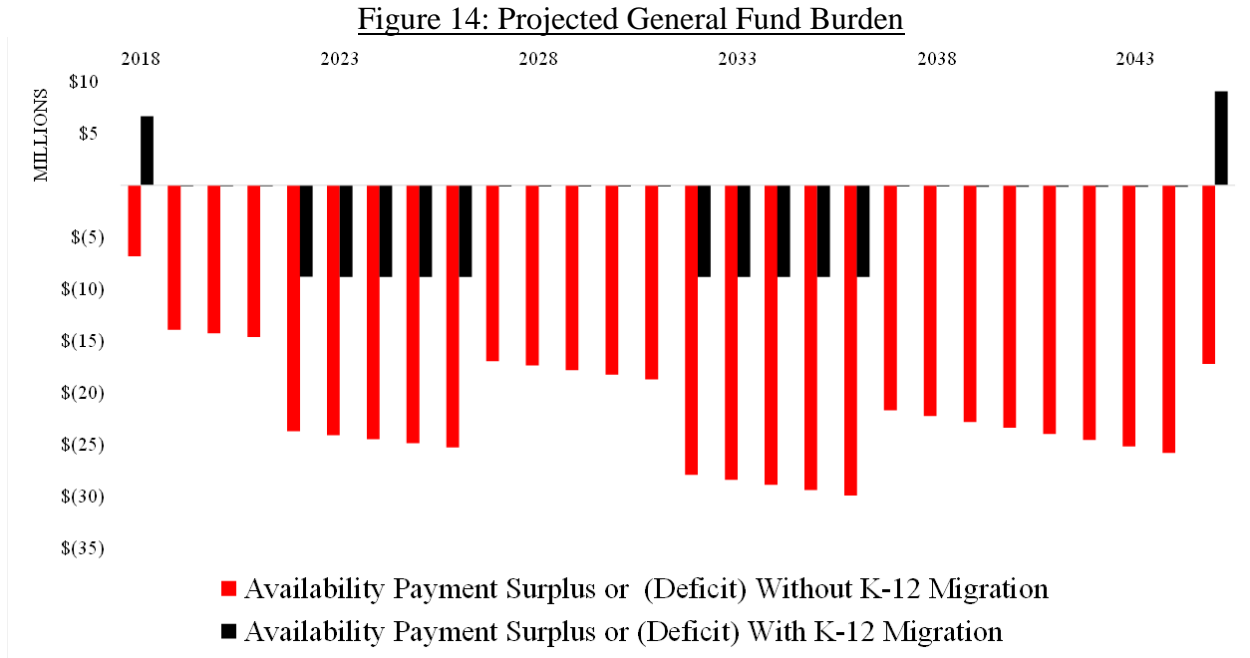
Interviews with officials working on the legal, technical, and financial aspects of the KentuckyWired project indicated decision-makers in FAC being unaware of K-12's significance to the availability payment funding is unlikely given the sense of urgency surrounding E-rate throughout 2015.

Loss of 45% of the Planned Revenue Stream (K-12/E-Rate) Will Significantly Increase The Financial Burden on the Commonwealth

Missing K-12 funding is significant to the project. As can be seen in Figure 14 (below), if K-12 sites remain off the network, the Commonwealth faces an accelerating financial burden.

Appendix E: Availability Payment Projected Deficits, shows the cost of broadband services for entities that will migrate from their current networks to KentuckyWired over the life of the Project Agreement. The payments from the governmental entities will fund the availability payments owed to the private partners which is also shown in the table. Those availability payments are used to pay down debt, cover the private partners' operating and maintenance expenses, and provide 'equity distributions' to the private partners. The deficit columns show the funding gap assuming K-12 sites are successfully migrated onto the KentuckyWired network and the funding gap if they are not. As can be seen, K-12 is vital to the project's funding model. To illustrate this, Figure 14 (below) shows the annual burden on the general fund if K-12 is not

migrated onto the network. Figure 15 (below) graphically illustrates the broad uses of the availability payments and their escalation throughout the term of the Project Agreement.

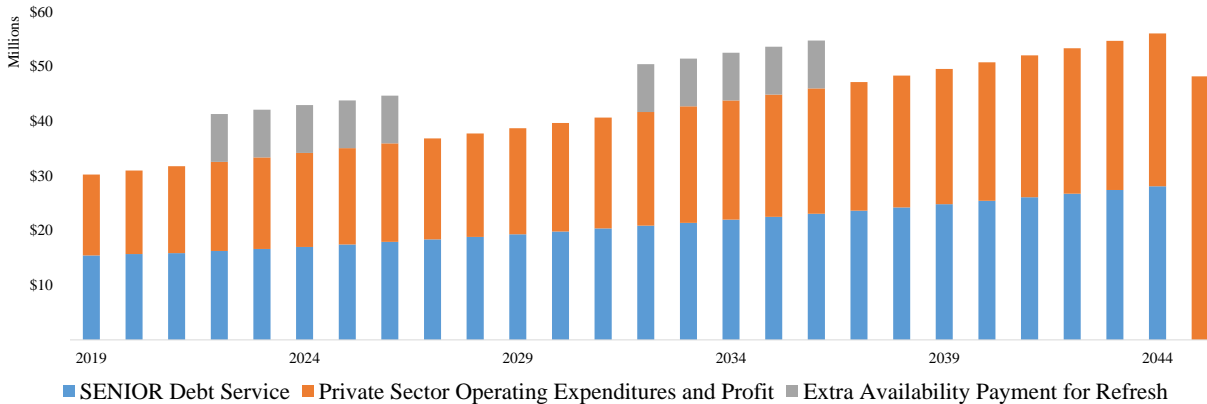


Source: APA projections based on KEDFA Series 2015A and 2015B Official Bond Statement Schedule, data from KCNA, and eMARS.

The red bars above represent Commonwealth payments that will be required to offset K-12 lost revenue that was intended to cover those amounts. Even with K-12 planned revenue, and assuming agencies can absorb year over year increases in price for broadband service, the black bars, when negative, represent deficits in years needed to pay for the minimum network refreshes, assuming the projected costs initially planned for and number of refreshes are accurate. Either scenario entails a significant burden on the Commonwealth’s general fund and/or further reliance on projected wholesale revenues to make up the difference. Important to note is that Figure 14 does not include the costs to pay the principal and interest of the subordinate debt (2015C).

Report continues with Figure 15 on next page.

Figure 15: Project Funding Requirements



Source: APA projections based on KEDFA Series 2015A and 2015B Official Bond Statement Schedule, data from KCNA, and eMARS. This data excludes the 2015C debt which will also have to be repaid.

The blue bars above represent senior debt service to repay bonds. The orange bars represent operating expenditures of private vendors and profit. These first two amounts are scheduled to be covered by current planned availability payments, and were intended to be offset by migrating government sites, including K-12, to KentuckyWired. The gray bars represent additional payments for minimum system refreshes at amounts originally projected. The timing of the system refresh expenditures are presented for illustrative purposes only, as the timing will be dependent on the needs of the network and future decisions made by policymakers. The funding for system refreshes are not part of the planned availability payments or offset by government sites being migrated to the network.

KCNA officials remain optimistic that K-12 sites will be migrated to the KentuckyWired network, while KDE officials continue to emphasize concerns such as KentuckyWired proving its stability, bidding fairly, and providing an acceptable level of service to the K-12 school districts. In any case, until the network is actually completed, these points are irrelevant.

The missing K-12 funding is especially detrimental if anticipated wholesale revenues are pledged for settlement debt and therefore cannot be relied on to supplement the obligations in Appendix E: Availability Payment Projected Deficits. Concerns about the speculative nature of the wholesale revenues are discussed in Finding 9 (page 79).

CHAPTER IV: FINDINGS REGARDING CONSTRUCTION, MONITORING, AND OPERATIONS

In addition to issues with contract terms, the processes used to implement and monitor KentuckyWired have been insufficient. This chapter discusses these problems and their impact, as well as areas of future concern once the network becomes operational.

Finding 5: The Project Has Significant Cost Overruns

Part of the allure of the financing model for the KentuckyWired network was that costs associated with network debt service, operations, and maintenance could be covered by migrating government sites to KentuckyWired. This would enable the shifting of payments from the prior broadband providers to the private partners with KentuckyWired via contractually required availability payments. In theory, this would have meant minimal investment by the Commonwealth on top of what was already being paid for broadband service. Based on documents provided by KCNA, and accounting for the 2.5% price acceleration rate assumed in the availability payment model, the broadband costs for non K-12 government and higher education sites for 2018, 2019, 2020 will total \$15.9 million, \$16.3 million, and \$16.7 million, respectively. Until the network is live and these sites are migrated, the general fund will be relied on to pay the current broadband charges in addition to the availability payments required by the Project Agreement. Availability payments made in FY17 and FY18 total \$34.5 million and availability payments for FY19 and FY20, according to bond documents, will be \$30.2 million and \$30.9 million, respectively. The difference between the government site migration amounts and the availability payments were to be covered by migrating K-12 sites onto the network.

Cost Overruns of this Project Do Not Compare Favorably to Other Projects

The auditors reviewed a proposal from Macquarie for an open access broadband network in another state. That proposal touted the efficiency of P3 projects by highlighting the fact that in Australia, twenty-one P3 projects totaling \$4.9 billion experienced only \$58 million in cost overruns for an overrun rate of 1.2%. The KentuckyWired project is expected, if all goes well from the date of this report, to come in at least \$96.7 million over the original construction price of \$274.8 million, leading to an overrun rate of at least 35%. This analysis does not consider the additional \$22 million in borrowing requested by KCNA to cover future direct losses or other expenses which would increase the cost overages.

In the best case scenario going forward, KentuckyWired will have cost overruns greatly exceeding the cost overruns of twenty-one combined projects in Australia.

As of March 2018, 735 of 3200 total miles had been completed, with none of the network functional. A settlement MOU entered into by DB and the Commonwealth calls for completion in late 2020. In the Project Agreement, a complex formula based on actual construction progress dictates the availability payment amounts due, but the Commonwealth is paying availability payments during construction as if the project were on schedule. When asked, KCNA officials said they must adhere to this schedule because the existence of a compensation event dictates this approach per the contract.

Cost-Plus Elements of Supervening Events

The supervening event claims contain certain cost-plus elements. Despite this being intended as a fixed price contract, the contract contained language indicating cost-plus charges

could be incurred by the Commonwealth. When certain supervening events led to direct loss claims from DB, those claims were marked up by 10% in accordance with the contract along with an additional 9.25% markup for “Corporate G&A.” KRS 45A.125 states that “[t]he cost plus a percentage of cost system of contracting shall not be used.” However, inquiry with FAC indicated that markups are common in construction contracts, especially related to supervening events. In this case, as discussed in Finding 6 (page 60), the Commonwealth signed this contract knowing supervening events were likely to occur and that the Commonwealth would be liable for markups. The terms of the settlement MOU eliminate the 9.25% G&A upcharge but only reduce the labor upcharge from 50% to 35%. Therefore, cost plus elements still remain in effect.

The costs of delay have been especially significant in the case of KentuckyWired because any delays are financially detrimental in multiple ways. In addition to the inability to migrate government sites, other costs of delay include the lack of wholesale revenue because the network is not complete, and supervening event claims paid to DB. These costs will continue to mount until the network is live. In the meantime, the state’s general fund continues to make availability payments for a network that is not available.

While delays and cost overruns continue, the state’s general fund continues to support availability payments for a network that is not available.

Finding 6: The Commonwealth Proceeded Despite Unrealistic Contract Terms Related to Pole Attachments, Permitting, and Easements

This finding discusses specific contract terms that have proven problematic related to pole attachments, permitting, and easements. The KentuckyWired project was intended to be a ‘fixed price’ contract with risk appropriately shared between the Commonwealth and its private partners. The evidence gained about facts known prior to signing the contract related to the status of pole attachment agreements, however, indicates Commonwealth officials entered into the project despite the Commonwealth being at risk of triggering contractual compensation events.

Evidence indicates Commonwealth officials entered into contracts that were at known risk of triggering compensation claims by contractors.

The Commonwealth Received Warnings Related to Pole Attachment Agreement Timelines

The Project Agreement was signed on September 3, 2015. Less than one month after the Project Agreement was signed, DB filed supervening events indicating that AT&T and Windstream were refusing to enter into pole attachment agreements or allow DB access to their poles. This compromised the project timeline and as of December 2017, DB had submitted \$9.6 million in claims for damages related to these issues. As of that same date, the Commonwealth had paid \$7.8 million related to these issues. The General Assembly has now approved funding for an additional \$88 million settlement as discussed in Finding 8 (page 75).

Pole attachment agreements are necessary whenever fiber must be attached to poles owned by other entities. Per the January 2018 progress report, completing the network at that time required 72 pole attachment agreements covering approximately 56,909 poles, excluding IRUs. As of January 2018, 61 of 72 pole attachment agreements were in place covering 54,998 poles (97% of the total estimated pole count, excluding IRUs). Although the current progress is encouraging, significant delays in obtaining pole attachment agreements with certain owners led to substantial construction delays. As of January 2018, prior to the finalization of the settlement MOU, DB was stating the completion date for the project was planned for October 2022, which was four years after the original planned completion date. In addition to the dispute about the timeline, DB continued to claim direct losses related to these delays for which they sought reimbursement from the Commonwealth.

Based on interviews, a key assumption made by the Commonwealth while negotiating the Project Agreement was that KCNA would have the needed pole attachment agreements in place prior to the start of construction or would be able to compel the pole owners to enter into agreements that facilitated attaching fiber in accordance with the aggressive timelines of the project schedule.

Shortly after the Project Agreement was signed, the Commonwealth realized they could not compel the for-profit entities to take action on the pole attachment requests. In order to proceed, KCNA requested to be designated as a competitive local exchange carrier (CLEC). This designation would, per federal regulations, require the pole owners to allow access to their poles. DB claimed this was not in compliance with the contract and that the extensive delays had resulted from KCNA's obtainment of CLEC status. KCNA argues that, despite being a CLEC, they are still not a common carrier and therefore have not violated the contract. The assumption that an infrastructure project of this scale, with this many incumbent pole owners, and with unsecured pole attachment agreements at the time the project agreements were signed could meet the project timelines was unrealistic.

The assumption that an infrastructure project of this scale could meet the planned timelines was unrealistic.

The following is an excerpt of an email received by Commonwealth officials from Leducor on August 21, 2015:

[Leducor] understand[s]... that as recently as yesterday everyone still feels confident that [Cincinnati Bell] will be a proxy on the ATT and Windstream poles and that the arrangement can be completed expeditiously and that there is no resulting schedule jeopardy. [Leducor] has a few concerns with this 'all eggs in one basket approach'. We would then be relying on 'other' companies controlling our destiny and we are without a safety net. If ATT gets cranky and agrees to proceed but does so slowly or takes a while to decide that they will not allow this – we will miss our dates.

[Leducor] would like instructions from the Commonwealth for the following:

- Service Provider to set up a new LLC. This will be a clean company and kept clean.
- This new LLC's purpose is [sic] to file for and obtain a CLEC designation in Kentucky. We have been told by our outside counsel that the current transaction period to get this is approximately 30 days from filing.
- This new LLC with its CLEC designation will then proceed with ATT and Windstream and other if necessary to obtain pole attachment agreements for the KIH in Kentucky. These pole attachment agreements will be entered into by the LLC.

Ledcor then estimated the process to set up an LLC as a CLEC to engage with ATT and Windstream would take 30 days, cost \$35,000 and concluded, "This seems a small price to pay to make sure we don't blow the whole schedule for this issue."

Although the Commonwealth cleared Ledcor to pursue this strategy, the execution was delayed because, according to KCNA officials, KCNA had to be designated as the CLEC rather than a separate LLC because such an entity would not own the fiber. Because this strategy ended up not being feasible, KCNA applied for the CLEC determination and this wasn't submitted until November 6, 2015. The pole attachments with ATT were not finalized until April 2016 and the pole attachments with Windstream were not finalized until July 2016.

An additional warning from outside counsel during the same period indicated that the risks of triggering supervening events related to pole attachment agreements, and possibly others, were significant. This was discussed with auditors but the specificity or severity of this warning, and who it was addressed to specifically, was not possible to assess because KCNA withheld the documented communication due to a claim of attorney-client privilege.

KDE officials said that, in meetings throughout 2015, they questioned the aggressive schedule and in particular the E-rate eligibility fears. The status of pole attachment agreements prior to signing the Project Agreement was also discussed. KDE officials were told by the deputy FAC secretary that "we already have 100% of the pole and easement agreements for the entire state."

The Commonwealth proceeded with signing the Project Agreement on September 3, 2015, after warnings throughout the year from KDE, outside counsel, and less than three weeks after express warnings from Ledcor. No official or former official interviewed during this examination was able to explain why the decision to proceed was made. The decision ultimately cost taxpayers tens of millions in penalties, past and anticipated settlements, and costs of delay shouldered by the general fund.

Commonwealth officials signed the Project Agreement on September 3, 2015, despite warnings from KDE, outside counsel, and one of the private contractors.

Planning Estimates of the Number of Poles Owned By Incumbent Providers Were Inaccurate

Significant analytical errors contained in the Project Agreement exacerbated the negative effects of proceeding with the project. Original estimates in the Project Agreement indicated that AT&T owned 5,000 poles needed for the KentuckyWired project. In reality, they owned 11,980 of the poles needed. In addition, Windstream was believed to own 750 poles when in reality they owned 7,840. These inaccurate estimates meant the infrastructure owned by AT&T and Windstream was much more important to KentuckyWired than assumed when the project started.

In addition, these counts were used to value deals entered into with other pole owners. The Commonwealth entered into agreements in July 2015 with Kentucky Utilities (KU) and Louisville Gas and Electric (LGE) assuming they owned many more poles than they did. The errors reduced the value of these pole attachment agreements with companies who KCNA believed at the time owned most of the poles needed for the network. Many of these poles assumed to be owned by these companies were in fact owned by AT&T and Windstream, with whom pole attachment agreements were not in place prior to signing the Project Agreement. In addition to reducing the value of the KU and LGE pole attachment agreements, this has also led to increased costs from having to pay for the unexpected and additional AT&T and Windstream pole attachment agreements.

When KCNA was asked who was responsible for these errors, KCNA pointed to DB which, ironically, was demanding payments for direct losses incurred due to pole attachment agreement issues. This poor estimate was especially damaging since these pole counts were relied on by officials at the time to assess the Commonwealth's compensation risk exposure on the project. Despite these assertions by KCNA, the Project Agreement contains the following language: "[KWIC] and [the Commonwealth] have undertaken commercially reasonable efforts to confirm the number of poles owned or managed by the Pole Providers." Despite this contract language, KCNA indicated that the Commonwealth had nothing to do with the pole counts and they were instead prepared by DB. KCNA indicated that KWIC's responsibilities were passed through to KWOC.

Given the breakdown of the pole attachment assumptions and the filing of supervening events by DB within a month of signing the contract, KCNA officials, other stakeholders, and those with knowledge of the negotiations were questioned on why the contract was signed. Several reasons have been given by stakeholders for this decision: time pressure existed to ensure federal funding was received, decision makers at the time overestimated their leverage over the private sector, held overly optimistic assessments of challenges at the time, and were driven by the prospect of wholesale revenue to help the Commonwealth's budget.

The perceived magnitude of potential liability for the Commonwealth related to pole attachment agreements was a primary financial driver in pushing the Commonwealth into negotiating the settlement MOU for \$88 million, with an additional \$22 million reserved for any additional cost overages during construction.

The Contracts Included Unrealistic Permitting Timelines

In order for DB to lay fiber in the vicinity of Commonwealth infrastructure, encroachment permits are required to be obtained from the Kentucky Transportation Cabinet (KYTC). Because assumptions in the contract led to unrealistic timelines, DB has notified KCNA of 142 supervening events related to permitting as of January 31, 2018. These issues account for 60% of all supervening events claimed to that date. These permitting delays fall under the category of ‘compensation events’ per the contract and therefore enable DB to claim direct losses related to these issues. The possibility of the Commonwealth incurring additional losses due to this issue remains.

The contract allowed for a total of 60 days for KYTC encroachment permit approval, 30 days for county approvals, and 30 days for city approvals. To understand the basis of the 60-day timeline and the current process, the auditors met with KYTC officials. Statewide KYTC operations in some areas are decentralized. There are twelve districts that have significant levels of autonomy and complete KYTC objectives locally in many cases.

KYTC officials indicated the central office was not involved in the process for determining or negotiating the 60-day timeline in the Project Agreement, particularly as a deadline that if not met would result in losses to the Commonwealth. KYTC had inquired during the project as to how the 60-day timeline was determined and were told that DB had obtained feedback from KYTC district offices about how long permitting normally should be expected to take. The responses were averaged and the result was 60 days. KYTC officials maintained this methodology for developing a timeline was flawed due to how the districts manage permitting, the nature of the permits they issue, and the assumptions of DB related to the timeline.

Traditionally, the districts review and approve permits related to projects of a much smaller scale than KentuckyWired. Also, in many cases, a different permit would be required in a single project for crossing county lines, crossing KYTC district lines, and even turns in the road for which the permit requestor needs access. Because of these factors, the statewide footprint of the KentuckyWired network created a process challenge for both the districts and central office.

Compounding this was DB’s insistence early in the project for one point of contact for permit requests at KYTC. The central office was not equipped, from a resources perspective, to grant DB’s request. Also, the districts controlled the review and approval process for permits.

Nevertheless, KYTC officials were informed in January 2015 by leadership in the prior administration that DB’s request for a central point of contact would be granted and the central office would be managing any permits needed for the KentuckyWired network. Central office personnel reviewed the process for permitting and attempted to change certain elements so that KentuckyWired requests could be streamlined. However, even with the streamlining efforts, some permit requests required collaboration with KYTC district personnel and in some cases federal representatives.

The contract provides for 60 days in total, but according to KYTC, DB interprets this as 60 calendar days from the date of submission. KYTC states that in situations where collaboration is needed with multiple parties from different areas both inside and outside of KYTC, the calendar day interpretation is problematic. Weekends and holidays create challenges in ensuring necessary approvals are obtained timely. KYTC maintains that defining days as business rather than calendar would have mitigated some of the Commonwealth's risks related to this particular type of compensation event.

KYTC also contends that the timeline, or so-called 'shot clock,' should pause each time KYTC returns a permit to DB with questions or issues prior to approving. KYTC says that in some cases they will return a permit to the vendor due to incomplete information or with questions. KYTC believes the clock should pause while DB is addressing KYTC concerns and only restart when the permit has been corrected and sent back to KYTC.

KYTC also stressed that KentuckyWired is not the only project requiring encroachment permits in the Commonwealth. District personnel often are devoting resources to other projects and are not working on the KentuckyWired project full time, which makes meeting the contractual deadline challenging.

Due to these factors, using an average turnaround time for review and approval of permits based on district inquiry is flawed. If the average time needed for permitting approval for smaller scale, localized, and more routine requests is 60 days, naturally an unprecedented statewide infrastructure project would have required additional time, especially in the early phases, for KYTC to develop processes to meet the demands of DB.

As they fell further behind on permit approvals for KentuckyWired, and supervening events claims from DB mounted, KYTC asked DB to provide a list which prioritized the permit requests based on construction timing. If construction was scheduled to begin in an area soon, KYTC asked to be alerted of this so that the corresponding permits could be expedited. According to KYTC, this increased coordination has led to improvements. DB declined to speak with auditors until the settlement MOU under negotiation is finalized, so certain assertions made by KCNA or KYTC in this finding could not be further examined.

Claims Related to Easement Costs Continue to be in Dispute

Failure to properly consider easements and other rights of access at the beginning of the project led to significant preventable costs not being identified and possibly mitigated.

Any infrastructure project that involves the right to cross or otherwise use someone else's land requires permission from the property owner. The Kentucky Wired project is no exception. This permission can be present in different forms. If the parcel's deed records this permission it is called an easement and it irrevocably passes down to whoever buys the property. The owner of the parcel could alternatively give permission through a "Notice to Proceed" (NTP). Permission can sometimes be indirectly obtained if the parcel has a public right of way or has granted a separate permission to another individual or organization through such agreements as a Pole Attachment Agreement. Finally, a court can issue a right of entry through a condemnation process.

Between September 2015 and March 2018, DB claims they expended approximately \$23.8 million in “easement related” costs, which they say the Commonwealth owes under supervening event 003. This supervening event claim was not resolved by the settlement MOU discussed in Finding 8 (page 75). Costs have continued to accumulate since that time. KCNA has denied these claimed costs. This significant increase in project costs was not anticipated in either the project cost projections or in the contract’s fixed price.

The contracts include a clause that allows for additional reimbursement above the fixed price when a compensation event involving easements occurs. This clause was present in the Project Agreement, Project Implementation Agreement, and Design-Build Agreement with modifications to reflect the responsible party and the associated agreement. Due to the presence of this clause in each agreement, a claim made at the Design-Builder level could pass upwards to the Commonwealth. The Commonwealth and DB interpreted these clauses differently once costs began to accumulate. This clause as contained in each agreement is shown below. The core of the ambiguity centers on the meaning of the words “the costs related thereto” within the context of the whole contract.

From the Project Agreement: “[KWIC] is required to obtain an easement or other right of access to any lands (other than the Lands) from a private landowner to carry out the Project in accordance with this Project Agreement, provided that the costs related thereto exceed \$200,000 in the aggregate over the Term[.]”

From the Project Implementation Agreement: “[KWOC] is required to obtain an easement or other right of access to any lands (other than the Lands) from a private landowner to carry out the Project in accordance with this Project Implementation Agreement, provided that the costs related thereto exceed \$200,000 in the aggregate over the Term[.]”

From the Design Build Agreement: “[DB] is required to obtain an easement or other right of access to any lands (other than the Lands) from a private landowner to carry out the Project in accordance with this Design-Build Agreement, provided that the costs related thereto exceed \$200,000 in the aggregate over the Term[.]”

Procuring an easement involves identifying, negotiating, and acquiring private landowner permission. In addition, there can be costs associated with filing the easement, preparing the recorded document and paying the property owner for the easement. These last costs are not necessarily encountered in all cases. For example, an easement may already exist on the property or a land owner may give permission at little to no cost for projects they view as beneficial to the community.

There are at least \$24.6 million in disputed contractor claims related to costs of obtaining easements for the project. These claims are not part of the settlement MOU.

The contractor interpreted this clause to encompass all of the costs associated with the above actions. KCNA’s position was that the Commonwealth was only responsible for the direct payments to the property owners in excess of the \$200,000 threshold. As of June 29, 2018 DB has submitted direct loss claims related to easements totaling \$24.6 million.

These direct loss claims may be attributable to the lack of incentive for the contractor to control these costs. Most of the easement claim costs sampled were associated with subcontracts with various law firms.

The project route passes through land which, from an easement perspective, is divided into parcels. KCNA reports that the subcontractor's easement research involved going through Property Valuation Administrator (PVA) printouts and parcel deeds to see which parcels were involved in the design route and to see if these parcels had existing easements which the project could use. In the absence of this opportunity, the subcontractors worked to get an easement from the owner. If the owner was unwilling to sign an easement this was identified as a "potential easement refusal" which might result in litigation costs. As of March 2018, the contractor had identified 966 parcels as being potential refusals.

One weakness of this approach, according to KCNA, was that an easement may exist but not be uncovered by only reviewing courthouse records and deeds. By early 2018, KCNA had developed an additional time-saving research approach using non-courthouse data sources, including Google Maps, to see if an easement probably existed. For example, if a parcel had a utility line crossing it, there was a good chance the property had an easement, even if it was not recorded in the deed. Using this and other research, KCNA claims they were able to either successfully obtain an easement or locate a usable easement without condemnation for every parcel DB has sent to KCNA as a "hard no/refusal" up to May 24, 2018. Because DB declined to speak to auditors, KCNA's claims could not be further vetted.

Another problem observed by KCNA is that the PVA-provided maps used by DB did not always have the level of precision needed. For example, a Rockcastle County PVA map used by DB was marked "Maps to be used for identification only, NOT for conveyance." KCNA claims that this led to DB seeking easements for properties that did not fall within the actual design. The discovery of this phenomenon occurred primarily as a result of responses to the first round of the "Notify and Go" procedure discussed later in this finding. KCNA is still quantifying the scope and cost impact of this type of error and whether it is limited to labor dollars only or includes actual payments to owners whose land is not part of the project route. DB declined to speak to auditors regarding the project.

Labor for legal services represented the majority of the sampled easement claim costs. Overall, the labor rates billed for easement work ranged from \$62.50 to \$940 per hour. In contrast, the Commonwealth's maximum standard rate for legal work is \$125 per hour.

Despite their in-house expertise, the KYTC Division of Right of Way and Utilities was neither consulted nor included in any way as the project contract was conceived, bid, awarded, and executed. The division director of this group said if his office had been involved at that time he would have been able to explain the KYTC processes to reduce costs. He stated to auditors that he would have been able to provide rough estimates of the magnitude of the easement acquisition costs involved and helped rewrite the contract to clarify "costs related thereto..." It was only when problems emerged that KYTC expertise was sought in 2017 for an initial consultation. According to KYTC, there was no follow up by KCNA with KYTC after this initial meeting.

The KYTC easement process rests firmly on having a well-defined route from the start. While the project had a list of sites that would be connected to the network, the route to make these connections was “illustrative” when the Master Agreement was signed in 2015, and it was left to the contractor to design the best route to connect these sites. The KYTC Division of Right of Way and Utilities leadership indicated they would have been extremely skeptical if they had been presented in 2015 with the KentuckyWired plan to write and award a fixed price contract involving potentially 25,000 or more easements on an as yet undefined route. Another complicating factor was that, according to KWOC, a significant number of site changes have occurred since the Project Agreement was awarded.

Other Contributing Factors

As mentioned at the beginning of this finding, easements are not the only way to legally access property. “Notice to Proceed” licenses and use of existing access rights were better understood and expanded upon once additional KCNA staff was added.

The construction contract was a purported fixed price agreement. In general, a fixed price contract requires less oversight than a contract that has variable costs. KCNA decided to increase its staff once the size of the cost growth through supervening events was realized. By that time, the contractor had already established their own process and costs were being accumulated.

New KCNA staff with an easement focus was eventually hired and began to identify potential alternatives to contractor processes. This effort culminated in the “go forward approach to access” process set forth in the settlement MOU.

The go forward process has three main steps. Step one involves KCNA and the contractor collaboratively working together to sort the unresolved parcels in Rings 1A, 1B, and 2 that have access requirements into two groups. Group one will be those that can be satisfied using a notice to proceed rather than an easement acquisition. Group two are the remaining parcels.

Step two, entitled “Notify and Go,” involves notifying the group one parcel owners using letters and postcards that the contractor will be working on their property and to contact KCNA if they have any questions. In response to these questions, KCNA would do background research to confirm that the access is needed, then give a general explanation of the extent and need for the access along with answering any other owner questions. Should this process not lead to owner permission, step three becomes active.

Step three involves getting access for group two parcels and the group one parcels left over after step two. This could involve seeking an easement for that parcel or using condemnation litigation as a last resort.

The financial impact of this new process is undefined, but KCNA reported that as of July 5, 2018, approximately 2,500 parcels have had “Notify and Go” letters sent by the contractor, of which KCNA has received 25 calls regarding these notifications. Of those 25 parcels, KCNA identified one as being incorrectly identified as being part of the design route and therefore no

access was required. KCNA reports the remaining three parcels will probably be processed for condemnation and that there might be other calls related to these initial letters.

Non-binding Determination

The easement claims were subjected to a non-binding dispute process set forth by the contract. The first review involved an independent referee. The second involved FAC. After reviewing the issue from a whole contract perspective, the referee determined that the Commonwealth was responsible for filing fees, preparation of the recorded documents, and the direct payments to the property owners. These costs will be referred to as “Commonwealth costs.” The referee also determined that the contractor was responsible for all costs associated with identifying, negotiating and acquiring private landowner easements. FAC ruled that the Commonwealth was responsible for none of the costs. After attempting to have a third round of non-binding negotiations, which KCNA declined, the contractor did not accept the earlier non-binding rulings and has reserved the right to litigate this claim in civil court.

Liability Magnitude

At the beginning of this special examination, the auditors understood that the Commonwealth’s liability related to easement claims was zero because of the second determination by FAC. While the first review, mentioned in the previous paragraph, had been completed in late 2016, its impact was not mentioned in these early meetings. By June 29, 2018, the total claim amount had risen from the previously mentioned \$23.8 million figure and KCNA said the Commonwealth’s liability could be up to \$24.3 million. This variation in estimating the magnitude of the issue is indicative of both the progressive revelation of issues the auditors experienced during the exam and the cost oversight flaws discussed in Finding 7 (page 70). The \$24.3 million figure assumes that civil litigation would go counter to the referee’s non-binding division of cost responsibilities discussed earlier. Note that the easement claims were not part of the settlement MOU. The figures discussed in this finding are therefore related to potential liabilities over and above the settlement amounts.

The above costs do not include the future cost of litigating “condemnation” cases or further growth in the easement claim amount since May 6, 2018. This amount is expected to increase given that, as of June 29, 2018, total claims had reached \$24.6 million. A condemnation case results when a mutual agreement with the property owner cannot be reached. KYTC estimates that 15% of the easements sought result in condemnation cases. KYTC also reports their average cost of litigation in these cases is \$15,000. KCNA estimates that the number of cases will be minimal due to the success of their “Notify and Go” process. They also estimate the cost per case will range between \$6,500 and \$8,500 due to the greater simplicity of these cases when compared to a KYTC case.

In summary, as of May 6, 2018, the project’s easement claims could increase the Commonwealth’s project cost by \$315,000 to \$24.3 million, plus any litigation costs.

Finding 7: KCNA Has Inadequate Financial Analysis and Monitoring of Potential Costs

Inadequate Tracking of Total Project Costs

KCNA did not adequately track the total revenues and costs associated with the project from start to completion from a Commonwealth perspective. Instead, KCNA used a document that showed the flow of funds in and out of the Project Fund maintained by KWOC. Auditors discussed details of the flow of funds with KWOC. A disadvantage in referring to the KWOC information was that the document did not include costs that either may occur but are now unquantified or are paid by the Commonwealth. KCNA overhead is an example of a cost not captured by the KWOC document and an example of potential costs are costs related to supervening event 003 claims. To get an accurate picture of the financial structure and status of the project from the Commonwealth's perspective, auditors had to rely on data from multiple sources reporting from different perspectives.

Potential for Pole Attachment Agreement Growth Not Included

The original Project Agreement included \$973,000 of Pole Attachment Agreement (PAA) costs. According to KCNA, the estimates for the number of poles needed were inaccurate for some of the larger providers. The Project Agreement allows PAA costs and associated reimbursements to be adjusted annually as actual costs become known. Although most of the PAAs have been signed, they generally only list the cost per pole, with the number of poles yet to be determined. Initial indications are that PAA costs will be greater than originally projected. KCNA has not created a database to track the PAAs to monitor potential cost growth.

Potential for MuniNet Related Cost Growth Not Included

The original Project Agreement contained cost estimates that were based on a planned Third Party Agreement (TPA) with MuniNet, which reduced the contract costs by \$12.3M. This TPA basically breaks down into four sections, one of which has been negotiated. Presently, MuniNet does not wish to participate in the remaining three sections, so part of the work now needs to be done by another party. This "pull back" is being negotiated with DB, which has proposed to do the work for \$22 million, which is \$9.7 million more than what it would have been if MuniNet had done the rest of the work per the inquiry with KCNA. KCNA's current position is that this amount is too high, since the original contract was reduced by \$12.3 million. The final cost remains to be determined, but it is possible that it will cause the costs related to these sections of the network to be greater than they would have been prior to the change. This dispute is not part of the settlement MOU.

Termination Options and Costs Not Adequately Analyzed and Unclearly Communicated

Knowing the options available to terminate a project and communicating these options and associated costs are important parts of project management.

The option most discussed by KCNA was the Termination for Convenience option. The way this option was articulated publicly could have led listeners to overestimate termination costs. On March 26, 2018, when testifying during a free conference committee on a budget bill before the Kentucky legislature, the Executive Director of KCNA was asked how much it would cost to terminate the project. The director stated that “(In) the termination column we start with the \$230 million spent to date. From there, in a termination scenario, we would need to pay the bond holders for the principal that we spent and that is about \$170 million so far. The first call on these bonds is not until 2025 and so there would be an expectation that the Commonwealth would make interest payments...about \$84 million.” “...Breakage fees about \$12 million. That puts us roughly close to around \$500 million in expense to terminate.”

The \$230 million in funds already spent which would not be recoverable are a sunk cost and should not be considered in financial decisions. However, the audience may have been led to believe that the cost to cancel the contract was \$500 million plus litigation costs rather than a dollar figure which should have been reduced by the amount already spent.

Alternatively, the Commonwealth could exercise the Funding out Provision provided by 200 KAR 5:312. This would allow the Commonwealth to terminate the contract if funds are not appropriated without incurring any obligation for payment after the date termination regardless of the terms of the contract. It should be noted, however, that litigation would more than likely follow from this action and there would be significant risk to the Commonwealth’s credit rating. The risk to the Commonwealth’s credit rating is present in other termination scenarios as well.

The auditors were unable to find an instance where KCNA discussed the use of the funding out approach as an option to terminate the Project. From the data available, this option represents the lowest cost among the possible termination options but is not without risks. The auditors became aware of this option through research supported by the FAC Office of General Counsel.

KCNA Processes Requiring Further Improvement

KCNA’s reliance on a self-created equipment database might lead to inaccuracies in project cost estimates. The Project Agreement included a requirement that Kentucky buy and provide \$28,646,000 in equipment to the contractor, which has subsequently been reduced due to various third party agreements. KCNA tracks the amounts obligated and invoiced related to equipment purchases in a database and provides copies of this database to KWOC for their inclusion in KWOC’s monthly Sources and Uses document. Because this database is manually created it could contain numbers that are not accurate, and in fact, the auditors found two errors during a review.

The system used to manage contracts and track spending for the Commonwealth is its accounting system, eMARS. Within eMARS activities can be coded so specific activities, like spending for equipment, can be easily identified. The auditors discovered when they reviewed KCNA expenditures that while “Availability Payments” had been given a unique code in the accounting system, the equipment purchases had multiple codes which they sometimes shared with non-equipment purchases. If not accurately tracked, there is a risk that the Commonwealth will

spend more on equipment than was appropriated by the General Assembly. Equipment payments must also be monitored for compliance with an agreement with the Center for Rural Development involving federal funds, which requires that \$10,000,000 of appropriated funds be spent on specific rings in eastern Kentucky. Using eMARS to monitor the dollar amount of equipment purchases and reconciling the amounts to the separate, manually updated, database is a more effective process.

Although KCNA staffing levels have increased since its inception, the demands for negotiations with the private partners, private citizens, municipal utilities, verification of private partner data, preparation for possible litigation, and statewide community outreach have proven challenging. The expectation of KCNA staff was that KWOC would shoulder more of the monitoring responsibilities. This expectation, however, has proven unrealistic, and regardless of what KCNA staff expected, efforts must now be made to establish policies and procedures to effectively monitor the project.

Lack of Documentation and Processes for Direct Loss Claim Processing

Supervening event claims have been a frequently cited source of cost overruns and project complications. The initial database provided by KCNA to auditors for supervening event claims and support for these claims was lacking basic details such as cost per supervening event, disputed amount, or status of the negotiations.

The lack of written procedures regarding how KCNA staff would review and file supervening event documentation made it difficult to determine how decisions were made and reduced the probability that process improvement efforts could be effected. KCNA documented its reasoning in paying or denying direct loss claim items relating to supervening events 001 and 002 in letters to DB and to KWOC. However, these letters, while in many cases including the reasoning that led to individual determinations, are not an appropriate substitute for defined, repeatable policies and procedures for disputing direct loss claims by DB and KWOC. This is an immediate need since, according to a June 2018 report, 226 supervening events have been filed.

A Statement of Intent to Audit Direct Loss Claims Was Not Carried Out Despite the Commonwealth Paying \$5.6 Million to DB

KCNA paid \$742,149 on April 13, 2017 for amounts it deemed allowable per the contract related to supervening events 001 and 002. The amount paid was 37% of the total amount requested. For the rest of the amounts claimed, KCNA determined that the items were either not allowable direct losses per the contract, or KCNA requested that DB provide additional information to support the claims. Two unexpected and contractually undefined markups, referred to by DB as “G&A and Burdens” were also applied to claim items, but KCNA did not initially pay these markups. The only markup which KCNA paid was the 10% rate applied to all claim items which was defined in the Project Agreement for those claims deemed allowable by KCNA.

A \$5.6 million good faith payment was made to DB in anticipation of an independent audit, but the audit was not performed.

Because of KCNA’s concerns, they sought to procure the services of an independent auditor to verify the authenticity of claim items which were in dispute and for which DB had not provided information requested by KCNA. A non-binding Statement of Intent (SOI) effective May 25, 2017 between KCNA, KWOC and DB was “...intended to constitute a statement of the Parties' intent to work toward a potential resolution of some of the Disputes that have arisen in connection with the Project.” Per the SOI, an accounting firm would be engaged with the objective “to conduct an independent audit to validate invoices submitted as 'Direct Losses' claimed by [DB] are tabulated correctly, non-duplicative, and have been calculated using fair & reasonable methods.” The scope of the audit would be to review labor, burden, expenses, G&A, markup, and interest claimed in direct loss submittals. The audit referred to is not the work performed by APA reflected in this report.

In accordance with the SOI, on June 8, 2017, KCNA paid DB \$5,649,778. This amount represented the balance of the direct loss claims associated with supervening events 001 and 002 through the first calendar quarter of 2017. According to KCNA, DB later decided to not go through with having an accounting firm verify the direct losses claimed. In spite of this, DB retained the payment from the Commonwealth, effectively resulting in DB being paid for disputed claims, including markups on those claims not present in the contract. This good faith payment episode is an example of KCNA placing too much reliance on the private partners. A more prudent approach would have been agreeing to a good faith payment amount but paying a small percentage upfront and withholding the rest until after the audit had been performed to incentivize the private partner to follow through with the agreement. When this deal collapsed, KCNA reverted to making partial payments only for claims they deemed allowable and withheld payments for cost markups not present in the contract.

Claiming a reimbursement of the G&A expenses described by Ledcor below does not appear to be related to direct losses attributable to a supervening event. It is difficult to comprehend why the Commonwealth would be expected to compensate DB’s parent companies’ for social media, branding, fleet management, employee engagement/empowerment, and asset disposal expenses due to delays on the KentuckyWired project. Paying for these expenses given that DB is already due a 10% markup directly addressed in the project agreements appears excessive. The 9.25% G&A is not mentioned in the project agreements.

Ledcor provided the following allocation of the 9.25% G&A charge to KCNA:

Function / Resource	Brief Description	Shared Service Allocation %
Information Services	Support the broader business network & infrastructure, security, disaster recovery, file storage and delivery of enterprise applications	2.80%
Finance	Corporate banking, credit, financial reporting, accounting, internal/external audits, etc.	0.87%
Human Resources	Management of the enterprise HR program, benefits administration, employee engagement/empowerment, surveys & statistics, etc.	2.55%
Safety	Governance to the overall safety program, development of internal policies & procedures, internal audit/compliance of program, etc.	0.54%
Quality	Governance to the overall quality program, development of internal policies & procedures, internal audit/compliance of program, etc.	0.16%
Payroll	Processing of payroll, government/regulatory remittances, payroll taxes, IRS audits, etc.	0.21%
Legal, Insurance & Risk Management	Internal and external counsel, insurance and risk management, contracts support, etc.	0.36%
Equipment Management & Strategic Sourcing	Fleet management & financing, national accounts, asset disposals, etc.	1.34%
Communications	Public communications, branding, promotional, social media, public affairs, etc.	0.22%
Business Process Management	Execute enterprise performance improvement initiatives, support strategic initiatives, planning, KPI reporting, change rediness etc.	0.20%
	Total:	9.25%

A lack of an established procedure for assessing, analyzing, and responding to supervening events submitted by the contractors has resulted in an inconsistent process for managing these claims. As a result, KCNA, despite disputing certain direct loss claims and markups, has made

one good faith payment that yielded no material concessions from the private partners, in addition to an \$88 million settlement MOU the parties are currently negotiating. A defined process will improve KCNA's documentation of claim analysis and assist them in negotiating with or in litigation against the private partners.

The Dispute Resolution Process Has Only Been Used Once, and Has Not Been Followed by DB Since

The Project Agreement includes a process for resolving project disputes. This process was followed by both KCNA and DB for a dispute related to easement costs as discussed in Finding 6 (page 60). KCNA prevailed at the conclusion of the dispute resolution process. In addition to the dispute related to easements, because of the concerns of KCNA related to other direct losses claimed by DB, KCNA has repeatedly requested that DB enter into the dispute resolution process described in the contract. DB has not entered into the dispute resolution process, however. Although the decisions reached at the conclusion of the dispute resolution are non-binding, the refusal of DB to even enter into the dispute resolution process is concerning. DB declined to speak to auditors for this examination.

The FAC Division of Engineering and Contract Administration Was Not Involved in the Project for Two and a Half Years

Because KentuckyWired is an infrastructure project, the auditors inquired with the Division of Engineering and Contract Administration (DECA) within the Finance and Administration Cabinet (FAC) about their involvement in the procurement and contracting phase of the project. According to DECA officials, the first involvement they had with the project was in early 2017 regarding a possible RFP related to buildings needed for the project. This was two and a half years after the master agreement with Macquarie was signed. DECA officials stated their understanding was that the FAC Office of Procurement Services (OPS) managed the KentuckyWired procurement because the project was viewed more as an information technology rather than a construction initiative.

DECA officials indicated that a state agency, in this case KCNA, managing easements and other construction related tasks is unusual. Most contracts that involve state property, construction, or other capital projects would normally be procured through DECA.

DECA described certain differences between their procurement process and OPS. Prior to issuing an RFP for construction, DECA traditionally has all easement, right of way, and permitting issues resolved. These preliminary steps take time, but if resolved prior to the start of construction, they are less likely to delay the project or generate cost overruns. In hindsight, a more deliberate approach such as the one described by DECA would have been beneficial for the KentuckyWired project.

Because of this approach, supervening events in DECA contracts are typically related to weather, unanticipated rock, etc. rather than permitting, pole attachment agreements, and easements as seen in the KentuckyWired project. Establishing supervening event clauses based on unexpected events in the case of DECA contracts, rather than expected events as has been seen

in the KentuckyWired contracts, significantly reduces the risk of cost overruns and delays for the Commonwealth.

When KCNA officials were asked if the DECA model would be preferable for future P3s they stated that the time needed for the DECA model would inhibit the private sector's willingness to participate in larger scale projects with the Commonwealth.

The Analyst Certifying the Project Works on Behalf of a Private Sector Vendor

One element of the DECA procurement process is the retainage of experts to assist in the procurement and performance monitoring of contractors. When a government agency approaches DECA with a need, DECA works with that agency and consultants to create a bidding package. This bidding package will drive the contents and structure of the RFP. Consultants are also responsible for evaluating the RFP responses. Accountability is inherent in the process because if the RFP responses exceed a tolerable threshold above what the Commonwealth's consultants projected, the design consultants must make corrections. Consultants working for the Commonwealth are also responsible for certifying progress payments during projects, which is not the case with KentuckyWired.

While the feasibility of the project, including timelines, was independently reviewed and certified by a lender's technical analyst (LTA) as part of issuing the bonds, the LTA was under contract with Macquarie Infrastructure Developments LLC rather than the Commonwealth and assumed no responsibility for their certification. Relying on a certification from an entity working for a private sector project participant with an interest in the project advancing is not in the Commonwealth's best interest. The same entity continues to certify project progress during construction and opines on the sufficiency of funding for the project and that DB payment requests are for the reimbursement of project costs.

Finding 8: The \$88 Million Settlement MOU Lacked Sufficient Analysis

The auditors first learned of a proposed settlement with DB at the initial meeting with KCNA in late January 2018. At that point, the parties had already been in negotiations and a tentative agreement on the terms of the settlement had been reached on January 18, 2018. The auditors were informed DB had requested well over \$100 million to settle their grievances, but the parties eventually agreed on \$88 million. Although the terms were not shared until March 30, 2018, the auditors have since analyzed the magnitude of the settlement MOU in relation to actual unpaid claims, project progress, and concessions gained from DB.

The auditors inquired about the goals to be achieved through a settlement MOU with DB. The goals KCNA shared with the auditors included ensuring construction could continue by establishing a new completion schedule, canceling direct loss claims for events prior to the date established in the settlement MOU, and amending certain language in the Project Agreement—particularly related to supervening events—that would limit the Commonwealth's future liability. Important to note is that direct loss claims related to easements, discussed in Finding 6 (page 60), are excluded from consideration in the settlement MOU. The claimed amount for these costs as

of March 2018 was \$23.8 million. Direct loss claims related to easements are expected by KCNA to be adjudicated in court.

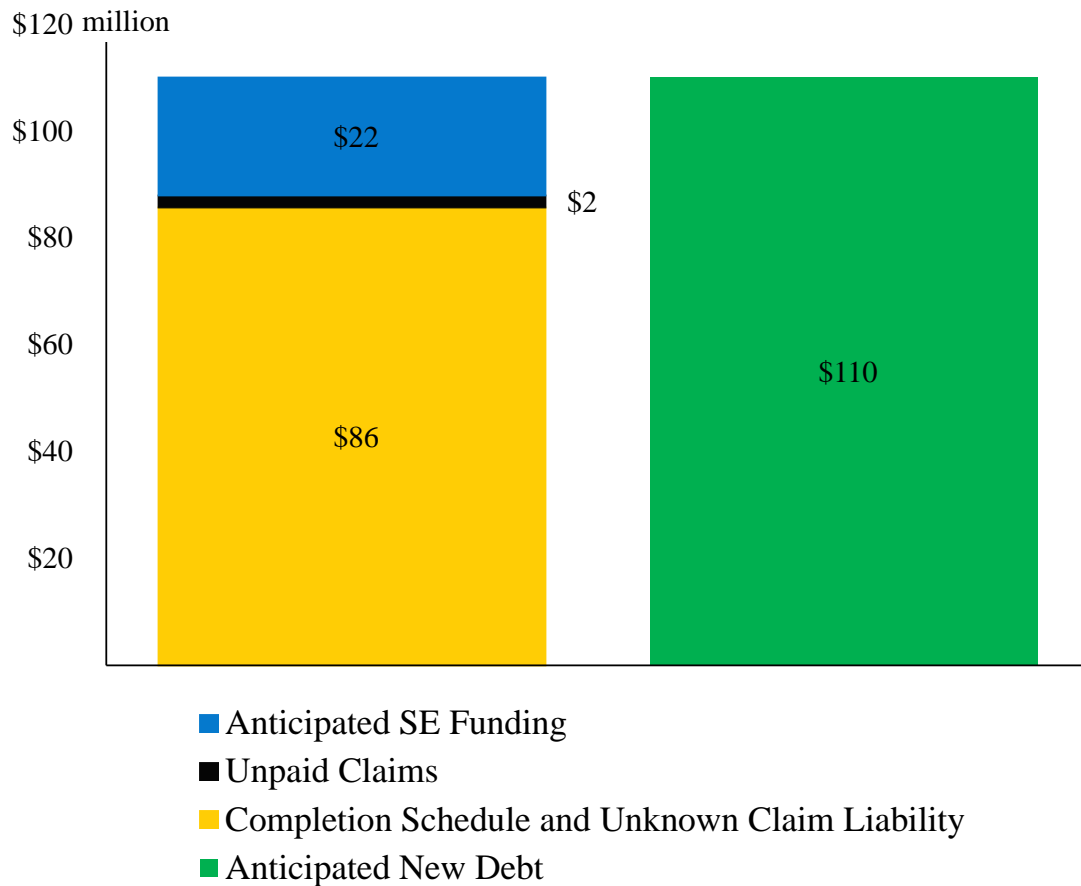
Also important to note is that, in addition to the \$88 million settlement MOU, KCNA had already paid DB a good faith payment of \$5,649,778 in May 2017 for certain direct loss claims. This payment was made in anticipation of an independent accounting firm auditing the direct loss claims submitted by the private partners. Despite making the good faith payment, KCNA disputed the legitimacy of most of the claims covered by the payment.

As noted previously, these preliminary negotiations and arrangements for an independent accounting firm to review the claims fell through and DB kept the payment. No substantive changes to any contracts or other benefits to the Commonwealth were achieved by the good faith payment and the project continued much as it had prior to that point: project delays, direct loss claims being submitted by the private partners, direct loss claims being contested by KCNA, and DB demanding schedule relief.

During the 2018 legislative session, in addition to the \$88 million settlement authority, KCNA also requested from the General Assembly authority to borrow an additional \$22 million to cover any future direct loss claims made by the private partners. This authority was granted with the passage of Senate Bill 223. The auditors asked about the logic of putting this amount on the table for private partners who have already submitted numerous direct loss claims, many of which have been vehemently contested by KCNA, and KCNA indicated that additional supervening events leading to direct loss claims by the private partners are expected. The fact that KCNA vehemently contests direct losses, provides rationale for their objections, but still is in negotiations with DB for \$88 million and requested \$22 million as a reserve for future direct loss claims is an example of the taxpayers bearing significant financial risk in this project and shows a remarkable lack of Commonwealth leverage in this public-private partnership. Finding 2 (page 40) discusses the risk allocation between the private partners and the Commonwealth in this project.

One concern with the settlement MOU is the cost in relation to actual outstanding claims filed by DB. As of December 31, 2018, total direct loss claims submitted by DB totaled \$31.4 million. \$21 million (or 67%) of this total was attributable to issues related to easements, and it was agreed by all parties to be excluded from consideration for purposes of the settlement. Of the remaining supervening event claims of \$10.4 million not related to supervening event 003 (easements), the contractor had already been paid \$8.1 million via the lump sum good faith payment, and other direct loss claims. The unpaid balance of \$2.3 million appears to be the unpaid claims directly related to the settlement negotiations. On the face of the settlement MOU, therefore, it appears that the Commonwealth has agreed to pay \$88 million to satisfy only \$2.3 million in unpaid and partially disputed direct loss claims. This data is illustrated graphically in Figure 16 (below).

Figure 16: Uses of KCNA Anticipated New Debt



Source: APA calculations based on Settlement MOU, and data provided by KCNA and KWOC.

The green bar on the right side of the figure represents the total anticipated new debt, including \$22 million dedicated to future supervening event claims. The bar on the left side of the figure attempts to attribute the settlement MOU amount to items received by the Commonwealth. The top blue bar represents \$22 million dedicated to future supervening event claims. The middle black bar are the \$2 million (rounded) in claims that had not been paid prior to the settlement MOU. KCNA attributed the remaining yellow bar to compensation paid in consideration of a revised project completion schedule and any potential claim liability for events known to have been in existence as of January 18, 2018.

KCNA officials were asked about the justification for the settlement MOU amount. Initially, they indicated DB had sought well over \$100 million as a settlement and that the settlement MOU amount was closer to what KCNA felt was appropriate. KCNA officials indicated the settlement was more important for mitigation of future liability and the establishment of a new project schedule than it was for current unpaid direct loss claims. KCNA was also concerned that without a settlement, DB's anticipated project completion date would exceed certain deadlines and DB would attempt to argue that a "cardinal change" had occurred and either force a change in contract terms or quit working on the project. According to KCNA, this would

have meant a lengthy court battle and having to bring in another contractor to finish the network. From the perspective of desiring to complete the project, these concerns are understandable. However, without analysis to quantify the future liability, it was impossible to assess the appropriateness of the magnitude of the settlement MOU and if the concessions obtained from DB mitigated future liabilities sufficiently to justify the price.

KCNA officials were adamant that establishing a new completion date also was essential to the fiscal sustainability of the project, and that only through completing the project could its benefits be realized. The new completion date sought in the settlement MOU, late 2020, is two years later than the original completion date, but two years earlier than October 2022, which is what DB had estimated as recently as January 2018.

Another important change is an overhaul to the process followed by DB to obtain easements. If the approach fails, the Commonwealth has agreed to proceed with condemnation proceedings against the owner of the property. Also, the settlement MOU still entitles DB to compensation for delays related to this process failing.

The Commonwealth did receive a concession related to the supervening events pertaining to pole attachment agreements. However, as of March 2018 there were only six unique pole attachment agreements outstanding of a total of 72. Considering both the \$88 million settlement MOU and the prior payments discussed in this finding, the Commonwealth will have paid nearly \$100 million in penalties related mostly to pole attachment issues. Based on these facts, the value of this concession is marginal. If such issues do arise in the future, KCNA will have more time to address and remedy the situation prior to DB submitting a direct loss claim.

Two concessions in the settlement MOU are the elimination of the 9.25% profit markup on direct loss claims demanded by DB and the reduction of the “labor burden” markup on direct loss claims from 50% to 35%. Neither of these direct loss components are expressly present in the original Project Agreement, so it is difficult to understand the expectation of the Commonwealth’s liability for these charges. Their presence in, and magnitude of, the settlement MOU grants these charges some level of legitimacy despite earlier protests by KCNA. Below is an excerpt from a September 14, 2017 letter from KCNA to KWOC regarding the markups:

The Commonwealth disputes all ‘Burden’ and ‘G & A’ charges claimed by DB and has withheld these claims...In a show of good will KCNA agreed to release the payment of Burden and G&A within three days of KWOC and DB identifying referees, with the understanding that this payment of Burden is with a full reservation of rights under the contracts, Kentucky law and equity regarding the Burden and G & A issue and that this reservation applied to all Burden and G & A paid previously. At that time KCNA proposed [two referees]. DB has not responded to this proposal.

Two other concessions in the contract related to the sharing of data by all parties are intended to improve collaboration.

The magnitude of the settlement MOU, and the request for \$22 million to cover future direct loss claims despite disputes of certain direct losses, has set a precedent and revealed a lack of Commonwealth leverage. As of August 2018, the funding for the settlement MOU is not finalized, but is expected to be obtained through the issuance of another round of revenue bonds. This set of revenue bonds, rather than being based on an availability payment model like the construction bonds, are expected to be repaid using future wholesale revenues once the network is live. Taxpayers will be at risk to repay those bonds unless the wholesale revenues actually materialize in the amounts and timing discussed in Finding 9 (below). Additionally, concerns have been expressed by Macquarie and Commonwealth officials regarding the likelihood of investors buying the bonds and assuming the risk of wholesale revenues failing to meet expectations.

Finding 9: The Commonwealth is Relying on Speculative Wholesale Revenues

Despite the challenges and setbacks faced by the Commonwealth during the KentuckyWired project, there is an expectation for a significant revenue stream once the network is live. Although the Commonwealth will own a portion the network, OpenFiber will manage the network's 'wholesale' middle mile business. OpenFiber will market excess fiber capacity—fiber not used to connect government buildings, libraries, courthouses, universities, and K-12 sites—to private sector entities. Examples given to auditors of potential users which may connect to the KentuckyWired network include healthcare providers, data centers, and internet services providers (ISPs). Some of these entities may use the network for their own business processes while ISPs may connect to KentuckyWired and market broadband to local users and businesses on a retail basis. The wholesale model calls for revenue sharing between OpenFiber and the Commonwealth. The arrangement is governed by a wholesale agreement dated October 13, 2017 which calls for the Commonwealth and OpenFiber to share wholesale revenues.

Based on reviewing documents, interviews, and testimony related to KentuckyWired, over \$1 billion was consistently touted as the prediction for the Commonwealth's share of future wholesale revenues. The actual wholesale agreement signed by the Commonwealth and OpenFiber is silent, however, to any amounts required to be earned or any targets as to revenue generation. Upon inquiry, KCNA officials informed auditors they still anticipate \$1.3 billion over the 30 year term of the wholesale agreement. When auditors asked for the justification for these estimates, KCNA officials did not have a copy of the projections and directed the auditors to Macquarie. This information was requested from Macquarie, but auditors were informed the lead on the project had retired and the projections would need to be located. Upon eventual receipt of the information, auditors reviewed the wholesale projections and began inquiring about how the model was constructed, who had been consulted, and what variables might impact the projections.

KCNA did not have a copy of the wholesale projections to support its public statements of estimated revenues of over \$1 billion.

Revenue Projections Were Specifically and Repeatedly Disclaimed

Auditors verified that the model projected the Commonwealth's total share of revenues over the life of the wholesale agreement to be \$1.3 billion. The first concern based on this review

was the fact that Macquarie had issued qualifications in the Master Agreement regarding the projections. The following are some disclaimer extracts from the Master Agreement (emphases added):

The information contained in the Models will not be independently verified by Contractor. Accordingly, neither Contractor nor any of its affiliates, nor their respective directors, officers, employees, advisors or agents, nor any other person, shall be liable for any direct, indirect or consequential loss suffered by any person as a result of relying on any statement in or omission from the Models or any other information provided in connection therewith.

Contractor does not represent that estimates or forecasts derived from any Model will actually be achieved or that the assumptions, variables and other inputs used in any Model are reasonable, reliable or accurate

The Models may contain forward-looking statements, forecasts, estimates, projections and opinions (“Forward Statements”). **No representation is made or will be made that any Forward Statements will be achieved or will prove correct.** Actual future results and operations could vary materially from the Forward Statements. **Similarly no representation is given that the assumptions disclosed in the Models upon which Forward Statements may be based are reasonable.** The Commonwealth acknowledges that circumstances may change and the contents of the Models may become outdated as a result.

Given these statements, the Commonwealth should be wary of relying on the amount of wholesale revenue expected. A representative of Macquarie told auditors that the revenue projections were “conceptual” and that the extent of development and investment could not be determined until the network was operational. Macquarie confirmed that this development is discretionary on the part of the wholesaler, OpenFiber, under the terms of the wholesale agreement, and will likely be based on the market and profitability.

Revenue is Subject to Sharing with The Center for Rural Development, Inc.

The projected wholesale figures do not account for the portion of that revenue the Commonwealth has agreed to pay to The Center for Rural Development, Inc. (CRD). The percentage of wholesale revenues that CRD will receive could not be estimated, but will likely be substantial based on geographic coverage. CRD will receive 100% of net revenue generated in eastern Kentucky, from three of the six statewide “Rings,” and will also receive half of net revenue along the “I-75 spine” from Cincinnati to Somerset. This revenue-sharing occurs under a Memorandum of Agreement between the Commonwealth and CRD, not through OpenFiber. Therefore, the \$1.3 billion projection as the Commonwealth’s share of revenue is further reduced by some percentage it will pay to CRD, assuming the projections are met.

The Revenue Model Has Not Been Updated Since April 2017

The second concern was the fact the model had not been updated since April 2017. In a sector that is rapidly evolving, assumptions that could have a material effect on wholesale revenue projections may also evolve. The network won't be completed until late 2020, assuming the new schedule agreed to in the March 30 settlement MOU is achievable. Therefore, the wholesale projections may be outdated if the model is not updated. It is concerning that auditors were directed to Macquarie for any specific questions related to wholesale revenues. If the Commonwealth has not sufficiently vetted the assumptions by Macquarie and the entities it worked with to develop the projections or reviewed the wholesale model, then the Commonwealth is again in a position of overreliance on private partners. Because of the wholesale revenue's importance to the sustainability of the project, this is especially concerning.

The auditors inquired with Macquarie about the reasonableness of the business case for ISPs connecting to the network in the more rural areas of the Commonwealth because of the lower levels of demand. They indicated that wireless technology such as 5G was developing, and this approach might be the more realistic business model for low density areas.

The auditors also inquired with Macquarie, KCNA, and other stakeholders about concerns for future revenue potential in urban areas. As more competitors enter the market or expand their offerings, consumers have more broadband options at lower prices, which reduces the attraction of the market to new ISPs. A major fiber provider is expanding in Louisville, Lexington has signed a franchise agreement with an out-of-state telecommunications company that will provide city-wide fiber with construction beginning in 2018, and an incumbent telecommunications company is expanding its own fiber network across the Commonwealth. Many areas of the Commonwealth already have incumbent broadband providers. KCNA conceded that the market had changed since 2014, but stressed that the wholesale model will make this competitive pressure less significant because KentuckyWired will be more reliant on high bandwidth users that are not interested in the broadband retail market.

The projections reviewed by auditors, last updated in April 2017, indicated 59 subscribers would be connected to the network in 2018, and this wholesale access would be producing revenue. Because the network will not be complete until 2020, even if the timeline currently being negotiated in the March 2018 settlement MOU is met, it is highly unlikely that 59 subscribers will be generating wholesale revenue for the Commonwealth in 2018. Because the model called for these subscribers to be present in year one, and year one was assumed in the model to be 2018, the auditors asked Macquarie if these subscribers had been identified. They responded that specific subscribers had not been identified, and the amount of subscribers was based on estimates developed through identifying potential targets in a statewide market sizing exercise.

Based on correspondence with OpenFiber and meetings with KCNA, it is apparent that business development is still in the very early stages. OpenFiber, the entity that will be responsible for developing the business model that was projected by Macquarie to generate \$1.3 billion in revenue for the Commonwealth, currently has a staff consisting of one employee. In May 2018, KCNA requested Macquarie and OpenFiber describe activities undertaken to comply with the

contractual obligations in the wholesale agreement and to update the total estimated wholesale revenue. These updates had not been delivered as of mid-August although meetings with Macquarie had occurred. Auditors received conflicting information on the frequency and substance of meetings between OpenFiber and KCNA, but in any case, increased collaboration is crucial to ensuring the wholesale revenues materialize.

The Revenue Model Calls for Constantly Increasing Wholesale Prices

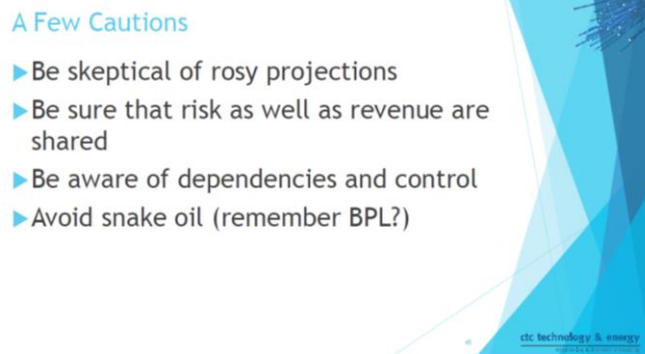
The revenue projections call for increasing wholesale prices. If increased competition, both at the middle and last mile levels, is expected to decrease prices for end users, projections with price increases do not appear to be logical. The auditors asked for justification for the annually increasing price in the model and were told the increase was selected “for consistency with the PPP model.” This is referring to the annual increase of 2.5% in availability payments, which as long as the Commonwealth remains a party to the deal, it is required to pay. If the wholesale model is dependent on increasing prices, users may balk at the prospect at year-over-year price increases, especially in areas where KCNA will compete against other middle mile providers.

The revenue model calls for wholesale prices to increase year-over-year for the life of the network.

KentuckyWired’s website has a presentation titled Broadband Planning for Electric Utilities. The presentation is intended to assist private entities in determining how to expand their last mile broadband offerings and the business opportunities that may be available. An important distinction is that KentuckyWired’s revenue model is built on middle mile access. However, some of the warnings included in the presentation are notable in the context of the KentuckyWired projections.

One of the “common mistakes” described in the presentation is to account for inflation in either expenses or revenues in projections. Yet KCNA is relying on a Macquarie model that does exactly that. Additional cautions in the presentation can be seen in Figure 17 (below):

Figure 17: Cautions to Electric Utilities Published on KentuckyWired Website



Source: KentuckyWired website.

The model also calls for a constant annual growth in subscribers starting six years after the network is live. The auditors asked for the assumptions or support that led to an assumption of

year-over-year constant growth and were again told that other consultants had shaped these estimates. According to Macquarie:

The number of anticipated subscribers was provided by First Solutions. . . The ramp-up and constant growth rate assumptions were further refined with input from Connected National Exchange based on their experience.

The projections call for constant, linear growth which, coupled with the initial number of subscribers, are crucial to the Commonwealth's wholesale revenue prospects. Without being provided any specific data to support the assumptions in the wholesale revenue model, the hope is that the private sector partners have acted in good faith in these projections. However, the Commonwealth's experience with private partner expertise discussed in this report calls for officials to take nothing for granted, question all assumptions, and where possible hedge against the possibility of materially erroneous revenue projections.

Lack of Verification of Wholesale Revenue Projections

Auditors were referred to Macquarie for wholesale model questions of any substance, indicating that KCNA's focus during most of the APA's special examination appeared to be on network completion with little consideration of the wholesale business. This is somewhat understandable given the difficulties in construction, and without a functioning network, projected wholesale revenues are irrelevant. This does not change the fact that wholesale revenues have been cited in testimony to the General Assembly and to the public as justification for continuing the project or asserting that the network will pay for itself. This assurance to taxpayers demands every effort be made to ensure that revenues materialize which are at least sufficient to justify moving forward with the project.

An assumption of the auditors was that the wholesale model had been generated by consultants working for the Commonwealth, but this was not the case. The Commonwealth appears to have entered into the wholesale agreement with limited, if any, due diligence. The wholesale revenue model has also not been audited. CNX, another consultant referenced by Macquarie as assisting with the wholesale projections, announced a partnership with Macquarie just over a year after the Project Agreement was signed. CNX had been working with the Commonwealth on community broadband outreach but ended that relationship when the opportunity to work with Macquarie arrived. In announcing the partnership, the Macquarie director who had worked on the KentuckyWired project said, "KentuckyWired PPP provides a sound model for the use of public private partnerships to deliver broadband access more quickly, cost effectively and comprehensively." This quote, in October 2016, raises two questions: (i) how aware was Macquarie of the actual status of the KentuckyWired project, and (ii) for whom is this a sound financial model? Any consultant working for or with Macquarie may be incentivized to provide estimates yielding revenue numbers large enough to propel the project forward.

Comparison of Revenue Model with Macquarie’s Proposed Revenue Model in Utah

The wholesale revenue projections from Macquarie to the middle and last mile UTOPIA (Utah Telecommunications Open Infrastructure Agency) network in Utah bear similarities to KentuckyWired even though the broadband delivery strategies of the two networks are different. Macquarie was not awarded the UTOPIA contract, but this finding discusses the model they proposed for the Utah last-mile network, which was an agreement among cities in Utah.

Internal talking points related to the KentuckyWired initiative described UTOPIA and KentuckyWired as “having nothing in common except for using a P3 model.” Yet the UTOPIA members were told revenues were expected to be between \$1 and \$1.5 billion over the 30-year term. The projected growth in subscribers for UTOPIA and KentuckyWired was linear in both cases, with growth being faster in Kentucky, but with a slower subscriber ramp-up. In the UTOPIA project, the proposed dedicated revenue stream on which the funding model was built was directly financed by the taxpayers via “utility fees.” In Kentucky, the taxpayers shouldered the burden indirectly via availability payments and also assumed significant project risk.

Although Macquarie stated information related to Kentucky was used to develop the wholesale projections, no specific analysis for the Kentucky market was provided for the most recent wholesale projections. Therefore, it is impossible to know if the Macquarie wholesale revenue projections are simply a part of the standard P3 broadband approach marketed to governments across the country or specifically tailored to Kentucky. Ultimately, UTOPIA chose not to pursue the Macquarie model, so an assessment of the reasonableness of the projections in Utah is not possible.

Included in the Milestone One report from Macquarie to the UTOPIA consortium is the following related to lender concerns:

Lenders’ preference is for the Cities to guarantee the availability payment on a joint and several basis. The Cities have displayed no appetite for this commitment, and in the absence of such guarantees, strong protections such as a rate covenant, step-in rights for collection of fees, priority over all network cash flows or an overcharge regime will likely be required.

Later, and more concerning for the wholesale revenue and the probability of the Commonwealth having to back the anticipated settlement debt described in Finding 8 (page above), “[Lenders are] extremely reluctant to assume any revenue risk from premium service take rates.” A take rate is the percentage of possible users who subscribe to the service.

Commonwealth officials made the deal more attractive to investors by pursuing the availability payment model, not to mention obligating the Commonwealth to pay incredibly expensive termination costs via the Project Agreement, which dramatically reduced the construction risk and credit risk that lenders might have faced. Despite taking on significant project risk, the Commonwealth will also be sharing the potential rewards of wholesale revenues with private parties once the network is operational.

The Wholesale Agreement Has No Revenue Targets or Guarantees

The wholesale agreement provides no revenue targets, incentives for exceeding expectations, or penalties for the wholesaler failing to perform from a financial metric perspective. The agreement was not finalized until October 13, 2017, prior to which KCNA had gone through a tumultuous two-year relationship with private partners brought to the table by those with whom the Commonwealth entered into the wholesale agreement. The wholesaler, OpenFiber, is under no obligation to develop users, either in terms of committing a certain amount of capital, or meeting any targets or projections, under the agreement. There is no requirement regarding geographic distribution of efforts or user development. There is a clause allowing the Commonwealth to propose “Economic Development Initiatives,” but OpenFiber is under no obligation to undertake these initiatives, and specifically may decline based on the business case for such initiatives.

Although the wholesale agreement calls for the wholesaler to participate in ‘economic development’ initiatives from the Commonwealth, the agreement includes caveats that allow the wholesaler to reject an initiative if there is not a reasonable business case. This determination is made at the wholesaler’s discretion. The agreement goes on to detail possible steps available to compensate the wholesaler for these economic development efforts including increased wholesale revenue sharing, lump-sum payments to cover capital expenditures, or periodic payments to reduce operating costs. While favorable to the wholesaler and understandable in the context of a private company in pursuit of a profit, this is unexpected contract language for an infrastructure project whose very existence has been cited as a driver of economic growth. If the wholesaler must be incentivized to pursue development, and if they have the contractual ability to reject economic development initiatives, such clauses could compromise the public-good objectives of the project. If such incentives are undertaken without the wholesaler’s agreement, the associated costs to the Commonwealth will be added costs of operating the network that have not been planned or accounted for.

The wholesaler is under no obligation to undertake economic development initiatives.

The contract includes the following language:

The parties anticipate that “last mile” services may be developed by Governmental Authorities other than [the Commonwealth] and connected to the NG-KIH system. The Wholesaler, Operations Co and/or...their respective equityholders, may participate in such opportunities and the Wholesaler and the Commonwealth shall agree on a case-by-case basis, each acting reasonably, on the sharing of revenues derived from such opportunities.

This language indicates the possibility of additional revenue opportunities for the Commonwealth and the private partners if local governments subsidize or ensure last mile connectivity.

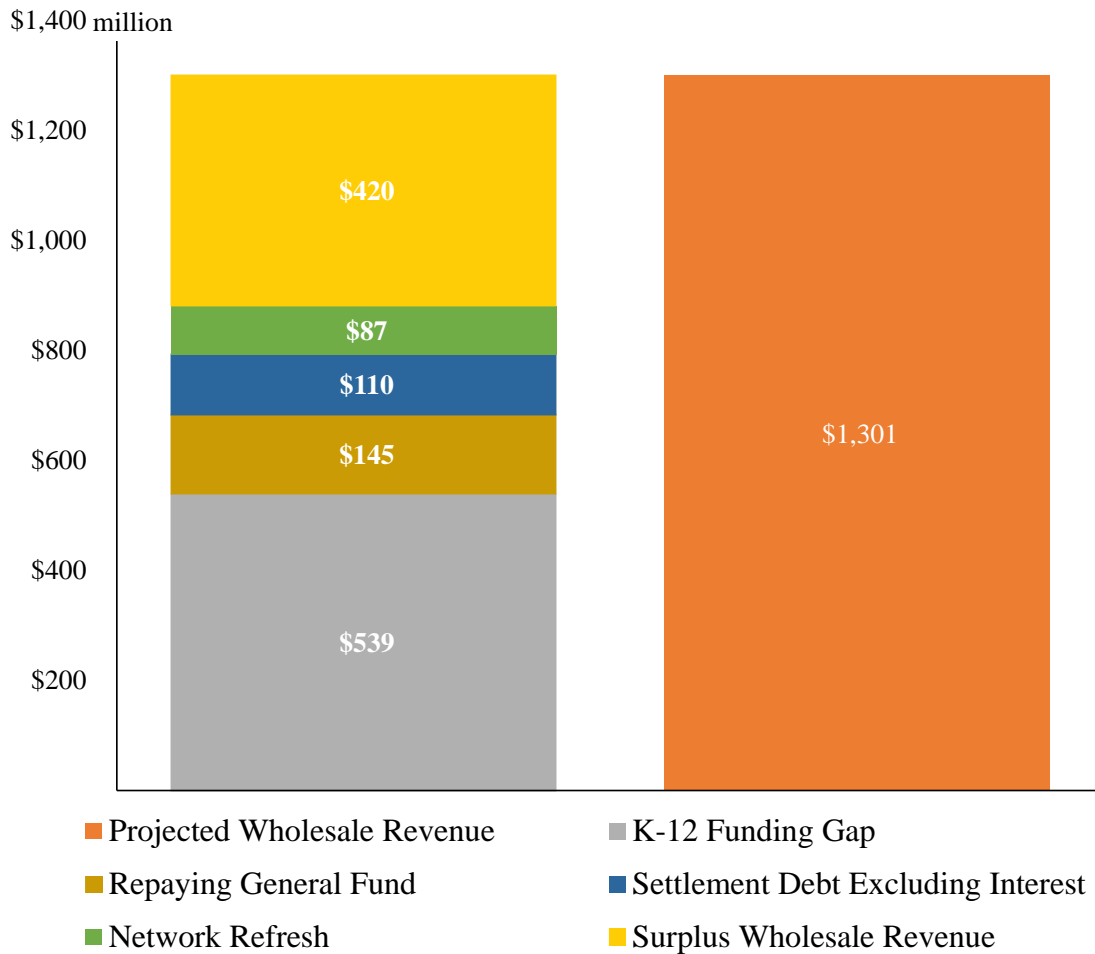
The Commonwealth Relies on Speculative Future Revenues

The importance of the projected wholesale revenue was significantly increased with the passage of SB 200, which permits KCNA to “leverage future revenues through debt or financing.” The intention of KCNA is to finance the \$88 million settlement MOU by leveraging future wholesale revenues. In addition to the \$88 million settlement MOU is \$22 million in funding for additional cost overages and corresponding payments to the private partners. If the wholesale revenues fail to materialize in a timeframe which enables this new debt to be paid on schedule, or to fund the scheduled network equipment refreshes, the General Assembly may again be asked to appropriate funds to the project.

For the Commonwealth, wholesale revenue has become a vital source of funding if the general fund is to be protected from additional demands. The anticipated uses to date for projected wholesale revenues based on inquiry with KCNA and consideration of additional costs of ownership are displayed in Figure 20 (below). This figure represents auditors’ conservative assessment of uses of wholesale revenues, for the reasons described following the figure.

Report continues with Figure 18 on next page.

Figure 18: Anticipated Uses of Projected Wholesale Revenues



Source: APA based on information from KCNA, KRS 154.15-020, Macquarie, Project Agreement.

The orange bar to the right in Figure 18 (above) above represents the Commonwealth’s projected share of wholesale revenues. Bear in mind these projections have been described as “conceptual” and this amount will be further reduced by revenue-sharing with CRD. The left side bar represents Commonwealth anticipated uses of wholesale revenues, with the yellow portion at the top of \$420 million representing a Commonwealth surplus if the projections materialize. Again, CRD’s portion has not been quantified, but could use up a portion or all of this represented hypothetical surplus.

The necessity of strong wholesale revenue performance would be dramatically reduced if K-12 is migrated onto the network but currently there is no expectation for that to occur. In addition, KCNA expressed hopes that the wholesale revenue could repay the general fund for availability payments made during construction. The green bar represents minimum network refreshes called for in the contract, assuming the amount originally projected for these costs. The

blue bar is the principal amount of settlement debt, which will necessarily be higher to account for interest payments at a rate not yet determined. Finally, although not noted as a use of wholesale revenue in Figure 18 (above), KCNA overhead is also a cost of the network that the wholesale revenue will necessarily need to cover if the project is to be cost-neutral to the Commonwealth. As Figure 18 (above) shows, the Commonwealth needs significant wholesale revenues to meet all of these goals. Therefore, wholesale projections now constitute a critical basis of KentuckyWired's viability, rather than a bonus to the Commonwealth, with a relatively small margin of error in projection amounts actually materializing as indicated.

The importance of the projected wholesale revenue to the financial sustainability of the project cannot be overstated from the perspective of the Commonwealth. Investors and the private partners are insulated from this risk because the project is funded via availability payments derived from general assembly appropriations. This means inaccurate revenue projections will not endanger the debt repayments as they did in the case of the Indiana Toll Road P3—another Macquarie venture—but the stress on the general fund will be significant. The consortium managing the Indiana Toll Road declared bankruptcy when revenue projections failed to meet expectations but the public kept the infrastructure, was insulated from the financial collapse, and kept a \$3.8 billion dollar payment due to the manner in which Indiana initially structured the deal.

Important to note is that these wholesale revenues are not discounted back to the periods for which the general fund is shouldering the availability payments or potentially filling in the gap caused by K-12 not migrating to the network. If the time value of money is considered, the impact on the general fund is even more significant.

CHAPTER V: CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations relate to the role of KCNA in continuing to carry out the KentuckyWired project, lessons learned from this examination that should be implemented in negotiating the terms and structural arrangement of future P3 projects, and other observations. In addition to KCNA, the recommendations should be considered by state agencies and local governments contemplating or negotiating P3 projects to avoid consequences that could jeopardize the projects and reduce the benefits of P3 projects by failing to properly share the risks between the private partners and the government.

The KentuckyWired Project was not Properly Planned and Was Not Structured to Protect the Commonwealth's Interest

The challenges of the KentuckyWired project have now become apparent; however, the project was not properly planned as exhibited in findings throughout the report. This led to excess costs that should have been foreseeable and a significant reduction of the risk-sharing benefits of P3 projects for the Commonwealth.

One element of planning for P3 projects that was not adequate is the absence of a formal risk assessment used in developing the contract terms. The benefit of P3 projects is that risks are shared among the public and private partners. These risks must be assessed, and then the partners

should negotiate terms in such a way that incentivizes the private partners to help mitigate those risks. These incentives increase efficiency and motivate the partners to keep costs down. There is no evidence that a formal cost-benefit analysis was performed independently by the Commonwealth or a consultant working on its behalf. Instead, it appears the Commonwealth relied on cost and revenue projections provided by private partners that have vested interests in the project.

Insufficient planning is most evident in the initial procurement process. The KentuckyWired project began with a solicitation and a bidder's response to the solicitation that contained risk-sharing elements. At the time, FAP 110-10-00(21)(c) stated, "An electronic or a written award furnished to the successful offeror within the time for acceptance specified in the offer shall constitute a binding contract, without further actions by either party." However, many elements contemplated in the solicitation and bidder's response did not resemble those in the executed project agreements as noted in Finding 2 (page 40), resulting in a significant increase in the risk carried by the Commonwealth. Not only did this lead to the Commonwealth assuming virtually all responsibility for cost overruns, but it also increased the chance for conflicts between the Commonwealth and the private partners during the project. Although solicitations could have been modified under policies in place at the time, they must have been modified during the solicitation period, prior to the close of the bidder's response period, at which time offerors must acknowledge the modifications in writing per FAP 110-10-00(4). It should be noted that P3 legislation passed after this contract was initiated contemplates that plans for financing and operating the project be included as part of the RFP. However, additional measures must be considered to protect against those plans being materially modified during contract negotiations.

The Commonwealth also did not take advantage of expertise and processes already in place for certain procurement and technical aspects of the project, resulting in delays and problems encountered that should have been foreseeable. This concern is reflected throughout the report. As discussed in Finding 7 (page 70), a state agency usually responsible for procurement of construction projects, DECA, was not involved in the planning stages of the project. Additionally, Finding 6 (page 60) identifies that the contract with DB contained unrealistic timeframes for obtaining encroachment permits for easements. KYTC was not involved in the process for determining or negotiating these deadlines, although it issues the permits. These delays resulted in 142 supervening event claims as of January 31, 2018, with the contract permitting DB to claim associated direct losses. Finding 6 (page 60) also identifies the contract with DB contained unrealistic timeframes for pole attachment agreements, as well as significant errors in the pole count that the Commonwealth appears to have relied upon DB to provide. These problems have resulted in DB filing supervening event claims, some less than a month after signing the project agreements, as well as being the basis for the \$88 million settlement MOU. All of these problems could have at least been partially mitigated had the Commonwealth utilized its existing expertise, or gained independent consultants to help assess these matters rather than rely on parties with vested interests in the project and who stood to be paid for losses resulting from these events.

Additionally, although KDE provided advice related to the project's E-rate eligibility that significantly impacted revenue projections, this advice was not heeded, which resulted in the

cancellation of an RFP that the Commonwealth anticipated would provide an additional source of project funding.

Utilizing processes and expertise already in place provides a greater level of protection, as these resources understand the statutory and regulatory environment and timeframes needed to accomplish the objectives. Although the Commonwealth can and should retain professional consultants when necessary, consultants should not have separate business interests in the project. Private companies answer to owners and shareholders, and therefore maximizing profits is a primary goal. The Commonwealth, as a steward of taxpayer dollars, must not gamble with those funds by exposing itself to unnecessary or excessive financial risk. Retaining truly independent expertise is a strategy for avoiding similar mistakes in the future.

We recommend that the Commonwealth ensure that proper planning occurs in all major projects, and integrate existing expertise and processes to the extent practicable. With regards to P3 projects, this includes a formal risk assessment process in order for the Commonwealth to have specific information regarding the level of commitment it is willing to take on prior to soliciting private partners. We recommend 200 KAR 5:355 be updated to require this formal risk assessment in addition to the quantitative analysis stipulated by the regulation. Appropriate planning should ensure the Commonwealth is engaging in the procurement process with the necessary expertise and independent analysis to be on equal footing during contract negotiations.

FAC should also implement procedures to ensure that negotiated contracts are in line with the scope, magnitude, and risk-sharing elements contemplated in P3 solicitations and in the bidder's response to that solicitation. Future P3 projects should be established to ensure that the Commonwealth's interests are protected and risks are shared with the private partners more equitably. Risk-sharing is an essential component of a P3 arrangement, as it incentivizes private partners to actively help mitigate risks. The KentuckyWired project agreements shifted too much risk to the Commonwealth compared to the RFP, and by doing so also reduced incentives for private partners and reduced the traditional benefits of a P3 model for the Commonwealth.

FAC should restrict the use of contracts with cost plus elements to comply with KRS 45A.125, especially when payments for the projects are made from public funds. As noted in the report, the contract permitted cost plus elements, even though the project agreements identified the project as a fixed price contract.

KCNA and other agencies of the Commonwealth should refrain from making significant modifications to the terms and scope of a project after bid responses to the solicitation have been received and the bidder's response period is closed. Significant modifications that are not carried out as part of an addendum to the solicitation during the solicitation period in accordance with the current FAP 110-10-00(3) should result in a cancellation of the RFP prior to a contract award.

The Commonwealth should require more private partner investment in P3 projects, including sharing cost overruns resulting from material errors in projections, delays, and other critical assumptions built into project plans. Private partners may also be incentivized by requiring

capital investments in the project or by sharing project revenues rather than the Commonwealth making guaranteed availability payments.

FAC should update 200 KAR 5:355 to require that DECA be involved in all capital construction P3 projects. DECA should assist in monitoring construction elements of a project, while OPS should continue to ensure applicable laws and regulations are followed in the procurement of services.

FAC should require KYTC's involvement, at least in an advisory capacity, for all projects that require the acquisition of easements. KYTC's process of establishing a well-defined route should also be utilized during the design phase of the project, before awarding a contract for construction. This step will help reduce uncertainty related to easements and allow both parties to the contract to proceed with more accurate cost estimates. Had this process been utilized for the KentuckyWired project, it likely would have resulted in a cost-savings to the Commonwealth due a reduction in penalty payments caused by delays.

Evidence suggests employees of the Commonwealth knew or should have known risks would be borne by the Commonwealth or its taxpayers greater than those publicly stated. The most significant evidence suggesting this relates to the Commonwealth negotiating a Project Agreement with Macquarie that does not appear to agree with the intent of the initial solicitation, or with the bidder's response provided by Macquarie. This action shifted significant risks to the Commonwealth, resulting in cost overruns within a month of the agreement being executed. This occurred despite reported warnings from other employees of the Commonwealth acting as advisors. This matter will be referred to the Kentucky Executive Branch Ethics Commission for consideration.

Increased Monitoring Role of KCNA

From the inception of the project, a lapse of sufficient monitoring by an agency or organization with clear incentives to protect the interests of the Commonwealth has been demonstrated. KCNA has added staff over time to assist in monitoring construction progress and contract compliance. However, these monitoring procedures are not yet fully developed. It is critical for the agency to take a greater role in monitoring, and KCNA should plan for monitoring to continue when the project becomes operational. KCNA should expand its monitoring procedures to ensure they are broad enough to address contract compliance, including project status, and financial oversight.

KCNA should adhere to contract administration policies presented by FAC in current FAP 111-51-00. This policy requires agencies to designate a programmatic contract manager, and states, "It is essential that the contract manager verifies that the contractor complies with all contractual requirements." The policy goes on to list the factors of the contractor's performance that should be monitored, including project schedules, outcomes, budget, and financial issues. This monitoring would require KCNA to obtain regular reports from DB and other private partners on planned work, in progress work, and completion status. Additionally, since the Commonwealth is responsible for paying direct loss claims caused by scheduling delays, KCNA should also obtain

sufficient information regarding matters that may lead to delays, such as easements, permitting, and pole attachment agreement concerns. These notifications should be reported in sufficient detail and in a sufficient timeframe to permit KCNA an opportunity to take action to investigate the matters, especially as they relate to other executive branch agencies such as working with KYTC to monitor reasons for permitting delays.

KCNA should implement more stringent procedures to pre-audit direct loss claims for contract compliance prior to payment in accordance with the monitoring requirements of FAP 111-45-00(6) which states, “An agency shall review invoices for Contract compliance. The contractor shall be held accountable to perform at acceptable levels.” KCNA should not approve the invoice for payment, including good faith or partial payments, until the legitimacy of the claim is verified in accordance with the contract. As part of this monitoring, KCNA should require DB to report the details of additional costs associated with supervening events or other costs. The agency should retain documentation of this review, including justifications for any rejected claim. Future P3 projects should include a clearly defined and required dispute resolution process related to rejected claims.

Due to the delays and related penalties attributed to KYTC permitting timeframes, KCNA should request that permitting requests be tracked and periodically provided to the agency. Tracking should include dates when incomplete permits were returned to DB or rejected, as well as the reasons why. This tracking provides more suitable documentation for the Commonwealth to determine the cause and reasonableness of any additional penalty payments, and enhances KCNA’s ability to proactively monitor the project’s progress.

KCNA should ensure that payments are properly classified in eMARS to permit easy monitoring and reconciliation. Charges for equipment should be coded to equipment expenditure codes. The account should be periodically reconciled to the equipment database currently maintained by the agency.

KCNA should present, at a minimum, quarterly reports to executive branch leadership, policymakers, and other interested parties using data gathered during the contract monitoring process. This report should include up-to-date construction status, including a list of substantive delays, the reasons for them, planned corrective action, and any resulting penalties. Also, the report should provide an update on the projected timeline for all or part of the project to become operational.

A financial status of the project should also be reported by KNCA, identifying all sources of funding, total expenditures paid to date, incurred claims not yet paid, remaining balances of project funds including bond funds, as well as details of any penalties, direct loss claims, and disputed claims. KCNA should also include in this report any change in credit ratings, and an assessment of any events that could impact the last revenue projection obtained from Macquarie.

Additionally, the initial report should also provide an analysis of the estimated cost of termination based on the terms of all executed agreements. This analysis should include a realistic estimate of the net present value of the project’s cash flows and costs, updated with known factors

such as cost overruns and changes in the timing of collection of operating revenue due to the project construction delays. We recommend this initial report be available early in the 2019 session of the Kentucky General Assembly.

KCNA should also require DB to provide an up-to-date project progress map monthly, which should be made publicly available.

We recommend that FAC update 200 KAR 5:355 with P3 implementation or construction phase, financial, and operational monitoring guidance.

Implement Plans to Improve the Viability of Future Revenue Streams

KCNA must focus on the viability of future revenue streams, especially given that the extended construction phase of the project also creates delays in collecting future operational revenues from users or wholesalers. Failure to ensure the stability of the estimated revenue streams could result in the Commonwealth's inability to sustain a constructed network as public infrastructure.

As discussed in Finding 4 (page 54), original revenue projections anticipated that a KIH-4 contract would be a source of revenue, but the RFP for this contract was protested and ultimately withdrawn without being awarded. The current KIH-3 contract is set to expire in 2023, and the next contract must be awarded competitively to be eligible for reimbursement through the federal E-rate program. We recommend KCNA take proactive steps to ensure that KentuckyWired is prepared to bid competitively for the KIH-4 contract. However, due to the competitive nature of this award, KCNA should also explore the potential for external revenue streams or opportunities for efficiencies in the operational phase of the project to lessen the impact of K-12 sites not migrating to the network.

KCNA should focus on wholesale revenue generation and plans to obtain revenue goals. Due to the Commonwealth's reliance on these revenues, KCNA should encourage OpenFiber to aggressively develop the wholesale market to ensure future revenue goals and linear growth estimates necessary to meet the revenue projections are achievable. As part of this, KCNA should require regular reporting from OpenFiber regarding its plans, progress, and results in this area, including obtaining information on its market analysis and strategies. Finally, KCNA should quantify the portion of wholesale revenue anticipated to be shared with the Center for Rural Development, so any reliance on projected revenues reflects the accurate net amount available to the Commonwealth.

APPENDICES

Appendix A: Correspondence with Ledcor

*APA note: Selected e-mail correspondence presented in reverse chronological order.

Winfrey, Josh (APA)

From: Michael Murray [REDACTED]
Sent: Friday, August 3, 2018 8:16 AM
To: Winfrey, Josh (APA)
Subject: RE: Phone Call

Josh,

As you probably know, the Settlement was supposed to be signed on July 6, 2018. It has yet to be signed, as such, I am reluctant to have any conversations relative to the Project. This Project is a remarkable opportunity for Kentucky to advance technologically, encourage business growth, and aid its citizens. There's a fair amount of challenges that can be overcome and improvements that are needed. None are insurmountable.

Glad to discuss the details, once we have a definitized Settlement Agreement.

Thank you for your understanding,

Mike

Michael P. Murray
Vice President, Strategic Programs
Ledcor Technical Services
[REDACTED]

www.ledcor.com

FORWARD. TOGETHER.

Winfrey, Josh (APA)

From: Winfrey, Josh (APA)
Sent: Monday, July 23, 2018 9:53 AM
To: 'Michael Murray'
Subject: RE: This Week

I'm wide open on Wednesday so just let me know.

From: Michael Murray [REDACTED]
Sent: Monday, July 23, 2018 9:15 AM
To: Winfrey, Josh (APA) [REDACTED]
Subject: Re: This Week

Josh,

I should have some time available on Wednesday to meet. Do you have a few windows of opportunities and I'll make something work.

Thanks,

Mike Murray
Vice President, Strategic Programs
Ledcor Technical Services
[REDACTED]

On Jul 23, 2018, at 9:03 AM, Winfrey, Josh (APA) [REDACTED] wrote:

Wanted to try one more time to get in touch with you to meet this week.

Thanks,

Josh Winfrey, CPA, CFE
Auditor of Public Accounts Office
209 St. Clair Street
Frankfort, KY 40601

Winfrey, Josh (APA)

From: Winfrey, Josh (APA)
Sent: Friday, July 6, 2018 10:07 AM
To: 'Michael Murray'
Subject: RE: Meeting

Sounds great, thanks. Like I said, we will work around your all's schedule since we're local.

From: Michael Murray [REDACTED]
Sent: Friday, July 6, 2018 10:05 AM
To: Winfrey, Josh (APA) [REDACTED]
Subject: RE: Meeting

Good Morning Josh,

I would be glad to meet and discuss the KIH Project. I am still sorting through the schedule for that week, but will work diligently to find time to chat. There are a lot of lessons learned that we could all benefit from.

Let's stay in touch, and we can coordinate an exact time / place once we get closer to the dates.

Thanks,

Mike

Michael P. Murray
Vice President, Strategic Programs
Ledcor Technical Services
[REDACTED]

www.ledcor.com

FORWARD. TOGETHER.

Appendix B: Audit Right of First Refusal Letter



Matthew G. Bevin
Governor

William M. Landrum III
Secretary

Commonwealth of Kentucky
Finance and Administration Cabinet
Office of Administrative Services

DIVISION OF ADMINISTRATIVE SUPPORT

Room 195, Capitol Annex
702 Capital Avenue
Frankfort, KY 40601-3462
(502) 564-8097
Fax (502) 564-9557

Troy Robinson
Executive Director

Tammy Bullock
Director

December 8, 2017

Mike Harmon, Auditor of Public Accounts
209 St. Clair Street
Frankfort, KY 40601

RE: Audit of the Kentucky Communications Network Authority

Auditor Harmon:

The Finance and Administration Cabinet, Office of Policy and Audit (OPA) on behalf of the Office of the Secretary intends to acquire services to audit the Kentucky Communications Network Authority (KCNA), KentuckyWired project. The emphasis of the audit includes, but is not limited to Public Private Partnership (P3) contract terms, contract participants, sub-contractors, financial monitoring, funding framework for the project, billing and payment processes, as well as project timelines.

Pursuant to KRS 45.149 (2), the Cabinet is notifying your office prior to issuing an RFP. Upon receipt of a written declination or the passage of 15 days from the date of this correspondence, the Cabinet will move forward with issuing an RFP. Once audit work is completed, the Cabinet will forward a copy of the audit report to APA as required under KRS 45.149 (2)(a) and make arrangements for APA to review work papers pursuant to KRS 45.149 (2)(b), if requested.

Please notify the Executive Director of OPA, Gerald Hoppmann and me should you have any questions or concerns.

Thank you,

Kyla Satterly, Administrative Branch Manager
Customer Billing and Procurement Branch
Finance & Administration Cabinet, Office of Administrative Services

Appendix C: Center for Rural Development Memorandum of Agreement with Commonwealth
and Addendum

MEMORANDUM OF AGREEMENT

This Memorandum of Agreement is made and entered into on this 25th day of June, 2015, by and between the Commonwealth of Kentucky (hereinafter the "Commonwealth"), by and through its Finance and Administration Cabinet (hereinafter "Finance") and The Center for Rural Development, Inc. (hereinafter "CRD") (collectively the "Parties").

WITNESSETH

WHEREAS, pursuant to KRS 45A.605, the Commonwealth has the authority to enter into contracts for the development of an information highway on behalf of state agencies and other specified entities;

WHEREAS, the Commonwealth has historically established networks for the use of state government, institutions of higher learning, K-12 education and local governments;

WHEREAS, the Commonwealth, through its government agencies, educational entities, local government and other stakeholders support the development of an improved information highway network ("Project") to serve the public sector, private interests and Kentucky's citizens;

WHEREAS, the Project will consist of a statewide dark fiber middle-mile network constructed to provide communication services based on an optical fiber backbone which will improve the quality, reliability, and access to network services across the Commonwealth of Kentucky;

WHEREAS, one of these stakeholders, CRD, is a non-profit corporation under Kentucky Revised Statute ("KRS") Chapter 273 and 26 U.S.C. § 501(c)(3). CRD's

mission is to promote innovative and sustainable economic development solutions for Southern and Eastern Kentucky;

WHEREAS, the Commonwealth and CRD wish to work as partners on the development of the Project for the benefit of all Kentucky's citizens and businesses;

WHEREAS, this Project will promote economic development throughout the Commonwealth of Kentucky;

WHEREAS, the Project will be comprised of several Rings, consisting of segments connected to nodes which may be constructed as a part of the Project. Ring 1A, Ring 1B and Ring 2 in Eastern Kentucky (collectively, the "Priority Segments"), will be given priority for initial construction. The Commonwealth shall have sole discretion for the schedule of any other Rings;

WHEREAS, the Parties seek to utilize Appalachian Regional Commission (as defined below) grants to fund certain segments of the Project, in each case subject to the network ownership requirements and other terms and conditions of the grants;

WHEREAS, the Parties wish to memorialize in this Memorandum of Agreement their understandings regarding the Commonwealth's and CRD's obligations and agreements to fund, construct, issue solicitations, maintain, operate, and other related duties and obligations into this Memorandum of Agreement;

NOW, THEREFORE, in consideration of the mutual covenants expressed herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by the Parties, the Commonwealth and CRD hereby covenant and agree as follows:

SECTION 1 -- GOVERNANCE

The Commonwealth by August 31, 2015 (the "Establishment Date") will establish a separate governance organization, consisting of the Parties and stakeholders of the Project, to oversee the design, engineering, construction, operation, administration, maintenance and refresh of the Project. Until such time as the Governance Organization is formed, Finance shall act as the lead agency for the Commonwealth and shall continue to consult with and seek input from CRD on issues affecting the Project. "Governance Organization" as used in this Memorandum of Agreement refers to Finance (in consultation with CRD) before the Establishment Date and to the separate governance organization on and after the Establishment Date.

SECTION 2 -- PROJECT PARAMETERS

1. The Project will promote collaboration among state government, public institutions of primary, secondary and higher education, local government, public safety, private for-profit and non-profit entities and individual Kentucky citizens. The Project will enable a variety of solutions for the problems currently plaguing underserved areas of the Commonwealth.

2. The negotiated Master Agreement (as defined in Section 5.1 of this Agreement) shall determine the technical specifications for the Project, as set forth herein.

3. The network constructed through the Project will be open and available to any person or business entity, including but not limited to corporations, partnerships, limited liability companies and non-profit corporations, which requests a connection and

becomes a subscriber of the Project, upon such terms and rates as determined by the Commonwealth.

4. As stated in the recitations above, the network will consist of several Rings, the geographic area of each to be determined. The Priority Segments shall be given priority for initial construction. The Commonwealth shall have sole discretion for the schedule of any other Rings.

SECTION 3 -- OBLIGATIONS OF THE COMMONWEALTH

1. As described herein, the Master Agreement shall determine the technical specifications of the Project.

2. The Master Agreement outlines the construction schedule for all Rings of the Project.

3. Pursuant to KRS Chapters 45A and 56, the Commonwealth through Finance shall issue solicitations for the construction, operation, maintenance, administration or other duty or obligation related to the Project.

4. The Commonwealth will provide up to \$30,000,000.00 in funding appropriated in House Bill 235 by the 2014 Regular Session of the General Assembly to the Next Generation Kentucky Information Highway project. From this funding, \$10,000,000.00 will be designated for the CRD Segments of the Project. The Project schedule will ensure that these areas will be a priority for early construction and completion as reflected in Table A (the "CRD Segments"). The Commonwealth shall be the subrecipient of the Appalachian Regional Commission grant awards for construction of the Project and is obligated to meet all of the federal and CRD requirements associated

with being the subrecipient of the grant awards, and will be subject to the applicable terms and conditions of the ARC grant agreement.

ARC- Disbursed Counties-Fiber Optic Materials & Installation Cost						
From: To	Segment ID	Counties		OSP Labor	OSP Mat'l	Total
Somerset to London	1-229	Pulaski	Laurel	\$2,710,000	\$710,000	\$3,420,000
London to Manchester	229-617	Laurel	Clay	\$1,500,000	\$420,000	\$1,920,000
Manchester to Hazard	617-199	Clay	Perry	\$3,320,000	\$950,000	\$4,270,000
Hazard to Prestonsburg	199-183	Perry	Floyd	\$4,810,000	\$1,040,000	\$5,850,000
Prestonsburg to Pineville	183-180	Floyd	Pike	\$2,100,000	\$500,000	\$2,600,000
Pineville to Harlan	180-240	Pike	Harlan	\$5,000,000	\$1,520,000	\$6,520,000
Harlan to Pineville	240-242	Harlan	Bell	\$2,720,000	\$590,000	\$3,310,000
Pineville to Corbin	242-1711	Pineville	Whitley	\$2,740,000	\$670,000	\$3,410,000
Corbin to Somerset	1711-1	Whitley	Pulaski	\$5,280,000	\$1,150,000	\$6,430,000
						\$37,796,000

Table A

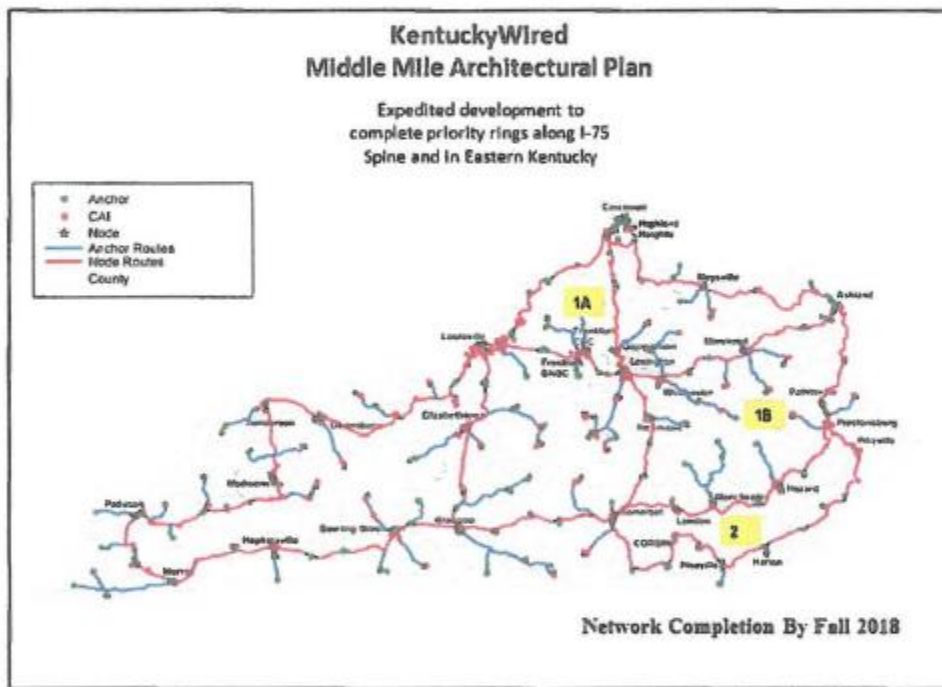


Exhibit A

5. Pursuant to KRS Chapters 45A and 56, the Commonwealth through Finance may enter into contracts or agreements for the purchase, lease, use or license of

land, or acquire land by the power of condemnation or eminent domain, as necessary for the benefit of the Project.

6. Pursuant to KRS Chapters 45A and 56, the Commonwealth through Finance may enter into contracts or agreements with any person or business entity for the purchase, lease, use or other acquisition of tangible personal property and intangible rights or property as necessary for the benefit or operation of the Project.

7. The Commonwealth shall cooperate with CRD to provide any necessary information to assist in fulfilling any financial or Project progress reporting requirements pursuant to the terms and conditions of the ARC Grant (as defined below).

SECTION 4 -- OBLIGATIONS OF CRD

1. CRD shall obtain and provide \$15,000,000 in federal Appalachian Regional Commission ("ARC") grant funds to be used for the Project (the "Initial ARC Grant"), and ARC may make an additional grant up to \$8,500,000 to support the Project (the "Additional ARC Grant" and, together with the Initial ARC Grant, the "ARC Grant"). The Appalachian Regional Commission is a federal-state partnership that works for sustainable community and economic development in Appalachia.

2. The ARC Grant shall be utilized for ARC Distressed counties located in the Commonwealth of Kentucky, and will be distributed on a reimbursement basis. Funds will be disbursed to Finance when work is completed on the designated Priority Segments and accepted by the Commonwealth. Requests for reimbursement may be made monthly, quarterly, or upon final completion of the designated Priority Segments, but not more frequently than monthly. All requests for reimbursement must be approved and signed by designated Commonwealth personnel.

3. CRD shall not independently enter into negotiations or contracts with any person or business entity regarding the construction, operation, or maintenance of the Project. If applicable, CRD shall utilize the contracts procured by the Commonwealth as described in Section Three.

4. CRD, as required by terms of the ARC Grant, will own the CRD Segments and all equipment purchased with ARC funds or matching funds associated with the CRD Segments. The CRD will lease the CRD segments and all equipment associated with the CRD to the Commonwealth for a term of thirty (30) years ("the Lease Term"). The Commonwealth will operate, administer and maintain the CRD Segments and any equipment associated therewith, with full access, use and control, during the Lease Term. The Commonwealth will provide, and will require its contractors and other parties associated with the project to provide, such deeds, bills of sale and other documents as CRD may reasonably request to affect the purpose of this section.

5. At the end of the 30-year Lease Term, CRD agrees to transfer all of its right, title and interest in the CRD Segments and all equipment associated therewith, to the Commonwealth for no monetary consideration.

6. CRD shall maintain its status as a non-profit entity pursuant to KRS Chapter 273 and 26 U.S.C. § 501(c)(3).

7. CRD shall comply fully with all statutory and regulatory requirements of the Kentucky Secretary of State, including but not limited to the filing of all required documents.

8. CRD shall provide any information requested or required under the terms and conditions of the ARC grant, including any financial or Project progress reporting.

SECTION 5 – MUTUALITY OF OBLIGATIONS AND UNDERSTANDINGS

At a later time and by supplemental agreement, the Governance Organization shall determine the geographical areas in each Ring as defined in Exhibit A. As of the date of the execution of this Memorandum of Agreement, the General Assembly has appropriated \$30 million in funds for the Project and ARC has committed to give CRD a federal grant for \$15.0 million to be used for the Project. Based upon the importance of this Project to the agencies, businesses and citizens of the Commonwealth, both Parties agree to continue to identify and, as appropriate, continue to pursue discretionary federal funds and further appropriations from the Kentucky General Assembly.

1. Finance issued solicitations for a third party concessionaire (RFP 758 1500000003 issued 07/14/14) and equity partners (RFP 758 1500000027 issued 07/21/14) for the Project. Pursuant to KRS Chapter 45A, Finance awarded Master Agreement (the “Master Agreement”) for a third party concessionaire to Macquarie Capital (MA 758 1500000563, effective 12/22/14) to oversee the financing, design, engineering, construction, operation, administration, maintenance and refresh of the Project.

2. The Parties acknowledge that any contractual agreements reached with third party vendors will require the CRD Segments of the Project to be completed as a priority.

3. The Master Agreement shall set forth the responsibilities for achieving and maintaining compliance with any necessary environmental or other state or federal permitting requirements in the development, design, financing, construction, operation,

administration and maintenance of the Project. Costs for permitting shall be deemed an expense of the Project.

4. The Parties recognize and agree that all contractors associated with the Project shall comply with the state and/or federal prevailing and/or statutory common wage laws applicable to the Project.

5. The Parties agree that the obligations imposed upon them are for the benefit of the Parties and that the timely fulfillment of each and every obligation in accordance with this Memorandum of Agreement is necessary. The failure of any Party to fulfill its obligations under this Memorandum of Agreement or the failure of any event to occur by the date established by this Memorandum of Agreement shall constitute a breach of this Memorandum of Agreement unless the fulfillment of such obligation is waived or modified by written agreement of the parties.

6. The Commonwealth and CRD shall consult prior to issuing a press release or public statement regarding the Project.

7. A representative of CRD shall be a member of the evaluation team for any solicitation identified in this Memorandum of Agreement or later issued pursuant to this Memorandum of Agreement or for the construction, operation, administration and maintenance of the Project.

SECTION 6 -- TERM OF MEMORANDUM

This Memorandum of Agreement shall be effective upon execution of the Parties hereto (hereinafter "Effective Date"). The term of this Memorandum of Agreement shall be from the Effective Date to the thirtieth anniversary of the final completion of the CRD Segments.

SECTION 7 -- MISCELLANEOUS PROVISIONS

1. The headings set forth in this Memorandum of Agreement are for convenience or reference only, and the words contained therein shall in no way be held to explain, modify, amplify or aid in the interpretation, construction or meaning of the provisions of this Memorandum of Agreement.

2. The terms and conditions of this Memorandum of Agreement and any attachments thereto shall be binding upon and shall inure to the benefit of the successors and assigns of the Parties. This provision shall not be construed to permit assignment by any party of any of its rights and duties under this Memorandum of Agreement, which assignment shall be prohibited except with the prior written consent of all Parties hereto.

3. This Memorandum of Agreement and any attachments thereto set forth the entire understanding of the Parties with respect to the subject matter hereof, and may be modified only by a written instrument duly executed by each of the Parties hereto. This Memorandum of Agreement and the attachments thereto are a full and complete expression of the rights and obligations of the Parties as to the subject matter hereof and it shall supersede any and all other agreements, written or oral, heretofore made by the Parties.

4. The Parties agree that any suit, action or proceeding with respect to this Memorandum of Agreement may only be brought in or entered by, as the case may be, the courts of the Commonwealth of Kentucky situated in Frankfort, Franklin County, Kentucky.

5. Subject to applicable Kentucky law, such as the Open Records Act, the Parties agree to maintain the confidentiality of documents and information identified by

either Party as confidential or proprietary. The Commonwealth and CRD agree to notify the other if it is required to produce documents identified as confidential or proprietary.

6. This Memorandum of Agreement shall not be construed to be a waiver of the Commonwealth's sovereign immunity as provided for by the Kentucky Constitution.

7. The Parties do not intend that this Memorandum of Agreement shall confer on any third party any right, remedy or benefit, nor that any third party shall have any right to enforce any provision of this Memorandum of Agreement.

8. The Parties have participated jointly in the negotiation and drafting of this Memorandum of Agreement and any attachments thereto. If any ambiguity or question of intent or interpretation arises, no presumption or burden of proof shall arise favoring or disfavoring any Party by virtue of the authorship of any of the provisions of this Memorandum of Agreement.

9. The Parties hereby acknowledge that the terms of this Memorandum of Agreement have been read completely and are fully understood by them with the aid and assistance of counsel of their selection, if counsel is chosen, and that they voluntarily accept same.

10. This Memorandum of Agreement may not be amended or modified in any respect except by a written instrument duly executed by appropriate representatives of each of the Parties to this Agreement.

11. Each Party shall be obligated to act in good faith in the performance and enforcement of the obligations herein, and shall deal fairly, honestly and reasonably with the other, having due regard for all relevant facts and circumstances.

12. All notices, requests, demands, waivers, and other communications given as provided in this Memorandum of Agreement shall be in writing, and shall be addressed as follows:

If to the Commonwealth:

Office of the Secretary
Finance and Administration Cabinet
Capitol Annex, Room 383
Frankfort, Kentucky 40601

If to CRD:

Center for Rural Development
Suite 300
2292 S. Hwy. 27
Somerset, Kentucky 42501

IN WITNESS WHEREOF, the Parties hereto have executed this Memorandum of Agreement on the date first above written.

COMMONWEALTH OF KENTUCKY, by and through
FINANCE AND ADMINISTRATION CABINET:



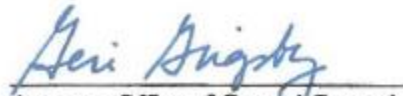
Steve Rucker, Deputy Secretary
Finance and Administration Cabinet

CENTER FOR RURAL DEVELOPMENT



Authorized Signatory,
Center for Rural Development

Approved as to Form and Legality:



Attorney, Office of General Counsel
Finance and Administration Cabinet

ADDENDUM to MEMORANDUM OF AGREEMENT

dated June 25, 2015,

by and between the Commonwealth of Kentucky,
by and through its Finance and Administration Cabinet
and The Center for Rural Development, Inc.

The Commonwealth (COK) and The Center for Rural Development (CRD) have agreed to a Revenue Sharing arrangement for distribution of any net revenues from the statewide fiber network. The Network will consist of segments in three categories:

1. Segments where the Commonwealth and CRD will split net revenues on a 50/50% basis (titled COK/CRD)
2. Segments where CRD will receive 100% of net revenues (titled CRD)
3. Segments where the Commonwealth will receive 100% of net revenues (titled COK)

All allocable costs of the Network (operating, maintenance and debt service) will be paid prior to any net revenues being distributed to the Commonwealth. The Commonwealth is responsible for dividing net revenues.

The segments defined by the concessionaire Macquarie Capital as the I-75 spine will be COK/CRD segments.

Eastern Kentucky segments which comprise Ring 1B, Ring 2, and Ring 5, as indicated generally on the map herein and exclusive of the I-75 segments stated above, will be CRD segments.

Ring 1A, Ring 3, and Ring 4, as indicated generally on the map herein and exclusive of the I-75 segments stated above, will be COK segments.

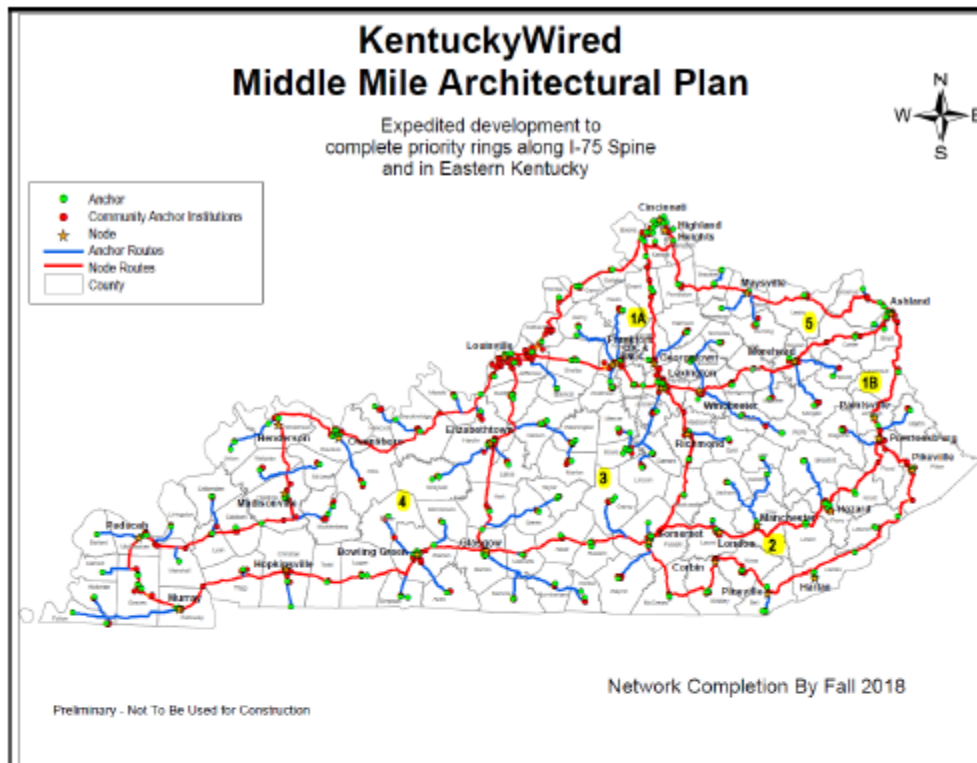


Exhibit A

CRD - COK MOA Segments	
From:To	Segment ID
Ring 1B:	
Somerset to London	1-228
London to Manchester	228-617
Manchester to Hazard	617-199
Hazard to Prestonsburg	199-183
Prestonsburg to Paintsville	183-181
Paintsville to Ashland	181-177
Ashland to Morehead	177-250
Morehead to Winchester	250-189
Winchester to Lexington	189-253
Ring 2:	
Somerset to Corbin	1-1711
Corbin to Pineville	1711-242
Pineville to Harlan	242-240
Harlan to Pikeville	240-180
Pikeville to Prestonsburg	180-183

Ring 5:	
Cincinnati to Highland Heights	1707-252
Highland Heights to Maysville	252-221
Maysville to Ashland	221-177
I-75 Spine:	
Cincinnati to Georgetown	1707-1691
Georgetown to Lexington	1691-253
Lexington to Richmond	253-247
Richmond to Somerset	247-1

Appendix D: KDE Letter to former FAC Secretary

*APA note: Letter is electronic and has been reformatted for this appendix.

From: Holliday, Terry - Commissioner, KY Dept. of Education
Sent: Wednesday, June 10, 2015 4:25 PM
To: Flanery, Lori (Finance Secretary's Office)
Cc: Lassiter, Mary (Gov Office); Desai, Hiren - Associate Commissioner, Office of Administration and Support
Subject: Letter regarding Potential New State Network

Attached is a letter in follow-up to our meeting on February 24, 2015, concerning the potential of a new state network. Please do not hesitate to contact me or Hiren Desai, should you have any questions. You can reach Hiren Desai at

Sincerely,
Terry Holliday, Ph.D.
June 10, 2015



Terry Holliday, Ph.D. Commissioner of Education

EDUCATION AND WORK FORCE DEVELOPMENT CABINET DEPARTMENT OF EDUCATION
Capital Plaza Tower • 500 Mero Street • Frankfort, Kentucky 40601 Phone: (502) 564-4770 • www.education.ky.gov
Ms. Lori Flanery, Secretary
Finance and Administration Cabinet Room 383, Capitol Annex Frankfort, KY 40601

Re: Potential New State Network Dear Secretary Flanery:

This is a follow-up to our meeting on February 24, 2015. As the Kentucky Department of Education (KDE) mentioned in that discussion, we certainly appreciate and recognize the potential of a new state network to provide Internet services to underserved areas of the state that benefit our students, their parents, and their teachers outside of school. However, we continue to have serious concerns with transitioning Kentucky schools to a partial state network in 2016 and to date, we have not officially heard anything of any substance which mitigates our concerns.

In 1995, Kentucky became the first state in the nation to provide high speed Internet services to every school district. Since that time, KDE has provided equity of Internet access speed, price, and service to every one of the 173 school districts. For example, this current school year, through the existing Kentucky Information Highway (KIH3) contract, all

173 districts had their Internet bandwidth raised to 75 kb per student, which is nearly 10 times faster, more robust and reliable than what they had the previous school year. By the beginning of next school year (i.e., August 2015) every Kentucky school district will be raised to 100 kb per student through the KIH3 contract.

Accordingly, with the KIH3, through AT&T as the prime vendor, KDE and all 173 Kentucky school districts already have a federal e-rate eligible state contract for Internet services. The KIH3 state contract was established in February 2013 and has a maximum term of (10) years. This KIH3 contract established a next generation platform which took almost two (2) years to transition to from the KIH2 network and this KIH3 contract is currently meeting educational needs for fast Internet speeds, reliable established services and price adequately. In addition, the contract mechanism for the Next Generation Network is not e-rate eligible, which, in light of the significant amount of annual federal funds that E-rate brings into Kentucky K-12 for Internet services (i.e., \$1M a year), eliminates this as an immediate option to provide Internet services to our school districts.

District satisfaction with any new state network is critical for long-term success. A January 2015 survey of all 173 Kentucky school district education technology leaders resulted in them consistently listing their district's transition to the new KIH3 Internet network as the top Kentucky K-12 education technology accomplishment of the year. This high level of satisfaction is important, because school districts have to deal directly with the fallout from any bad technology experience with students and parents. Superintendents can ill-afford any controversy over allowing students to have unreliable access to Internet resources/content, intermittent issues with access to on-line testing sites, the inability for teachers to input attendance data in a timely fashion to secure our cloud-based student information system in Frankfort (soon to be Minnesota), inability to send/receive e-mail or a two-way video conferencing session through our cloud based communication system in San Antonio or the inability to generate payroll from our cloud-based financial management system in Maine. Additionally, we now have many Kentucky school districts with cloud-based management of security systems and HVAC systems, which if not accessible could prevent the buildings from even being opened. As these examples show, Kentucky also has been a leader in connecting to cloud-based technology, which is both effective and most cost effective than previous on-site servers.

Please understand that we certainly recognize that once the Next Generation middle mile and backbone network is fully in place and stable, it has great possible potential for all of us in Kentucky. However, there will be lots of major growing pains like those identified in the CTC Technology & Energy review of the bid proposals, and because of the inherent risks in a project of this size, we must have these concerns adequately resolved, before committing to and deploying a project of this magnitude to our K-12 customers. This is especially important in light of the fact that there is currently such a high level of satisfaction among school districts with the current state Internet network.

As we noted in February, we would anticipate that, once the new state network has been deployed statewide, and has been operating reliably for all 120 counties for at least a year, we would be open to issuing a competitive RFP to replace the KIH3 contract for K-12 entities (as in prior competitive procurements). In addition, we have significant concerns about the Finance and Administration Cabinet issuing this bid for K-12 customers, because of the perception of a conflict of interest, and believe that KDE should be the entity issuing any solicitation for K-12, to which the Finance and Administration Cabinet, or any affiliated entities, respond.

As part of this bid process, we would anticipate taking into account issues such as major concerns with the current services, more bandwidth capacity at a lower cost, opportunity to improve on current Internet network services, improved performance and reliability, as well as an ability to sustain and possibly further maximize the benefits of the federal funding E-rate program. At that time, we fully expect and encourage all qualified organizations, including the current KIH3 vendor, AT&T, the provider of any new state network, and any other proven vendors to compete and respond to the RFP for E-rate eligible network services to K-12 schools in Kentucky.

I greatly appreciate the tremendous partnership between the state Kentucky Board of Education and the Governor in moving K-12 education forward aggressively over the last few years and I applaud the incredible vision behind this particular project. Please be assured that KDE is strongly committed to being a partner at the appropriate time, and through the appropriate legal process.

Sincerely,



Terry Holliday, Ph.D.

c: Secretary Lassiter

Appendix E: Availability Payment Projected Deficits

Year	Owed by Commonwealth		Availability Payment Deficit Scenarios based on K-12 Site Migration			
	Availability Payment to Project	Availability Payment for Refresh ¹	K-12 ²	Other Government Sites ²	(Deficit) without K-12	(Deficit) with K-12
Prior to 2018	11,794,246		\$	\$	\$	\$
2018	22,753,775		13,514,051	15,900,179	(6,853,596)	6,660,455
2019	30,235,000		13,851,902	16,297,683	(13,937,317)	(85,415)
2020	30,991,000		14,198,200	16,705,125	(14,285,875)	(87,675)
2021	31,766,000		14,553,154	17,122,753	(14,643,247)	(90,093)
2022	32,560,000	8,740,300	14,916,983	17,550,822	(23,749,478)	(8,832,495)
2023	33,374,000	8,740,300	15,289,908	17,989,593	(24,124,707)	(8,834,799)
2024	34,208,000	8,740,300	15,672,156	18,439,332	(24,508,968)	(8,836,812)
2025	35,063,000	8,740,300	16,063,960	18,900,316	(24,902,984)	(8,839,024)
2026	35,940,000	8,740,300	16,465,559	19,372,824	(25,307,476)	(8,841,917)
2027	36,839,000		16,877,197	19,857,144	(16,981,856)	(104,659)
2028	37,759,000		17,299,127	20,353,573	(17,405,427)	(106,300)
2029	38,703,000		17,731,606	20,862,412	(17,840,588)	(108,982)
2030	39,671,000		18,174,896	21,383,972	(18,287,028)	(112,132)
2031	40,663,000		18,629,268	21,918,572	(18,744,428)	(115,160)
2032	41,679,000	8,740,300	19,095,000	22,466,536	(27,952,764)	(8,857,764)
2033	42,721,000	8,740,300	19,572,375	23,028,199	(28,433,101)	(8,860,726)
2034	43,789,000	8,740,300	20,061,684	23,603,904	(28,925,396)	(8,863,712)
2035	44,884,000	8,740,300	20,563,226	24,194,002	(29,430,298)	(8,867,072)
2036	46,006,000	8,740,300	21,077,307	24,798,852	(29,947,448)	(8,870,141)
2037	47,156,000		21,604,240	25,418,823	(21,737,177)	(132,937)
2038	48,335,000		22,144,346	26,054,294	(22,280,706)	(136,360)
2039	49,544,000		22,697,954	26,705,651	(22,838,349)	(140,395)
2040	50,782,000		23,265,403	27,373,293	(23,408,707)	(143,304)
2041	52,052,000		23,847,038	28,057,625	(23,994,375)	(147,337)
2042	53,353,000		24,443,214	28,759,066	(24,593,934)	(150,720)
2043	54,687,000		25,054,295	29,478,042	(25,208,958)	(154,663)
2044	56,054,000		25,680,652	30,214,993	(25,839,007)	(158,355)
2045	48,208,000		26,322,668	30,970,368	(17,237,632)	9,085,036
Total	\$ 1,171,570,021	\$ 87,403,000	\$ 538,667,369	\$ 633,777,948	\$ (613,400,827)	\$ (74,733,458)

Source: Auditor of Public Accounts projections based on KEDFA Series 2015A and 2015B Official Bond Statement Schedule, data from KCNA, and eMARS.

¹ The Commonwealth will cover the cost of a minimum of two planned system refreshes. For simplicity, those refreshes have been amortized straight-line over two five-year periods.

² Increasing prices will be required in order for site migration fees to keep pace with availability payments. If prices are flat or reduced, the deficits will be greater than shown.

Appendix F: Classification of Supervening Event Claims

<u>Classification of Events</u>	<u>Claims Submitted</u>	<u>Amount Requested</u>	<u>Paid Claims</u>
Easements	1	\$ 24,608,372	\$
Pole Attachment	42	9,789,126	7,758,582
Miscellaneous	6	477,279	
Delays due to Infrastructure Projects	16	6,831	4,722
Permitting	146		
Make Ready Construction Delay	8		
Weather	4		
	<u>223</u>	<u>\$ 34,881,608</u>	<u>\$ 7,763,304</u>
Ring 1B Damages (Foregone Interest)		\$ 455,754	\$ 455,754
KWOC Supervening Event Claims		555,556	513,418
		<u>\$ 35,892,918</u>	<u>\$ 8,732,476</u>

Source: Information from KWOC related to claimed and paid amounts; APA judgment based on description of claims by DB. Claims without amounts requested or paid are those for which no amount has yet been claimed.

Appendix G: Glossary of Terms Used in Report

Assignment of Master Agreement

An assignment of the Master Agreement, which was originally between the Commonwealth and Macquarie Infrastructure Developments LLC. The assignment occurred on September 3, 2015, and was among four parties: the Commonwealth, Macquarie Infrastructure Developments LLC, Kentucky Wired Infrastructure Company, Inc. (KWIC), and OpenFiber Kentucky Company, LLC (OpenFiber).

Availability Payments

The Commonwealth's contractual payments to private vendors to design, construct, operate, and maintain the network. Availability payments are also used to pay principal and interest on project debt. Availability payments total a projected \$1.17 billion over thirty years.

The Center for Rural Development, Inc. (CRD)

A non-profit corporation that has agreed to provide federal funding to the KentuckyWired project from the Appalachian Regional Commission if certain construction deadlines are met related to segments in eastern Kentucky. CRD will also own certain network segments for thirty years, and will share significant revenues from additional network segments under a Memorandum of Agreement and Addendum with the Commonwealth dated June 25, 2015.

DBFOM

The acronym for Design, Build, Finance, Operate, and Maintain. These are the five areas of responsibility normally discussed in the context of public-private partnerships.

Design-Build Agreement (DBA)

An agreement between Kentucky Wired Operations Company, LLC (KWOC) and NG-KIH Design Build LLC (DB) dated September 3, 2015 to design and construct the project infrastructure. The contract price is approximately \$274.8 million, subject to adjustment due to other contract terms, such as supervening events.

First Solutions LLC (First Solutions)

First Solutions consults regarding the selection and execution of public-private partnership models. They are Macquarie's P3 partner in North America. At formation, they had a 10% ownership interest in Kentucky Wired Operations Holding Company, LLC (KWOHC).

Indefeasible Right of Use (IRU)

An exclusive right to use specified telecommunications infrastructure. It does not convey title, ownership, or other rights to the property. KCNA has entered into IRU agreements with Cincinnati Bell Telephone (CBT), East Kentucky Network (EKN), Bluegrass Network (BGN), Owensboro Municipal Utility (OMU), MuniNet Fiber Agency (MuniNet), and Brandenburg Telephone (BBT).

Kentucky Communications Network Authority (KCNA)

An agency of the General Government Cabinet of the Commonwealth, administratively attached to the Office of the Governor. KCNA was established by Executive Order on August 17, 2015.

KCNA is codified at KRS 154.15-020, effective June 29, 2017, with duties including overseeing and managing KentuckyWired, the Commonwealth's planned open-access broadband network.

Kentucky Wired Infrastructure Company, Inc. (KWIC)

A nonprofit corporation formed for the purpose of entering into the Project Agreement and borrowing funds needed for the KentuckyWired project. KWIC consists of three voting directors appointed by and serving at the pleasure of the Governor (currently three executive branch officials). In addition to the three directors, an ex officio nonvoting director can be appointed by KWOC. Debt related to the project was borrowed by KWIC. KWIC is a blended component unit of the Commonwealth, which means KWIC's debt is reported as debt of the Commonwealth.

Kentucky Wired Operations Company, LLC (KWOC)

A limited liability company with one member: the Kentucky Wired Operations Holding Company. KWOC is responsible for the design, construction, maintenance, and operation of the network.

Kentucky Wired Operations Holding Company, LLC (KWOHC)

This company consisted of three members at formation: Macquarie NG-KIH Holdings (75% interest), LLC, Leducor US Ventures Inc. (15% interest), and First Solutions LLC (10% interest). It is the sole member of Kentucky Wired Operations Company, LLC (KWOC).

LTS Kentucky Managed Technical Services LLC (LTS)

This company is the wholly-owned subsidiary of LTS Solutions (USA) LLC, which holds a 50% interest in DB. LTS is the party to the Services Contract to operate and maintain the KentuckyWired network.

Macquarie Infrastructure Developments LLC

The private firm that was a party to the Master Agreement with the Commonwealth in December 2014 to plan and develop the KentuckyWired project structure.

Macquarie NG-KIH Holdings, LLC

A limited liability company with one member: Macquarie Infrastructure Developments LLC. Macquarie NG-KIH Holdings, LLC was a member at the formation of Kentucky Wired Operations Holding Company, LLC (KWOHC) with a 75% percent interest in KWOHC.

Master Agreement (MA)

An agreement between the Commonwealth and Macquarie Infrastructure Developments LLC dated December 22, 2014. The agreement was modified eight times between December 2014 and July 11, 2016. The objective of the Master Agreement with Macquarie was to explore the feasibility of the financing, design, construction, operation, maintenance, and system refresh approach to the network. The feasibility phase was described as the "initial project," while the implementation phase was referred to simply as the "project." This master agreement also called for Macquarie to exclusively negotiate agreements governing the project with the parties ultimately involved.

Memorandum of Understanding (Settlement MOU)

A memorandum among five parties: the Commonwealth, Kentucky Wired Infrastructure Company, Inc. (KWIC), Kentucky Wired Operations Company, LLC (KWOC), NG-KIH Design Build LLC (DB), and LTS Kentucky Managed Technical Services LLC (LTS). The MOU contains settlement terms that are subject to further negotiations still in progress as of September 2018. The MOU contemplates payments to vendors of \$88 million related to certain supervening event claims, and excludes past claims related to easements and any future supervening event claims.

Next Generation Kentucky Information Highway (NG-KIH)

The original name for the KentuckyWired infrastructure project.

NG-KIH Design Build LLC (DB)

A consortium comprised of Overland Contracting, Inc. (50% interest) and LTS Solutions (USA) LLC (50% interest). DB is a party to the Design-Build Agreement (DBA) to design and construct the KentuckyWired infrastructure.

OpenFiber Kentucky Company, LLC (OpenFiber)

A company that will develop and operate the fiber wholesale business after the network is live. OpenFiber is wholly owned by Macquarie.

Project Agreement (PA)

A contract between the Commonwealth and the Kentucky Wired Infrastructure Company, Inc. (KWIC) dated September 3, 2015. The responsibilities of KWIC, except for project financing, were assigned to Kentucky Wired Operations Company, LLC (KWOC) via the Project Implementation Agreement (PIA).

Project Agreements

As used in the report, this term when plural and lower-case refers collectively to the Project Agreement, Project Implementation Agreement, Design-Build Agreement, and Services Contract, all of which are dated September 3, 2015.

Project Implementation Agreement (PIA)

A contract between Kentucky Wired Infrastructure Company, Inc. (KWIC) and Kentucky Wired Operations Company, LLC (KWOC) dated September 3, 2015. This agreement made KWOC responsible for the construction of the project and operation of the network, but did not include responsibility for project financing.

Services Contract (SC)

An agreement between Kentucky Wired Operations Company, LLC (KWOC) and LTS Kentucky Managed Technical Services LLC (LTS) dated September 3, 2015 to operate and maintain the network.

Supervening Events

Under the project agreements, contractors may claim schedule relief (delays) or compensation for certain defined supervening events. These claims are submitted and the Project Agreement makes the Commonwealth the party responsible for paying for any direct losses related to these claims.

Wholesaler Agreement

An agreement between the Commonwealth and OpenFiber Kentucky Company, LLC (OpenFiber) dated October 13, 2017, granting OpenFiber the “exclusive right to use Additional Capacity” of the KentuckyWired network. The Commonwealth will share a percentage of fees generated under the agreement, subject to further sharing under the Memorandum of Agreement with The Center for Rural Development.

KCNA'S RESPONSE TO REPORT



Matthew G. Bevin
Governor

Commonwealth of Kentucky
Governor's Office
Kentucky Communications Network Authority
209 St. Clair Street, 4th Floor
Frankfort, KY 40601-3462
(502) 782-9549
Fax (502) 564-0883

Phillip K. Brown
Executive Director

Via Hand Delivery and E-Mail

September 26, 2018

Mike Harmon
Auditor of Public Accounts
209 St. Clair Street
Frankfort, KY 40601

Re: Kentucky Communications Network Authority's initial response to the Auditor of Public Account's Special Examination

Dear Auditor Harmon:

On December 21, 2017, your office exercised its statutory rights to perform a Special Examination of the KentuckyWired project. In early January 2018, staff from your office contacted the Kentucky Communications Network Authority (KCNA) to begin this special examination. This letter is KCNA's initial response to the audit. There are statements within the audit which deserve a review and action, but given the short time period for this response, KCNA will focus on a few key areas and reserve comprehensive comments for a later time. KCNA appreciates your staff's hard work on an audit of this scope and magnitude.

- Broadly, KCNA would stress that the Commonwealth relied upon the expertise of the project's private partners, and that such expertise is the cornerstone of all P3 projects. Macquarie and the members of its consortium presented themselves as experts on the financing, design (including pole counts), construction, operation and maintenance of a statewide broadband fiber optic network, as well as the monetizing of excess capacity to spur broadband growth, economic development and the reduction of costs to the taxpayers. KCNA relied upon the expertise of its vendors and the revenue models and projections prepared by those vendors.
- KCNA has also actively sought greater detail into claims for direct loss reimbursement as a result of the project's Supervening Events, and has disputed any claim which the Commonwealth had a good faith reason to doubt was justified.
- A financial model for the project tracks all project costs except for KCNA's organizational costs. The Finance and Administration Cabinet tracks organizational costs. KCNA has prepared a

risk model that considers all risks from the Commonwealth's prospective. KCNA agrees that some costs, such as increased pole attachment costs, are not included in the current project costs. However, the Commonwealth has no more control over this than it does the cost of leasing real property. When a lease ends, the landlord may increase the rent. The same is true with pole attachment owners.

- KCNA has analyzed termination costs. It has spoken at some length publicly on this issue. More importantly, KCNA has considered termination options numerous times with these reviews considering total costs and other impacts of terminating the project, such as impacts on the Commonwealth's bond rating.
- KCNA agrees that the Dispute Resolution process has been under-utilized, but this is a result of the vendors' refusal to formally engage in this process.
- KCNA's negotiations for a global settlement of the project's Supervening Events have extended over a period of many months, during which the Commonwealth was first asked to agree to a settlement price of \$159 million and a network completion date of 2022. The final \$88 million price included concessions on reduced risk for the Commonwealth and a network completion date in 2020.
- KCNA is concerned by the report's revelation that the NG-KIH Design-Build LLC declined to discuss the project with your office. The Commonwealth has a contractual right to audit the project via the Finance and Administration Cabinet, and exercising that contractual right is how the Auditor of Public Accounts came to perform this Special Examination. KCNA strongly believes that requests for details from its vendors on the project's construction must be satisfied.

In conclusion, prior to receiving this audit, KCNA had identified and begun the process of addressing many of these issues. It has increased staff and internal expertise in construction, improved monitoring of construction and general, direct oversight of this project. KCNA appreciates your staff's input and will continue to improve its internal procedures to address these concerns, and will report on any and all corrective actions in a later response.

Sincerely,



Phillip K. Brown
Executive Director
Kentucky Communications Network Authority

AUDITOR'S REPLY

The contractor, DB, declined an interview with auditors for this examination. However, DB and all private vendors responded to auditor requests for documents and information throughout the examination.