

PENNSYLVANIA
MOBILE
TELECOMMUNICATIONS
BROADBAND INVESTMENT
TAX CREDIT

An Evaluation of Program Performance



January 2020

COMMONWEALTH OF PENNSYLVANIA
INDEPENDENT FISCAL OFFICE

About the Independent Fiscal Office

The Independent Fiscal Office (IFO) provides revenue projections for use in the state budget process along with impartial and timely analysis of fiscal, economic and budgetary issues to assist Commonwealth residents and the General Assembly in their evaluation of policy decisions. In that capacity, the IFO does not support or oppose any policy it analyzes, and will disclose the methodologies, data sources and assumptions used in published reports and estimates.

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INDEPENDENT FISCAL OFFICE

January 16, 2020

The Honorable Members of the Performance-Based Budget Board and Chairs of the House and Senate Finance Committees:

Act 48 of 2017 requires the Independent Fiscal Office (IFO) to review various state tax credits over a five-year period. For the second year, the IFO reviewed four tax credits: the Research and Development, Keystone Innovation Zone, Mobile Telecommunications Broadband Investment and Organ and Bone Marrow Donation Tax Credits. The act requires the IFO to submit tax credit reviews to the Performance-Based Budget Board and the Chairs of the House and Senate Finance Committees and to make the reports available to the public on the IFO website.

This report contains the tax credit review for the Mobile Telecommunications Broadband Investment (MTBI) Tax Credit. The IFO reviewed studies on state mobile broadband initiatives, held discussions with various stakeholders and met with agency staff who administer the tax credit. Based on that research, the IFO submits this report to fulfill the requirements contained in Act 48.

Currently, twenty-four states (includes Pennsylvania) offer one or more incentives to encourage investment in broadband infrastructure. Many of these states limit funding to, or provide a greater incentive for, equipment that is deployed in unserved/underserved areas and meets minimum speed requirements. The impact of these broadband incentives can be measured in two parts: (1) the impact of the new or expanded service on the affected population and (2) the impact of the direct capital investment on the state economy. This analysis examines the issues that affect the net economic return of the Pennsylvania MTBI Tax Credit.

The IFO welcomes all questions and comments on the contents of this report. Questions and comments can be sent to contact@ifo.state.pa.us.

Sincerely,

MATTHEW J. KNITTEL
Director

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General Findings and Recommendations

Enacted in July 2013, the Mobile Telecommunications Broadband Investment (MTBI) Tax Credit is available to mobile telecommunications providers that invest in qualified broadband equipment placed into service in Pennsylvania.¹ The credit is equal to five percent of the purchase price of the qualified equipment placed in service for tax years beginning after December 31, 2013 and ending before January 1, 2024. The total amount of credits issued in any fiscal year cannot exceed \$5 million. The credit may be claimed against a taxpayer's corporate net income tax (CNIT) liability in an amount not to exceed 50 percent of a taxpayer's total CNIT liability in any year. Credits earned but not utilized in the same tax year as awarded may be carried forward for up to five tax years. Credits transferred to affiliated shareholders, members or partners of a pass-through entity must be used in the same tax year that the transfer is made. The credit may not be carried back, refunded or sold.

The **general findings** of this report are as follows:

- Twenty-four states (includes Pennsylvania) offer one or more incentives to encourage investment in broadband infrastructure. Many states limit funding to, or provide a greater incentive for, equipment that (1) is deployed in unserved/underserved areas and (2) meets minimum speed requirements.
- Projects in unserved/underserved areas tend to be higher cost and offer lower return on the capital investment. Therefore, the lack of requirements on the placement and quality of the new MTBI qualifying infrastructure likely results in the placement of equipment in areas that already have one or more high-speed broadband options.
- The IFO could not locate data or research to support or refute that an MTBI credit equal to only 5 percent of the equipment purchased (an estimated 3-4 percent of the total project costs) has a significant impact on new investment in Pennsylvania broadband infrastructure. This analysis assumes that 10 percent of the qualified investment is incentivized by the credit.

The **recommendations** of this report are as follows. A more complete discussion of these points can be found in the final section of this report:

- To enhance the economic impact of the tax credit, it should be converted into a competitive grant program that targets unserved and underserved areas.
- If retained as a tax credit, the program should be amended to focus on unserved or underserved areas and minimum speed requirements should be incorporated. These changes would increase the economic and non-economic impacts of the program for the communities served.
- Tax credit recipients should be subject to reporting requirements. Potential metrics could include: the geographic location of new MBTI that uses the tax credit program, the number and type (residential or business) of entities affected, the presence of alternative internet options (if any) and average service speed.

¹ Article XVIII-E of the Tax Reform Code of 1971 (P.L. 6, No. 2), as amended.

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Section 1: Introduction

Act 48 of 2017 requires the Independent Fiscal Office (IFO) to review various state tax credits over a five-year period.² For the second year, the IFO reviewed four tax credits: the Keystone Innovation Zone, Mobile Telecommunications Broadband Investment, Organ and Bone Marrow Donation and Research and Development Tax Credits. The act requires the IFO to submit tax credit reviews to the Performance-Based Budget Board and the Chairs of the House and Senate Finance Committees and to make reports available to the public on the IFO website.

The act specifies that tax credit reviews shall contain the following content:

- The purpose for which the tax credit was created.
- Whether the tax credit is accomplishing its legislative intent.
- Whether the tax credit could be more efficiently implemented through other methods.
- Any alternative methods which would make the tax credit more efficient.
- The costs to provide the tax credit, including the administrative costs to the Commonwealth and local government entities within this Commonwealth.

The act also specifies that the IFO shall develop a tax credit plan for all tax credits subject to review. The plans should include performance measures, and where applicable, the measures should reflect outcome-based measures (including efficiency measures), measures of status improvements of recipient populations, and economic outcomes or performance benchmarks against similar state programs or similar programs of other states or jurisdictions. The IFO submits this report to fulfill these requirements.

This remainder of this review contains four sections. **Section 2** discusses how the tax credit is administered and presents historical data. **Section 3** presents relevant data for states that offer a mobile broadband tax incentive program. **Section 4** contains a discussion of factors that affect the economic return of the tax credit and provides an economic impact analysis. **Section 5** concludes with the tax credit plan, as required by Act 48. A complete list of reports, studies and data sources used for this report can be found in the Appendix. If submitted, written comments provided by stakeholders and affected agencies are also included in the Appendix.

² Act 48 of 2017 is also known as the Performance-Based Budgeting and Tax Credit Efficiency Act. See the Appendix for the Tax Credit Review Schedule.

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Section 2: Tax Credit Overview

Act 52 of 2013 created the Mobile Telecommunications Broadband Investment (MTBI) Tax Credit. The program offers providers of mobile telecommunications services a tax credit equal to five percent of the purchase price of qualified broadband equipment placed into service in Pennsylvania for tax years beginning after December 31, 2013 and ending before January 1, 2024. Qualified broadband equipment is defined as “machinery and equipment located in this Commonwealth that is used by a mobile telecommunication services provider to provide Internet access service and is capable of sending, receiving, storing, transmitting, retransmitting, amplifying, switching or routing data, video or other electronic information. The term does not include machinery or equipment that is used to provide voice communication service.”³

The total amount of MTBI credits issued in any fiscal year cannot exceed the \$5 million program cap. The credit may be claimed against a taxpayer’s corporate net income tax (CNIT) liability, but may not exceed 50 percent of a taxpayer’s total CNIT liability in any year. Unused credits may be carried forward for five tax years. Credits transferred to affiliated shareholders, members or partners of a pass-through entity must be used in the same tax year that the transfer is made. The credit may not be carried back, refunded or sold.

This section begins the analysis with a general description of the goals and purpose of the tax credit. It then discusses the administration of the tax credit and presents program data from fiscal year (FY) 2015-16 to FY 2019-20.

Goals and Purpose

Act 48 of 2017 requires that all tax credit reviews published by the IFO shall discuss (1) the purpose for which the tax credit was created and (2) whether the tax credit is accomplishing its legislative intent. The MTBI authorizing legislation did not include a statement on legislative intent, but the Department of Revenue (DOR) provided input for this purpose. For this review, the IFO established the goal and purpose (i.e., legislative intent) of the MTBI Tax Credit as follows:

Goal To incentivize and increase private investment in Pennsylvania’s mobile telecommunications broadband infrastructure.

Purpose To expand the availability and enhance the quality of broadband internet access across Pennsylvania.

³ Article XVIII-E of the Tax Reform Code of 1971 (P.L. 6, No. 2), as amended.

Administration

The Pennsylvania DOR administers the tax credit and reviews applications. Prospective applicants for the MTBI credit must submit the following:

- Completed Mobile Telecommunications Broadband Investment Tax Credit Application.
- Invoices and proof of payment for all qualified broadband equipment placed into service in Pennsylvania by the mobile telecommunications service provider.

Applications are due each October 15th for qualified equipment placed into service during the applicant's tax year that ended in the prior calendar year. DOR reviews applications and notifies applicants of the approved credit amounts by December 15th. In the event that demand for the credit exceeds the \$5 million cap, credit awards to each taxpayer are prorated.

The department evaluates applications based on compliance with tax payment and filing obligations and the verification of data that support the application. DOR estimates that the MTBI credit requires 170 staff hours to administer at a cost of \$10,000 per annum.

Historical Data

The IFO compiled MTBI data for the five most recently completed award years (FY 2015-16 through FY 2019-20). During this period, \$12.2 million in MTBI credits were awarded to three firms. Although the value of MTBI awards has varied over time, the number of applicants is essentially unchanged. Participants report that compliance with program requirements is uncomplicated and relatively straightforward. Therefore, it may be inferred that the limited number of applicants is the result of the small number of firms engaged in this type of business activity, rather than high administrative and compliance costs to qualify for the program.

Table 2.1
Mobile Telecommunications Broadband Investment Tax Credit

	Fiscal Year (\$ millions)					Total
	2015-16	2016-17	2017-18	2018-19	2019-20	
Awards	\$0.25	\$0.24	\$4.18	\$4.57	\$3.01	\$12.24

Note: The amount of tax credit that can be claimed in one year cannot exceed 50% of the taxpayer's CNIT liability.
Source: PA Department of Revenue.

Section 3: State Comparison

The expansion of broadband infrastructure is a common state public policy initiative, as access to high-speed broadband internet service promotes economic development and connects communities to additional services, resources and information. The provision of high-speed internet service to remote or rural locations can be cost prohibitive when using traditional fixed-line infrastructure (e.g., cable or telephone lines) to connect customers. Alternatively, mobile broadband technology that transmits signals via radio waves can often provide the desired high-speed service to homes and businesses at a reduced cost.

A recent study by the Technology Policy Institute reviewed other state and national broadband incentive programs and found that the most efficient subsidy:⁴

- (1) is a one-time offering (prevents crowding out of private investment over the long-term);
- (2) targets specific unserved or underserved areas (e.g., by census block) for the expanded broadband coverage (ensures that the subsidy has the intended geographic impact);
- (3) determines the appropriate level of required service based on consumer demand in that area (ensures that consumers will be willing to pay for and adopt the newly available service);
- (4) ranks project proposals in order of cost effectiveness per location connected (this “reverse auction” approach ensures that funds are spent in the most efficient manner possible); and
- (5) provides for project evaluation by an organization other than the one implementing the program (prevents bias in project selection). Projects are approved one at time, from most to least cost effective (on the basis of cost per location connected) until funds are exhausted.

A separate recent report issued by the Information Technology and Innovation Foundation found that a broadband infrastructure incentive should (1) be a “carefully structured” one-time subsidy, (2) incorporate a reverse auction for the determination of funded projects, (3) focus on the lowest cost projects in areas without any broadband access first, (4) be available for both fixed and mobile broadband providers and (5) correlate to consumer demand for speed and quality.⁵

Currently, twenty-four states (includes Pennsylvania) offer one or more incentives to encourage investment in broadband infrastructure (both mobile and fixed-line). A small subset of those states (seven) offer a tax credit, loan or loan assistance, but most states provide grants to offset a portion of broadband capital expenditures. (See **Table 3.1.**) Many of these states limit funding to, or provide a greater incentive for equipment that is (1) deployed in unserved or underserved areas and (2) meets minimum speed requirements (typically the federal standard of 25 Mbps download and 3 Mbps upload). Certain states also offer miscellaneous broadband related incentives, such as sales tax (e.g., Mississippi and Wyoming) and property tax (e.g., Iowa and Kansas) exemptions.

⁴ “Public Investment in Broadband Infrastructure: Lessons from the U.S. and Abroad,” Scott Wallsten and Lucia Gamboa, Technology Policy Institute (June 2017).

⁵ “A Policymaker’s Guide to Rural Broadband Infrastructure,” Doug Brake, Information Technology & Innovation Foundation (April 2017).

Some state broadband grant programs were offered only for a specified period of time. For example, New York established a \$500 million grant program that dispersed funds over a three-year period for projects that provided high-speed internet access to underserved and unserved areas of the state. In Delaware, certain regulatory assessments paid by telecommunications providers were dedicated to the Delaware Broadband Fund. Grants to support broadband expansion in schools, libraries and unserved areas of the state were disbursed from the fund through July 1, 2018. (The New York and Delaware programs have expired and do not appear in Table 3.1.)

West Virginia offers loan insurance for up to 20 years for the payment or repayment of capital costs associated with the provision of broadband service to unserved or underserved areas of the state. To qualify, the newly provided service must meet minimum speed requirements. Washington offers loans at a maximum of \$2 million per eligible broadband project. Applicants must provide a cash match of 25 percent, but the interest rates are as low as 1 percent for a term of up to 20 years.

Like Pennsylvania, Idaho and Mississippi offer tax credits for broadband investment. In Idaho, firms may qualify for a credit equal to 3 percent of a firm's investment in qualified broadband equipment, up to a maximum of \$750,000 annually.⁶ Qualified equipment must meet minimum speed requirements and the credit may be transferred, sold or carried forward for up to 14 years. Mississippi provides an annual tax credit equal to 5, 10 or 15 percent of the capital cost of qualified broadband equipment. The percentage is determined based on the level of development in the county in which the equipment is placed. The annual credit may be taken for ten years, but the total amount of credits taken may not exceed 100 percent of the cost of the equipment.⁷ Minimum speed requirements apply and the program expires June 30, 2020.

In addition to state incentive programs, the federal government provides 50 broadband related programs that offer grants, loans and other forms of assistance. The programs include support for private firms, state and local governments, schools, libraries, hospitals, etc.⁸ Of these programs, the Connect America Fund (CAF) is the primary support for fixed-line and mobile voice and broadband service in high-cost areas. For FY 2018-19, a fee on voice telecommunications services provided \$4.5 billion of CAF funds. The federal Mobility Fund will provide an additional \$4.5 billion over the next ten years to incentivize the deployment of wireless service and high-speed broadband coverage in underserved or unserved areas.

⁶ Idaho Code Title 63 Revenue and Taxation § 63-3029i (2018).

⁷ See <https://www.dor.ms.gov/Individual/Documents/2013IncentiveBook-pdffinal.pdf>.

⁸ See <https://www.ntia.doc.gov/press-release/2019/ntia-releases-comprehensive-guide-federal-broadband-funding>.

For a searchable database of federal broadband programs, see: <https://broadbandusa.ntia.doc.gov/new-fund-search>.

**Table 3.1
Broadband Incentives Across States**

State	Program Type	Base	Target
Alabama	G	Lesser of 35% of project costs or \$1.5 million	Unserved Rural Areas
Arizona	G	Up to \$1 million/project	Underserved Rural Areas
California	G	Up to 100% of project costs	Unserved Areas
Colorado	G	Up to 75% of project costs, 25% match required	Unserved Areas
Idaho	TC	3% up to \$750,000, total credits may not exceed taxpayer's liability for the year	---
Indiana	G	80% of project costs up to \$5 million	Unserved Areas
Iowa	G	Up to 15% of project costs	Unserved/Underserved Rural Areas
Maine	G	Up to 50% of total project costs, limit of \$100,000/project	Unserved Areas
Maryland	G	Up to 50% of construction costs, not to exceed \$200,000/local jurisdiction, 50% match required	Unserved Rural Areas
	G	Up to 50% of capital construction costs, not to exceed \$3 million/local jurisdiction, 100% match required	Unserved, Rural Homes and Businesses
Michigan	G	Up to 90% of project costs, \$5 million max/project, 10% match required	Unserved Areas
Minnesota	G	Up to 50% of project costs up to \$5 million	Unserved and Underserved Areas
Mississippi	TC	Credit of 5%/10%/15% of the cost of equipment based on deployment area. Credit can not exceed 50% of the aggregate income/franchise tax liability annually	---
Missouri	G	Up to 50% of project costs	Unserved and Underserved Areas
Nebraska	G	Up to \$75,000/grant, 25% match required	Unserved Areas
New Mexico	G	4 companies share \$5 million annually	Unserved/Underserved Rural Areas
North Carolina	G	Up to \$2 million/project	Unserved Areas
Pennsylvania	TC	\$5 million not to exceed 50% of taxpayer's corporate net income tax liability	---
Tennessee	G	Up to 50% of eligible project expenses up to \$2 million	Unserved Areas
Vermont	G	Up to \$60,000/grant	Unserved/Underserved Rural Areas
	L	Up to \$4 million, can not exceed 90% of total project cost	Unserved and Underserved Areas
Virginia	G	Available to a unit of government and a private sector partner	Unserved Areas
	G/L	Up to 50% of the costs, or a loan of up to 80% of costs	Unserved Areas
Washington	G/L	20 year loan not to exceed \$2 million/project 25% cash match required/Grant 50% of total award not to exceed \$2 million	Underserved Rural Areas
West Virginia	LI	Up to 20 years, 80% of a bank loan not to exceed \$10 million	Unserved/Underserved Areas
Wisconsin	G	Award amounts vary	Underserved Areas
Wyoming	G	Up to 50% of project costs, 10% match required, \$5 million/project funding cap	Unserved Areas

Notes: G = Grant, L = Loan, TC = Tax Credit and LI = Loan Insurance.

Source: Various state agency websites.

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Section 4: Economic Analysis

This section of the report presents the economic analysis of the Pennsylvania MTBI credit and contains three subsections. The first subsection discusses the key factors that drive the economic impact of the investment related to the tax credit. The second subsection provides an estimate of the direct spending incentivized by the tax credit and applies various multipliers to quantify the projected economic impact. The last subsection provides a sensitivity analysis that calculates the impact of the credit under two alternate scenarios (high and low).

Key Assumptions

The impact of most broadband incentive programs contains two parts: (1) the impact of the new or expanded service on the affected population and (2) the impact of the direct capital investment on the economy. Studies that attempt to quantify the economic impact from an investment in broadband infrastructure generally focus on the impact of the newly-available broadband service on the community.⁹ Reports cite increased quality of life, economic activity and incomes that result from online access to healthcare, education, community resources, job training, shopping, etc. These reports largely assume that the incentivized broadband investment occurs in unserved or underserved geographic areas. Under those conditions, it is widely believed that the expanded service does produce positive economic and social impacts for affected residents and businesses.

The Pennsylvania MTBI credit differs from incentives reviewed in most studies because there is no requirement that the qualified mobile broadband equipment be placed in an unserved or underserved area. There is also no minimum speed requirement for the new service and the credit is limited to mobile infrastructure only (i.e., excludes fixed-line service). Due to the lack of requirements on the placement of qualified infrastructure, subsidized investment may be placed in an area that already has one or more high-speed broadband options. Without requirements, it is less likely that equipment will be placed in an unserved/underserved area because those projects tend to be high cost and offer lower return on the capital investment. This analysis assumes that the qualified investment generally offers an alternative service (not a new or expanded service) to the community and results in a marginal impact on the affected population, or ones that do not readily lend themselves to quantification of economic output or activity (e.g., faster transmission speeds that allow smoother streaming services).

The second factor that drives the economic analysis of the MTBI credit is the investment actually incentivized by the tax credit. Stakeholders maintain that when regions compete for limited resources (capital investment), the tax credit “tips the scale” in some cases and incentivizes projects that may not otherwise occur. Although tax credits can affect location and investment decisions, the IFO could not locate data or research to support an MTBI credit equal to five percent of the equipment purchased (an estimated 3 to 4

⁹ For example, see “The Return on Investment in Broadband Infrastructure and Utilization Initiatives,” Strategic Networks Group, Inc. (January 2014), “Broadband’s Impact A Brief Literature Review,” Roberto Gallardo, Brian Whitacre and Alison Grant, Purdue University Center for Regional Development (January 2018) and “Broadband’s Economic Impact in Michigan,” Connect Michigan (March 2013).

percent of total project cost if labor is included) has a significant impact on new investment in broadband infrastructure.

The incentive impact of the state tax credit is also muted due to the interaction with the federal income tax code. If the firms claiming the tax credit are profitable C corporations, then the net value of the tax credit is reduced by 21 percent due to the deductibility of state taxes on the federal corporate income tax return. This analysis does not model that interaction explicitly, but assumes that the interaction reduces the general incentivization effects because while the state tax credit increases the net return on investment projects within the state, the interaction with the federal tax code effectively offsets part of the higher (after-tax) net return.

A crucial parameter for the analysis is the share of eligible investment that is truly incentivized and would not otherwise occur without the tax credit. If the investment would have occurred regardless, then the tax credit is a pure subsidy and has negative economic implications because the state could have used the funds for other purposes. As noted, there is no research that provides specific guidance for this particular tax credit. However, there are two results from existing research that can be used to inform this parameter:

- For the federal research and experimentation (R&E) tax credit (and certain state research and development tax credits), many researchers find that private spending increases by \$1.00 to \$1.50 for every \$1.00 of government incentive.^{10 11} Although the spending incentivized by the MTBI credit is not R&E spending (which is generally wage expenses), it is related because much of the federal R&E tax credit is claimed by firms that supply computer goods and internet services. Using these parameters, a \$5.0 million tax credit would incentivize \$7.5 million in private spending, and that spending is associated with \$100 million of eligible investment to generate the full \$5.0 million tax credit. In this case, the incentivization parameter would be $\$7.5 / \$100 = 7.5$ percent (i.e., 7.5 percent of the eligible investment was actually incentivized).¹²
- A recent report by the Virginia Joint Legislative Audit and Review Commission (JLARC) cited current research that examines the relationship between the size of an economic development incentive (includes grants, exemptions and tax credits) relative to the total production costs or “value-added” of a firm.¹³ Given the relative size of the MTBI subsidy, the research cited by JLARC suggests that the MTBI credit might incentivize roughly 5 to 15 percent of the equipment purchase.

These results suggest that 5 to 15 percent of investment could be incentivized by the tax credit. Due to the noted interaction with the federal income tax code (which reduces the incentive effect) and the fact

¹⁰ For example, see “Research and Experimentation Credit,” U.S. Department of Treasury, Office of Tax Analysis (October 2016); Bloom et al. “Identifying Technology Spillovers and Product Market Rivalry,” *Econometrica*, Vol. 81, Issue 4 (July 2013); “Federal Support for Research and Development,” Congressional Budget Office (June 2007); and “Research Activities Tax Credit: Tax Credits Program Evaluation Study,” Iowa Department of Revenue, Tax Research and Program Analysis Section (December 2016). Other researchers cite various technical factors that imply that a state tax credit would have smaller incentive effects than the federal credit, because the federal credit has already incentivized marginal projects.

¹¹ Unlike the federal and most state R&D tax credits, the MTBI credit can be claimed against the first dollar of eligible investment, and therefore, would have weaker incentive effects.

¹² Alternatively, this can be conceptualized as the firm using the \$5 million tax credit and supplying \$2.5 million of their own funds to finance a marginal investment.

¹³ See “Data Center and Manufacturing Incentives,” Virginia JLARC, Appendix M (June 2019) and “Who Benefits from Economic Development Incentives,” Bartik, Timothy, Upjohn Institute Technical Report No. 18-034, Kalamazoo, MI (March 2018).

that the Pennsylvania MTBI credit is not based on an incremental investment computation (so that the tax credit applies to the first dollar of eligible investment), this analysis assumes that 10 percent of the investment is incentivized by the tax credit. The analysis uses a lower bound of 5 percent and upper bound of 15 percent for a sensitivity analysis.

Economic Impact

This subsection presents a simplified economic impact analysis for the tax credit.¹⁴ For ease of analysis, the computation assumes that all tax credits available for authorization are awarded and claimed in the same year. Adjusting for actual delays between award and utilization would not change the overall results of this analysis. **Table 4.1** presents the analysis and the following text describes the computations based on line number:

Line 1 The analysis assumes that \$5.0 million of tax credits are awarded and utilized.

Line 2 The credit is equal to 5 percent of the purchase price of the qualified equipment.

Line 3 Line 1 divided by Line 2: the amount of equipment investment associated with the tax credit.

Line 4 Discussions with stakeholders and available literature indicate that approximately 75 percent of the cost of a mobile broadband project is related to equipment.¹⁵ The remaining costs are attributable to labor and do not qualify for the tax credit.

Line 5 Total cost of the project (i.e., qualified equipment and labor).

Line 6 The analysis assumes that 10 percent of the investment associated with the MTBI program would not occur in absence of the credit (i.e., is incentivized).

Line 7 The product of lines 5 and 6: new investment that is incentivized by the tax credit. This amount could also be conceptualized as state supplied funds (\$5.0 million) plus the firm's contribution for equipment (\$5.0 million) and labor (\$3.3 million) on a marginal investment that would not otherwise be made.

Line 8 The credit funds only a portion of the new investment. The remaining share comes from the firm and some portion of that spending would likely have been used for other business purposes (e.g., other equipment, raises, advertising, etc.), within the state. The analysis assumes that 25 percent of this spending would have occurred in Pennsylvania in the absence of the credit.

Line 9 New Pennsylvania spending attributable to the tax credit.

Line 10 Due to the balanced budget requirement, states must reduce spending or raise taxes to fund the tax credit. If that offset is not taken into account, then the net economic impact of the credit will be

¹⁴ The relatively small amount of induced activity generated by the MTBI lent itself to the simplified economic analysis presented in this section. The economic impact analysis was also confirmed using the IMPLAN model. IMPLAN is an economic input-output simulation that models the interrelationships between individual sectors of state and local economies. It incorporates the most recent data published by the U.S. Bureau of Economic Analysis on supply chains and economic multipliers. The model produces static impact estimates because various technical parameters (e.g., relative price levels, migration patterns) are assumed constant.

¹⁵ Labor represents about 21 percent of total broadband expenditures. "The Economic Impact of Rural Broadband," Hudson Institute (April 2016). Stakeholders indicate that the labor share may be higher in Pennsylvania.

overstated. This analysis assumes that discretionary spending would be reduced and those monies would have been spent on education, healthcare and infrastructure. For the purpose of this analysis, a \$4.25 million spending offset is used.¹⁶ It is assumed that the \$4.25 million generates the same economic impact whether it is spent by the state for another purpose, or distributed in the form of tax credits.¹⁷

Line 11 Line 9 less Line 10: represents the net incremental (direct) spending generated by the credit. The analysis assumes that this new investment is purchased from a Pennsylvania manufacturer. If it is not, then the economic impact is greatly reduced.

Line 12 For the purpose of this simplified analysis, an economic spending or output multiplier of 1.66 is applied to the net incremental spending.¹⁸ This multiplier implies that every \$1.00 of new spending attributable to the tax credit increases total output or sales by \$1.66 in the state, as the original spending moves through the state economy and is respent. The original \$1.00 is referred to as direct spending and the \$0.66 is referred to as the induced and indirect effects.¹⁹

Line 13 The product of lines 11 and 12: the total output or spending impact due to the tax credit. The three lines below use other industry multipliers to derive the impact on state gross domestic product or GDP (also referred to as value added), the change in the number of full-time equivalent employees and the change in earnings.²⁰ It is noted that the employment figure in Table 4.1 does not represent permanent jobs.

Line 14 The Pennsylvania personal income tax (PIT) rate of 3.07 percent multiplied by the sum of (1) 25 percent of the direct output or spending impact (Line 11) and (2) 35 percent of the indirect/induced spending impact (Line 13 less Line 11). The calculation assumes that new wages are not subject to tax forgiveness parameters and that wages comprise 35 percent of the indirect/induced spending impact.²¹ Alternatively, this line is also generally equal to 3.07 percent times total earnings (Line 13c).

Line 15 The Pennsylvania sales and use tax (SUT) rate of 6 percent multiplied by the sum of (1) 75 percent of the direct output or spending (Line 11) and (2) 30 percent of the indirect/induced impact (Line 13 less Line 11). That is, the analysis assumes that 30 percent of new indirect and induced spending is spent on purchases subject to the state SUT.

Line 16 All other miscellaneous taxes such as corporate net income and tobacco taxes.

¹⁶ The analysis assumes that \$5.0 million is spent on tax credits. Alternatively, if the state used those monies for discretionary spending, that amount should be reduced to reflect the fact that the portion used to pay state employee compensation includes pension contributions and employer payroll taxes which do not have immediate implications for the state economy. Therefore, the analysis reduces the balanced budget multiplier by 15 percent to reflect those impacts and deducts $\$5.0 \times 0.85 = \4.25 million.

¹⁷ This is a simplifying assumption. In reality, state spending on healthcare, education and infrastructure would have different multiplier impacts.

¹⁸ The Bureau of Economic Analysis RIMS II multiplier is applicable to broadcast and wireless communications equipment manufacturers. Other common multipliers are 1.96 for amusements, 2.03 for general merchandise, 1.99 for educational services, 2.15 for food and drinking places and 2.21 for social services.

¹⁹ The indirect effect represents the impact from other businesses that supply inputs to the manufacturers of the eligible equipment that is purchased (i.e., the supply chain). The induced effect represents the impact from employees that spend higher wages and business owners that spend higher profits.

²⁰ Earnings includes all employee compensation such as wages and salaries, benefits and payroll taxes plus the net earnings of sole proprietorships and partnerships.

²¹ The 35 percent parameter is based on IMPLAN simulations for broadcast and wireless communications equipment manufacturers.

Line 17 Total change in state tax revenue.

Line 18 The net return on investment (ROI) for the state spending. The net ROI is 9 cents for every \$1.00 spent (\$0.43 million in new tax collections divided by the \$5 million tax credit). It is noted that this figure represents a net return, because it deducts the amount of tax revenues that would have been generated if the state funds had been used for other purposes. That deduction is effectively accomplished through the balanced budget adjustment made on Line 10. A net ROI greater than zero shows that there is a positive fiscal return to the state compared to “typical” state spending.

Line 19 The gross return on investment (ROI) for the state spending. The gross ROI is 15 cents for every \$1.00 spent. The gross return does not reflect other uses of the tax credit monies. If the gross ROI is less than 1.0, then the tax credit does not “pay for itself.” In this case, the gross ROI indicates that a portion of the tax credit is self-financed.

Table 4.1
Economic Analysis of Pennsylvania MTBI Tax Credit

Spending Category or Adjustment	Amount or Percent
1 Tax Credits Awarded and Used	\$5.00
2 Credit as a Share of Total Investment	5.0%
3 Total Investment	\$100.00
4 Labor	\$33.33
5 Total Project Expenditures	\$133.33
6 Incentivized Share	10.0%
7 Incentivized Investment	\$13.33
8 Share Diverted From Other PA Purposes	25.0%
9 New PA Spending	\$10.00
10 Less Balanced Budget Adjustment	-\$4.25
11 Net Incremental Spending	\$5.75
12 Multiplier	1.66
13 Total Output or Spending	\$9.54
a Gross Domestic Product	\$5.85
b Full-Time Equivalent Employees	39
c Earnings	\$2.44
14 Personal Income Tax	\$0.08
15 Sales and Use Tax	\$0.31
16 All Other Taxes	\$0.04
17 Change in Tax Revenue	\$0.43
18 Net Return on Investment (ROI)	0.09
19 Gross Return on Investment (ROI)	0.15

Note: Millions of dollars. Earnings includes wages, benefits and business profits.

Source: Computations by the IFO.

Sensitivity Analysis

Due to the uncertainty regarding the actual amount of investment incentivized by the MTBI, this subsection reproduces the calculation from the previous subsection to estimate the economic impact using a low and high alternative scenario. The low scenario assumes that five percent of the investment is incentivized by the MTBI credit (i.e., 95 percent would have occurred in the absence of the credit). The high scenario assumes that the credit incentivizes 15 percent of the investment. Using the high scenario, the gross ROI is 23 cents per tax credit dollar, which implies that the tax credit is one-quarter self-financed. For the net fiscal impact (which reflects the alternative use of tax credit monies), the net ROI is 16 cents per tax credit dollar. For the low scenario, the corresponding figures are 7 cents and 1 cent per tax credit dollar.

Table 4.2
Sensitivity Analysis

Spending Category or Adjustment	Scenario	
	Low	High
1 Tax Credits Awarded and Used	\$5.00	\$5.00
2 Credit as a Share of Total Investment	5.0%	5.0%
3 Total Investment	\$100.00	\$100.00
4 Labor	\$33.33	\$33.33
5 Total Project Expenditures	\$133.33	\$133.33
6 Incentivized Share	5.0%	15.0%
7 Incentivized Investment	6.67	20.00
8 Share Diverted From Other PA Purposes	25.0%	25.0%
9 New PA Spending	\$5.00	\$15.00
10 Less Balanced Budget Adjustment	-\$4.25	-\$4.25
11 Net Incremental Spending	\$0.75	\$10.75
12 Multiplier	1.66	1.66
13 Total Output or Spending	\$1.24	\$17.84
a Gross Domestic Product	\$0.76	\$10.93
b Full-Time Equivalent Employees	5	74
c Earnings	\$0.32	\$4.55
14 Personal Income Tax	\$0.01	\$0.16
15 Sales and Use Tax	\$0.04	\$0.58
16 All Other Taxes	\$0.01	\$0.08
17 Change in Tax Revenue	\$0.06	\$0.82
18 Net Return on Investment (ROI)	0.01	0.16
19 Gross Return on Investment (ROI)	0.07	0.23

Note: Millions of dollars. Earnings includes wages, benefits and business profits.

Source: Computations by the IFO.

Section 5: Tax Credit Plan

Act 48 of 2017 directs the IFO to review tax credits and develop a tax credit plan for all tax credits subject to review. The act states that tax credit plans should include performance metrics for each credit. The act does not specify any other elements of the tax credit plan. For this review, the IFO has defined the tax credit plan more broadly to include the following elements: (1) the general findings of the review, (2) specific recommendations, including performance metrics and (3) key decision points for policymakers to consider.

General Findings

For the purpose of this report, the IFO reviewed tax credit studies and spoke with stakeholders, as well as the agency that administers the tax credit. The following bullet points summarize the main findings of this research:

- Twenty-four states (includes Pennsylvania) offer one or more incentives to encourage investment in broadband infrastructure (both mobile and fixed-line). A small subset of those states (seven) offer a tax credit, loan or loan assistance, but most states provide grants to offset a portion of broadband capital expenditures. Many states limit funding to, or provide a greater incentive for, equipment deployed in unserved/underserved areas and that meets minimum speed requirements.
- There is no requirement on where the Pennsylvania MTBI qualified equipment is placed and there is no minimum speed requirement for the new service. Projects in unserved/underserved areas tend to be higher cost and offer lower return on the capital investment. Therefore, the lack of requirements on the placement and quality of new service likely results in the placement of the equipment in areas that already have one or more high-speed broadband options. For this reason, it is assumed that the qualified investment generally offers an alternative service (not a new or expanded service) to the community and results in a marginal impact on the affected population.
- The report projects that 90 percent of MTBI investment would have occurred in the absence of the credit. The IFO could not locate data or research to support that an MTBI credit equal to 5 percent of the equipment purchased (roughly 3 to 4 percent of the total project cost) has a significant impact on new investment in Pennsylvania broadband infrastructure.
- Unlike the federal and most state R&D tax credits, the investment that qualifies for the MTBI tax credit is not computed on an incremental basis. Therefore, it is more likely that the investment would have occurred regardless of the tax credit because the tax credit applies to the first dollar of eligible investment, and it is likely that some amount of investment would be made each year.
- Only a small number of taxpayers currently apply for the MTBI credit. It is unclear why eligible applicants are limited to wireless broadband providers (excludes fixed line providers).

Specific Recommendations

Based on the general findings, the IFO submits the following recommendations to enhance the efficiency of the tax credit and improve its ability to achieve its goals and purpose.

Convert the existing tax credit to a competitive grant program to enhance the economic impact of the state spending.

The newly created broadband grant should be available to all providers of high-speed broadband internet service, target areas that currently have no or limited high-speed access and be subject to annual appropriation. Projects should be evaluated and approved based on a reverse auction (from the most to the least cost effective) and the program should only provide the minimum amount of incentive necessary to incentivize completion of the project.²²

If the current tax credit program is retained, the program should be amended to focus on unserved or underserved areas and minimum speed requirements should be incorporated.

The requirement that qualified MTBI equipment be placed in an unserved or underserved area and meet minimum speed requirements ensures that the tax credit incentivizes new or expanded service, which increases the economic impact of the program. There are also social impacts (e.g., improved access to healthcare, job training, services, etc.) associated with the provision of high-speed internet to more Pennsylvania homes and businesses.

Tax credit recipients should be subject to reporting requirements.

Some potential metrics include: the geographic location of new investment that uses the tax credit program, the number and type (residential or business) of entities affected, the presence of alternative internet options (if any) and average service speed.

Key Decision Points

To ensure the most effective use of state tax dollars, policymakers should re-evaluate the purpose of the MTBI credit. For example:

- Is the purpose simply to upgrade and expand wireless broadband infrastructure within the state, even in areas where other types of high-speed broadband already exist?
- Is the purpose to expand the geographic areas and communities where high-speed broadband is available? Funds spent for this purpose generally result in a larger economic impact.

Regardless of the desired program outcome, policymakers should also determine the best funding mechanism to achieve goals and objectives. Consideration should be given to the following:

- Is the current tax credit the most efficient manner to provide the desired support?

²² Due to changes implemented by the federal Tax Cuts and Jobs Act of 2017, new state economic incentive grants are includable in taxable income. Hence, state grants now have similar tax implications as state tax credits because both have federal income tax implications.

- Would a grant or loan program provide more targeted relief? How often should the program require renewal?
- What types of firms should be eligible for the program (i.e., should any provider of high-speed broadband service be eligible)?
- Is a five percent credit the optimal level of incentive to achieve the desired outcome?

Conclusion

Act 48 of 2017 requires that the IFO make a determination regarding whether the tax credit has achieved its goals and purpose. For this review, the analysis establishes the program goal as:

- To incentivize and increase private investment in Pennsylvania's mobile telecommunications broadband infrastructure.

The analysis establishes the program purpose as:

- To expand the availability and quality of broadband internet access across Pennsylvania.

Based on existing research, conversations with stakeholders and reasonable assumptions, this review finds that it is unlikely the current MTBI tax credit has achieved its intended purpose. The General Assembly should consider the program revisions discussed in the recommendations section of this report to improve outcomes associated with the state spending.

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Appendix

Tax Credit Review Mandate

Act 48 of 2017 is the Performance-Based Budgeting and Tax Credit Efficiency Act. The act requires the Independent Fiscal Office (IFO) to review tax credits based on a five-year schedule determined jointly by the Secretary of the Budget and the Director of the IFO. The act specifies that the schedule must ensure that tax credits are subject to a review by the IFO at least once every five years. The IFO will submit reviews to the Performance-Based Budgeting (PBB) Board and the Chairs of the House and Senate Finance Committees and make the report available to the public through its website.

The act specifies that reviews shall contain the following content:

- The purpose for which the tax credit was created.
- Whether that tax credit is accomplishing the tax credit's legislative intent.
- Whether the tax credit could be more efficiently implemented through alternative methods.
- Any alternative methods which will make the tax credit more efficient if necessary.
- The costs of providing the tax credit, including the administrative costs to the Commonwealth and local government entities within this Commonwealth.

The act also specifies that the IFO shall develop a tax credit plan for all tax credits subject to a review. The plans should include performance measures, and where applicable, the measures should reflect outcome-based measures (including efficiency measures), measures of status improvements of recipient populations, and economic outcomes or performance benchmarks against similar State programs or similar programs of other states or jurisdictions.

Performance-Based Budgeting and Tax Credit Review Schedule

Year		Performance-Based Budgets				
1	Corrections	Board of Probation and Parole	PA Commission on Crime & Delinquency	Juvenile Court Judges' Commission	Banking and Securities	General Services
2	Economic & Community Development	Human Services – Part 1	Health	Environmental Protection	PA Emergency Management Agency	State
3	PennDOT	Human Services – Part 2	State Police	Military & Veterans Affairs		
4	Education	Human Services – Part 3	Aging	PA Historical & Museum Commission	Agriculture	Labor and Industry
5	Drug and Alcohol Programs	Insurance	Revenue	Executive Offices	Environmental Hearing Board	Conservation and Natural Resources
Year		Tax Credits				
1	Film Production	New Jobs	Historic Preservation Incentive			
2	Research and Development	Keystone Innovation Zones	Mobile Telecom and Broadband	Organ and Bone Marrow		
3	Neighborhood Assistance	Resource Enhancement and Protections (REAP)	Entertainment & Economic Enhancement	Video Game Production	Keystone Special Development Zones	
4	Educational Tax Credits	Coal Refuse and Reclamation	Mixed Use	Community-Based Services		
5	Resource Manufacturing	Brewers'	Computer Data Center	Manufacturing and Investment	Waterfront Development	Rural Jobs and Investment

 Independent Fiscal Office

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Stakeholder Feedback



July 17, 2019

Via E-Mail: sknavel@ifo.state.pa.us

Stacey J. Knavel, Principal Revenue Analyst
Independent Fiscal Office
2nd Floor Rachel Carson Building
400 Market Street | Harrisburg, PA 17121

Re: Pennsylvania Mobile Telecommunications Broadband Investment Tax Credit

Dear Ms. Knavel,

This letter is in response to your outreach via e-mail to me on June 7, 2019, and the subsequent July 9, 2019 meeting with your team and Jim D'Innocenzo, Comcast Vice President, Government & Regulatory Affairs and our consultant, Joe Holston regarding our experience as a beneficiary of the Commonwealth's Mobile Telecommunications Broadband Investment Tax Credit ("MBITC"). Based on our experience investing in broadband projects qualifying and subsequently applying for eligibility to utilize the credit, we note the following:

- The MBITC is an effective incremental incentive for Comcast's deployment of wireless data, voice and supporting infrastructure in the Commonwealth. Xfinity Mobile is an innovative mobile phone offering that combines a traditional mobile virtual network operator ("MVNO") voice, text and data service with Comcast's robust network of Wi-Fi hotspots. Xfinity Mobile service is designed to automatically connect to Xfinity's 18+ million Wi-Fi hotspots when a hotspot is available. This allows Comcast's Internet customers to save money on their wireless phone bills compared to legacy mobile services. Use of Wi-Fi to complement cellular tower coverage, and prioritizing the Wi-Fi connection, has the dual benefit of increasing speed and reducing data charges; both critical goals to meet the fluid changes in consumer behavior when it comes to accessing the Internet.
- The MBITC's 5% credit helps to defray the cost of investment in Pennsylvania infrastructure and, accordingly, is an effective incremental incentive for Comcast's deployment of wireless data, voice and supporting infrastructure in the Commonwealth.
- This credit program enhances the Commonwealth's reputation as a leader in policy innovation ideas related to broadband.

We appreciate this opportunity to share with you our positive experiences with the MBITC. If you should have any further questions or require any further information, please do not hesitate to contact me. My contact information is below.

Best,

A handwritten signature in blue ink that reads "Tom Donnelly".

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