



# Status of Cost Information Related to IP-Based 9-1-1 Services in Michigan

In Compliance with Section 408(11) of Public Act 51 of 2018

December 1, 2020

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## Executive Summary

This report, submitted by the Michigan Public Service Commission (Commission) in accordance with Section 408(11) of 2018 PA 51, contains a detailed analysis of the actual and estimated costs of transitioning to an IP-based (Internet Protocol – based) 9-1-1 service provider by counties or 9-1-1 service districts in Michigan. Specifically, this report focuses on the transition status of the counties or 9-1-1 service districts and related costs whether incurred or estimated; projected ongoing, annual costs to operate the 9-1-1 network; and current 9-1-1 funding system revenues. Currently, there are two IP-based 9-1-1 service providers operating in the state of Michigan; Peninsula Fiber Network, LLC which operates in the Upper Peninsula, and Peninsula Fiber Network Next Generation Services, LLC, which operates in the Lower Peninsula (collectively referred to as PFN).

This report also provides information regarding the responsibilities and activities of the Commission, as well as information that was collected from the State 9-1-1 Committee, Michigan Department of Treasury, the Peninsula Fiber Network companies, and the Maner Costerisan (Maner) accounting firm. It is important to note that the Commission's authority is limited to the review of IP-based 9-1-1 service providers' cost studies and invoices as submitted to the Commission, and that the Commission does not regulate the services and equipment of IP-based 9-1-1 service providers. The Commission will continue to review cost studies that are submitted by IP-based 9-1-1 service providers and approve invoices that properly contain costs that are consistent with the law and Commission orders.

As of September 30, 2020, 58 of the 86 counties or 9-1-1 service districts in Michigan had fully transitioned to an IP-based 9-1-1 service provider. Of those 58 counties or 9-1-1 service districts, 36 have rates approved by the Commission to fund operations of IP-based 9-1-1 systems. The total five-year cost, encompassing both initial and renewal rates, for the 36 counties or 9-1-1 service districts that have fully transitioned and have approved rates is \$41,538,602 (\$32,929,134 allocated to wireless providers and \$8,609,468 allocated to wireline providers). The remaining 22 counties or 9-1-1 service districts that have fully transitioned do not yet have approved rates from initial cost studies. The total five-year estimated cost for these 22 counties or 9-1-1 service districts is \$18,761,820 (\$15,753,480 allocated to wireless providers and \$3,008,340 allocated to wireline providers).

Of the 28 counties or 9-1-1 service districts that have not fully transitioned, 26 are currently in the process of converting. The total five-year estimated cost for counties or 9-1-1 service districts that have not yet fully transitioned and therefore do not have approved rates is \$60,926,580 (\$51,157,301 allocated to wireless providers and \$9,769,279 allocated to wireline providers).

Estimated ongoing annual costs are those costs of operating the 9-1-1 network after the transition to an IP-based 9-1-1 service provider has been completed by all counties or 9-1-1 service districts choosing to transition. The total estimated ongoing annual cost for the 84 counties or 9-1-1 service districts choosing to transition is \$19,860,251 (\$16,327,222 allocated to wireless providers

and \$3,533,029 allocated to wireline providers). Two counties or 9-1-1 service districts do not have agreements with PFN to start conversion: Macomb county and Detroit Service District in Wayne county.

As of September 30, 2020, Treasury reports that the Emergency 9-1-1 Suppliers Fund balance is \$22,101,789. This balance includes \$2,326,074 for invoices that have been approved by the Commission but have not been reimbursed by the fund resulting in an adjusted ending balance of \$19,775,715.

The total estimated costs of the IP-based 9-1-1 network are based on approved and estimated rates of counties or 9-1-1 service districts that have fully transitioned to IP-based 9-1-1 service and estimated rates for those that have not fully transitioned. These costs include all anticipated costs for initial cost studies for the service districts choosing to transition to IP-based 9-1-1 service as well as the anticipated costs related to the renewal cost studies currently approved. The total estimated costs are \$121,227,002 (\$99,839,915 allocated to wireless providers and \$21,387,087 allocated to wireline providers).

It is important to note that costs are dependent on county population. These costs will be changing soon based on the results from the 2020 census. In addition, due to the complexity of these costs, it is not possible to provide simple general cost numbers for each category. The specific figures included in the body of the report, as well as the footnotes, provide more detailed information and should be referred to for specific cost detail. In closing, the Commission does not make any recommendations on the funding, but it is providing information to the Governor and Legislature for their consideration of any future legislative changes to the 9-1-1 Act related to the state 9-1-1 surcharge. Figure 6 in the report provides a summary of these costs.

## Introduction

On March 6, 2018, Public Act 51 of 2018 took effect, amending 1986 PA 32 (the Emergency 9-1-1 Service Enabling Act or the 9-1-1 Act). Among the changes, PA 51 of 2018 amended the way that emergency services are funded, specifically pertaining to Sections 401a and 408 of the 9-1-1 Act. These changes were enacted, in part, to promote the development and transition to Internet Protocol-based (IP-based) 9-1-1 services throughout the state of Michigan.

The amendments to the 9-1-1 Act also directed the Michigan Public Service Commission (Commission) to determine recurring and nonrecurring cost categories for all IP-based 9-1-1 service providers, receive and review cost studies from IP-based 9-1-1 service providers, and lastly, to issue a report to the Governor and Legislature no later than December 1, 2020, regarding actual and estimated cost information as it relates to IP-based 9-1-1 service. The 9-1-1 Act allowed the Commission to collect data from counties, 9-1-1 service districts, IP-based 9-1-1 service providers, the Michigan Department of Treasury, and the State 9-1-1 Committee. Currently, Peninsula Fiber Network, LLC and Peninsula Fiber Network Next Generation Services, LLC (collectively referred to as PFN or Peninsula Fiber Network) are the sole IP-based 9-1-1 service providers operating in Michigan.<sup>1</sup> The process to collect that data, as well as the data collected, are further explained within the body of this report.

In addition to the IP-based 9-1-1 service cost information, this report also provides a brief description of the Commission's activities to implement PA 51 of 2018.

## Responsibilities and Activities of the Commission

This section provides an overview and analysis of the responsibilities and activities of the Commission since PA 51 of 2018 took effect. These responsibilities and activities have been divided into two categories: Statutory Responsibilities and Data Collection.

### Statutory Responsibilities

Pursuant to Section 408(5) of PA 51 of 2018, "Within 60 days of the effective date of the 2018 amendatory act that added this subsection, the commission shall commence a proceeding to determine the recurring and nonrecurring cost categories for all IP-based 9-1-1 service providers." Furthermore, "within 180 days after a proceeding is commenced under Section 408(5), the commission shall issue a final order adopting the recurring and nonrecurring cost

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<sup>1</sup> Peninsula Fiber Network, LLC provides NG 9-1-1 service to the counties in the Upper Peninsula. Peninsula Fiber Network Next Generation Services, LLC provides those services to the counties in the Lower Peninsula. These providers are affiliated.

categories for all IP-based 9-1-1 service providers considered just and reasonable by the commission.”

On April 18, 2018, the Commission issued an order in Docket U-20146 which opened a proceeding seeking comment from interested persons regarding specific types of costs for which an IP-based 9-1-1 service provider could seek reimbursement.<sup>2</sup> The Commission received comments from various providers, associations, and the State 9-1-1 Committee (SNC). On October 5, 2018, the Commission issued a subsequent order in Docket U-20146 adopting specific cost categories that may be used by the IP-based 9-1-1 service providers who seek reimbursement.<sup>3</sup> The October 5 order directed IP-based 9-1-1 service providers to submit cost studies to the Commission with costs separated into three categories; transport, routing, and delivery of wireless emergency service to Public Safety Answering Points. The IP-based 9-1-1 service providers were also directed to classify the costs as recurring or nonrecurring. Lastly, the Commission ordered the IP-based 9-1-1 service providers to submit cost studies in a specific manner, as directed in the order.

The 9-1-1 Act also directs IP-based 9-1-1 service providers to submit cost studies to the Commission. Specifically, Section 408(5) states, in part, “For cost studies first submitted by an IP-based 9-1-1 service provider after the commission completes the proceeding under this subsection, the commission shall, within 45 days of receiving an invoice, only approve those costs in the invoice that are both of the following: (a) Consistent with the recurring and nonrecurring cost categories for IP-based 9-1-1 service providers approved by the commission under this subsection; (b) For contracts entered into after the effective date of the 2018 amendatory act that amended this section, the result of a competitively bid process as confirmed by supporting documentation.” Section 408(6) of the 9-1-1 Act states, “An IP-based 9-1-1 service provider shall file an updated cost study not later than 5 years after the filing of an initial cost study and every 5 years thereafter.” Pursuant to the statutory requirements, the Commission Staff receives initial cost studies, as well as updated cost studies filed every five years thereafter. Commission Staff reviews these cost studies and provides reasonable assurance that the information within the cost studies is accurate and consistent with the requirements of the 9-1-1 Act, as well as the Commission’s order in Docket U-20146. Invoices submitted to the Commission will only be approved if they are consistent with the requirements of the 9-1-1 Act.

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<sup>2</sup> Docket [U-20146](#) – The Commission opened this docket for the purpose of inviting comment regarding the establishment of cost categories.

<sup>3</sup> Docket [U-20146](#) – The Commission’s final order regarding the established cost categories.



A wireless 9-1-1 service provider or an IP-based 9-1-1 service provider files their quarterly invoices to the Commission in Docket U-14000.<sup>4</sup> Invoices filed in Docket U-14000 must pertain to wireless emergency service costs or IP-based 9-1-1 emergency service costs recoverable under MCL 484.1408(4)(b). Upon receiving an invoice filing, Commission Staff review the invoice to ensure information and mathematical accuracy. The Commission then issues a Minute Action approving the invoice within 45 days of receiving the invoice. If any errors are discovered during the invoice review process, Commission Staff will contact the 9-1-1 service provider or IP-based 9-1-1 service provider to correct errors. Amendments to the filings may be warranted. After the Commission approves the invoices, the providers then contact the Michigan Department of Treasury to seek reimbursement of their costs for providing the 9-1-1 service.

Lastly, the 9-1-1 Act (pursuant to Section 408(11)) requires the Commission to issue a report to the Governor and Legislature no later than December 1, 2020, that contains the following information:

- The total costs incurred by counties or 9-1-1 service districts that have transitioned to an IP-based 9-1-1 service provider
- The estimated transition costs to be incurred by counties or 9-1-1 service districts that have not transitioned to an IP-based 9-1-1 service provider and the estimated dates for the transition
- The estimated ongoing, annual costs of operating the 9-1-1 network after the transition to an IP-based 9-1-1 service provider has been completed by all counties or 9-1-1 service districts choosing to transition
- The current 9-1-1 funding systems revenues as reported by the State 9-1-1 Committee
- The estimated costs of operating the IP-based 9-1-1 network based on the estimates calculated in the estimated transition costs and the estimated ongoing, annual costs of operating the 9-1-1 network after the transition to IP-based 9-1-1

Pursuant to Section 408(12) of the 9-1-1 Act, the Commission is allowed to collect data from counties, 9-1-1 service districts, IP-based 9-1-1 service providers, the State Treasurer, and the State 9-1-1 Committee that are reasonably required to complete this report.

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<sup>4</sup> AT&T Michigan and Frontier are the original parties to file invoices in Docket U-14000. PFN was not a party to Docket U-14000. For administrative purposes, PFN files their invoices into this docket as well. Filing information in this docket may be located here: Docket [U-14000](#).

## Data Collection

Section 408(12) of the 9-1-1 Act states:

“The commission may collect data from counties, 9-1-1 service districts, IP-based 9-1-1 service providers, the state treasurer, and the state 9-1-1 committee that are reasonably required to complete the report under subsection (11). Counties, 9-1-1 service districts, IP-based 9-1-1 service providers, the state treasurer, and the state 9-1-1 committee shall submit to the commission any data that are reasonably required to compile the report under subsection (11). At the request of the commission, the committee shall, in preparing the annual report to be submitted to the legislature and governor under section 412 by August 1, 2020, collect data from counties, 9-1-1 service districts, and IP-based 9-1-1 service providers that the commission reasonably requires to compile the report under subsection (11) and submit that data to the commission.”

Pursuant to this section of the 9-1-1 Act, the Commission collected data from the State 9-1-1 Committee, PFN, the Michigan Department of Treasury, and the Maner Costerisan (Maner) accounting firm (Technical Surcharge Pool Administrator). The following sections provide a breakdown of the collection of data from each of these sources.

### State 9-1-1 Committee (SNC)

On November 8, 2019, Commission Staff first provided notice to the SNC requesting assistance from the SNC to obtain information from the counties or 9-1-1 service districts. Specifically, Commission Staff sought to collect cost information related to the transition to IP-based 9-1-1 networks. The cost information that was received would then be used to compare with other cost information that Commission Staff received from PFN. Commission Staff developed a number of questions for the SNC to incorporate into their Form 301.<sup>5</sup> These questions are found in Section XII of the SNC’s Form 301.<sup>6</sup> The SNC sent the Form 301 to counties and 9-1-1 service districts on March 11, 2020.<sup>7</sup> On July 8, 2020, the SNC provided the responses to the forms to the Commission Staff.

After reviewing the cost information that was received in response to Form 301, it was determined that the information was not able to be used to validate the cost information

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<sup>5</sup> The SNC Form 301 is sent annually to the counties and 9-1-1 service districts to collect information for the SNC’s annual report to the Legislature.

<sup>6</sup> [SNC Form 301](#)

<sup>7</sup> Responses to the form were originally due to the SNC on May 15, 2020; however an extension was granted to allow responses until June 15, 2020.

provided by PFN. Based on responses from the counties, many counties did not have their cost information pertaining to the transport, routing, or delivery expenses and generally, the responses to these questions were left blank. For counties or 9-1-1 service districts that included cost figures, and for which the Commission had approved rates, many of the amounts provided differed substantially. Based on comments provided by a few counties, this difference may be due to county costs such as customer premises equipment (CPE) being included in, or listed exclusively in, the overall transition costs. Those costs are not to be included in the costs that are submitted for reimbursement from the Emergency 9-1-1 Suppliers Fund. These costs are to be covered by the counties through other mechanisms.

### **Peninsula Fiber Network (PFN)**

On June 16, 2020, Commission Staff contacted PFN requesting that they provide information related to their costs for IP-9-1-1 service. Staff provided a spreadsheet with the information that was required for this report. Staff also provided PFN (for reference purposes) the questions that were sent to the counties regarding this cost information. PFN provided the requested information on July 16, 2020, and after some additional discussion with Staff PFN provided a finalized version October 29, 2020. After reviewing the information, Staff has prepared general summaries of that information. Those summaries will be discussed further in the cost category sections.

### **Michigan Department of Treasury (Treasury)**

Treasury is responsible administering for the State's 9-1-1 fund. Treasury collects the 9-1-1 fees and disburses the funds according to the 9-1-1 Act. After a wireless 9-1-1 service provider or IP-based 9-1-1 service provider receives Commission approval of its quarterly invoice for providing 9-1-1 service in Michigan, that provider then contacts Treasury with the invoice. Treasury disburses the appropriate funds to the providers to cover the costs that they incurred for providing service. Pursuant to Section 408(12) of the 9-1-1 Act, the Commission contacted Treasury to obtain information regarding the 9-1-1 fund. Treasury provided the requested information on November 2, 2020. Additional detail, including fund balance, is provided in the Current 9-1-1 Fund section of this report.

### **Maner Costerisan – Accounting Firm Administering the Technical Surcharge Pool**

Michigan's 9-1-1 law addresses many aspects of the 9-1-1 system in Michigan including how carriers are reimbursed for their costs related to providing dedicated 9-1-1 circuits and other 9-1-1 costs. Local exchange service providers are reimbursed for their 9-1-1 technical costs, including recurring and non-recurring costs. Non-recurring costs are generally plant and equipment costs and usually occur when a 9-1-1 system is established or there is a major change in the system. Recurring costs consist of circuits, labor, and maintenance costs that a carrier incurs related to the 9-1-1 network. The law states that subscribers have a separate charge on their wireline telephone bill to reimburse the carriers for their 9-1-1 technical costs. In the past, this was accounted for separately by service districts (generally a county), but effective May 5, 2018, the costs were billed and settled on a statewide basis. The portion of the IP-based

9-1-1 nonrecurring transition and recurring operating costs allocated to wireline is recovered through the technical surcharge pool. As these costs are not recovered through the Emergency 9-1-1 Suppliers Fund, this report will focus primarily on the wireless and IP-based 9-1-1 service provider costs. Additional information related to the wireline portion is provided within this report to offer a more complete picture of the IP-based 9-1-1 costs.

The Michigan 9-1-1 Technical Pool provides the vehicle to collect and disburse the funds from each subscriber to the participating local exchange carriers. The accounting firm of Maner Costerisan administers the pool pursuant to Section 401d of the 9-1-1 Act.<sup>8</sup> Based on the number of subscribers to be billed and an estimate of the carrier cost to be reported, Maner Costerisan establishes a rate to be billed to the subscribers. This rate is generally established annually effective July 1. On a quarterly basis each carrier that participates in the pool reports to Maner Costerisan their monthly cost and access lines billed to their subscribers. Based on the difference between what each carrier collects from their subscribers and the amount of cost they submit for reimbursement, a carrier either receives funds from the pool or they pay into the pool. Recurring costs are settled as they occur, and non-recurring costs are settled based on a five-year amortization.

Effective July 1, 2020, the rate per subscriber is \$0.50 per line per month. This consists of \$0.47 for recurring cost and \$0.03 for non-recurring costs. The rate is subject to annual adjustment per Section 412a of the 9-1-1 Act and all carriers are notified prior to the effective date of the new rate.

The Commission Staff contacted Maner Costerisan for the purpose of obtaining information related to the fiscal soundness of the technical surcharge pool. Since financial statements are only prepared on an annual basis, Maner Costerisan was only able to provide the financial statements for the year ending on December 31, 2019, showing a surplus balance on that date of \$5,024,454. However, the Commission Staff was able to obtain a reasonable assurance that this technical surcharge continues to be adequate, without concerns of any shortfalls.<sup>9</sup>

## IP-Based 9-1-1 Related Costs

Section 408(11) of the 9-1-1 Act directs the Commission to issue a report containing information related to specific IP-based 9-1-1 costs. Pursuant to Section 408(11)(a-e),<sup>10</sup> this report includes information related to the transition status of the counties or 9-1-1 service districts; the related costs whether incurred or estimated; projected ongoing annual costs related to operating the

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<sup>8</sup> <http://www.legislature.mi.gov/documents/mcl/pdf/mcl-act-32-of-1986.pdf>

<sup>9</sup> Maner Costerisan stated the following: "We can state that the 9-1-1 Technical Pool has sufficient funds available to support the payment of provider costs and we do not anticipate any funding shortfalls at this point in time." J. Allen, email communication, September 18, 2020.

<sup>10</sup> [PA 51 of 2018](#)

9-1-1 network; and the current 9-1-1 funding system revenues. The Commission has also provided additional IP-based 9-1-1 cost information to provide a better understanding of the overall IP-based 9-1-1 cost issues occurring throughout Michigan.

## Actual Total Costs

Actual total costs are those that have been incurred or are expected to be incurred during the five-year period covered by an approved cost study for counties or 9-1-1 service districts that have transitioned to an IP-based 9-1-1 service provider. These costs are comprised of the initial five-year cost study and where applicable, the renewal five-year cost study.

As of September 30, 2020, 58 of the 86<sup>11</sup> counties or 9-1-1 service districts in Michigan had fully transitioned to an IP-based 9-1-1 service provider. Of those 58 counties or 9-1-1 service districts, 36 have rates approved by the Commission.

The total five-year cost, encompassing both initial and renewal rates, for the 36 counties or 9-1-1 service districts that have fully transitioned and have approved rates is \$41,538,602.<sup>12</sup> The costs allocated to wireless and wireline are \$32,929,134<sup>13</sup> and \$8,609,468,<sup>14</sup> respectively. The nonrecurring transition costs total \$6,760,297 and the ongoing recurring costs total \$34,778,305.

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<sup>11</sup> The 86 counties or 9-1-1 service districts are comprised of all counties within the State of Michigan, which except for Wayne County are also 9-1-1 service districts. Wayne county is separated into four service districts: Conference of Western Wayne (CWW), Conference of Eastern Wayne (CEW), Downriver Mutual Aid (DMA), and Detroit Service District (Detroit).

<sup>12</sup> This represents the total amount of approved costs related to approved cost studies to be recovered over a five-year service period, some of which include future periods and thus have not been paid yet.

<sup>13</sup> This figure represents the amount that will be drawn from the Emergency 9-1-1 Suppliers Fund to reimburse IP-based 9-1-1 service providers that have submitted invoices in Docket U-14000 and that have been approved for payment by the Commission.

<sup>14</sup> This figure represents the amount IP-based 9-1-1 service providers will recover from the Technical Surcharge Pool currently administered by Maner Costerisan.

**Figure 1**

**Actual Costs for Counties or 9-1-1 Service Districts Fully Transitioned  
with an Approved Rate (As of September 30, 2020)**

Description	Wireless Allocation	Wireline Allocation	Totals
<b>Cost Study Phase:</b>			
Initials (Figure 1.1)	\$ 30,132,340	\$ 7,675,946	\$ 37,808,286
Renewals (Figure 1.4)	\$ 2,796,794	\$ 933,522	\$ 3,730,316
<b>Total</b>	<b>\$ 32,929,134</b>	<b>\$ 8,609,468</b>	<b>\$ 41,538,602</b>
<b>Cost Classification:</b>			
Nonrecurring	\$ 5,629,171	\$ 1,131,126	\$ 6,760,297
Recurring	\$ 27,299,963	\$ 7,478,342	\$ 34,778,305
<b>Total</b>	<b>\$ 32,929,134</b>	<b>\$ 8,609,468</b>	<b>\$ 41,538,602</b>
<b>*Remaining Approved Costs (Figure 4.3 and Figure 4.4)</b>	<b>\$ 11,112,376</b>	<b>\$ 2,871,713</b>	<b>\$ 13,984,089</b>

\* The Remaining Approved Costs are those that have not been recovered from the State's 9-1-1 Fund or the Technical Surcharge Pool. The majority of these costs are related to future service periods.

Source: Compiled from approved cost studies and Docket U-14000

**Actual costs for counties or 9-1-1 service districts that have fully transitioned with an approved rate – Initial Cost Study**

From January 1, 2015, to September 30, 2020, initial rates for 36 counties or 9-1-1 service districts were approved by the Commission based on initial cost studies. These rates cover both nonrecurring transition and recurring operating costs for five years and are allocated between wireless and wireline. As shown in Figure 1, the total five-year cost for these 36 counties or 9-1-1 service districts that have fully transitioned is \$37,808,286.<sup>15</sup> The costs allocated to wireless and wireline are \$30,132,340 and \$7,675,946, respectively. Located in the Appendix of this report, Figure 1.1 provides a breakdown of these costs by county or 9-1-1 service district; Figure 1.2 and Figure 1.3 provide further analysis of the nonrecurring and recurring costs.

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<sup>15</sup> This represents the total amount of costs related to approved initial cost studies to be recovered over a five-year service period. Some of these costs relate to future periods and thus have not been paid yet.

### Actual costs for counties or 9-1-1 service districts that have fully transitioned with an approved rate - Renewal Cost Study

As of September 30, 2020, the Commission had approved five-year renewal rates for 15 counties or 9-1-1 service districts, based on renewal cost studies. Most of these costs are for recurring operating costs; however, a portion of these rates reimburse additional nonrecurring transition costs that were warranted. The total five-year cost for these 15 counties or 9-1-1 service districts that have fully transitioned is \$3,730,316.<sup>16</sup> The costs allocated to wireless and wireline are \$2,796,794 and \$933,522, respectively. Figure 1.4 provides a breakdown of these costs by county or service district. Figure 1.5 and Figure 1.6 provide further analysis of the nonrecurring and recurring costs. Figures 1.4 -1.6 are located within the Appendix of this report.

### Estimated costs for counties or 9-1-1 service districts that have fully transitioned without an approved rate - Initial Cost Study

The remaining 22 counties or 9-1-1 service districts that have fully transitioned do not yet have approved rates from initial cost studies. Between August 26, 2020, and September 3, 2020, the Commission received, and as of September 30<sup>th</sup> were currently reviewing, initial cost studies for eight of these counties or 9-1-1 service districts. These rates cover both nonrecurring transition and recurring operating costs for five years and are allocated between wireless and wireline. The total five-year estimated cost for these 22 counties or 9-1-1 service districts, is \$18,761,820.<sup>17</sup> The costs allocated to wireless and wireline are \$15,753,480 and \$3,008,340,<sup>18</sup> respectively. Figure 1.7 below provides a summary of these figures. Figure 1.8, located in the Appendix of this report, provides a breakdown of these costs by county or 9-1-1 service district as well as between nonrecurring and recurring categories.

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<sup>16</sup> This represents the total amount of costs related to approved renewal cost studies to be recovered over a five-year service period. Some of these costs relate to future periods and thus have not been paid yet.

<sup>17</sup> This represents the total amount of estimated costs related to initial cost studies for counties or 9-1-1 service districts that have fully transitioned but do not yet have an approved rate. As these cost studies have either not yet been finalized or not yet been submitted to the Commission, none of these costs have been reimbursed from the Emergency 9-1-1 Suppliers Fund.

<sup>18</sup> Total costs for transition to IP-based 9-1-1 service is allocated between wireless and wireline. For initial cost studies not yet completed, the wireless allocation is estimated using 83.96549%. A few specific costs will not, with the finalized cost study, be allocated at this rate, but those amounts are not known at this time. At the five-year renewal point, call data from the relevant Public Safety Answering Points (PSAPs) can be utilized in establishing a county specific wireless breakout.

**Figure 1.7**

**Summary of Estimated Costs for Counties or 9-1-1 Service Districts Fully Transitioned without an Approved Rate (As of September 30, 2020)**

**Initial Cost Study\***

Description	Wireless Allocation	Wireline Allocation	Totals
<b>Cost Classification:</b>			
Nonrecurring	\$ 2,651,040	\$ 506,280	\$ 3,157,320
Recurring	\$ 13,102,440	\$ 2,502,060	\$ 15,604,500
<b>Total (Figure 1.8)</b>	<b>\$ 15,753,480</b>	<b>\$ 3,008,340</b>	<b>\$ 18,761,820</b>

\*Initial cost study amounts shown are estimated 5-year totals.

Source: Compiled from estimates provided by PFN

**Estimated Transition Costs**

Estimated transition costs are those costs that are to be incurred by counties or 9-1-1 service districts that have not yet transitioned to an IP-based 9-1-1 service provider. Included in this category are also the estimated dates for the transition.

Most of the 28 counties or 9-1-1 service districts that have not fully transitioned are currently in the process of converting.<sup>19</sup> PFN estimates that it will finish converting six counties or 9-1-1 service districts between October 1, 2020 and December 31, 2020, and an additional 20 counties or 9-1-1 service districts by mid-October 2021. Of the 86 counties or 9-1-1 service districts in the State of Michigan, two of them do not have agreements with PFN to start conversion: Macomb county and Detroit Service District (Detroit) in Wayne county.

**Estimated costs for counties or 9-1-1 service districts that have not yet fully transitioned without an approved rate - Initial Cost Study**

PFN provided an estimate of the expected rates for the 26 counties or 9-1-1 service districts that were, as of September 30, 2020, in the process of transitioning. These rates cover both nonrecurring transition and recurring operating costs for five years and are allocated between wireless and wireline. The total five-year cost for counties or 9-1-1 service districts that have not

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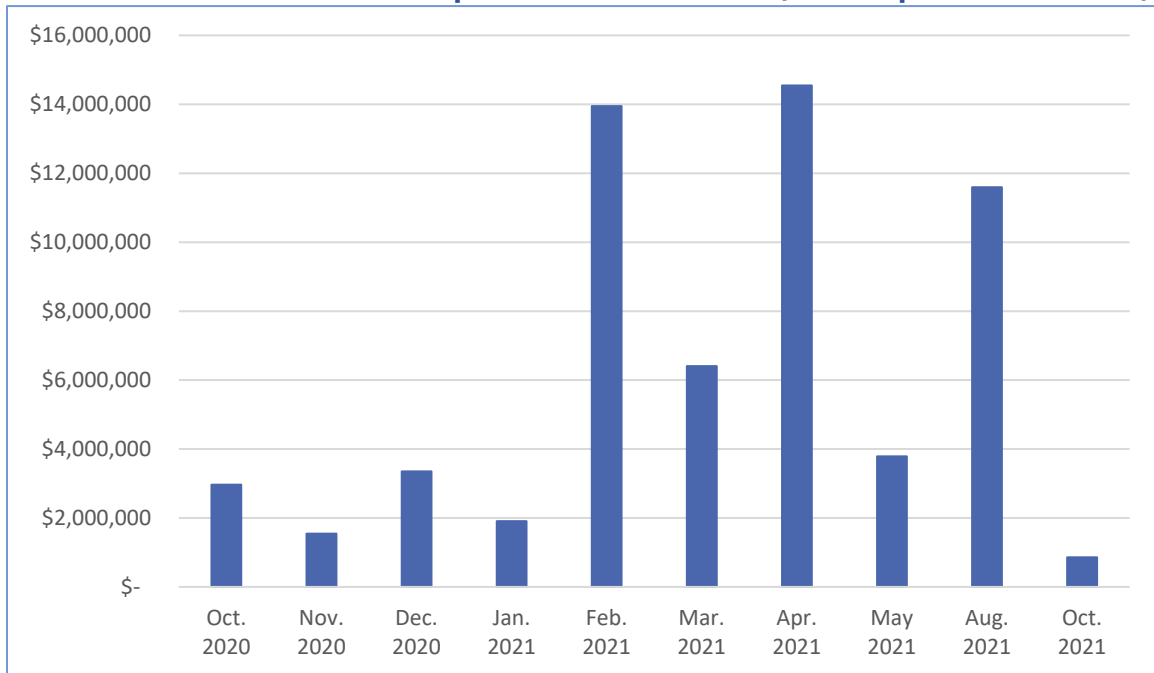
<sup>19</sup> Wayne county is separated into four service districts; Conference of Western Wayne (CWW), Conference of Eastern Wayne (CEW), Downriver Mutual Aid (DMA), and Detroit Service District (Detroit) and thus have separate conversion schedules. The transition for CWW and DMA is currently in the deployment process, while CEW is estimated to start transitioning in early December 2020. Currently, Detroit does not have an agreement with PFN.



yet fully transitioned and therefore do not have approved rates is \$60,926,580.<sup>20</sup> The total costs allocated to wireless and wireline are \$51,157,301 and \$9,769,279,<sup>21</sup> respectively. Figure 2 provides a glance of the estimated transition costs based on the anticipated date that each county or 9-1-1 service district is expected to complete the conversion process. Figure 2.1 provides a breakdown of these costs by county or 9-1-1 service district as well as the expected date of transition. A map of Michigan capturing the transition process from 2015 through 2021 is shown in Figure 2.2. Figures 2.1 and 2.2 are in the Appendix.

**Figure 2**

**Estimated Costs Based on Anticipated Conversion Date (As of September 30, 2020)**



Source: Compiled from estimates provided by PFN

### Estimated Ongoing Annual Costs

Estimated ongoing annual costs are those costs of operating the 9-1-1 network after the transition to an IP-based 9-1-1 service provider has been completed by all counties or 9-1-1

<sup>20</sup> This represents the total amount of estimated costs related to initial cost studies for counties or 9-1-1 service districts not yet fully transitioned. As these cost studies have not yet been submitted or finalized to the Commission, none of these costs have been reimbursed from the Emergency 9-1-1 Suppliers Fund.

<sup>21</sup> Total costs for transition to IP-based 9-1-1 service is allocated between wireless and wireline. For initial cost studies not yet completed, the wireless allocation is estimated using 83.96549%. There are specific costs allocated at different rates once the cost study is finalized, but those amounts are not known at this time. At the five-year renewal point, call data from the relevant Public Safety Answering Points (PSAPs) can be utilized in establishing a county specific wireless breakout.

service districts choosing to transition. These are the estimated ongoing annual recurring costs required to operate the network once it is fully functioning. Additionally, PFN anticipates that the first five-year renewal rates will continue to include some nonrecurring costs. Per PFN, these anticipated costs are for items such as “meeting evolving [National Emergency Number Association (NENA)]<sup>22</sup> standards, adding new technologies such as [geographic information system (GIS)] Routing, changes and modifications to the existing service structure such as the database amendment included in the [Upper Peninsula] Renewal, changes to the physical location of [public safety answering points (PSAPs)], third party [nonrecurring] costs associated with new term, and other changes from the existing service configuration”.<sup>23</sup>

The total estimated ongoing annual costs for the 84<sup>24</sup> counties or 9-1-1 service districts choosing to transition is \$19,860,251.<sup>25</sup> The costs allocated to wireless and wireline are \$16,327,222 and \$3,533,029,<sup>26</sup> respectively. Figure 3 provides these estimated ongoing allocated costs. In addition, Figures 3.1 and 3.2 (located in the Appendix) provide a breakdown of these costs by county or 9-1-1 service district as well as between nonrecurring and recurring categories.

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<sup>22</sup> The National Emergency Number Association (NENA) sets standards for next generation 9-1-1. Pursuant to Section 408(7) of the 9-1-1 Act, an IP-based 9-1-1 service provider must meet the next generation standards set by the NENA to submit an invoice to the Commission under subsection (4)(b) of that section for reimbursement from the Emergency 9-1-1 Suppliers Fund for allowed costs.

<sup>23</sup> J. Bednarek, email communication, October 20, 2020.

<sup>24</sup> Of the 86 counties or 9-1-1 service districts in the State of Michigan, two do not have agreements with PFN to start conversion: Macomb county and Detroit Service District (Detroit) in Wayne county and as such are not included in our estimates.

<sup>25</sup> This represents the total amount of estimated ongoing annual cost for counties or 9-1-1 service districts once they have fully transitioned and recovered the nonrecurring transition costs. This estimate is based on a renewal rate for maintaining the network on an ongoing basis.

<sup>26</sup> Total costs for transition to IP-based 9-1-1 service is allocated between wireless and wireline. For initial cost studies not yet completed, the wireless allocation is estimated using 83.96549%. A few specific costs will not, with the finalized cost study, be allocated at this rate, but those amounts are not known at this time. At the 5-year renewal point, call data from the relevant Public Safety Answering Points (PSAPs) can be utilized in establishing a county specific wireless breakout.

**Figure 3**

**Estimated Ongoing Annual Costs (As of September 30, 2020)**

Description	Wireless Allocation	Wireline Allocation	Totals
<b>Cost Study Phase:</b>			
Renewals - Actual (Figure 3.1)	\$ 559,360	\$ 186,705	\$ 746,065
Renewals - Estimated (Figure 3.2)	\$ 15,767,862	\$ 3,346,324	\$ 19,114,186
<b>Estimated Annual Total</b>	<b>\$ 16,327,222</b>	<b>\$ 3,533,029</b>	<b>\$ 19,860,251</b>
<b>Cost Classification:</b>			
Nonrecurring	\$ 80,184	\$ 20,078	\$ 100,262
Recurring	\$ 16,247,038	\$ 3,512,951	\$ 19,759,989
<b>Estimated Annual Total</b>	<b>\$ 16,327,222</b>	<b>\$ 3,533,029</b>	<b>\$ 19,860,251</b>

Source: Compiled from approved cost studies and estimates provided by PFN

**Current 9-1-1 Fund**

The current 9-1-1 funding systems revenues, as reported by the SNC in their 2020 report,<sup>27</sup> are \$44.2 million for the period of January 1, 2019 to December 31, 2019. This number consists of cash receipts from telecommunications suppliers, prepaid wireless telecommunications service sellers, and interest earnings. The revenues are used to process payments to counties, supplier reimbursement payments, and PSAP training fund payments.

The Commission Staff also contacted the Treasury for the purpose of obtaining information related to the Emergency 9-1-1 Suppliers Fund, a fund within the Emergency 9-1-1 Fund, from which allocated wireless provider costs related to operating the 9-1-1 network are reimbursed. Costs from this fund cover all 86 counties or 9-1-1 service districts in the state of Michigan, regardless of whether or not it has transitioned to an IP-based 9-1-1 service provider. As of September 30, 2020, Treasury reports that the Emergency 9-1-1 Suppliers Fund balance is \$22,101,789. This balance includes \$2,326,074 related to invoices that have been approved by the Commission but have not been reimbursed from the fund resulting in an adjusted ending balance of \$19,775,715. Figure 4 (below) outlines these amounts. Figure 4.1 (in the Appendix) provides additional details related to the revenues and disbursements related to this fund. Figure 4.2 (in the Appendix) provides a per county or 9-1-1 service district overview of the approved costs that have not yet been invoiced. Figure 4.3 and Figure 4.4 (in the Appendix)

<sup>27</sup> [2020 Annual Report to the Michigan Legislature State 911 Committee](#), pg. 17.

break this down further into wireless and wireline costs and into nonrecurring and recurring costs.

**Figure 4**

**Emergency 9-1-1 Suppliers Fund Summary (As of September 30, 2020)**

Description	Amount	Balance
Ending Fund Balance (Figure 4.1):		\$ 22,101,789
Less: Unpaid Approved Invoices as of 09/30/2020		
Wireless 9-1-1	\$ 120,396	
IP-Based 9-1-1	\$ 2,205,678	
Total		\$ 2,326,074
Adjusted Ending Balance		\$ 19,775,715

Source: Compiled from information provided by Treasury and Docket U-14000

**Total Estimated Costs – Implementation and Ongoing Maintenance**

The estimated costs of operating the IP-based 9-1-1 network based on the estimated transition costs of counties or 9-1-1 service districts that have not transitioned to an IP-based 9-1-1 service provider, and estimated ongoing annual costs of operating the 9-1-1 network are shown below in Figure 5.

**Figure 5**

**Combined Estimated Costs (As of September 30, 2020)**

Description	Wireless Allocation	Wireline Allocation	Totals
<u>Estimated Transition:</u>			
Nonrecurring	\$ 8,611,736	\$ 1,644,544	\$ 10,256,280
Recurring	\$ 42,545,565	\$ 8,124,735	\$ 50,670,300
Estimated Transition Costs (Figure 2.1)	\$ 51,157,301	\$ 9,769,279	\$ 60,926,580
<u>Estimated Ongoing:</u>			
Nonrecurring	\$ 80,184	\$ 20,078	\$ 100,262
Recurring	\$ 16,247,038	\$ 3,512,951	\$ 19,759,989
Estimated Ongoing Annual Costs (Figure 3)	\$ 16,327,222	\$ 3,533,029	\$ 19,860,251
Combined Estimated Costs	\$ 67,484,523	\$ 13,302,308	\$ 80,786,831

The amounts above have some figures that are overlapping between the estimated transition costs and estimated annual ongoing costs and as such may not provide the best representative information.

Source: Compiled from estimates provided by PFN

Section 408(11)(e) of PA 51 of 2018 requires the Commission to provide the estimated cost information that is identified in Figure 5. However, after reviewing the information that was collected, it was determined that the information was limited in scope and additional relevant information about the estimated costs of the IP-based 9-1-1 network should be included to provide further explanation of these estimated costs. The following section provides that additional estimated cost information.

#### Estimated costs of IP-based 9-1-1 network

The total estimated costs of the IP-based 9-1-1 network are based on approved and estimated rates of counties or 9-1-1 service districts that have fully transitioned to IP-based 9-1-1 service and estimated rates for those that have not fully transitioned.

In Figure 5.1 below, "Total Estimated Costs" include all anticipated costs for initial cost studies for the counties or 9-1-1 service districts choosing to transition to IP-based 9-1-1 service as well as the anticipated costs related to the renewal cost studies currently approved. The total is comprised of three elements: the first is counties or 9-1-1 service districts that are fully converted with an approved rate; the second is counties or 9-1-1 service districts that are fully converted but do not yet have an approved rate; and the third is the estimated costs of the counties or 9-1-1 service districts that have not yet transitioned. The total estimated costs are \$121,227,002. The costs allocated to wireless and wireline are \$99,839,915 and \$21,387,087, respectively. The nonrecurring transition costs total \$20,173,897 and the ongoing recurring costs total \$101,053,105.

**Figure 5.1**

**Total Estimated Costs of IP-Based 9-1-1 Network (As of September 30, 2020)**

<b>Description</b>	<b>Wireless Allocation</b>	<b>Wireline Allocation</b>	<b>Totals</b>
<b>Fully Transitioned</b>			
Initials and Renewals with an Approved Rate (Figure 1)	\$ 32,929,134	\$ 8,609,468	\$ 41,538,602
Initials without an Approved Rate (Figure 1.8)	\$ 15,753,480	\$ 3,008,340	\$ 18,761,820
<b>Subtotal</b>	<b>\$ 48,682,614</b>	<b>\$ 11,617,808</b>	<b>\$ 60,300,422</b>
<b>Not Yet Fully Transitioned:</b>			
Estimated Rates (Figure 2.1)	\$ 51,157,301	\$ 9,769,279	\$ 60,926,580
<b>Total Estimated Costs*</b>	<b>\$ 99,839,915</b>	<b>\$ 21,387,087</b>	<b>\$ 121,227,002</b>
<b>Cost Classification:</b>			
Nonrecurring	\$ 16,891,947	\$ 3,281,950	\$ 20,173,897
Recurring	\$ 82,947,968	\$ 18,105,137	\$ 101,053,105
<b>Total Estimated Costs*</b>	<b>\$ 99,839,915</b>	<b>\$ 21,387,087</b>	<b>\$ 121,227,002</b>

\* These costs are recovered over a 5-year period for each cost study so the Upper Peninsula counties or 9-1-1 service districts have two separate 5-year amounts included in the totals here.

Source: Compiled from approved cost studies and estimates provided by PFN

While Figure 5.1 shows the total cost for the IP-based 9-1-1 network, Figure 5.2 (below) shows the costs that are remaining. These costs have not been recovered by the Emergency 9-1-1 Suppliers Fund or the Technical Surcharge Pool. The total estimated future costs are \$93,672,489. The costs allocated to wireless and wireline are \$78,023,157 and \$15,649,332, respectively. The nonrecurring transition costs total \$15,626,270 and the ongoing recurring costs total \$78,046,219.

## Figure 5.2

### Estimated Future Cost of Operating IP-Based 9-1-1 Network (As of September 30, 2020)

Description	Wireless Allocation	Wireline Allocation	Totals
Remaining Fully Transitioned with an Approved Rate* (Figure 4.3 and Figure 4.4)	\$ 11,112,376	\$ 2,871,713	\$ 13,984,089
Fully Transitioned without an Approved Rate (Figure 1.8)	\$ 15,753,480	\$ 3,008,340	\$ 18,761,820
Not Fully Transitioned (Figure 2.1)	\$ 51,157,301	\$ 9,769,279	\$ 60,926,580
<b>Total Estimated Future Costs**</b>	<b>\$ 78,023,157</b>	<b>\$ 15,649,332</b>	<b>\$ 93,672,489</b>
<b>Cost Classification:</b>			
Nonrecurring	\$ 13,119,972	\$ 2,506,298	\$ 15,626,270
Recurring	\$ 64,903,185	\$ 13,143,034	\$ 78,046,219
<b>Total Estimated Future Costs**</b>	<b>\$ 78,023,157</b>	<b>\$ 15,649,332</b>	<b>\$ 93,672,489</b>

\* Due to differing service periods (minimum of 6 months to a maximum of 60 months) remaining in these approved rates an annual estimation of these amounts is not applicable. The amount is included because none of these costs have been recovered from the State's 9-1-1 Fund or the Technical Surcharge Pool.

\*\* These costs cover a 5-Year period. The estimated annual amounts are \$15,604,631 for wireless and \$3,129,866 for wireline totaling \$18,734,498 annually.

Source: Compiled from approved cost studies, estimates provided by PFN, and Docket U-14000

## Conclusion

The Commission, adhering to its responsibilities as set forth in Section 408(11) of Public Act 51 of 2018, provides the Governor and Legislature with this report that includes information on actual and estimated costs for IP-based 9-1-1 service in Michigan. Specifically, the 9-1-1 Act directed the Commission to provide cost information for the following:

- The total costs incurred by counties or 9-1-1 service districts that have transitioned to an IP-based 9-1-1 service provider
- The estimated transition costs to be incurred by counties or 9-1-1 service districts that have not transitioned to an IP-based 9-1-1 service provider and the estimated dates for the transition
- The estimated ongoing, annual costs of operating the 9-1-1 network after the transition to an IP-based 9-1-1 service provider has been completed by all counties or 9-1-1 service districts choosing to transition
- The current 9-1-1 funding systems revenues as reported by the State 9-1-1 Committee

- The estimated costs of operating the IP-based 9-1-1 network based on the estimates calculated in the estimated transition costs and the estimated ongoing, annual costs of operating the 9-1-1 network after the transition to IP-based 9-1-1

The Commission requested and collected cost-related information from the State 9-1-1 Committee, the Peninsula Fiber Network companies, the Michigan Department of Treasury, and the accounting firm of Maner Costerisan.

As of September 30, 2020, 58 of the 86 counties or 9-1-1 service districts in Michigan had fully transitioned to an IP-based 9-1-1 service provider. Of those 58 counties or 9-1-1 service districts, 36 have rates approved by the Commission to fund operations of IP-based 9-1-1 systems. The total five-year cost, encompassing both initial and renewal rates, for the 36 counties or 9-1-1 service districts that have fully transitioned and have approved rates is \$41,538,602 (\$32,929,134 allocated to wireless providers and \$8,609,468 allocated to wireline providers). The remaining 22 counties or 9-1-1 service districts that have fully transitioned do not yet have approved rates from initial cost studies. The total five-year estimated cost for these 22 counties or 9-1-1 service districts is \$18,761,820 (\$15,753,480 allocated to wireless providers and \$3,008,340 allocated to wireline providers).

Of the 28 counties or 9-1-1 service districts that have not fully transitioned, 26 are currently in the process of converting. The total five-year estimated cost for counties or 9-1-1 service districts that have not yet fully transitioned and therefore do not have approved rates is \$60,926,580 (\$51,157,301 allocated to wireless providers and \$9,769,279 allocated to wireline providers).

Estimated ongoing annual costs are those costs of operating the 9-1-1 network after the transition to an IP-based 9-1-1 service provider has been completed by all counties or 9-1-1 service districts choosing to transition. The total estimated ongoing annual cost for the 84 counties or 9-1-1 service districts choosing to transition is \$19,860,251 (\$16,327,222 allocated to wireless providers and \$3,533,029 allocated to wireline providers). Two counties or 9-1-1 service districts do not have agreements with PFN to start conversion: Macomb county and Detroit Service District in Wayne county.

As of September 30, 2020, Treasury reports that the Emergency 9-1-1 Suppliers Fund balance is \$22,101,789. This balance includes \$2,326,074 for invoices that have been approved by the Commission but have not been reimbursed by the fund resulting in an adjusted ending balance of \$19,775,715.

The total estimated costs of the IP-based 9-1-1 network are based on approved and estimated rates of counties or 9-1-1 service districts that have fully transitioned to IP-based 9-1-1 service and estimated rates for those that have not fully transitioned. These costs include all anticipated costs for initial cost studies for the service districts choosing to transition to IP-based 9-1-1 service as well as the anticipated costs related to the renewal cost studies currently approved. The total estimated costs are \$121,227,002 (\$99,839,915 allocated to wireless providers and \$21,387,087 allocated to wireline providers).



It is important to note that costs are dependent on county population. These costs will be changing soon based on the results from the 2020 census. In addition, due to the complexity of these costs, it is not possible to provide simple general cost numbers for each category. The figures throughout the body of this report and appendix should be referenced for specific cost detail. In closing, the Commission does not make any recommendations on the funding but is providing information to the Governor and Legislature for their consideration of any future legislative changes to the 9-1-1 Act.



## Appendix

### Actual Costs

Figure 1.1

**Actual Costs for Counties or 9-1-1 Service Districts Fully Transitioned  
with an Approved Rate (As of September 30, 2020) – Initial Cost Study**

County or 9-1-1 Service District	Population	Monthly Rate	Total Wireless Allocation	Total Wireline Allocation	Initial 5-Year Total*
Alcona	10,942	0.5699	\$ 302,329	\$ 64,105	\$ 366,434
Alger	9,601	0.2192	\$ 91,724	\$ 32,701	\$ 124,425
Alpena	29,598	0.2223	\$ 297,404	\$ 72,914	\$ 370,318
Baraga	8,860	0.2192	\$ 81,984	\$ 30,177	\$ 112,161
Bay	107,771	0.2284	\$ 1,162,661	\$ 284,269	\$ 1,446,930
Charlevoix	25,949	0.2223	\$ 252,344	\$ 61,742	\$ 314,086
Cheboygan	26,152	0.2223	\$ 254,318	\$ 62,225	\$ 316,543
Chippewa	38,520	0.2192	\$ 370,285	\$ 131,199	\$ 501,484
Delta	37,069	0.2192	\$ 351,947	\$ 126,257	\$ 478,204
Dickinson	26,168	0.2192	\$ 248,228	\$ 89,128	\$ 337,356
Emmet	32,694	0.2223	\$ 317,936	\$ 77,791	\$ 395,727
Genesee	425,790	0.1764	\$ 3,534,559	\$ 921,830	\$ 4,456,389
Gladwin	25,692	0.3393	\$ 405,121	\$ 91,295	\$ 496,416
Gogebic	16,427	0.2192	\$ 154,000	\$ 55,950	\$ 209,950
Grand Traverse	86,986	0.2223	\$ 869,122	\$ 213,008	\$ 1,082,130
Houghton	36,628	0.2192	\$ 338,931	\$ 124,755	\$ 463,686
Huron	33,118	0.2284	\$ 351,727	\$ 85,945	\$ 437,672
Iosco	25,887	0.2284	\$ 273,572	\$ 66,835	\$ 340,407
Iron	11,817	0.2192	\$ 110,782	\$ 40,249	\$ 151,031
Keweenaw	2,156	0.2192	\$ 19,950	\$ 7,344	\$ 27,294
Livingston	180,967	0.1988	\$ 1,682,444	\$ 425,116	\$ 2,107,560
Luce	6,631	0.2192	\$ 63,742	\$ 22,585	\$ 86,327
Mackinac	11,113	0.2192	\$ 106,827	\$ 37,851	\$ 144,678
Marquette**	70,033	0.2192	\$ 671,140	\$ 238,532	\$ 909,672
Menominee	24,029	0.2192	\$ 227,429	\$ 81,843	\$ 309,272
Midland	83,629	0.2284	\$ 901,803	\$ 220,487	\$ 1,122,290
Montmorency	9,765	0.5938	\$ 283,562	\$ 59,999	\$ 343,561
Oakland	1,202,362	0.2466	\$ 13,790,285	\$ 3,315,773	\$ 17,106,058
Ontonagon	6,780	0.2192	\$ 62,738	\$ 23,092	\$ 85,830
Otsego	24,164	0.3750	\$ 430,310	\$ 95,640	\$ 525,950
Presque Isle	13,376	0.5182	\$ 334,354	\$ 71,317	\$ 405,671
Roscommon	24,449	0.2223	\$ 238,516	\$ 58,371	\$ 296,887
Sanilac	43,114	0.2284	\$ 462,739	\$ 113,117	\$ 575,856
Schoolcraft	8,485	0.2192	\$ 78,514	\$ 28,900	\$ 107,414
Tuscola	55,729	0.2284	\$ 595,733	\$ 145,606	\$ 741,339
Wexford	32,735	0.2666	\$ 413,280	\$ 97,998	\$ 511,278
<b>Total</b>			<b>\$ 30,132,340</b>	<b>\$ 7,675,946</b>	<b>\$ 37,808,286</b>

\* An adjustment for partial months was made when the date the county of 9-1-1 service district was fully transitioned happened after the first day of the month.

\*\* Marquette PSALI population figure of 2,956 (which services the college in Marquette) is included in the total population figure for Marquette.

Source: Compiled from approved cost studies

Figure 1.2

**Actual Wireless Costs for Counties or 9-1-1 Districts Fully Transitioned with an Approved Rate (As of September 30, 2020) – Initial Cost Study**

County or 9-1-1 Service District	Total Nonrecurring Wireline	Total Recurring Wireline	Initial 5-Year Total Wireline*
Alcona	\$ 21,469	\$ 42,636	\$ 64,105
Alger	\$ 5,012	\$ 27,689	\$ 32,701
Alpena	\$ 12,076	\$ 60,838	\$ 72,914
Baraga	\$ 4,625	\$ 25,552	\$ 30,177
Bay	\$ 32,331	\$ 251,938	\$ 284,269
Charlevoix	\$ 10,587	\$ 51,155	\$ 61,742
Cheboygan	\$ 10,670	\$ 51,555	\$ 62,225
Chippewa	\$ 20,107	\$ 111,092	\$ 131,199
Delta	\$ 19,350	\$ 106,907	\$ 126,257
Dickinson	\$ 13,660	\$ 75,468	\$ 89,128
Emmet	\$ 13,339	\$ 64,452	\$ 77,791
Genesee	\$ 74,087	\$ 847,743	\$ 921,830
Gladwin	\$ 27,872	\$ 63,423	\$ 91,295
Gogebic	\$ 8,575	\$ 47,375	\$ 55,950
Grand Traverse	\$ 35,490	\$ 177,518	\$ 213,008
Houghton	\$ 19,120	\$ 105,635	\$ 124,755
Huron	\$ 9,935	\$ 76,010	\$ 85,945
Iosco	\$ 7,766	\$ 59,069	\$ 66,835
Iron	\$ 6,169	\$ 34,080	\$ 40,249
Keweenaw	\$ 1,126	\$ 6,218	\$ 7,344
Livingston	\$ 41,874	\$ 383,242	\$ 425,116
Luce	\$ 3,461	\$ 19,124	\$ 22,585
Mackinac	\$ 5,801	\$ 32,050	\$ 37,851
Marquette**	\$ 36,557	\$ 201,975	\$ 238,532
Menominee	\$ 12,543	\$ 69,300	\$ 81,843
Midland	\$ 25,089	\$ 195,398	\$ 220,487
Montmorency	\$ 16,290	\$ 43,709	\$ 59,999
Oakland	\$ 509,966	\$ 2,805,807	\$ 3,315,773
Ontonagon	\$ 3,539	\$ 19,553	\$ 23,092
Otsego	\$ 24,358	\$ 71,282	\$ 95,640
Presque Isle	\$ 21,730	\$ 49,587	\$ 71,317
Roscommon	\$ 9,975	\$ 48,396	\$ 58,371
Sanilac	\$ 12,934	\$ 100,183	\$ 113,117
Schoolcraft	\$ 4,429	\$ 24,471	\$ 28,900
Tuscola	\$ 16,719	\$ 128,887	\$ 145,606
Wexford	\$ 27,920	\$ 70,078	\$ 97,998
<b>Total</b>	<b>\$ 1,126,551</b>	<b>\$ 6,549,395</b>	<b>\$ 7,675,946</b>

\* An adjustment for partial months was made when the date the county of 9-1-1 service district was fully transitioned happened after the first day of the month.

\*\* Marquette PSALI population figure of 2,956 (which services the college in Marquette) is included in the total population figure for Marquette.

Source: Compiled from approved cost studies

Figure 1.3

**Actual Wireline Costs for Counties or 9-1-1 Service Districts Fully Transitioned with an Approved Rate (As of September 30, 2020) – Initial Cost Study**

County or 9-1-1 Service District	Total Nonrecurring Wireline	Total Recurring Wireline	Initial 5-Year Total Wireline*
Alcona	\$ 21,469	\$ 42,636	\$ 64,105
Alger	\$ 5,012	\$ 27,689	\$ 32,701
Alpena	\$ 12,076	\$ 60,838	\$ 72,914
Baraga	\$ 4,625	\$ 25,552	\$ 30,177
Bay	\$ 32,331	\$ 251,938	\$ 284,269
Charlevoix	\$ 10,587	\$ 51,155	\$ 61,742
Cheboygan	\$ 10,670	\$ 51,555	\$ 62,225
Chippewa	\$ 20,107	\$ 111,092	\$ 131,199
Delta	\$ 19,350	\$ 106,907	\$ 126,257
Dickinson	\$ 13,660	\$ 75,468	\$ 89,128
Emmet	\$ 13,339	\$ 64,452	\$ 77,791
Genesee	\$ 74,087	\$ 847,743	\$ 921,830
Gladwin	\$ 27,872	\$ 63,423	\$ 91,295
Gogebic	\$ 8,575	\$ 47,375	\$ 55,950
Grand Traverse	\$ 35,490	\$ 177,518	\$ 213,008
Houghton	\$ 19,120	\$ 105,635	\$ 124,755
Huron	\$ 9,935	\$ 76,010	\$ 85,945
Iosco	\$ 7,766	\$ 59,069	\$ 66,835
Iron	\$ 6,169	\$ 34,080	\$ 40,249
Keweenaw	\$ 1,126	\$ 6,218	\$ 7,344
Livingston	\$ 41,874	\$ 383,242	\$ 425,116
Luce	\$ 3,461	\$ 19,124	\$ 22,585
Mackinac	\$ 5,801	\$ 32,050	\$ 37,851
Marquette**	\$ 36,557	\$ 201,975	\$ 238,532
Menominee	\$ 12,543	\$ 69,300	\$ 81,843
Midland	\$ 25,089	\$ 195,398	\$ 220,487
Montmorency	\$ 16,290	\$ 43,709	\$ 59,999
Oakland	\$ 509,966	\$ 2,805,807	\$ 3,315,773
Ontonagon	\$ 3,539	\$ 19,553	\$ 23,092
Otsego	\$ 24,358	\$ 71,282	\$ 95,640
Presque Isle	\$ 21,730	\$ 49,587	\$ 71,317
Roscommon	\$ 9,975	\$ 48,396	\$ 58,371
Sanilac	\$ 12,934	\$ 100,183	\$ 113,117
Schoolcraft	\$ 4,429	\$ 24,471	\$ 28,900
Tuscola	\$ 16,719	\$ 128,887	\$ 145,606
Wexford	\$ 27,920	\$ 70,078	\$ 97,998
<b>Total</b>	<b>\$ 1,126,551</b>	<b>\$ 6,549,395</b>	<b>\$ 7,675,946</b>

\* An adjustment for partial months was made when the date the county of 9-1-1 service district was fully transitioned happened after the first day of the month.

\*\* Marquette PSALI population figure of 2,956 (which services the college in Marquette) is included in the total population figure for Marquette.

Source: Compiled from approved cost studies

Figure 1.4

**Actual Costs for Counties or 9-1-1 Service Districts Fully Transitioned  
with an Approved Rate (As of September 30, 2020) – Renewal Cost Study**

County or 9-1-1 Service District	Population	Monthly Rate	Total Wireless Allocation	Total Wireline Allocation	Renewal 5-Year Total
Alger	9,601	0.1978	\$ 85,429	\$ 28,515	\$ 113,944
Baraga	8,860	0.1978	\$ 78,837	\$ 26,314	\$ 105,151
Chippewa	38,520	0.1978	\$ 342,751	\$ 114,405	\$ 457,156
Delta	37,069	0.1978	\$ 329,840	\$ 110,094	\$ 439,934
Dickinson	26,168	0.1978	\$ 232,843	\$ 77,719	\$ 310,562
Gogebic	16,427	0.1978	\$ 146,168	\$ 48,788	\$ 194,956
Houghton	36,628	0.1978	\$ 325,916	\$ 108,785	\$ 434,701
Iron	11,817	0.1978	\$ 105,147	\$ 35,097	\$ 140,244
Keweenaw	2,156	0.1978	\$ 19,184	\$ 6,403	\$ 25,587
Luce	6,631	0.1978	\$ 59,003	\$ 19,695	\$ 78,698
Mackinac	11,113	0.1978	\$ 98,884	\$ 33,006	\$ 131,890
Marquette*	70,033	0.1978	\$ 623,154	\$ 207,998	\$ 831,152
Menominee	24,029	0.1978	\$ 213,810	\$ 71,366	\$ 285,176
Ontonagon	6,780	0.1978	\$ 60,328	\$ 20,137	\$ 80,465
Schoolcraft	8,485	0.1978	\$ 75,500	\$ 25,200	\$ 100,700
		Total	\$ 2,796,794	\$ 933,522	\$ 3,730,316

\* Marquette PSALI population figure of 2,956 (which services the college in Marquette) is included in the total population figure for Marquette.

Source: Compiled from approved cost studies

Figure 1.5

**Actual Wireless Costs for Counties or 9-1-1 Service Districts Fully Transitioned with an Approved Rate (As of September 30, 2020) – Renewal Cost Study**

County or 9-1-1 Service District	Total Nonrecurring Wireless	Total Recurring Wireless	Renewal 5-Year Wireless Total
Alger	\$ 538	\$ 84,891	\$ 85,429
Baraga	\$ 497	\$ 78,340	\$ 78,837
Chippewa	\$ 2,159	\$ 340,592	\$ 342,751
Delta	\$ 2,078	\$ 327,762	\$ 329,840
Dickinson	\$ 1,467	\$ 231,376	\$ 232,843
Gogebic	\$ 921	\$ 145,247	\$ 146,168
Houghton	\$ 2,053	\$ 323,863	\$ 325,916
Iron	\$ 662	\$ 104,485	\$ 105,147
Keweenaw	\$ 121	\$ 19,063	\$ 19,184
Luce	\$ 372	\$ 58,631	\$ 59,003
Mackinac	\$ 623	\$ 98,261	\$ 98,884
Marquette*	\$ 3,926	\$ 619,228	\$ 623,154
Menominee	\$ 1,347	\$ 212,463	\$ 213,810
Ontonagon	\$ 380	\$ 59,948	\$ 60,328
Schoolcraft	\$ 476	\$ 75,024	\$ 75,500
<b>Total</b>	<b>\$ 17,620</b>	<b>\$ 2,779,174</b>	<b>\$ 2,796,794</b>

\* Marquette PSALI population figure of 2,956 (which services the college in Marquette) is included in the total population figure for Marquette.

Source: Compiled from approved cost studies

Figure 1.6

**Actual Wireline Costs for Counties or 9-1-1 Service Districts Fully Transitioned with an Approved Rate (As of September 30, 2020) – Renewal Cost Study**

County or 9-1-1 Service District	Total Nonrecurring Wireline	Total Recurring Wireline	Renewal 5-Year Wireline Total
Alger	\$ 140	\$ 28,375	\$ 28,515
Baraga	\$ 129	\$ 26,185	\$ 26,314
Chippewa	\$ 561	\$ 113,844	\$ 114,405
Delta	\$ 539	\$ 109,555	\$ 110,094
Dickinson	\$ 381	\$ 77,338	\$ 77,719
Gogebic	\$ 239	\$ 48,549	\$ 48,788
Houghton	\$ 533	\$ 108,252	\$ 108,785
Iron	\$ 172	\$ 34,925	\$ 35,097
Keweenaw	\$ 31	\$ 6,372	\$ 6,403
Luce	\$ 97	\$ 19,598	\$ 19,695
Mackinac	\$ 162	\$ 32,844	\$ 33,006
Marquette*	\$ 1,019	\$ 206,979	\$ 207,998
Menominee	\$ 350	\$ 71,016	\$ 71,366
Ontonagon	\$ 99	\$ 20,038	\$ 20,137
Schoolcraft	\$ 123	\$ 25,077	\$ 25,200
<b>Total</b>	<b>\$ 4,575</b>	<b>\$ 928,947</b>	<b>\$ 933,522</b>

\* Marquette PSALI population figure of 2,956 (which services the college in Marquette) is included in the total population figure for Marquette.

Source: Compiled from approved cost studies



## Estimated Costs

Figure 1.8

### Estimated Costs for Counties or 9-1-1 Service Districts Fully Transitioned without an Approved Rate (As of September 30, 2020)

Initial	Cost	Study	Rates	and	Amounts	are	Estimated
County or 9-1-1 Service District	Population	Estimated Rate	Total Nonrecurring	Total Recurring	Estimated Monthly Total	Estimated 5 - Year Total	
Barry	59,173	0.3500	\$ 2,894	\$ 17,817	\$ 20,711	\$ 1,242,660	
Benzie	17,525	0.2394	\$ 706	\$ 3,489	\$ 4,195	\$ 251,700	
Branch	45,248	0.2394	\$ 1,823	\$ 9,009	\$ 10,832	\$ 649,920	
Calhoun	136,146	0.3500	\$ 6,658	\$ 40,993	\$ 47,651	\$ 2,859,060	
Cass	52,293	0.2394	\$ 2,107	\$ 10,411	\$ 12,518	\$ 751,080	
Clare	30,926	0.2394	\$ 1,246	\$ 6,157	\$ 7,403	\$ 444,180	
Clinton	75,382	0.2105	\$ 2,706	\$ 13,161	\$ 15,867	\$ 952,020	
Crawford	14,074	0.3960	\$ 1,423	\$ 4,150	\$ 5,573	\$ 334,380	
Hillsdale	46,688	0.2394	\$ 1,882	\$ 9,296	\$ 11,178	\$ 670,680	
Ionia	63,905	0.2394	\$ 2,575	\$ 12,723	\$ 15,298	\$ 917,880	
Kalamazoo	250,331	0.2394	\$ 10,089	\$ 49,841	\$ 59,930	\$ 3,595,800	
Leelanau	21,708	0.2394	\$ 875	\$ 4,322	\$ 5,197	\$ 311,820	
Lenawee	99,892	0.2394	\$ 4,025	\$ 19,888	\$ 23,913	\$ 1,434,780	
Mason	28,705	0.2034	\$ 1,045	\$ 4,794	\$ 5,839	\$ 350,340	
Mecosta	42,798	0.2034	\$ 1,558	\$ 7,147	\$ 8,705	\$ 522,300	
Missaukee	14,849	0.2394	\$ 598	\$ 2,956	\$ 3,554	\$ 213,240	
Montcalm	63,342	0.2394	\$ 2,552	\$ 12,611	\$ 15,163	\$ 909,780	
Newaygo	48,460	0.2034	\$ 1,764	\$ 8,093	\$ 9,857	\$ 591,420	
Oceana	26,570	0.2034	\$ 967	\$ 4,437	\$ 5,404	\$ 324,240	
Osceola	23,528	0.2034	\$ 856	\$ 3,929	\$ 4,785	\$ 287,100	
Oscoda	8,640	0.6132	\$ 1,531	\$ 3,767	\$ 5,298	\$ 317,880	
Shiawassee	70,648	0.1957	\$ 2,742	\$ 11,084	\$ 13,826	\$ 829,560	
Total			\$ 52,622	\$ 260,075	\$ 312,697	\$ 18,761,820	
Wireless		83.96549%	\$ 44,184	\$ 218,374	\$ 262,558	\$ 15,753,480	
Wireline		16.03451%	\$ 8,438	\$ 41,701	\$ 50,139	\$ 3,008,340	

Source: Compiled from estimates provided by PFN

Figure 2.1

Estimated Costs for Counties or 9-1-1 Service Districts Not Yet Fully Transitioned  
(As of September 30, 2020)

Initial Cost Study Rates and Amounts are Estimated

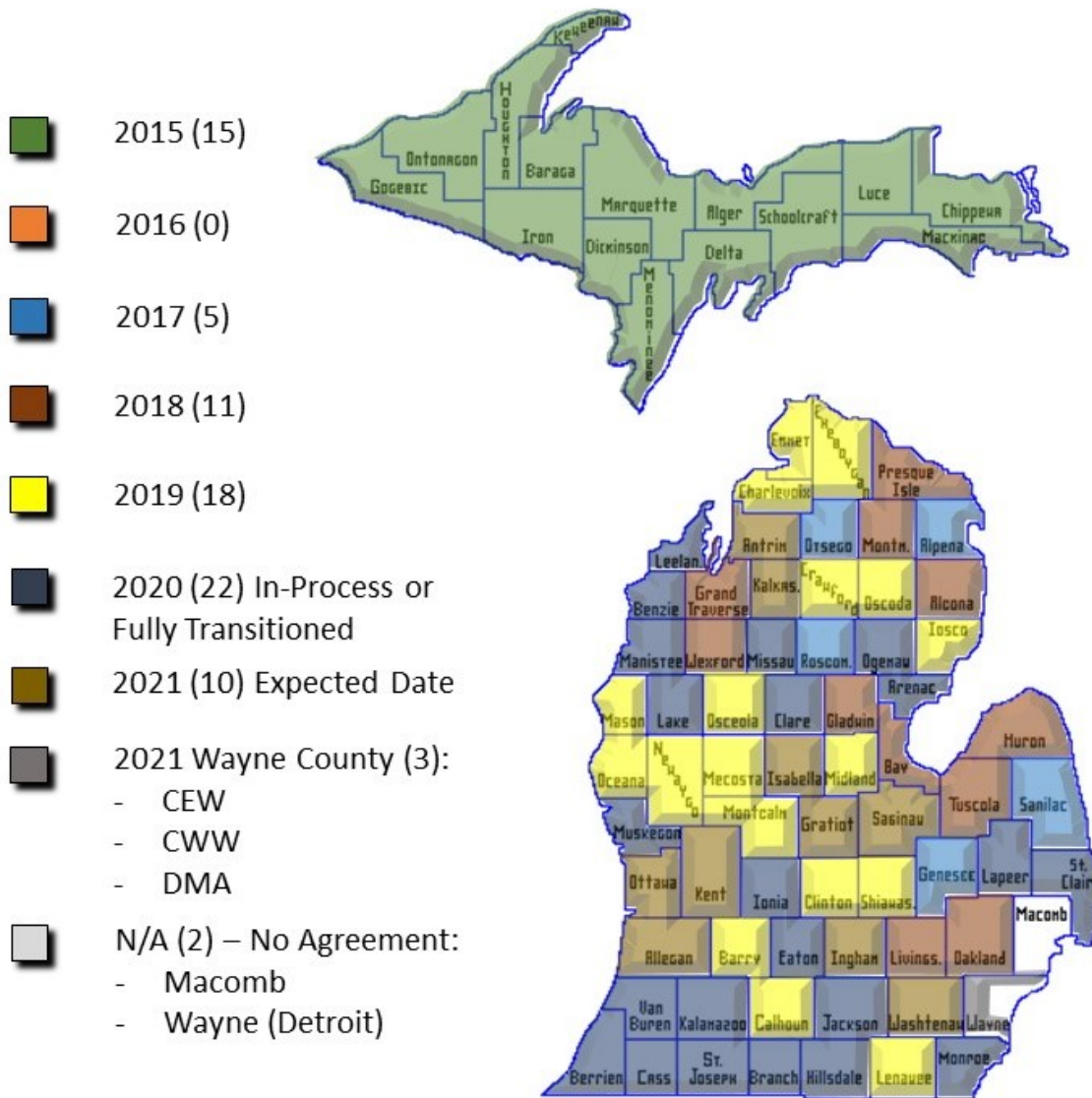
County or 9-1-1 Service District	Population	Estimated Rate	Estimated Monthly Total	Estimated 5 -Year Total	Estimated Conversion Date
Allegan	111,408	0.2394	\$ 26,671	\$ 1,600,260	Aug-21
Antrim	23,580	0.2394	\$ 5,645	\$ 338,700	Jan-21
Arenac	15,899	0.2394	\$ 3,806	\$ 228,360	Jan-21
Berrien	156,813	0.2394	\$ 37,541	\$ 2,252,460	Feb-21
Eaton	107,759	0.2394	\$ 25,798	\$ 1,547,880	Nov-20
Gratiot	42,476	0.2394	\$ 10,169	\$ 610,140	Mar-21
Ingham	280,895	0.2394	\$ 67,246	\$ 4,034,760	Aug-21
Isabella	70,311	0.2394	\$ 16,833	\$ 1,009,980	Aug-21
Jackson	160,248	0.2394	\$ 38,363	\$ 2,301,780	Oct-20
Kalkaska	17,153	0.2394	\$ 4,106	\$ 246,360	Jan-21
Kent	602,622	0.2394	\$ 144,268	\$ 8,656,080	Feb-21
Lake	11,539	0.2394	\$ 2,762	\$ 165,720	Feb-21
Lapeer	88,319	0.2394	\$ 21,143	\$ 1,268,580	Mar-21
Manistee	24,733	0.2394	\$ 5,921	\$ 355,260	Oct-20
Monroe	152,021	0.2394	\$ 36,393	\$ 2,183,580	Mar-21
Muskegon	172,188	0.2394	\$ 41,222	\$ 2,473,320	Dec-20
Ogemaw	21,699	0.2394	\$ 5,194	\$ 311,640	Oct-20
Ottawa	263,801	0.2394	\$ 63,154	\$ 3,789,240	May-21
Saginaw	200,169	0.2394	\$ 47,921	\$ 2,875,260	Feb-21
St Clair	163,040	0.2394	\$ 39,032	\$ 2,341,920	Mar-21
St Joseph	61,295	0.2394	\$ 14,674	\$ 880,440	Dec-20
Van Buren	76,258	0.2394	\$ 18,256	\$ 1,095,360	Jan-21
Washtenaw	344,791	0.2394	\$ 82,543	\$ 4,952,580	Aug-21
Wayne (CEW)	59,834	0.2394	\$ 14,324	\$ 859,440	Oct-21
Wayne (CWW)	699,504	0.2394	\$ 167,461	\$ 10,047,660	Apr-21
Wayne (DMA)	313,270	0.2394	\$ 74,997	\$ 4,499,820	Apr-21
Total			\$ 1,015,443	\$ 60,926,580	
Nonrecurring			\$ 170,938	\$ 10,256,280	
Recurring			\$ 844,505	\$ 50,670,300	
Wireless		83.96549%	\$ 852,622	\$ 51,157,301	
Wireline		16.03451%	\$ 162,821	\$ 9,769,279	

Source: Compiled from estimates provided by PFN

## Map of Fully Transitioned County or 9-1-1 Service District

Figure 2.2

County or 9-1-1 Service District Fully Transitioned by Year



Source: Compiled from actual cost studies and estimates provided by PFN

## Ongoing Costs

Figure 3.1

Expected Annual Ongoing Costs Counties or 9-1-1 Service Districts  
Based on Actual Renewal Cost Study (As of September 30, 2020)

County or 9-1-1 Service District	Population	Monthly Rate	Wireless Allocation	Wireline Allocation	Annual Total
Alger	9,601	0.1978	\$ 17,086	\$ 5,703	\$ 22,789
Baraga	8,860	0.1978	\$ 15,767	\$ 5,263	\$ 21,030
Chippewa	38,520	0.1978	\$ 68,550	\$ 22,881	\$ 91,431
Delta	37,069	0.1978	\$ 65,968	\$ 22,019	\$ 87,987
Dickinson	26,168	0.1978	\$ 46,569	\$ 15,544	\$ 62,113
Gogebic	16,427	0.1978	\$ 29,233	\$ 9,758	\$ 38,991
Houghton	36,628	0.1978	\$ 65,183	\$ 21,757	\$ 86,940
Iron	11,817	0.1978	\$ 21,030	\$ 7,019	\$ 28,049
Keweenaw	2,156	0.1978	\$ 3,837	\$ 1,281	\$ 5,118
Luce	6,631	0.1978	\$ 11,801	\$ 3,939	\$ 15,740
Mackinac	11,113	0.1978	\$ 19,777	\$ 6,601	\$ 26,378
Marquette*	70,033	0.1978	\$ 124,631	\$ 41,600	\$ 166,231
Menominee	24,029	0.1978	\$ 42,762	\$ 14,273	\$ 57,035
Ontonagon	6,780	0.1978	\$ 12,066	\$ 4,027	\$ 16,093
Schoolcraft	8,485	0.1978	\$ 15,100	\$ 5,040	\$ 20,140
Total			\$ 559,360	\$ 186,705	\$ 746,065
Nonrecurring			\$ 3,546	\$ 917	\$ 4,463
Recurring			\$ 555,814	\$ 185,788	\$ 741,602

\* Marquette PSALI population figure of 2,956 (which services the college in Marquette) is included in the total population figure for Marquette.

Source: Compiled from approved cost studies

Figure 3.2

**Estimated Ongoing Costs Counties or 9-1-1 Service Districts  
Based on Initial or Estimated Cost Study (As of September 30, 2020)**

County or 9-1-1 Service District	Population	Estimated Monthly Rate	Wireless Allocation	Wireline Allocation	Estimated Annual Total
Alcona	10,942	0.3627	\$ 38,892	\$ 8,732	\$ 47,624
Allegan	111,408	0.2001	\$ 224,599	\$ 42,914	\$ 267,513
Alpena	29,598	0.1808	\$ 50,968	\$ 13,248	\$ 64,216
Antrim	23,580	0.2001	\$ 47,537	\$ 9,083	\$ 56,620
Arenac	15,899	0.2001	\$ 32,052	\$ 6,124	\$ 38,176
Barry	59,173	0.3021	\$ 180,146	\$ 34,368	\$ 214,514
Bay	107,771	0.1981	\$ 204,334	\$ 51,859	\$ 256,193
Benzie	17,525	0.2001	\$ 35,330	\$ 6,751	\$ 42,081
Berrien	156,813	0.2001	\$ 316,135	\$ 60,404	\$ 376,539
Branch	45,248	0.2001	\$ 91,220	\$ 17,430	\$ 108,650
Calhoun	136,146	0.3021	\$ 414,483	\$ 79,074	\$ 493,557
Cass	52,293	0.2001	\$ 105,423	\$ 20,143	\$ 125,566
Charlevoix	25,949	0.1808	\$ 44,684	\$ 11,615	\$ 56,299
Cheboygan	26,152	0.1808	\$ 45,034	\$ 11,706	\$ 56,740
Clare	30,926	0.2001	\$ 62,347	\$ 11,913	\$ 74,260
Clinton	75,382	0.1756	\$ 125,918	\$ 32,927	\$ 158,845
Crawford	14,074	0.2959	\$ 41,969	\$ 8,005	\$ 49,974
Eaton	107,759	0.2001	\$ 217,242	\$ 41,509	\$ 258,751
Emmet	32,694	0.1808	\$ 56,299	\$ 14,634	\$ 70,933
Genesee	425,790	0.1593	\$ 641,240	\$ 172,700	\$ 813,940
Gladwin	25,692	0.2214	\$ 54,847	\$ 13,411	\$ 68,258
Grand Traverse	86,986	0.1808	\$ 149,790	\$ 38,935	\$ 188,725
Gratiot	42,476	0.2001	\$ 85,632	\$ 16,362	\$ 101,994
Hillsdale	46,688	0.2001	\$ 94,123	\$ 17,984	\$ 112,107
Huron	33,118	0.1981	\$ 62,792	\$ 15,936	\$ 78,728
Ingham	280,895	0.2001	\$ 566,284	\$ 108,201	\$ 674,485
Ionia	63,905	0.2001	\$ 128,832	\$ 24,616	\$ 153,448
Iosco	25,887	0.1981	\$ 49,082	\$ 12,457	\$ 61,539
Isabella	70,311	0.2001	\$ 141,747	\$ 27,084	\$ 168,831
Jackson	160,248	0.2001	\$ 323,060	\$ 61,728	\$ 384,788
Kalamazoo	250,331	0.2001	\$ 504,667	\$ 96,428	\$ 601,095
Kalkaska	17,153	0.2001	\$ 34,580	\$ 6,607	\$ 41,187
Kent	602,622	0.2001	\$ 1,214,886	\$ 232,130	\$ 1,447,016
Lake	11,539	0.2001	\$ 23,263	\$ 4,445	\$ 27,708
Lapeer	88,319	0.2001	\$ 178,051	\$ 34,020	\$ 212,071
Leelanau	21,708	0.2001	\$ 43,763	\$ 8,362	\$ 52,125
Lenawee	99,892	0.2001	\$ 201,382	\$ 38,478	\$ 239,860

Figure 3.2 (Continued)

Estimated Ongoing Costs Counties or 9-1-1 Service Districts  
Based on Initial or Estimated Cost Study (As of September 30, 2020)

County or 9-1-1 Service District	Population	Estimated Monthly Rate	Wireless Allocation	Wireline Allocation	Estimated Annual Total
Livingston	180,967	0.1752	\$ 301,419	\$ 79,046	\$ 380,465
Manistee	24,733	0.2001	\$ 49,862	\$ 9,527	\$ 59,389
Mason	28,705	0.168	\$ 45,744	\$ 12,125	\$ 57,869
Mecosta	42,798	0.168	\$ 68,203	\$ 18,078	\$ 86,281
Midland	83,629	0.1981	\$ 158,561	\$ 40,242	\$ 198,803
Missaukee	14,849	0.2001	\$ 29,936	\$ 5,720	\$ 35,656
Monroe	152,021	0.2001	\$ 306,474	\$ 58,558	\$ 365,032
Montcalm	63,342	0.2001	\$ 127,697	\$ 24,399	\$ 152,096
Montmorency	9,765	0.4193	\$ 40,263	\$ 8,871	\$ 49,134
Muskegon	172,188	0.2001	\$ 347,131	\$ 66,327	\$ 413,458
Newaygo	48,460	0.168	\$ 77,226	\$ 20,470	\$ 97,696
Oakland	1,202,362	0.2017	\$ 2,324,406	\$ 585,791	\$ 2,910,197
Oceana	26,570	0.168	\$ 42,342	\$ 11,223	\$ 53,565
Ogemaw	21,699	0.2001	\$ 43,745	\$ 8,358	\$ 52,103
Osceola	23,528	0.168	\$ 37,494	\$ 9,938	\$ 47,432
Oscoda	8,640	0.437	\$ 37,149	\$ 8,160	\$ 45,309
Otsego	24,164	0.2709	\$ 63,561	\$ 14,991	\$ 78,552
Ottawa	263,801	0.2001	\$ 531,823	\$ 101,616	\$ 633,439
Presque Isle	13,376	0.346	\$ 45,345	\$ 10,193	\$ 55,538
Roscommon	24,449	0.1808	\$ 42,101	\$ 10,943	\$ 53,044
Saginaw	200,169	0.2001	\$ 403,541	\$ 77,105	\$ 480,646
Sanilac	43,114	0.1981	\$ 81,744	\$ 20,746	\$ 102,490
Shiawassee	70,648	0.1579	\$ 105,294	\$ 28,570	\$ 133,864
St Clair	163,040	0.2001	\$ 328,689	\$ 62,803	\$ 391,492
St Joseph	61,295	0.2001	\$ 123,571	\$ 23,611	\$ 147,182
Tuscola	55,729	0.1981	\$ 105,662	\$ 26,817	\$ 132,479
Van Buren	76,258	0.2001	\$ 153,736	\$ 29,375	\$ 183,111
Washtenaw	344,791	0.2001	\$ 695,099	\$ 132,813	\$ 827,912
Wayne (CEW)	59,834	0.2001	\$ 120,625	\$ 23,048	\$ 143,673
Wayne (CWW)	699,504	0.2001	\$ 1,410,200	\$ 269,449	\$ 1,679,649
Wayne (DMA)	313,270	0.2001	\$ 631,552	\$ 120,672	\$ 752,224
Wexford	32,735	0.1768	\$ 55,034	\$ 14,416	\$ 69,450
Total			\$ 15,767,862	\$ 3,346,324	\$ 19,114,186
Nonrecurring			\$ 76,638	\$ 19,161	\$ 95,799
Recurring			\$ 15,691,224	\$ 3,327,163	\$ 19,018,387

Source: Compiled from approved cost studies and estimates provided by PFN

## Emergency 9-1-1 Suppliers Fund Activity and Remaining Costs

Figure 4.1

### Emergency 9-1-1 Suppliers Fund Activity (As of September 30, 2020)

Description	Amount	Balance
Beginning Fund Balance:		\$ 13,235,060
<b>Deposits:</b>		
1st Quarter	\$ 2,814,532	
2nd Quarter	\$ 2,794,652	
3rd Quarter	\$ 2,765,490	
4th Quarter	\$ 7,526,504	
Total Deposits		\$ 15,901,179
<b>Disbursements:</b>		
Wireless 9-1-1	\$ 797,534	
IP-Based 9-1-1	\$ 6,236,916	
Total Disbursements		\$ 7,034,450
Ending Fund Balance:		\$ 22,101,789

Source: Compiled from information provided by Treasury and Docket U-14000

Figure 4.2

**Remaining Costs for Counties or 9-1-1 Service Districts Fully Transitioned with an Approved Rate (As of September 30, 2020)**

County or 9-1-1 Service District	Initial 5-Year Total*	Renewal 5-Year Total	Total Approved Costs	Total Invoiced	Total Remaining Approved Costs
Alcona	\$ 366,434		\$ 366,434	\$ -	\$ 366,434
Alger	\$ 124,425	\$ 113,944	\$ 238,369	\$ 151,207	\$ 87,162
Alpena	\$ 370,318		\$ 370,318	\$ 285,581	\$ 84,737
Baraga	\$ 112,161	\$ 105,151	\$ 217,312	\$ 135,875	\$ 81,437
Bay	\$ 1,446,930		\$ 1,446,930	\$ 1,220,638	\$ 226,292
Charlevoix	\$ 314,086		\$ 314,086	\$ 237,296	\$ 76,790
Cheboygan	\$ 316,543		\$ 316,543	\$ 239,150	\$ 77,393
Chippewa	\$ 501,484	\$ 457,156	\$ 958,640	\$ 609,791	\$ 348,849
Delta	\$ 478,204	\$ 439,934	\$ 918,138	\$ 580,782	\$ 337,356
Dickinson	\$ 337,356	\$ 310,562	\$ 647,918	\$ 409,684	\$ 238,234
Emmet	\$ 395,727		\$ 395,727	\$ 298,976	\$ 96,751
Genesee	\$ 4,456,389		\$ 4,456,389	\$ 3,999,997	\$ 456,392
Gladwin	\$ 496,416		\$ 496,416	\$ 322,069	\$ 174,347
Gogebic	\$ 209,950	\$ 194,956	\$ 404,906	\$ 254,668	\$ 150,238
Grand Traverse	\$ 1,082,130		\$ 1,082,130	\$ 831,628	\$ 250,502
Houghton	\$ 463,686	\$ 434,701	\$ 898,387	\$ 561,722	\$ 336,665
Huron	\$ 437,672		\$ 437,672	\$ 367,025	\$ 70,647
Iosco	\$ 340,407		\$ 340,407	\$ 284,915	\$ 55,492
Iron	\$ 151,031	\$ 140,244	\$ 291,275	\$ 183,201	\$ 108,074
Keweenaw	\$ 27,294	\$ 25,587	\$ 52,881	\$ 33,064	\$ 19,817
Livingston	\$ 2,107,560		\$ 2,107,560	\$ 1,172,177	\$ 935,383
Luce	\$ 86,327	\$ 78,698	\$ 165,025	\$ 104,973	\$ 60,052
Mackinac	\$ 144,678	\$ 131,890	\$ 276,568	\$ 175,925	\$ 100,643
Marquette**	\$ 909,672	\$ 831,152	\$ 1,740,824	\$ 1,105,806	\$ 635,018
Menominee	\$ 309,272	\$ 285,176	\$ 594,448	\$ 375,498	\$ 218,950
Midland	\$ 1,122,290		\$ 1,122,290	\$ 946,610	\$ 175,680
Montmorency	\$ 343,561		\$ 343,561	\$ 134,816	\$ 208,745
Oakland	\$ 17,106,058		\$ 17,106,058	\$ 9,989,998	\$ 7,116,060
Ontonagon	\$ 85,830	\$ 80,465	\$ 166,295	\$ 103,977	\$ 62,318
Otsego	\$ 525,950		\$ 525,950	\$ 464,671	\$ 61,279
Presque Isle	\$ 405,671		\$ 405,671	\$ 225,454	\$ 180,217
Roscommon	\$ 296,887		\$ 296,887	\$ 224,761	\$ 72,126
Sanilac	\$ 575,856		\$ 575,856	\$ 484,852	\$ 91,004
Schoolcraft	\$ 107,414	\$ 100,700	\$ 208,114	\$ 130,125	\$ 77,989
Tuscola	\$ 741,339		\$ 741,339	\$ 623,229	\$ 118,110
Wexford	\$ 511,278		\$ 511,278	\$ 284,372	\$ 226,906
<b>Total</b>	<b>\$ 37,808,286</b>	<b>\$ 3,730,316</b>	<b>\$ 41,538,602</b>	<b>\$ 27,554,513</b>	<b>\$ 13,984,089</b>

\* An adjustment for partial months was made when the date the county or 9-1-1 service district was fully transitioned happened after the first day of the month.

\*\* Marquette PSALI population figure of 2,956 (which services the college in Marquette) is included in the total population figure for Marquette.

Source: Compiled from approved cost studies and Docket U-14000



Figure 4.3

**Remaining Wireless Costs for Counties or 9-1-1 Service Districts Fully Transitioned with an Approved Rate (As of September 30, 2020)**

County or 9-1-1 Service District	Total Approved Wireless Costs	Invoiced Nonrecurring Wireless	Invoiced Recurring Wireless	Total Invoiced	Remaining Approved Wireless Costs
Alcona	\$ 302,329	\$ -	\$ -	\$ -	\$ 302,329
Alger	\$ 177,153	\$ 17,465	\$ 94,193	\$ 111,658	\$ 65,495
Alpena	\$ 297,404	\$ 45,863	\$ 183,321	\$ 229,184	\$ 68,220
Baraga	\$ 160,821	\$ 16,117	\$ 84,262	\$ 100,379	\$ 60,442
Bay	\$ 1,162,661	\$ 140,555	\$ 840,124	\$ 980,679	\$ 181,982
Charlevoix	\$ 252,344	\$ 38,108	\$ 152,326	\$ 190,434	\$ 61,910
Cheboygan	\$ 254,318	\$ 38,406	\$ 153,517	\$ 191,923	\$ 62,395
Chippewa	\$ 713,036	\$ 70,071	\$ 380,189	\$ 450,260	\$ 262,776
Delta	\$ 681,787	\$ 67,432	\$ 361,478	\$ 428,910	\$ 252,877
Dickinson	\$ 481,071	\$ 47,602	\$ 254,956	\$ 302,558	\$ 178,513
Emmet	\$ 317,936	\$ 48,014	\$ 191,920	\$ 239,934	\$ 78,002
Genesee	\$ 3,534,559	\$ 344,671	\$ 2,827,662	\$ 3,172,333	\$ 362,226
Gladwin	\$ 405,121	\$ 94,753	\$ 168,085	\$ 262,838	\$ 142,283
Gogebic	\$ 300,168	\$ 29,882	\$ 158,224	\$ 188,106	\$ 112,062
Grand Traverse	\$ 869,122	\$ 133,554	\$ 533,843	\$ 667,397	\$ 201,725
Houghton	\$ 664,847	\$ 66,629	\$ 348,349	\$ 414,978	\$ 249,869
Huron	\$ 351,727	\$ 42,262	\$ 252,611	\$ 294,873	\$ 56,854
Iosco	\$ 273,572	\$ 32,808	\$ 196,097	\$ 228,905	\$ 44,667
Iron	\$ 215,929	\$ 21,496	\$ 113,821	\$ 135,317	\$ 80,612
Keweenaw	\$ 39,134	\$ 3,922	\$ 20,504	\$ 24,426	\$ 14,708
Livingston	\$ 1,682,444	\$ 122,020	\$ 813,717	\$ 935,737	\$ 746,707
Luce	\$ 122,745	\$ 12,062	\$ 65,448	\$ 77,510	\$ 45,235
Mackinac	\$ 205,711	\$ 20,215	\$ 109,685	\$ 129,900	\$ 75,811
Marquette*	\$ 1,294,294	\$ 127,396	\$ 689,146	\$ 816,542	\$ 477,752
Menominee	\$ 441,239	\$ 43,711	\$ 233,607	\$ 277,318	\$ 163,921
Midland	\$ 901,803	\$ 109,001	\$ 651,519	\$ 760,520	\$ 141,283
Montmorency	\$ 283,562	\$ 33,448	\$ 77,824	\$ 111,272	\$ 172,290
Oakland	\$ 13,790,285	\$ 1,559,172	\$ 6,494,403	\$ 8,053,575	\$ 5,736,710
Ontonagon	\$ 123,066	\$ 12,333	\$ 64,481	\$ 76,814	\$ 46,252
Otsego	\$ 430,310	\$ 109,414	\$ 270,625	\$ 380,039	\$ 50,271
Presque Isle	\$ 334,354	\$ 63,234	\$ 122,585	\$ 185,819	\$ 148,535
Roscommon	\$ 238,516	\$ 36,095	\$ 144,280	\$ 180,375	\$ 58,141
Sanilac	\$ 462,739	\$ 55,830	\$ 333,707	\$ 389,537	\$ 73,202
Schoolcraft	\$ 154,014	\$ 15,435	\$ 80,696	\$ 96,131	\$ 57,883
Tuscola	\$ 595,733	\$ 71,764	\$ 428,948	\$ 500,712	\$ 95,021
Wexford	\$ 413,280	\$ 81,234	\$ 148,631	\$ 229,865	\$ 183,415
<b>Total</b>	<b>\$ 32,929,134</b>	<b>\$ 3,771,974</b>	<b>\$ 18,044,784</b>	<b>\$ 21,816,758</b>	<b>\$ 11,112,376</b>

\* Marquette PSALI population figure of 2,956 (which services the college in Marquette) is included in the total population figure for Marquette.

Source: Compiled from approved cost studies and Docket U-14000

**Figure 4.4**

**Remaining Wireline\* Costs for Counties or 9-1-1 Service Districts Fully Transitioned with an Approved Rate (As of September 30, 2020)**

County or 9-1-1 Service District	Total Approved Wireline Costs	Invoiced Nonrecurring Wireline	Invoiced Recurring Wireline	Total Invoiced	Remaining Approved Wireline Costs
Alcona	\$ 64,105	\$ -	\$ -	\$ -	\$ 64,105
Alger	\$ 61,216	\$ 5,044	\$ 34,505	\$ 39,549	\$ 21,667
Alpena	\$ 72,914	\$ 8,736	\$ 47,661	\$ 56,397	\$ 16,517
Baraga	\$ 56,491	\$ 4,655	\$ 30,841	\$ 35,496	\$ 20,995
Bay	\$ 284,269	\$ 26,722	\$ 213,237	\$ 239,959	\$ 44,310
Charlevoix	\$ 61,742	\$ 7,259	\$ 39,603	\$ 46,862	\$ 14,880
Cheboygan	\$ 62,225	\$ 7,315	\$ 39,912	\$ 47,227	\$ 14,998
Chippewa	\$ 245,604	\$ 20,238	\$ 139,293	\$ 159,531	\$ 86,073
Delta	\$ 236,351	\$ 19,476	\$ 132,396	\$ 151,872	\$ 84,479
Dickinson	\$ 166,847	\$ 13,748	\$ 93,378	\$ 107,126	\$ 59,721
Emmet	\$ 77,791	\$ 9,145	\$ 49,897	\$ 59,042	\$ 18,749
Genesee	\$ 921,830	\$ 65,760	\$ 761,904	\$ 827,664	\$ 94,166
Gladwin	\$ 91,295	\$ 18,083	\$ 41,148	\$ 59,231	\$ 32,064
Gogebic	\$ 104,738	\$ 8,630	\$ 57,932	\$ 66,562	\$ 38,176
Grand Traverse	\$ 213,008	\$ 25,439	\$ 138,792	\$ 164,231	\$ 48,777
Houghton	\$ 233,540	\$ 19,244	\$ 127,500	\$ 146,744	\$ 86,796
Huron	\$ 85,945	\$ 8,035	\$ 64,117	\$ 72,152	\$ 13,793
Iosco	\$ 66,835	\$ 6,237	\$ 49,773	\$ 56,010	\$ 10,825
Iron	\$ 75,346	\$ 6,209	\$ 41,675	\$ 47,884	\$ 27,462
Keweenaw	\$ 13,747	\$ 1,133	\$ 7,505	\$ 8,638	\$ 5,109
Livingston	\$ 425,116	\$ 23,289	\$ 213,151	\$ 236,440	\$ 188,676
Luce	\$ 42,280	\$ 3,484	\$ 23,979	\$ 27,463	\$ 14,817
Mackinac	\$ 70,857	\$ 5,839	\$ 40,186	\$ 46,025	\$ 24,832
Marquette**	\$ 446,530	\$ 36,795	\$ 252,469	\$ 289,264	\$ 157,266
Menominee	\$ 153,209	\$ 12,625	\$ 85,555	\$ 98,180	\$ 55,029
Midland	\$ 220,487	\$ 20,723	\$ 165,367	\$ 186,090	\$ 34,397
Montmorency	\$ 59,999	\$ 6,392	\$ 17,152	\$ 23,544	\$ 36,455
Oakland	\$ 3,315,773	\$ 297,822	\$ 1,638,601	\$ 1,936,423	\$ 1,379,350
Ontonagon	\$ 43,229	\$ 3,562	\$ 23,601	\$ 27,163	\$ 16,066
Otsego	\$ 95,640	\$ 20,817	\$ 63,815	\$ 84,632	\$ 11,008
Presque Isle	\$ 71,317	\$ 12,077	\$ 27,558	\$ 39,635	\$ 31,682
Roscommon	\$ 58,371	\$ 6,875	\$ 37,511	\$ 44,386	\$ 13,985
Sanilac	\$ 113,117	\$ 10,614	\$ 84,701	\$ 95,315	\$ 17,802
Schoolcraft	\$ 54,100	\$ 4,458	\$ 29,536	\$ 33,994	\$ 20,106
Tuscola	\$ 145,606	\$ 13,643	\$ 108,874	\$ 122,517	\$ 23,089
Wexford	\$ 97,998	\$ 15,529	\$ 38,978	\$ 54,507	\$ 43,491
<b>Total</b>	<b>\$ 8,609,468</b>	<b>\$ 775,652</b>	<b>\$ 4,962,103</b>	<b>\$ 5,737,755</b>	<b>\$ 2,871,713</b>

\* The same invoicing assumptions as wireless were used to calculate the invoiced wireline amounts for comparative purposes.

\*\* Marquette PSALI population figure of 2,956 (which services the college in Marquette) is included in the total population figure for Marquette.

Source: Compiled from approved cost studies and Docket U-14000

## Summary of Costs

### Figure 6

#### Summary of Costs (As of September 30, 2020)

Description	Counties or 9-1-1 Service Districts	Wireless Allocation	Wireline Allocation	Totals
<b>Total Cost for those that are Fully Transitioned - 5 year total:</b>				
With Approved Rates, Initial and Renewal (Figure 1)	36	\$ 32,929,134	\$ 8,609,468	\$ 41,538,602
Without Approved Rates, Initial (Figure 1.8)	22	\$ 15,753,480	\$ 3,008,340	\$ 18,761,820
<b>Estimated Cost for those that are NOT Fully Transitioned - 5 year total:</b>				
Initial (Figure 2.1)	26	\$ 51,157,301	\$ 9,769,279	\$ 60,926,580
<b>Estimated Ongoing Costs After Full Transition - annual total:</b>				
Renewal (Figure 3)	84	\$ 16,327,222	\$ 3,533,029	\$ 19,860,251
<b>Current 9-1-1 Fund: Emergency 9-1-1 Suppliers Fund:</b>				
Adjusted ending balance (Figure 4)	86	\$ 19,775,715	\$ -	\$ 19,775,715
<b>Total Estimated Costs - 5 year total: (Figure 5.1)</b>				
Fully Transitioned with Approved Rates, Initial and Renewal	36	\$ 32,929,134	\$ 8,609,468	\$ 41,538,602
Fully Transitioned without Approved Rates, Initial	22	\$ 15,753,480	\$ 3,008,340	\$ 18,761,820
NOT Fully Transitioned, Initial	26	\$ 51,157,301	\$ 9,769,279	\$ 60,926,580
<b>Total Estimated Costs</b>	<b>84</b>	<b>\$ 99,839,915</b>	<b>\$ 21,387,087</b>	<b>\$ 121,227,002</b>

These numbers are based on expected 5-year totals.

Source: Compiled from approved cost studies, estimates provided by PFN, information provided by Treasury and Docket U-14000