

# Real-Time Payments

---

ABA Stonier Graduate School of Banking

**Phil Whalen**

Capitol Federal Savings Bank

March 1, 2022



*True Blue® for over 125 years*

## **EXECUTIVE SUMMARY**

Capitol Federal Savings Bank (the “Bank”) currently utilizes traditional payment rails, i.e., ACH and card networks, to process the vast majority of its customers’ electronic payments and offers no real-time payment (“RTP”) capabilities or solutions. Demand for the ability to support and process RTPs – generally defined as payments that are initiated and settled nearly instantaneously, 24x7x365 – has increased markedly in the United States over the past several years, and has recently been accelerated by the lingering global pandemic (COVID-19). Currently, The Clearing House operates the only RTP network available to financial institutions in the U.S.; however, The Federal Reserve has announced its intent to develop and operate a separate, real-time (“instant”) payment network, dubbed FedNow. After examining the current trajectory of the electronic payments industry, all trends point towards instant payment capabilities becoming industry mainstream within the next two years. As a result, the Bank should start preparations to onboard RTP capabilities. Joining The Clearing House’s RTP network will provide the Bank with entry into the space at a pace it desires – in accordance with its strategic goals. It will also better prepare the Bank to join FedNow once it becomes available in 2023 as implementation of the FedNow network is expected to accelerate adoption of RTP capabilities by financial institutions nationwide.

In advance of joining The Clearing House’s RTP network, though, certain decisions need to be made in order to determine the most appropriate course of action for the organization. These decisions should be predicated, at least in part, upon the results of the various RTP-related assessments that have been completed, including assessments on the estimated financial and non-financial impacts of offering RTP capabilities. Primary decisions to be made initially involve how the Bank should connect to the RTP network and what RTP capabilities it should offer. All

participants of the RTP network are permitted to join via one of two ways: (1) a direct connection or (2) a third-party service provider (“TPSP”) that acts on behalf of the participant. Additionally, participants have the option to offer its customers either “receive-only” RTP capabilities or both “send-and-receive” RTP capabilities. Research has shown that the vast majority of institutions have connected to The Clearing House’s RTP network via a TPSP and that they overwhelmingly join as a “receive-only” participant at first. Use of a TPSP (versus a direct connection) is likely due to the extraordinary amount of internal resources required and the time needed to build and maintain the in-house infrastructure necessary that allows for a direct connection to the network. The decision to initially join the network as a “receive-only” participant is likely the result of institutional time-to-market strategies and the desire to flatten the real-time payments learning curve for both the institution and the institution’s customers.

It’s important to note that the institution’s initial decisions regarding the connection and offered capabilities can change or evolve in conjunction with the strategic goals and demands of the organization. In order for an institution (such as the Bank) to realize the greatest possible benefit from providing RTP functionality, it must offer full “send-and-receive” capabilities and it must offer them sooner than its competitors. Based on the results of the financial and non-financial impact assessments completed, it is recommended that the Bank pursue joining The Clearing House’s RTP network via a TPSP, and the transaction capabilities to be offered should initially be “receive-only.” Once the Bank successfully joins the network and its customers are able to receive RTPs, then it should continue onboarding the remaining functionality needed to offer full “send-and-receive” capabilities. After the vendor due diligence and selection process has been completed, the Bank should be connected to the network and receiving RTPs within

two months. The remaining requirements to offer full send-and-receive capabilities should be targeted for completion within 18-24 months of the project's initial inception date.

Ultimately, the goal of this initiative is to improve customer user experience by reducing friction within the Bank's electronic payments channel and to provide additional, value-added services around this new product market. Pursuing integration with The Clearing House's RTP network could afford the Bank other opportunities as well, including expedited integration with similar other payment systems in the future – such as FedNow. Additionally, should the Bank decide to accelerate its adoption of RTPs, as recommended, by offering both send-*and*-receive capabilities before its market area competitors do, it would have the opportunity to leverage its position to its advantage. For example, the Bank could market itself as a forward-looking institution with expertise in improving the payments experience for businesses. Not only would this appeal to the Bank's current customer base, but with effective marketing, it could also attract business accounts from other competing institutions and possibly reduce future customer acquisition costs.

Due to relatively fixed implementation and maintenance costs, there is minimal concern that onboarding RTP technology would pose a significant financial risk to the Bank. Revenue and expense projections show that initial implementation – in any capacity – will negatively impact its bottom line; however, the annual impacts of the investment are projected to be relatively immaterial to the overall earnings of the organization. According to the worst-case pro-forma scenario, its estimated that net income would only be reduced by approximately \$XXX (net of taxes), or \$XX/share per annum, if RTP capabilities were implemented. Furthermore, with enough scale of transaction volume, it's expected that net recurring costs associated with offering RTP capabilities will decrease as the expected positive financial impacts

derived from supplemental RTP revenues begin to outweigh the negative financial impacts of recurring transaction costs. In the absence of scale, there are other potential strategies that the Bank could explore to help reduce its exposure to potential losses, including adjusting the price points for RTP services and marketing RTP capabilities only to specific, more profitable customer segments.

Lastly, subsequent to adoption, it's expected that several other beneficial derivatives of RTP technology would manifest with the potential to positively contribute to bottom-line earnings. Financial institutions serve to benefit from the instant settlement of RTPs as customer deposits become available as a source of funds much sooner than deposits received via most other payment rails. Providing customers with access to advanced features, like RTPs, should translate into greater deposit retention rates and could preclude a need for the Bank to seek out alternative funding sources in the future. Furthermore, if properly marketed to, and educated on, individuals may begin seeking out institutions for their RTP capabilities. This would then provide the Bank with a unique opportunity to lower its acquisition cost of potential customers while contemporaneously increasing the "stickiness" of its existing customer base – both of which could lead to positive long-term impacts on earnings.

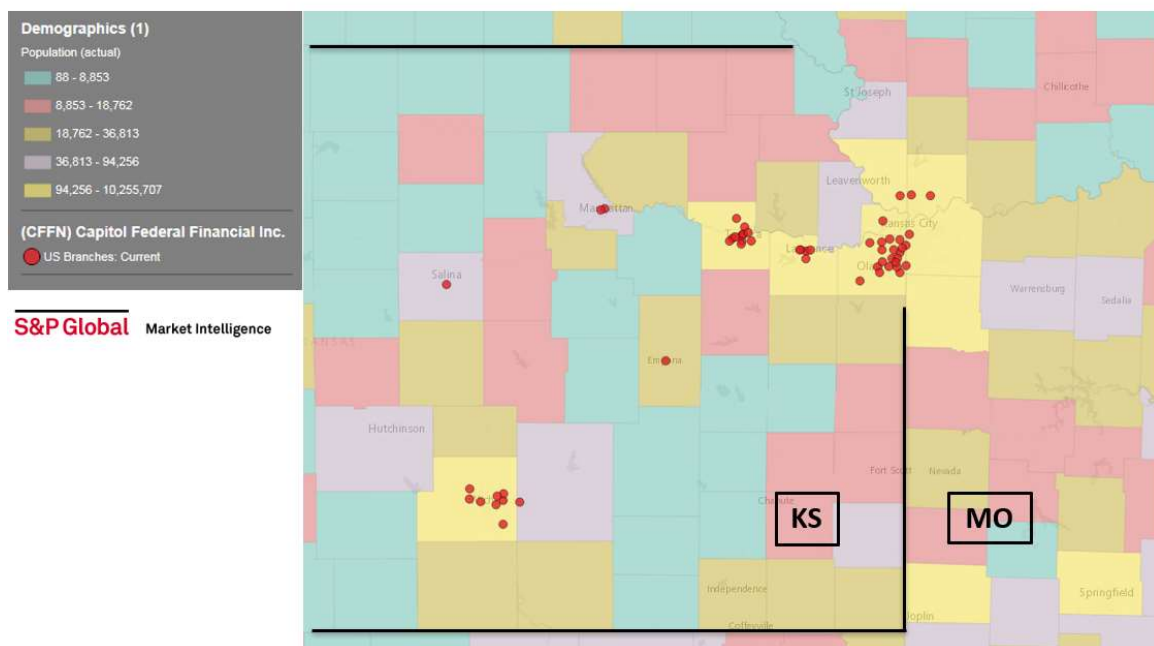
# TABLE OF CONTENTS

<b>PART I: INTRODUCTION</b> .....	1
<b>PART II: PROJECT STRATEGY AND IMPLEMENTATION</b> .....	8
Real-Time Payments Background.....	8
Real-Time Payments Strategy.....	11
Potential Benefits of Offering Real-Time Payments Capabilities .....	14
Integration of Real-Time Payments Functionality .....	17
<b>PART III: FINANCIAL IMPACT OF STRATEGY</b> .....	22
Overview of Financial Considerations.....	22
Estimate of Financial Impact.....	26
Evaluation of Financial Risks .....	28
<b>PART IV: NON-FINANCIAL IMPACT OF STRATEGY</b> .....	31
Implications of Real-Time Payments.....	31
Measuring and Managing Non-Financial Implications.....	34
Organizational Impact of Non-Financial Implications.....	37
<b>CONCLUSION</b> .....	41
<b>APPENDIX A</b> .....	42
<b>APPENDIX B</b> .....	43
<b>BIBLIOGRAPHY</b> .....	46

## PART I: INTRODUCTION

Capitol Federal Savings Bank (the “Bank”, “CapFed”), a wholly-owned subsidiary of Capitol Federal Financial, Inc. (the “Company”, “CFFN”), is a federally chartered and insured savings bank that was founded in 1893 and is headquartered in Topeka, Kansas. With 45 traditional branches and nine in-store locations, the Bank has a footprint that extends across much of eastern Kansas into the greater Kansas City metro area and parts of western Missouri. All branch locations are located in relatively high population density counties in order to maximize households and visibility (a metric that management of the organization considers vital to the success of its branching strategy).

### Branch locations



CapFed has always been, and intends to continue to be, a community-oriented financial institution offering a variety of financial services to meet the needs of the communities it serves. The Bank primarily operated as a one- to four-family thrift up until August 2018, when it

completed its acquisition of a \$450 million commercial bank. Since then, the Bank has, and continues to, roll out commercial-focused strategies that include expanded product offerings and services so that it may better compete for commercial/business customers. However, the organization's mission statement is anchored to its goal of being *the* premier residential real estate lender and provider of enhanced retail financial services to individuals and families in each of its selected markets. As a result, the Bank is a perennial leader in residential lending and deposit market share in Kansas (see **Appendix A** for market share statistics by year). According to the FDIC's Summary of Deposits Market Share Report for insured institutions, CapFed has ranked first or second in deposit market share in Kansas for 27 consecutive years (data only available since 1994).<sup>1</sup> Throughout its history, the Bank has remained steadfast in its corporate philosophies of Safety in Savings, Sound Lending Policies, Quality Customer Service, and Commitment to Community. Since its inception over 125 years ago, the Bank has withstood numerous economic cycles and crises, including the Great Depression, the Savings & Loan Crisis, and the Great Recession. Now the Bank (the industry, the world) is in the midst of the calamitous global pandemic commonly known as COVID-19. The organization's ability to continuously navigate tumultuous economic events, like the ones described above, can largely be attributed to its unwavering commitment to its mission statement and corporate philosophies.

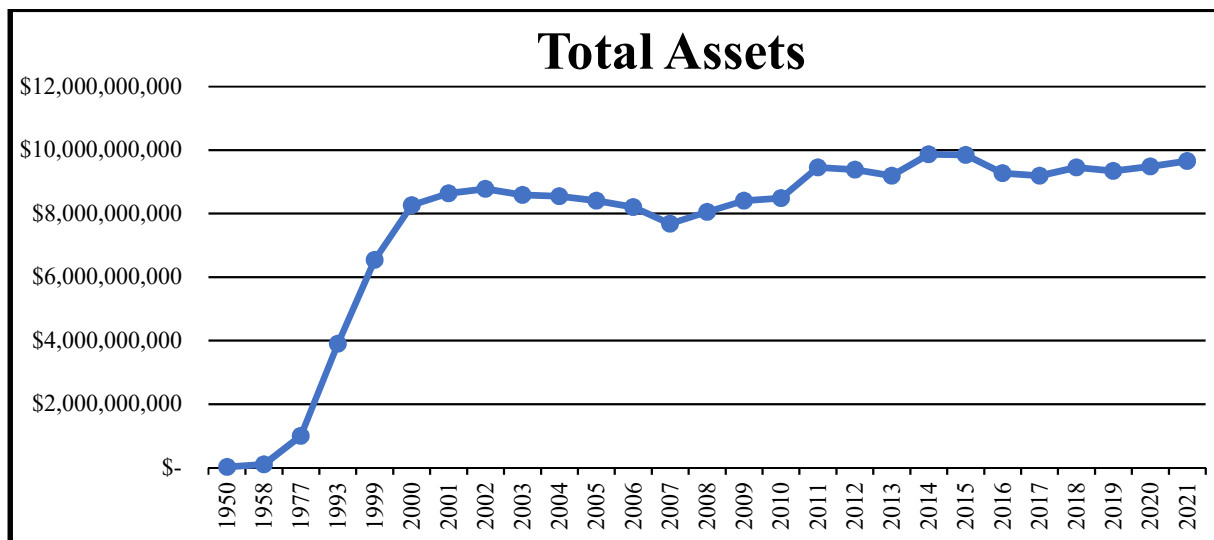
The Bank experienced rapid growth during the mid-to-late 20<sup>th</sup> century, growing total assets from \$19.5 million in 1950 to over \$6.0 billion in 1999. During 1999, the Company went public by forming a mutual holding company and raised \$355.5 million in capital. This was followed by the successful completion of a second step mutual-to-stock conversion in late 2010,

---

<sup>1</sup> Federal Deposit Insurance Corporation, Kansas Deposit Market Share Report, 1994-2021, Raw data (Washington DC: FDIC, February 21, 2022).



in which the Company raised an additional \$1.2 billion in capital and increased total assets to \$9.8 billion – a level at which the balance sheet has generally remained at ever since.<sup>2</sup>



CapFed purposefully manages the size of its balance sheet in order to remain under \$10 billion in total assets as of the end of each quarter. This strategy has been in place since the Dodd-Frank Wall Street Reform and Consumer Protection Act (“Dodd-Frank”) was enacted in 2010. Provisions from Dodd-Frank resulted in a host of new asset-threshold-based regulations for financial institutions. Two of the more notable provisions applicable to the organization, at the \$10 billion asset threshold level, include: (1) the Consumer Financial Protection Bureau (CFPB) becomes an institution’s primary federal agency for consumer compliance supervision and enforcement and (2) the “Durbin Amendment” (Section 1075 of Dodd-Frank) institutes a cap on interchange fees received when customers use their debit cards to make purchases. Management of the organization believes that the various negative implications and uncertainties associated with crossing the \$10 billion asset threshold (when pursued organically) continue to outweigh the potential benefits of doing so. Consequently, the Bank’s strategy focuses more on

<sup>2</sup> Capitol Federal Financial, Inc., *Form 10-K Fiscal Years 2011-2021*.

efficiency and cost control in order to drive stakeholder returns, in lieu of scale.

Aside from the downstream impact of unique macroeconomic effects borne out of COVID-19, the Company’s financial performance has been consistent over the last several years.

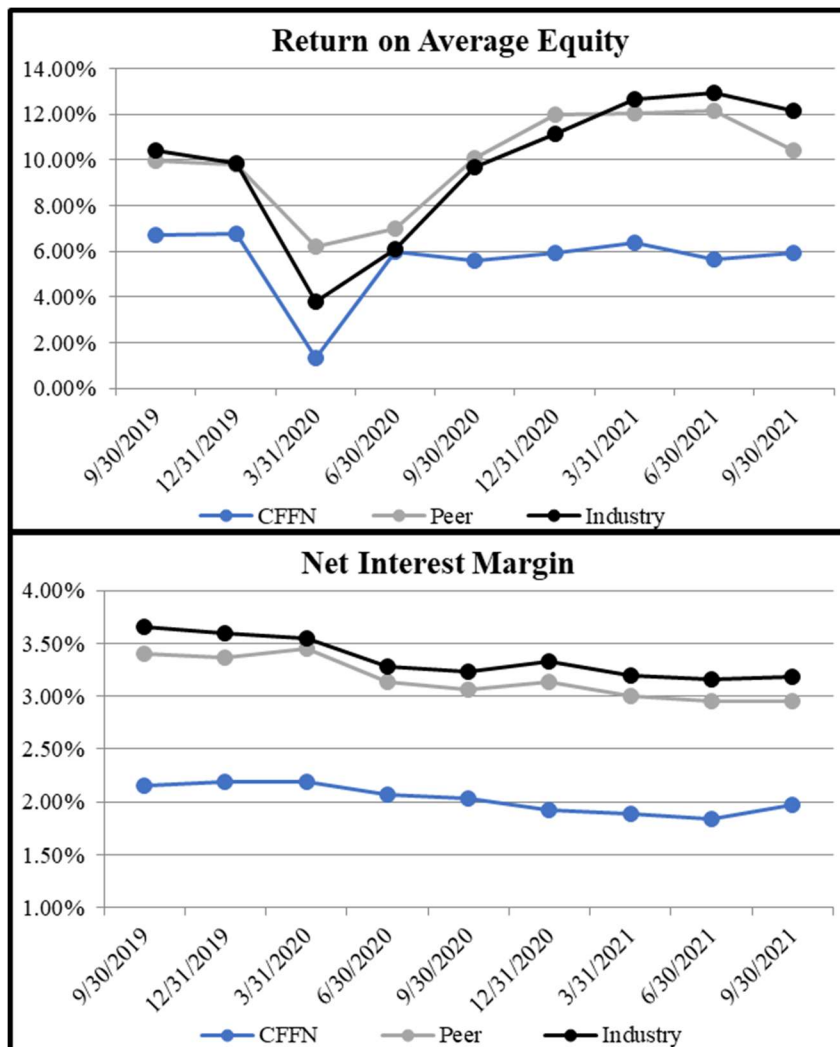
The following set of charts provides trends of select financial data for the Company, juxtaposed with peer and industry data. The Company’s peer group consists of publicly held financial

institutions as listed in its most recently filed Proxy Statement with the SEC.<sup>3</sup> The industry group consists of publicly held financial institutions with total assets between \$5.0 billion and \$20.0

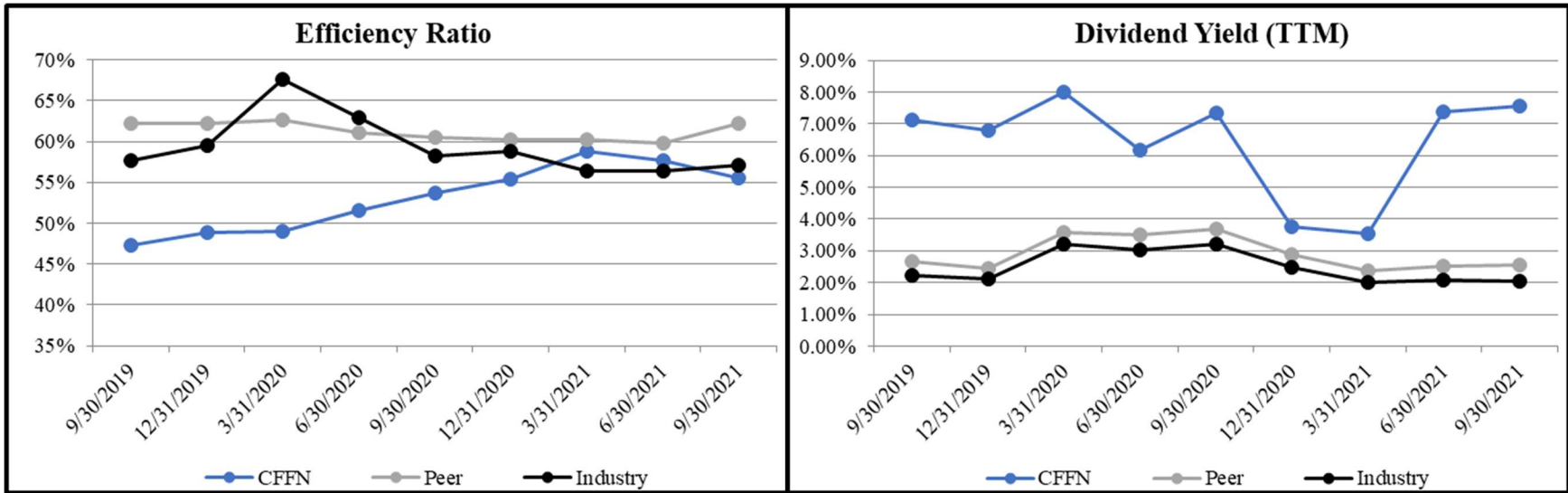
billion. In general, the Company’s net interest margin and return on average equity performance has lagged that of its peer and industry groups (over the time periods presented), whereas the

Company’s efficiency ratio and dividend yield performance has

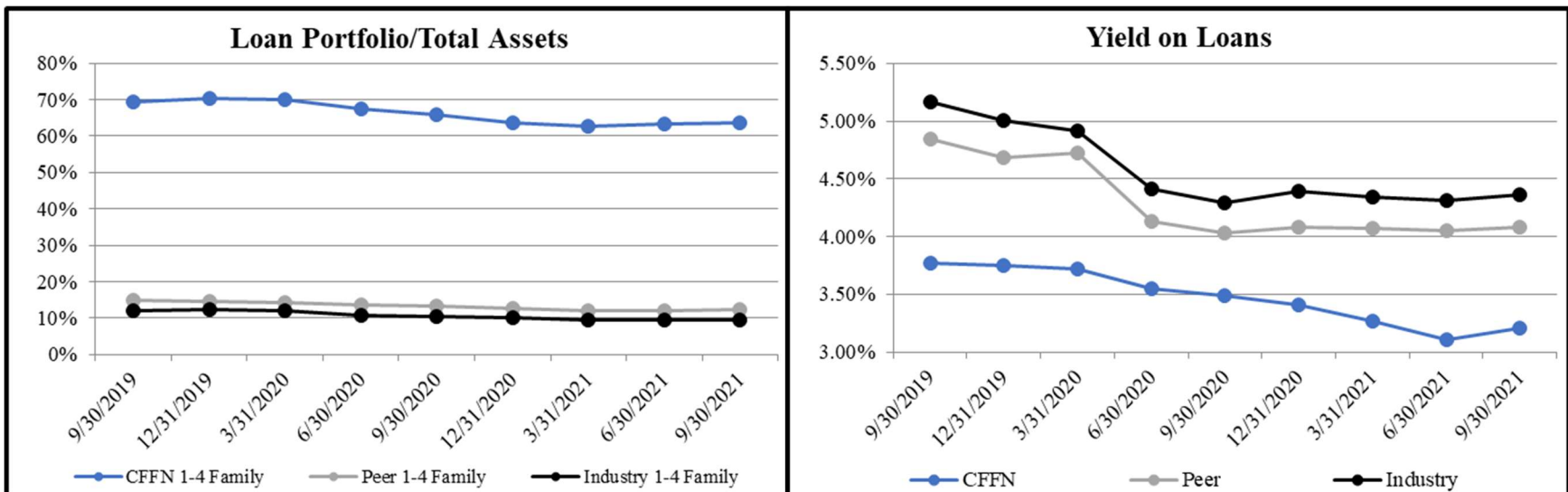
outperformed. This is largely due to the Bank’s traditional business model of portfolio lending (primarily one- to-four family loans), coupled with its outsized capital position.



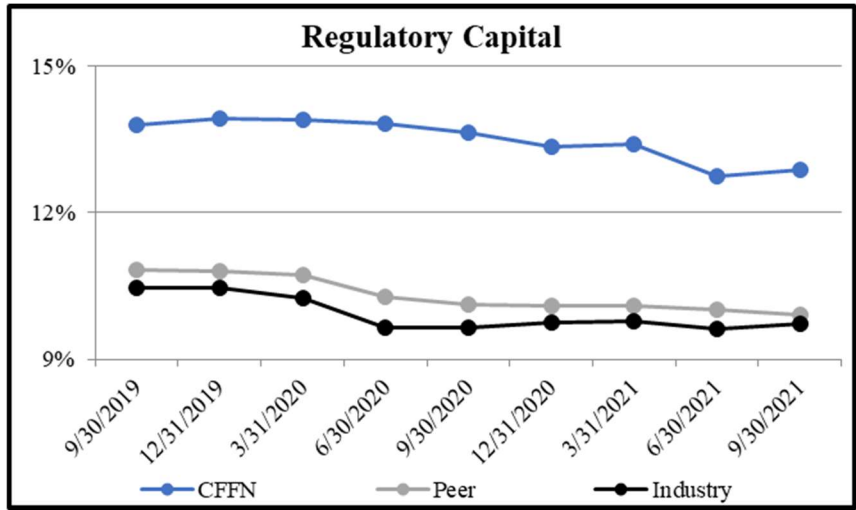
<sup>3</sup> Capitol Federal Financial, Inc., Form DEF 14A December 14, 2021.



Prime one- to four-family loans make up a significantly larger percentage of CapFed’s loan portfolio compared to its peers and the industry. While this helps the Bank maintain an extraordinarily high level of credit quality, it does have the tendency to weigh on the yield of the portfolio, which is its largest interest-earning asset and source of revenue.



In conjunction with the Company’s completion of its second step mutual-to-stock conversion in late 2010, equity capital increased substantially. Since that time, capital ratios have remained relatively elevated as a result of limited growth, primarily due to the Bank’s desire to manage the size of its balance sheet in order to remain under \$10 billion in



total assets. While the Company has somewhat drawn down its level of capital since the conversion – via pursuit of capital management strategies such as paying dividends in excess of annual earnings and repurchasing company stock – capital ratios remain elevated compared to its peers and the industry. Consequently, due in part to its lack of leverage, Company earnings and related performance metrics have underperformed relative to its peers and the industry. In addition to the impact growth constraints have placed on Bank performance, earnings have also been impacted by increased competition for loans and deposits from others.

The competitive landscape of the banking industry is in a constant state of flux. From local bank and credit union competitors, to fintechs and shadow banks, acquiring and retaining customers has never been more challenging or important than it is today. In addition to technology, CapFed strives to leverage its brand and its dedication to customer service in order to differentiate itself from the competition. In concert with its mission statement, two of the Bank’s enumerated corporate values are: customer satisfaction and dedication to improving service. CapFed is committed to ensuring that its customers have access to the tools they need to

achieve their financial goals. To this end, the Bank has long looked to capitalize on advancements in technology in order to efficiently and effectively deliver its financial products and services. Some of the more notable technological advances that have been adopted and implemented by the organization over the past 60 years include:<sup>4</sup>

- **1960** – First “computer” installed at Home Office – a Univac “tab” machine
- **1972** – Implemented an online data processing system
- **1974** – Introduced the “Passcard,” a key to opening the door for customers to enjoy many new conveniences and services not previously available
- **1975** – Became only the second Savings & Loan institution in the nation to offer customers off-premise access to their accounts
- **1978** – Introduced P.S.\* Telephone Bill Payment Service – a first for the state of Kansas
- **1980** – Introduced an ATM network
- **2001** – Introduced online banking platform
- **2012** – Introduced mobile banking platform

As technology continues its evolution, the financial services industry is seemingly in its crosshairs. Banks of all sizes have the opportunity to capitalize on these advancements to – among other things – improve user experience by increasing optionality and efficiency. One area in particular that the Bank has observed rapid evolution in is the electronic payments ecosystem. CapFed currently utilizes traditional payment rails, i.e., ACH and card networks, to process the vast majority of its customers’ payments and offers no real-time payment capabilities or solutions. As alternative payment systems become more widely available, more widely adopted by other financial institutions, and more in-demand by consumers and businesses alike, it’s becoming increasingly evident that additional resources need to be dedicated to assessing this

---

<sup>4</sup> “History,” Capitol Federal, <https://www.capfed.com/about-us/history>, (2021).

space for opportunities. Development of a focused view of the payment systems landscape would provide CapFed with clarity and afford it the opportunity to implement a payments strategy that could meet the impending demands of both its current and future customers.

## **PART II: PROJECT STRATEGY AND IMPLEMENTATION**

### **Real-Time Payments Background**

If such a thing exists, a *benefit* borne from COVID-19 has been the accelerated adoption of technology by users everywhere. In addition to increased reliance on existing technologies, the pandemic has also spurred consumer interest in newer, less entrenched technologies. The ability to support and process real-time payments (“RTP”) – generally defined as payments that are initiated and settled nearly instantaneously, 24x7x365 – first became available in the United States in late 2017 when a company named The Clearing House launched a proprietary RTP network. The advent of this network has been the most significant upgrade to the U.S. payments system since the Automated Clearing House (ACH) in 1974. Even though RTP capabilities have been available in the U.S. for several years now, businesses and consumers have been relying on RTP functionality globally for much longer. According to RTP research conducted by FIS in 2020<sup>5</sup>, more than 55 countries already have live RTP rails in operation with India being the largest RTP market by volume, processing alone more than 41 million payments per day, compared to an estimated 350,000 payments per day currently in the U.S. Domestically, approximately 150 financial institutions have joined The Clearing House’s RTP network, a five-fold increase since September 2019. These network participants collectively hold over 70% of

---

<sup>5</sup> “Flavors of Fast 2020,” <https://www.fisglobal.com/flavors-of-fast>, (2020).

the country's demand deposit accounts<sup>6</sup>, providing evidence that the pandemic has, in fact, accelerated a shift to digital payments. As previously noted, CapFed currently only utilizes traditional, entrenched payment rails to process the vast majority of its customers' payments and does not offer any RTP capabilities or solutions. Therefore, a deeper dive into RTPs would afford the Bank the opportunity to make an informed decision on how, or if, it should strategically approach the looming paradigm shift in electronic payments.

In addition to The Clearing House's RTP network, the Federal Reserve previously announced (in 2019) its intent to develop a separate, real-time ("instant") payments network, dubbed FedNow.<sup>7</sup> Implementation of a second domestic RTP rail should drive competition in terms of price and ease of use, and perhaps more importantly, it is expected that FedNow will accelerate adoption of RTP capabilities by financial institutions across the country. Thus far, factors such as tepid consumer demand, limited experience, and unknown costs associated with onboarding, integrating, and maintaining RTP functionality have contributed to the Bank's hesitancy in exploring further. With the momentum generated by the Federal Reserve's implied backing of the technology and the growing success of The Clearing House's RTP network, management at the organization believes now is an appropriate time to consider investments in the resources that would be needed in order to offer RTP optionality, in its various capacities, to its customers. A relatively recent increase in commercial/business customers at the Bank (associated with the acquisition of a commercial bank in 2018) is also driving management support for this initiative as this cohort continues to be the focus for growth opportunities.

---

<sup>6</sup> "RTP Frequently Asked Questions," The Clearing House, <https://www.theclearinghouse.org/payment-systems/rtp/institution>, (2017).

<sup>7</sup> "Federal Reserve announces plan to develop a new round-the-clock real-time payment and settlement service to support faster payments," Press Release, (August 5, 2019).

At the conclusion of this project, the Bank expects to learn, at a minimum, whether in-house capabilities needed to connect to The Clearing House's RTP network are a viable option. If not, a clear understanding of what is needed in order for this to be achieved is expected. Beyond connectivity, and possibly more valuable to management at the Bank, would be a concise dialogue on the potentials this technology possesses to enhance the customer experience at CapFed, juxtaposed with the feasibility of providing it. Traditional banking services are increasingly becoming more and more of a commodity to consumers. Even though financial institutions are not necessarily expected to be early adopters of technological innovations, they must at least try to keep pace, or else face the risk of becoming obsolete. As use cases and providers of RTP technology increase, so too will customer expectations for availability. Unless the Bank makes a strategic decision to forego RTP capabilities altogether, it may unintentionally end up reducing switching costs for its existing customer base and make itself less appealing to bank with, as compared to similar financial institutions that decide to offer RTP capabilities.

The author's primary role in this project is to assist with researching the technical requirements needed in order to connect to the RTP network, assessing the pros and cons of the available connectivity options, and forecasting the financial impact of known variables associated with implementation of the technology. Much of this information has been obtained via research and interactions with various functional areas of the Bank. Given the author's limited experience with areas such as banking operations and electronic payments, this project will challenge the author to think strategically about the customer experience and how the Bank might position itself should it desire to leverage the forecasted trajectory of the electronic payments ecosystem in an effort to enhance customer experience. Before all of this, though, an

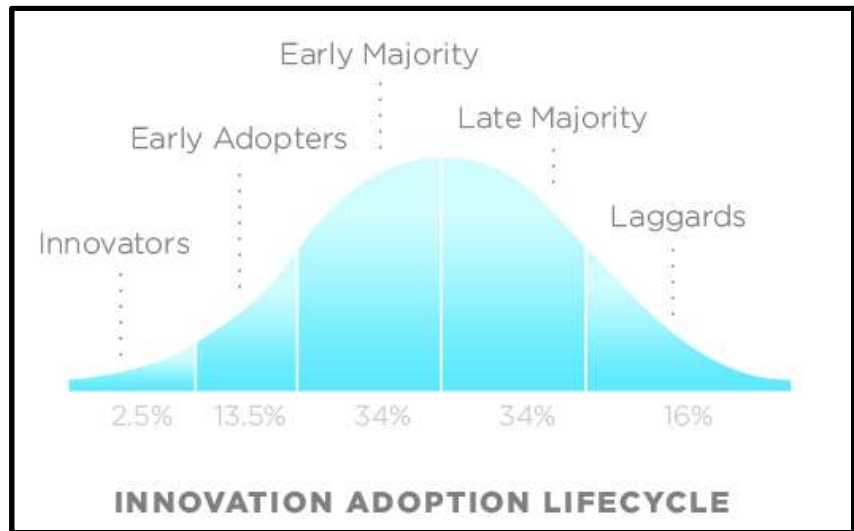


understanding of how, if at all, the initiative fits within the organization’s overall strategy needs to be considered.

### Real-Time Payments Strategy

From a big picture perspective, offering RTP capabilities to its customers fits well within the confines of the Bank’s mission to “operate service delivery systems to attract customers and

to efficiently and effectively deliver financial products and services.” From a technology adoption lifecycle perspective, RTPs are already being embraced by more than just the innovator cohort.



Early adopters have made their way into this space, accelerating development of the technology and helping to build consensus around expectations. Historically, the Bank, as with most financial institutions of its size, has adopted new technologies once long-term staying power has been demonstrated (most likely evidenced during the “late majority” – to – “laggards” stages of the technology adoption lifecycle) because it often does not have the resources nor the risk appetite to be an early adopter of cutting-edge technologies. Conversely, larger financial institutions, with greater resources and appetites for risk, are generally more willing to adopt (or at least explore) advancements as they seek to gain a first-mover’s advantage over their competition. As of September 2021, there were approximately 150 financial institutions participating in The Clearing House’s RTP network, including major players such as: Bank of

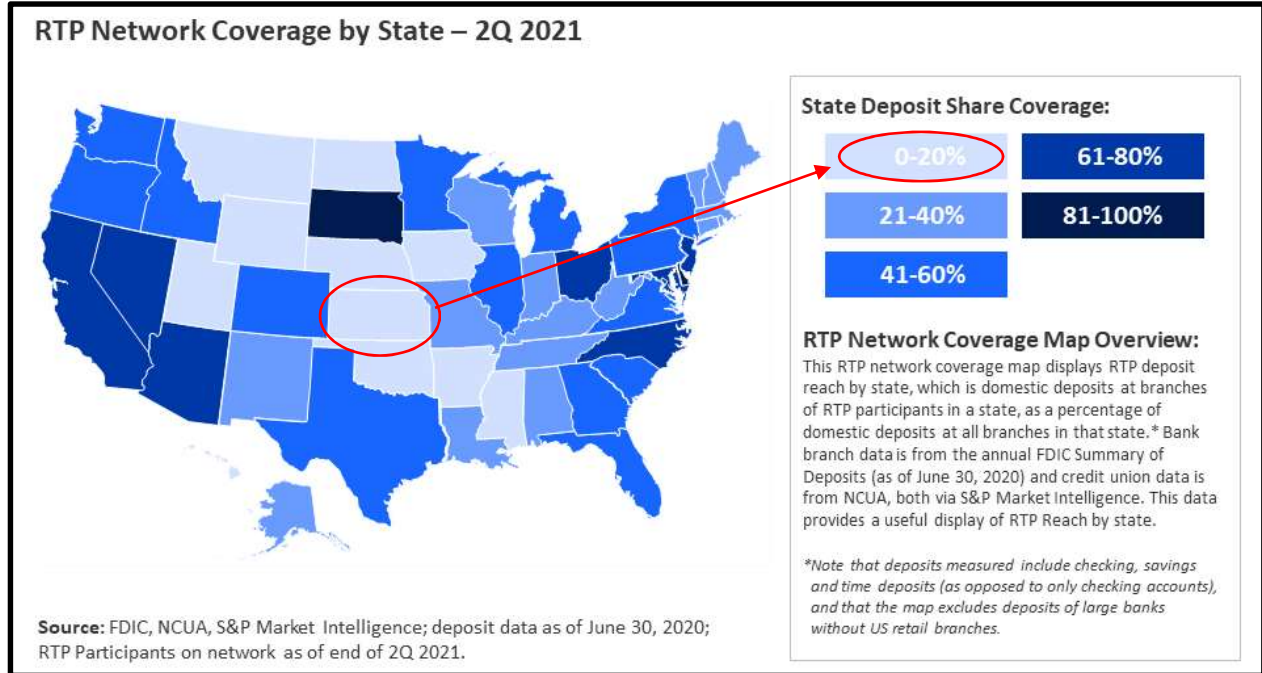
America, Wells Fargo, JPMorgan Chase, Citibank, PNC Bank, and Citizens Bank.<sup>8</sup> In terms of count, less than three percent of the roughly 5,000 FDIC insured institutions currently in existence are participants of the RTP network; however, as previously mentioned, the current group of participants collectively holds over 70% of the country's demand deposit accounts.<sup>9</sup> Even though RTP capabilities are technically available to a majority of the country's demand deposit customers, geographically speaking, very few financial institutions within the state of Kansas (the Bank's primary market area) are currently participants of the network. This can be viewed as both a positive and a negative. On the one hand, with such a limited number of Kansas-based institutions currently participating in the network (See "**FIGURE 1**"), it is less likely that a customer could enjoy the full benefits of RTP technology given that both sides of a transaction (e.g., the sender's financial institution *and* the receiver's financial institution) must be network participants in order for the transaction to be completed in real-time. On the other hand, by virtue of being an early-adopter of the technology within its market area, the Bank may be able to leverage RTP solutions to differentiate itself from its competitors, thereby creating a competitive advantage. All else equal, this advantage has the potential to be magnified should FedNow successfully accelerate the financial institution industry's adoption of RTP capabilities beginning in 2023, as expected. If properly positioned, CapFed would have a real opportunity to scale its services which, in turn, would accelerate the initiative towards profitability.

---

<sup>8</sup> "Real-Time Payments for All Financial Institutions," The Clearing House, <https://www.theclearinghouse.org/payment-systems/rtp/institution>, (2021).

<sup>9</sup> "RTP Frequently Asked Questions," The Clearing House, <https://www.theclearinghouse.org/payment-systems/rtp/institution>, (2017).

[FIGURE 1]



According to a recent nationwide survey of corporate decision-makers at businesses from various sectors<sup>10</sup>, a bank’s ability to provide RTP solutions was cited as the most important determining factor in choosing a banking partner. This means that RTP solutions were considered a more important service for banks to provide than knowledge or expertise in the business’s industry or even low-cost financing. Other notable findings from the survey included:

- 81% of respondents expect RTP will be very or somewhat transformative to their firm’s payments process, and
- 83% of respondents expect their bank to leverage the latest technological tools to help their business compete.

<sup>10</sup> “Real-Time Payments Capability Is Deciding Factor When Businesses Choose a Bank,” Latest News, (January 31, 2022).

It's expected that commercial/business customers would have the most to gain from real-time payment solution capabilities (ex: business-to-business, business-to-consumer, and consumer-to-business type transactions) due primarily to the fact that there are already a number of widely used peer-to-peer ("P2P") third-party payment applications available to the Bank's retail consumers (ex: Venmo, PayPal, Facebook Pay, etc.). These P2P apps allow users to essentially transfer funds instantly to other users; however, if a user wants to withdraw funds from the app and deposit them into their bank account, they must initiate a transfer, which then clears and settles travelling along either ACH or card rail, a process that can take multiple days to complete. Certain of these apps (ex: Venmo) do offer users the ability to instantly transfer stored funds from the app to a bank account for a fee. This option only settles entirely in real-time, though, if a user's financial institution is a participant of the RTP network. Given that the Bank is a participant in the ACH and card rail payment networks, its retail customers are already able to utilize these third-party payment apps without any additional support from the Bank.

### **Potential Benefits of Offering Real-Time Payments Capabilities**

There are a number of unique features and benefits associated with RTP technology. Some of the more prominently advertised include:

- **Speed** – payments are cleared and settled in seconds,
- **Funds availability** – deposits are immediately available for withdrawal,
- **Payment finality** – once payments are completed, they are irrevocable,
- **System availability** – the RTP network operates 24x7x365,
- **Enhanced messaging** – transaction details can be sent with the message, which help reduce billing disputes and improve transaction relationships,

- **Risk mitigation** – “credit” push only increases transparency and reduces risk of fraud associated with “debit” pulls.

Aside from these key features and benefits, pursuing integration with The Clearing House’s RTP network in the near future could afford the Bank with other opportunities as well, including:

- **Expedited integration with other systems.** Although the hope is that the Federal Reserve’s FedNow Service and The Clearing House’s RTP network will be interoperable, it is unlikely this will be the case – at least at first. The Federal Reserve has stated that they are “open to the model of interoperability based on message exchange across services in the future, *after* the introduction of the FedNow Service.”<sup>11</sup> Accordingly, it is reasonable to expect that, in order to maximize the reach of real-time payment capabilities, institutions will need to be participants of both networks. By starting the systems integration process with The Clearing House now, the Bank will be better positioned to quickly connect to the FedNow Service once it becomes available (2023), ahead of competing institutions that have delayed implementation of real-time payment capabilities entirely.
- **Reposition the Bank as forward-looking.** By definition, strategic repositioning involves changing market perceptions so that an entity is able to compete more effectively. As outlined in “Part I. Introduction,” from 1960 to 1980, the Bank implemented a host of new technologically-driven products and services to improve operations and enhance customer experience. Since 1980, an era largely characterized by technological innovation, CapFed has implemented very few notable technology-based

---

<sup>11</sup> “Frequently Asked Questions,” [https://www.federalreserve.gov/paymentsystems/files/fednow\\_faq.pdf](https://www.federalreserve.gov/paymentsystems/files/fednow_faq.pdf), (2020).

enhancements. This has been due, in part, to reasons such as marked increase in regulatory consumer compliance related demands, resources availability constraints, and increases in internal demand for technological improvements. Nonetheless, a critical success factor often identified by industry professionals related to real-time payments is the need to properly educate and prepare the customer for this technology. Not only would completing this step give the Bank the opportunity to engage its customer base to further fortify existing relationships, but leveraging the technology to enhance user experience, while contemporaneously leading customers to operational efficiencies, could serve to reposition CapFed as a forward-looking institution in the eyes of its customers (current and potential), as well as its competition.

- **Opportunity to innovate products and services.** Real-time payment networks are being constructed with flexible architectures in order to allow for the development of innovative products and services by the providers. Given the relative youth of RTPs in the U.S., many use cases for the technology are still unknown, but are certainly expected to increase and evolve over time. The more use cases that materialize, the greater probability of adoption as institutions are able to more clearly identify the value proposition of the technology. This two-way relationship (use cases  $\Leftrightarrow$  adoption) will effectively serve as a catalyst for innovation. A current example associated with RTP technology that is ripe for innovation relates to the ISO 20022 messaging standard. ISO 20022 messages, which is the standard for both The Clearing House's RTP network and FedNow, provide a structured and data-rich common language that is readily exchangeable among corporate and banking systems. The messages also provide the opportunity for enhanced analytics, which can help organizations, like the Bank, innovate

valuable new levels of payment services for its customers. Innovative products and services not only enhance customer experience, but also provide opportunities to add new revenue streams and prolong brand relevancy in the industry.

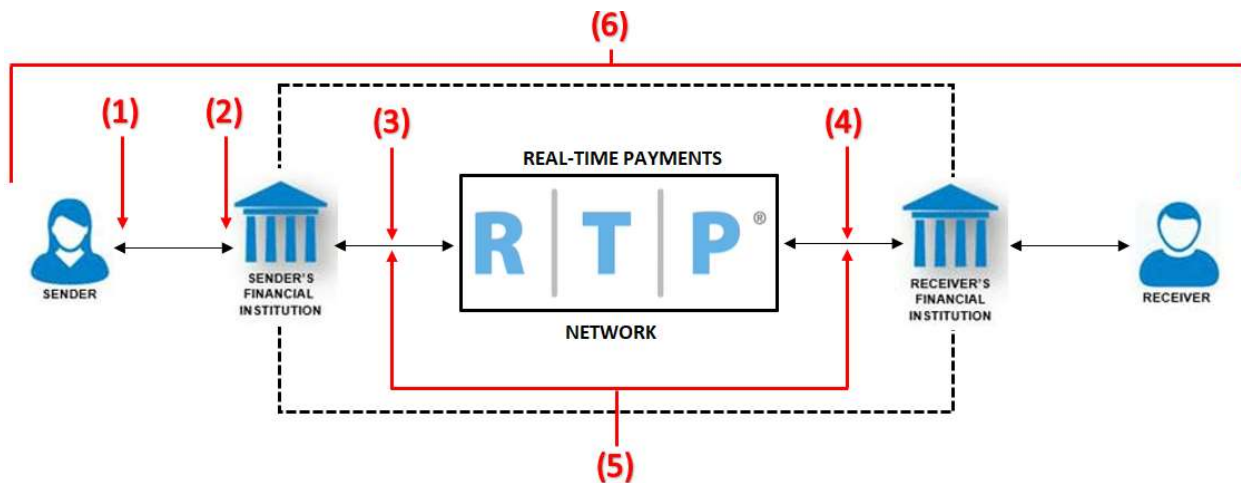
While some new opportunities for CapFed may materialize once adoption and integration with The Clearing House's RTP network has been completed, it's important that the Bank also consider potential opportunities that could erode should it decide to pursue RTP capabilities. For example, migrating customer transactions off of existing payment rails, such as card networks, and onto the RTP network has the potential to affect the amount of interchange revenue the Bank currently receives from its debit card program. See "Part III: Financial Impact" for additional discussion and analysis of items that may materially affect the financial results of the Bank should it decide to offer RTP capabilities.

### **Integration of Real-Time Payments Functionality**

The Clearing House, as will be the case with FedNow, allows participants to join its network via one of two ways: (1) a direct connection or (2) a third-party service provider ("TPSP") to act on behalf of a participant. Furthermore, institutions are, and will be, permitted to join the network as either: (1) a "receive-only" participant or (2) a "send-and-receive" participant, depending on the strategic goals and demands of the organization at the time it joins. Cursory discussions with industry experts have indicated that the vast majority of institutions elect to connect to The Clearing House's RTP network via a TPSP and they overwhelmingly join as a "receive-only" participant at first. Use of a TPSP is likely due to the extraordinary amount of internal resources required and the time needed to build and maintain in-house infrastructure that allows for a direct connection to the RTP network. The decision to, at least initially, join the

network as a “receive-only” participant is likely the result of time-to-market strategies and a desire to flatten the real-time payments learning curve for both the institution and its customers. The ability for a participant to onboard RTP technology in stages effectively allows it to, at least temporarily, reduce the scope of changes/enhancements necessary to introduce it (assuming “receive-only” capacity); however, in order for the Bank to realize the greatest possible competitive advantage, it must offer full “send-and-receive” capabilities and it must offer them sooner than its competitors. In order to leverage the full capabilities – and value – of real-time payments, several key process changes and improvements would need to be considered by the Bank to ensure the successful completion of its payments modernization journey. The following illustration (“**FIGURE 2**”) provides a high-level depiction of all the interactions that take place between the primary stakeholders during a real-time payment transaction. Callouts reference key processes that the Bank would likely need to evaluate for changes and/or improvements should it decide to pursue RTP capabilities.

[FIGURE 2]



1. **Customer interaction.** How the Bank’s customers interact with the new technology would need to be envisioned. For example, would customer interaction take place



through a new end-user interface developed by the Bank or would the technology be integrated into the Bank's existing online and mobile applications?

2. **Customer integration.** How the Bank's customers, primarily commercial/business customers, integrate the new technology into their existing systems and processes would need to be understood. For example, would customers need to perform costly upgrades to their legacy systems in order to utilize the Bank's RTP functionality or are their existing payment systems interoperable?
3. **Sending payments.** How the Bank satisfies key controls 24x7x365 associated with sending electronic payments in accordance with the RTP network requirements needs to be envisioned. For example, instantaneous payment validation, customer authentication using multi-factor authentication, and fraud screening are all responsibilities of the sending financial institution.
4. **Receiving payments.** How the Bank satisfies key controls 24x7x365 associated with receiving electronic payments (in accordance with the RTP network requirements) needs to be envisioned. For example, instantaneously accepting or rejecting payments, crediting the customer's account, and making funds available immediately are all responsibilities of the receiving financial institution.
5. **Connectivity.** How the Bank interacts with the RTP network itself needs to be determined. As previously mentioned, The Clearing House, as will the Federal Reserve, allows participants to join the network either via a direct connection or through a TPSP. Regardless of how the Bank connects to the RTP network to support 24x7x365 payment capabilities, it will be a major change from its current processes.

6. **Education.** How the Bank educates key internal and external stakeholders on the technology needs to be envisioned. Educating the Bank's customers in areas such as real-time payments availability, potential use cases, and potential consequences of the technology will be critical to the success of the initiative. Similarly, educating the Bank's employees on all aspects of the technology so that they are capable of providing end-to-end support to both current and potential Bank customers will be vital to success.

In order to allow for the greatest possible chance of success, an implementation schedule should be developed and constantly maintained to aid with project progression. The following sample schedule outlines several key milestones and provides an estimated time to completion for each. This roadmap is intended for planning and discussion purposes only and does not purport to represent all material considerations relevant to the initiative.

# SAMPLE: RTP Project Review & Implementation Schedule

Task Description	Delegated Party	MONTH											
		1	2	3	4	5	6	7	8	9	10	11	12
<b>1. DEFINE RTP INITIATIVE</b>													
Form task force to research initiative (FPTF)	ALCO	[Gantt bar: Month 1]											
Identify how/where RTP can be used for maximum benefits	FPTF; Business Units	[Gantt bar: Months 1-5]											
Drive efficiencies													
Improve CX													
Improve customer service													
Eliminate existing pain points													
New products/services													
Discuss with business units (Retail, Lending, Business Banking)													
<b>2. ASSESS SYSTEMS AND PROCESSES</b>													
Evaluate connection options and providers	FPTF; IT	[Gantt bar: Months 3-5]											
Direct connect													
TPSP													
Determine initial and ongoing requirements	FPTF; IT; Retail Ops; Legal	[Gantt bar: Months 4-6]											
System requirements/changes to support 24x7x365													
Staffing requirements/changes to support 24x7x365													
Regulatory implications													
Assess integration with core provider and applications	FPTF; IT; Retail Ops	[Gantt bar: Months 5-7]											
<b>3. EVALUATE INITIATIVE AND MAKE DECISION</b>													
Financial impact	FPTF; Financial Services	[Gantt bar: Months 6-7]											
Non-financial impact	FPTF; ALCO; Business Units	[Gantt bar: Months 7-8]											
Likelihood of success	FPTF; ALCO; Business Units	[Gantt bar: Months 8-9]											
Evaluate current customer demand													
Evaluate target customer demand													
Pros/Cons	FPTF; ALCO; Business Units	[Gantt bar: Months 9-10]											
<b>4. READY STAKEHOLDERS (IF APPLICABLE)</b>													
Internally	FPTF; Business Units	[Gantt bar: Months 10-12]											
Educate and prepare employees													
Customer facing													
Retail Operations													
Legal													
Compliance & Risk Management													
Internal Audit													
Vendor Management													
Financial Services													
Marketing													
IT													
Externally	FPTF; Business Units	[Gantt bar: Months 10-12]											
Educate and prepare customers													
To receive RTP credits													
To initiate RTP credits													
On additional services (messages, RfP, etc.)													
External Auditor?													
Regulators													
<b>5. IMPLEMENT AND LAUNCH (IF APPLICABLE)</b>													
Begin RTP onboarding experience	FPTF; Business Units	[Gantt bar: Months 11-12]											
Connect to RTP network	FPTF; IT	[Gantt bar: Month 11]											
Join RTP network as a FI participant	FPTF; IT	[Gantt bar: Month 12]											
Manage RTP liquidity	FPTF; Retail Ops, Treasury	[Gantt bar: Months 11-12]											

FPTF: Faster Payments Task Force

## **PART III: FINANCIAL IMPACT OF STRATEGY**

### **Overview of Financial Considerations**

Unsurprisingly, there are many factors to be considered when assessing the size and type of financial investment(s) necessary to undertake an initiative such as implementing real-time payment capabilities at a financial institution. Among the most notable are the financial costs associated with onboarding the technology (“implementation” costs) and the subsequent usage-based fees (“recurring” costs) that are incurred as customers adopt and use the technology. Another potentially material, albeit somewhat abstract, cost that should be considered by an institution during its evaluation relates to its human capital. A thorough assessment of whether investments are needed in this area is critical to ensure the project’s long-term success. For purposes of assessing the financial impact of this initiative at CapFed, however, human capital costs are not being factored in. This is because the Bank believes its workforce currently possesses the capabilities needed to successfully implement RTP technology, irrespective of the path taken to get there, it’s just a matter of resource availability. Depending on the strategic decisions made with regards to implementation and the capabilities to be offered (discussed more below), it may be necessary for the Bank to consider the opportunity cost of undertaking RTPs as compared to other strategic initiatives already in its queue. If so, then the value of product time-to-market gets introduced as a variable in the Bank’s financial impact equation, which may be difficult to quantify with any reasonable certainty, especially in a relatively new product market like real-time payments.

In addition to the implementation and recurring costs associated with RTPs, there are other certain, less abstract, ancillary expenses (and revenues) that should be factored into the

financial assessment of the initiative. One such consideration is the cost (or reduction in revenue) associated with migrating customer transactions off of the Bank’s existing payment rails and onto the RTP network(s). Doing so will impact on the amount of revenues CapFed currently derives from network interchange fees. Any reductions in net revenues resulting from the implementation of RTP technology has the potential to at least be partially offset by new, unique revenue generating opportunities. For example, CapFed could seek to promote “payments as a service” by leveraging RTP capabilities to provide more actionable intelligence to its commercial/business customers as a way to generate supplemental revenue. Additional revenue streams are expected to materialize as industry adoption leads to new uses for the technology; however, given the limited amount of information and data currently available, most are being excluded from this financial assessment.

**Implementation costs.** As previously discussed, The Clearing House (as will the Federal Reserve) allows participants to join their network via one of two ways: (1) a direct connection or (2) via a TPSP. The decision the Bank makes on how to connect to the network will single-handedly drive the vast majority of its implementation costs.

- **Direct connection.** Should the Bank decide to pursue the option of connecting directly to The Clearing House’s network, it is expected additional investments in infrastructure and technology, at a minimum, will be required before RTP capabilities can be made available to its customers. Known infrastructure investments needed include four high-end Cisco production routers, spread over two separate data centers, in order to support RTP transactions. The Clearing House requires this hardware be leased directly from them and in place and tested prior to going-live in order to confirm the institution’s “always up” capabilities meet their standards. Additionally, investments in either a

MPLS circuit that would connect the Bank directly to The Clearing House or another approved VPN application would be required to ensure the secure transfer of data 24x7x365. Initial technological investments needed primarily revolve around the development of messaging interoperability. The RTP network utilizes the data-rich messaging format ISO 20022, which is not currently supported by the Bank's legacy payments platform. Therefore, the ability to convert payment related messages to/from ISO 20022 format would need to be developed and subsequently maintained in-house. While not necessarily an implementation cost, if the Bank elects for a direct connection, then it will also be subject to a recurring "network at-cost pass-through" fee that is assessed by the network provider. This fee essentially represents the overall cost of connectivity, as calculated by The Clearing House, and is spread across the participants that are directly connected to the network.

- **TPSP connection.** In lieu of establishing and maintaining a direct connection to the RTP network (and eventually to the FedNow network as well), the Bank could elect to engage a TPSP, such as its core provider or a fintech, to assist in bridging the connection gap on its behalf. Utilizing a TPSP would provide the Bank with relief from a majority of the implementation costs associated with connecting directly, as described above; however, engaging a TPSP for these services comes with an upfront cost and also subjects the institution to recurring costs, into perpetuity.

**Recurring costs.** There are certain costs associated with each connection avenue that would be recurring in nature. For example, if connected directly to the RTP network, the Bank would be responsible for a portion of the network's at-cost pass-through fees, which are assessed on a monthly basis. Additionally, if connected directly to the network, the Bank would be

responsible for maintaining its connection 24x7x365 with respect to updates, enhancements, and any changes made by the network provider, and would also need to possess the capacity to handle any transaction exceptions that occur in real-time. This could potentially require a future investment in human capital in the form of hiring additional staff – depending on the demands and requisite skillsets required. Most of the recurring costs expected to be incurred, however, will be predicated on the quantity of customer transactions.

- **Receive-only capability.** There are minimal recurring costs associated with RTP transactions if an institution is a participant of the network in a receive-only capacity. If an institution utilizes a TPSP to connect to the RTP network (versus a direct connection), then it is expected that the service provider will assess a per transaction fee for each credit received by the institution. The Clearing House, on the other hand, only charges activity fees, for credit related transactions, to the network participant that initiated them (e.g., sending payments and messages). They do not charge a fee, regardless of how the institution is connected to the network, for a participant to simply receive a credit (e.g., deposit) from another financial institution.
- **Send-and-receive capability.** The vast majority of recurring costs associated with RTP transactions revolve around “send” functionality. If an institution has elected to utilize a TPSP to connect to the RTP network (versus a direct connection), then it is expected that the service provider will assess a per transaction fee for each credit transaction initiated. Similarly, The Clearing House, according to their RTP Participant Fee Schedule<sup>12</sup>, assesses a per transaction fee for each credit related transaction initiated by a network

---

<sup>12</sup> “RTP Participant Fee Schedule,” [https://www.theclearinghouse.org/-/media/new/tch/documents/payment-systems/rtp\\_pricing\\_01-01-2021.pdf](https://www.theclearinghouse.org/-/media/new/tch/documents/payment-systems/rtp_pricing_01-01-2021.pdf), (2021).

participant. If the customer at the sending institution desires to include a message with their payment transaction or wants to send a “Request for Payment” to a customer at another participating institution, then a separate transaction fee will be assessed by The Clearing House, and also by the TPSP, if one is used.

Depending on the network connection and the participation strategy the Bank elects to pursue, if any, net recurring costs are forecasted to range between \$XX and \$XX per transaction, based on pricing estimates received from service providers. This per transaction range includes all materially relevant (and identifiable) recurring costs associated with the initiative, including overhead charges, across the various alternative implementation strategies, net of any projected recurring revenues.

### **Estimate of Financial Impact**

The following provides a three-year projection of the estimated impact on Bank earnings for each of the four RTP strategies available for consideration. Full detailed support for pro-forma amounts, including methodologies used and basis for assumptions, is provided in **Appendix B**. Included in each forecasted period are three potential scenarios: Low, Medium, and High – each being an indicator of the relative level of transaction activity that has been used to generate the associated pro-forma revenues and expenses for the annual periods included. These ranges have been incorporated into the financial impact assessment due to the limited availability of empirical RTP transaction data and the wide range of post-implementation transaction estimates provided by industry professionals.



**1. Connect directly to the RTP network and offer receive-only capabilities**

	YEAR 1			YEAR 2			YEAR 3		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
<b>EXPENSES</b>	<b>[INFORMATION HAS BEEN REDACTED BY THE AUTHOR]</b>								
Equipment lease (DC only) Network At-Cost Pass-Through (DC only)									
<b>PRETAX EARNINGS IMPACT</b>	<b>[INFORMATION HAS BEEN REDACTED BY THE AUTHOR]</b>								
DC x Receive-only									

**2. Connect directly to the RTP network and offer send-and-receive capabilities**

	YEAR 1			YEAR 2			YEAR 3		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
<b>REVENUES</b>	<b>[INFORMATION HAS BEEN REDACTED BY THE AUTHOR]</b>								
RTP Transactions Sent									
Commercial Messages Sent - RfP									
Commercial Messages Sent - Other									
RTP Messages Sent Other									
<b>EXPENSES</b>	<b>[INFORMATION HAS BEEN REDACTED BY THE AUTHOR]</b>								
Equipment lease (DC only)									
Network At-Cost Pass-Through (DC only)									
RTP Transactions:									
Credits Sent:									
Network Provider									
Network Messages Sent:									
Network Provider									
RfP Incentive Fee Paid (To TCH)									
<b>PRETAX EARNINGS IMPACT</b>	<b>[INFORMATION HAS BEEN REDACTED BY THE AUTHOR]</b>								
DC x Send-and-Receive									

**3. Utilize a TPSP to connect to the RTP network and offer receive-only capabilities**

	YEAR 1			YEAR 2			YEAR 3		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
<b>EXPENSES</b>	<b>[INFORMATION HAS BEEN REDACTED BY THE AUTHOR]</b>								
Implementation (TPSP only)									
RTP Transactions: Credits Received (TPSP only)									
<b>PRETAX EARNINGS IMPACT</b>	<b>[INFORMATION HAS BEEN REDACTED BY THE AUTHOR]</b>								
TPSP x Receive-only									

**4. Utilize a TPSP to connect to the RTP network and offer send-and-receive capabilities**

	YEAR 1			YEAR 2			YEAR 3		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
<b>REVENUES</b>	<b>[INFORMATION HAS BEEN REDACTED BY THE AUTHOR]</b>								
RTP Transactions Sent									
Commercial Messages Sent - RfP									
Commercial Messages Sent - Other									
RTP Messages Sent									
RfP Incentive Fee									
Debit Card Interchange									
Other									
<b>EXPENSES</b>									
Implementation (TPSP only)									
RTP Transactions:									
Credits Received (TPSP only)									
Credits Sent:									
Network Provider									
TPSP									
Network Messages Sent:									
Network Provider									
TPSP									
RfP Incentive Fee Paid (To TCH)									
<b>PRETAX EARNINGS IMPACT</b>									
TPSP x Send-and-Receive									

**Evaluation of Financial Risks**

Due to implementation and maintenance costs being relatively fixed, there is minimal concern that onboarding RTP technology would pose a significant financial risk to the Bank. One consideration that has not been factored into the financial impact assessment of this initiative, but that could manifest itself as a significant risk in the future, relates to the propensity for fraud on the RTP network. Given that the network only allows “credit” push transactions to occur (e.g., “debit” pulls from accounts are not permitted), the financial risk from *receiving* real-time payments is perceived to be minimal. On the other side, due to the speed and finality of payments on the RTP network, customer transactions *sent* as a result of fraud or deceptive acts will be very difficult to recover and is of much greater concern to financial institutions. cursory discussions with industry experts have indicated that, to-date, there has been no measurable amount of fraud experienced on the network; however, the consensus is that it is inevitable. The

key, they say, to mitigating this risk resides at the “know-your-customer” level and that institutions should always employ evolving fraud screening techniques. Another potentially significant financial risk of this investment relates to the recurring, or variable, costs associated with transaction activity. Significant deviations from the estimates used to produce the pro-forma financials could drive net losses from RTP technology higher than expected. As previously noted, net recurring costs have been estimated to be between \$XX to \$XX per RTP transaction. This would indicate, in theory, that the Bank’s exposure to potential losses are limitless. However, with enough volume, it’s expected that net recurring costs would actually decrease as the positive financial impact derived from supplemental RTP revenues begins to increasingly outweigh the negative impact from recurring transaction costs. Based on the current pricing structure represented in the financial impact assessment, it’s estimated that the Bank could achieve a net revenue neutral position once it initiates a minimum of approximately XXX to XXX commercial/business transactions per year (depending on the network connection method selected). Further, if anticipated revenues from ancillary RTP services are factored into the equation, then the initiative shifts to net revenue positive. In the absence of scale, however, there are other potential strategies that the Bank could explore in an effort to help reduce exposure to potential losses. For example, the Bank could:

- **Increase price points for RTP services.** There is currently limited empirical data available on customer sensitivity to price points for RTP services. One service provider estimated that commercial/business customer tolerance for payment related services peaks at around \$XX/transaction. For purposes of this analysis, a much more conservative price point was used in an effort to manage revenue generating expectations from RTP services; albeit, there will likely be room for the Bank to favorably adjust

prices for its RTP services once it determines the value of these services with more certainty.

- **Market RTP capabilities only to certain customer segments.** If and when the Bank enables the ability to “send” real-time payments, it can strategically choose how and when to provide the services to each of its various customer segments. For example, if it is determined that offering send capabilities to all customer segments at once would be too cost prohibitive, the Bank could instead focus its marketing efforts on the customer segment it believes has the greatest revenue generating capacity – commercial/business customers.
- **Innovate revenue generating products and services that leverage RTP capabilities.** Currently, only a small number of revenue-generating RTP use case examples are widely promoted by the network and service providers. While it may be a stretch to rely on one’s future ability to innovate/implement revenue generating products and services, opportunities to do so will exist as adoption of RTP technology increases.

Based on the revenue and expense projections presented in the various pro-forma financials above, it is expected that initial implementation of RTP capabilities at the Bank, in any capacity, will negatively impact its bottom line. In the world of capital budgeting and investment planning, this is the equivalent to a project having a negative net present value (NPV), an indication that it should not be pursued. However, annual impacts from the investment are estimated to be relatively immaterial to the overall earnings of the Company and have the potential to improve with scale. During fiscal year 2021, the Company reported net income available to stockholders of \$76.0 million and basic and diluted earnings of \$0.56 per

share.<sup>13</sup> Using the worst-case pro-forma scenario forecasted above (across all periods presented), it's estimated that net income would only be reduced by approximately \$XX (net of taxes), or

\$XX/share per annum, if RTP

capabilities were to be

implemented. Even though,

purely from a financial

perspective, an investment in

RTP technology is initially

expected to be dilutive to

earnings, the project still

warrants further evaluation so

<b>Fiscal Year Ended September 30, 2021</b>	
Net income available to common stockholders	\$ 76,032,000
Total basic average common shares outstanding	135,481,232
Total diluted average common shares outstanding	135,495,595
Net EPS Reported:	
Basic	\$ 0.5612
Diluted	\$ 0.5611
Pro-forma worst-case annual RTP estimate	<b>[INFORMATION HAS BEEN REDACTED BY THE AUTHOR]</b>
Effective Tax Rate	
Net impact to earnings	
Pro-forma EPS:	
Basic	
Diluted	

that the impact from other, non-financial factors, can be incorporated into the final decision-making process.

## **PART IV: NON-FINANCIAL IMPACT OF STRATEGY**

### **Implications of Real-Time Payments**

Of substantial importance to the evaluation of any project or initiative is an honest assessment of significant non-financial implications that exist around the edges of a strategy being considered. These factors tend to be more abstract in nature and, therefore, more difficult to conceptualize with high degrees of accuracy and confidence. Nevertheless, failing to incorporate such an assessment into the overall decision-making process could lead to short-sighted (or near-term) decisions that result in long-term negative consequences, up to and

---

<sup>13</sup> Capitol Federal Financial, Inc., *Form 8-K September 30, 2021*.

including failure of the project or initiative. Specific to the Bank's evaluation of RTP technology, propensity for adoption and resource availability are among the most significant non-financial implications that the Bank will need to consider during the decision-making process. Understanding these tactical hurdles and having a plan in place to manage them, to the fullest extent possible, will increase the chances for both short- and long-term strategic success. Effectively managing these considerations may also provide the Bank with opportunities to improve long-term profitability, as discussed further below.

**Adoption of real-time payments technology.** Adoption of RTP technology by all key internal and external stakeholders will be critically important to the success of this initiative. The following discussion identifies who the key stakeholders are and the potential hurdles to success that the Bank may encounter with each along the way.

- **Internal adoption.** In reality, adoption by all departments and individuals that support or interact with the RTP process will be necessary for success. However, the *key* internal stakeholders identified as part of this initiative include senior management and the Bank's Retail and Business Banking divisions. Absolute buy-in and support from senior management will be critical, not only from a financial perspective, but also – and perhaps more importantly – from a strategic perspective. If senior management is unable to clearly visualize the strategic value of this initiative, then reluctance may creep in and undermine any chance for success. If reluctance at the top persists, it will inevitably filter down to the project's other key internal stakeholders, the Bank's Retail and Business Banking divisions. Similar to senior management, it is imperative that these departments are able to envision the value that RTP technology offers and the potential benefits it can

provide the Bank's customers, even if little-to-no demand for the functionality currently exists.

- **External adoption.** The key *external* stakeholders identified as part of this initiative are the Bank's customers as the true value of real-time payments lies in the user experience. However, it's unlikely that many of the Bank's current customers – namely its commercial/business customers – have access to, or experience with, commercial RTP technology. Consequently, CapFed's legacy customer base, to date, has not expressed demand for RTP capabilities or requested enhancements to the current suite of payment options offered by the Bank. Furthermore, with the potential for costly upgrades to back-office systems needed in order to fully utilize RTP capabilities, commercial/business customers may be reluctant to adopt the technology until it becomes more ubiquitous and the value proposition crystalizes.

Although not a stakeholder of the organization, competing financial institutions within the Bank's market areas are also expected to have an impact on adoption of real-time payments by customers. These institutions may be slow to adopt and offer RTP capabilities given the various (and potentially costly) requirements and challenges that accompany bringing a new product or service to market in such a highly regulated industry. In order for a customer to enjoy the full benefits of RTP technology, both sides of the transaction (*i.e.*, the sender's financial institution *and* the receiver's financial institution) must be participants of the network. Therefore, any latency from other financial institutions could also potentially stall adoption by the Bank's customers.

**Resource availability.** Aside from the propensity for adoption of real-time payments, competing projects and initiatives already in the queue, or even on the horizon, represent another

significant non-financial implementation hurdle the Bank would likely face. This is especially true if management expresses a desire to expedite the initiative in an effort to generate a competitive advantage. Internal resources are often limited; however, capacity at the Bank has been even more constrained as a result of the enduring impacts from the global pandemic. With all of the uncertainty that accompanies implementation of a new product or service in a space with limited history, it will be challenging for the Bank to be able to commit the requisite resources needed in order to successfully onboard full RTP technology in a timely fashion.

### **Measuring and Managing Non-Financial Implications**

Having identified some potential implications, the Bank must now seek out possible solutions to assist in overcoming the non-financial hurdles. Properly educating both the Bank's internal and external stakeholders on all facets of RTP technology will yield the greatest rate of adoption. Clearly articulating the beneficial value RTPs could provide customers should help to alleviate any reluctance senior management assumed from reviewing the preceding estimated financial impact discussion (see "Part III. Financial Impact"). Additionally, should the Bank decide to hasten adoption of the strategy by offering both send-*and*-receive RTP capabilities before its market area competitors do, it would be afforded a greater opportunity to leverage its position to its advantage. For example, the Bank could then market itself as a forward-looking institution with expertise in improving the payments experience for businesses. Not only would this appeal to CapFed's current customer base, but with effective marketing, could also attract business accounts from other competing institutions and possibly reduce future customer acquisition costs.



Equally important to properly educating senior management at the organization (ensuring full project buy-in) is properly educating the Bank's employees, namely those in its Retail and Business Banking divisions, on all aspects of the technology. Doing so will empower the employees to take ownership of the implementation process, encourage them to become subject-matter experts and, ultimately, instill the confidence needed to sell customers on the various benefits of RTPs. It is imperative to long-term success that Bank employees are able to provide full end-to-end RTP support as they will be the customers' primary points of contact and responsible for not only educating them on the technology, but also assisting with the onboarding process. This is necessary because it's unlikely that many of the Bank's customers – namely its commercial/business customers – currently have access to, or experience with, commercial RTP technology. Notable customer education junctures will include concepts such as real-time payments availability, potential use cases, and potential consequences of using the technology.

To assist in overcoming a potential implementation hurdle due to insufficient internal resources, it is recommended that the Bank reevaluate, and possibly reprioritize, some of the competing projects and initiatives currently in its queue. This exercise would provide senior management with the opportunity to determine exactly where RTP capabilities fit within the organization's strategic hierarchy. As part of this assessment, with respect to RTP strategy, the Bank should also consider the various connection and capability alternatives available to it (see "Part III. Financial Impact" for additional discussion) as resource requirements may vary significantly among them. For example, connecting to the RTP network directly and offering send-*and*-receive capabilities would be expected to require significantly more internal resources than connecting to the RTP network via a TPSP and offering customers receive-only capabilities. Other alternatives the Bank could consider to address internal resource constraints include

engaging a TPSP or consulting firm to assist with the RTP onboarding and implementation process, or adding to staff.

In an effort to assess the potential impacts the various non-financial considerations discussed above may have on the organization, the Bank can incorporate certain measures into its decision-making process to help provide further insight. Examples of applicable measures include: “product time-to-market” and “customer payment channel usage and mix.”

- **Product time-to-market.** In order for the Bank to achieve any type of advantage in the RTP space, it needs to implement the technology in advance of its local market competitors. Any competitive advantage obtained would have the potential to be magnified should FedNow successfully accelerate the financial institution industry’s adoption of RTP capabilities beginning in 2023, as expected. To determine the potential for a competitive advantage, product time-to-market can be used as a key milestone for senior management to set and for project managers to work towards. This measure could also be used as a barometer for internal resources availability. If, during the strategic evaluation phase of the project, it is determined that the internal resources needed to bring RTP products and services to market by the desired implementation date are not available, then the Bank would be forced to reevaluate its target implementation date. Extending the target implementation date would take pressure off of internal resources; however, in doing so, would contemporaneously erode the opportunity for a competitive advantage.
- **Customer payment channel usage and mix.** Likely one of the easier metrics to evaluate when assessing the non-financial impact of this initiative is customer payment channel usage and mix. With limited empirical data related to RTP transactions at

financial institutions currently available, setting targets or goals for channel usage may feel a bit arbitrary, at least initially. However, the Bank does have the internal reporting capabilities to monitor customer payment volumes by channel, so accumulating data should be a relatively simple exercise post implementation. This information will provide insight into customer RTP adoption rates and, subsequently, payment channel preferences. Long-term, payment channel and usage mix data will serve to substantiate, or disprove, the staying power of real-time payments at CapFed.

### **Organizational Impact of Non-Financial Implications**

All of the non-financial impacts identified and described have the opportunity to affect the organization, its employees, and its customers in a variety of ways. Key stakeholder adoption of real-time payments technology is expected to have a positive impact on the organization and its customers. Ultimately, the goal of this proposal is to improve the user experience for customers by reducing existing friction within the electronic payments channel and by providing additional, value-added, services. As with all new products and services, it is expected there will be challenges encountered during the onboarding, testing, and go-live phases of the initiative that require staff resources. If successfully managed, these challenges will not derail implementation and will provide all parties involved with valuable learning experiences. Internal adoption by the Bank's key stakeholders will set the tone for the RTP onboarding and testing phases of the project. Clear support from senior management at the Bank and complete buy-in from the Bank's Retail and Business Banking divisions will serve to communicate – bank-wide – the importance of this initiative and the positive impacts that it is expected to have on the organization. External adoption from the Bank's key stakeholders, namely its commercial/business customers, will not only help move the electronic payments industry

forward, but will also serve to validate the decision-making processes undertaken by the organization during the internal adoption phase of the project. Collectively, full adoption by all key stakeholders will increase opportunities to drive improvements in long-term profitability at the Bank. As outlined in “Part III. Financial Impact,” initial implementation of RTP technology is expected to be dilutive to Company earnings; however, there are other, less predictable, derivatives of RTP technology that could positively contribute to bottom-line earnings. Examples include the impacts from “deposit growth and retention rates” and from “customer acquisition and retention rates.”

- **Deposit growth and retention rates.** A cornerstone of RTPs is the instantaneous nature and finality that results when using them. While the positive aspects of this benefit are most often advertised and considered from a customers’ point-of-view, financial institutions also serve to benefit as instant settlement will make customer deposits available for use much sooner than deposits received via most other payment rails. Since customer deposits are often the cheapest source of funds for financial institutions, this means that the Bank may have future opportunities to remix its funding sources and rely less on wholesale borrowings. Funding asset growth with a cheaper source of funds would improve margins and have a direct positive impact to the Company’s bottom-line. Similarly, providing existing customers with one less reason to shift their deposits from the Bank to another entity for purposes of RTPs would translate into a greater deposit retention rate and could preclude the need to seek out alternative funding sources in the future.
- **Customer acquisition and retention rates.** The genesis for many of the initiatives undertaken at the Bank stem from a desire to acquire and retain customers as effectively

and efficiently as possible. In such a highly regulated industry like banking, this can be difficult to do based solely on product and service offerings as most of these are comparable among the industry participants. This makes seizing any opportunities to obtain a competitive advantage that much more important for the Bank. According to a nationwide survey of corporate decision-makers at businesses from various sectors, as described in “Part II. Strategy and Implementation,” 81% of respondents expect RTPs to very or somewhat transformative to their firm’s payments process. If properly marketed to, and educated on, individuals may begin seeking out institutions for their RTP capabilities. This would then provide CapFed with a unique opportunity to lower its acquisition cost of potential customers while contemporaneously increasing the “stickiness” of its existing customer base – both of which could lead to positive long-term impacts on the Bank’s earnings.

While not expected to have a direct impact on its customers, internal resources availability may impact the Bank’s employees and, by virtue of osmosis, the organization as a whole. More specifically, a lack of internal resources could negatively affect employees depending on the RTP connection and capability strategy that CapFed elects to pursue, if any, and the desired implementation timeframe targeted by senior management. It’s expected that staff from a number of departments will need to be involved with the implementation process and, subsequently, will be responsible for providing long-term support for all RTP products and services to both the Bank’s internal and external customers. This will require certain employees take on additional responsibilities regardless of current bandwidth constraints, or additional staff be hired to help manage the RTP products and services. Staff from various departments will need to create a tactical roadmap that can be referenced to ensure expected resource requirements

have been fully identified and accounted for. The roadmap should encompass all known aspects of the initiative, including tasks such as:

- Establish policies and procedures around RTP products and services,
- Ensure organizational compliance with all applicable rules and regulations,
- Identify and assess all potential legal responsibilities or ramifications associated with RTP services, including instances related to fraud.

Saddling current staff with additional responsibilities may require a pivot away from other competing projects already in process or in the Bank's queue, which could negatively affect the organization. All of this should be considered during senior management planning sessions in order to determine exactly where RTP capabilities currently fit within the organization's strategic hierarchy. Without the proper allocation of internal resources, it will be increasingly difficult to achieve any of the desired benefits of deposit and customer growth, and drive improvements in long-term profitability at the organization.

## CONCLUSION

After examining the current trajectory of the electronic payments industry, all trends point towards instant payment capabilities becoming mainstream within the next two years. For financial institutions, The Clearing House's RTP network provides a gateway into the space and for optionality according to the strategic goals and the resources of the organization. Based on the results of the financial and non-financial impact assessments completed herein, it is recommended that the Bank pursue joining The Clearing House's RTP network as the organizational benefits of doing so vastly outweigh any negatives. Connection to the network should be established via a TPSP, and transaction capabilities should initially be "receive-only." Once the Bank has successfully joined the network and is able to receive RTPs, then it should immediately begin working towards offering full "send-and-receive" functionality. Initially joining the network as "receive-only" will, among other things, allow the Bank to introduce its customers to the concepts and capabilities of RTP technology almost immediately while also providing the benefit of receiving real-time payments. However, in order for the Bank to achieve the greatest possible competitive advantage from this initiative, it must offer full send-and-receive capabilities and it must offer them sooner than its competitors. Accordingly, the Bank should set a strategic goal to be connected to the network and have the ability to receive RTPs within two months of completion of its vendor due diligence and selection process, and then the ability to fully send-and-receive RTPs onboarded within 18-24 months of the project's inception date.

# APPENDIX A

## Capitol Federal Savings Bank

*Kansas Market Share Statistics by Year*

<i>Year</i>	<i>Deposits</i> <sup>1</sup>		<i>Residential Loan Originations</i> <sup>2,3</sup>	
	<i>%</i>	<i>Rank</i>	<i>%</i> <sup>4</sup>	<i>Rank</i> <sup>5</sup>
2021	6.87%	2	3.36%	2
2020	6.90%	1	3.65%	3
2019	7.41%	1	4.39%	1
2018	7.26%	2	4.18%	1
2017	7.29%	2	4.38%	1
2016	7.33%	2	5.27%	1
2015	7.23%	2	5.87%	1
2014	7.25%	2	4.84%	1
2013	7.51%	2	5.90%	1
2012	7.77%	1		
2011	7.66%	2		
2010	7.60%	2		
2009	7.55%	1		
2008	7.11%	2		
2007	7.62%	1		
2006	8.03%	1		
2005	8.64%	1		
2004	9.35%	1		
2003	9.81%	1		
2002	10.59%	1		
2001	10.61%	1		
2000	10.42%	1		
1999	10.38%	1		
1998	10.49%	1		
1997	10.79%	1		
1996	10.71%	2		
1995	10.80%	2		
1994	10.45%	2		

<sup>1</sup>Data Source: Federal Deposit Insurance Corporation, Kansas Deposit Market Share Report, 1994-2021, Raw data (Washington DC: FDIC, February 21, 2022).

<sup>2</sup>Data Source: *Kansas Residential Mortgage Analytics 2013-2021*, (S&P Global: Mortgage Analytics, 2021).

<sup>3</sup>Data covers approximately 70% of U.S. counties, which represents approximately 90% of the U.S. population. Data is not available for some counties due to limited public availability of mortgage deeds.

<sup>4</sup>Mortgage values used to calculate market share are capped at \$75M to minimize the impact of unusually large loans in a market.

<sup>5</sup>S&P Global combines loan origination data for non-depository lenders and private party loans into single categories. These categories have been excluded in order to determine Capitol Federal's rank among individual institutions.



# APPENDIX B

## Financial impact data

	Inputs	YEAR 1			YEAR 2			YEAR 3			TOTAL		
		Low	Medium	High	Low	Medium	High	Low	Medium	High	Low	Medium	High
<b>RTP ESTIMATES</b>													
Consumer:													
Sent <sup>1</sup>													
Received <sup>2</sup>													
Commercial:													
Sent <sup>1</sup>													
Received <sup>2</sup>													
Total:													
Sent <sup>3</sup>													
Received <sup>3</sup>													
Total RTP Transactions <sup>3</sup>													
Network Messages/Services:													
Messages Sent - Consumer (non RfP) <sup>4</sup>													
Messages Sent - Commercial (non RfP) <sup>5</sup>													
RfP's Received & Completed <sup>6</sup>													
RfP's Sent <sup>5</sup>													

**[INFORMATION HAS BEEN REDACTED BY THE AUTHOR]**

<sup>1</sup>Used a run rate of XX% of received transactions as estimate due to a lack of available empirical industry data

<sup>2</sup>Estimate provided by Fintech: RTPs received will be up to XX% of ACH credit volume initially. The Clearing House estimates that financial institutions with total assets greater than \$5B will receive thousands of transactions each

<sup>3</sup>month. Sum of consumer and commercial estimates above

<sup>4</sup>Percentage of consumer RTPs sent

<sup>5</sup>Percentage of commercial RTPs sent

<sup>6</sup>Percentage of total RTPs sent, comprised of consumer and commercial RTP estimates above

**TPSP Transaction Fee Table<sup>1</sup>**

Number of Transactions	Per Send	Per Receive	Per Message
1 - 50,000			
50,001 - 100,000			
100,001 - 250,000			
250,001 - 500,000			
500,001 - 1,000,000			

<sup>1</sup>Data Source: Proposal received from Fintech

# APPENDIX B

## Financial impact data

	Inputs	YEAR 1			YEAR 2			YEAR 3			TOTAL		
		Low	Medium	High	Low	Medium	High	Low	Medium	High	Low	Medium	High
<b>REVENUES<sup>1</sup></b>													
RTP Transactions Sent <sup>2</sup>													
Commercial Messages Sent - RfP <sup>3</sup>													
Commercial Messages Sent - Other <sup>4</sup>													
RTP Messages Sent <sup>5</sup>													
RfP Incentive Fee <sup>6</sup>													
Debit Card Interchange <sup>7</sup>													
Other <sup>5</sup>													

**[INFORMATION HAS BEEN REDACTED BY THE AUTHOR]**

<sup>1</sup>Estimates in this section assume no charge to retail customer for RTP transactions  
<sup>2</sup>Equal to the current charge for business customers to send an ACH batch  
<sup>3</sup>Per Fintech estimate based on commercial customer tolerance for RTP capabilities.  
<sup>4</sup>Equal to the current charge for business customers to use Check Positive Pay  
<sup>5</sup>Sum of amounts directly above  
<sup>6</sup>Per The Clearing House fee schedule; represents the credit received as resulting from fulfillment of RfP request received  
<sup>7</sup>Based on four-year average of internal data, weighted by volume of transactions executed on each acquirer network used

<b>EXPENSES</b>	
Implementation (TPSP only) <sup>1,2</sup>	
Equipment lease (DC only) <sup>3</sup>	
Network At-Cost Pass-Through (DC only) <sup>4</sup>	
RTP Transactions:	
Credits Received (TPSP only) <sup>1,5</sup>	
Credits Sent:	
Network Provider <sup>6</sup>	
TPSP <sup>1</sup>	
Network Messages Sent:	
Network Provider <sup>6</sup>	
TPSP <sup>1</sup>	
RfP Incentive Fee Paid (To TCH) <sup>6,7</sup>	

<sup>1</sup>Data Source: Proposal received from Fintech  
<sup>2</sup>\$XX per rail. Year 3 had no additional connection costs.  
<sup>3</sup>Estimate provided by The Clearing House: 4 routers required at \$XX per router per month for a total of \$XX per year.  
<sup>4</sup>Estimate provided by Fintech; represents the amount The Clearing House charges to connect to the network directly  
<sup>5</sup>There is no charge by The Clearing House to receive RTP credits  
<sup>6</sup>Data Source: The Clearing House Participant Fee Schedule  
<sup>7</sup>Data Source: The Clearing House Participant Fee Schedule; assumes all RfPs sent by the Bank get paid

# APPENDIX B

## Financial impact data

	Inputs	YEAR 1			YEAR 2			YEAR 3			TOTAL		
		Low	Medium	High	Low	Medium	High	Low	Medium	High	Low	Medium	High
<b>PRETAX EARNINGS IMPACT</b>													
DC x Receive-only													
DC x Send-and-Receive													
TPSP x Receive-only													
TPSP x Send-and-Receive													
<b>NET RECURRING COST/TRANSACTION</b>													
DC x Receive-only													
DC x Send-and-Receive													
TPSP x Receive-only													
TPSP x Send-and-Receive													
<b>YEAR 1 BREAK-EVEN TRANSACTION ESTIMATE</b>													
DC x Receive-only <sup>1</sup>													
DC x Send-and-Receive <sup>2</sup>													
TPSP x Receive-only <sup>1</sup>													
TPSP x Send-and-Receive <sup>2</sup>													
<sup>1</sup> Expected that receive-only capability would offer no revenue generating opportunities thereby making it impossible to break-even on cost <sup>2</sup> Estimated number of commercial transactions needed to be sent before it's possible for the Bank to break-even; inclusive of estimated overhead charges during time period forecasted; assumes no revenue opportunities associated with sending retail transactions													
<b>OTHER INFORMATION</b>													
Debit Card Transaction Cannibalization Rate <sup>1</sup>													
ACH Activity: <sup>2</sup>													
Received - Credits - Consumer													
Received - Credits - Commercial													
<sup>1</sup> Percentage of total RTPs sent, comprised of consumer and commercial RTPs <sup>2</sup> Based on four-year averages of internal data													
<b>ASSUMPTION INPUT</b>													
<b>FORMULA</b>													

**[INFORMATION HAS BEEN REDACTED BY THE AUTHOR]**

## BIBLIOGRAPHY

- Capitol Federal Financial, Inc. *Form DEF 14A December 14, 2021*. Retrieved from [https://www.sec.gov/Archives/edgar/data/1490906/000110465921149457/tm2134753d1\\_def14a.htm](https://www.sec.gov/Archives/edgar/data/1490906/000110465921149457/tm2134753d1_def14a.htm).
- Capitol Federal Financial, Inc. *Form 8-K September 30, 2021*. Retrieved from <https://www.sec.gov/Archives/edgar/data/1490906/000149090621000059/earningsrelease0921.htm>.
- Capitol Federal Financial, Inc. *Form 10-K Fiscal Years 2011-2021*. Retrieved from [https://www.sec.gov/cgi-bin/browse-edgar?action=getcompany&CIK=0001490906&type=10-k&dateb=&owner=exclude&count=40&search\\_text=](https://www.sec.gov/cgi-bin/browse-edgar?action=getcompany&CIK=0001490906&type=10-k&dateb=&owner=exclude&count=40&search_text=).
- Federal Deposit Insurance Corporation. Kansas Deposit Market Share Report. 1994-2021. Raw data. Accessed February 21, 2021. <https://www7.fdic.gov/sod/sodMarketRpt.asp?barItem=2>, Washington, DC.
- “Federal Reserve announces plan to develop a new round-the-clock real-time payment and settlement service to support faster payments.” Press Release, August 5, 2019. The Federal Reserve. Accessed February 21, 2022. <https://www.federalreserve.gov/newsevents/pressreleases/other20190805a.htm>.
- “Flavors of Fast 2020.” FIS Global. 2020. Accessed February 21, 2022. <https://www.fisglobal.com/flavors-of-fast>.
- “Frequently Asked Questions.” The Federal Reserve. 2020. Accessed February 22, 2022. [https://www.federalreserve.gov/paymentsystems/files/fednow\\_faq.pdf](https://www.federalreserve.gov/paymentsystems/files/fednow_faq.pdf).
- “History.” Capitol Federal. 2021. Accessed February 21, 2022. <https://www.capfed.com/about-us/history>.
- Kansas Residential Mortgage Analytics 2013-2021*. S&P Global: Mortgage Analytics. 2021. Accessed February 22, 2022. Retrieved from S&P Global
- “Real-Time Payments Capability Is Deciding Factor When Businesses Choose a Bank.” Latest News, January 31, 2022. Citizens Financial Group, Inc. Accessed February 21, 2022. <https://investor.citizensbank.com/about-us/newsroom/latest-news/2022/2022-01-31-140907940.aspx>.
- “Real-Time Payments for All Financial Institutions.” The Clearing House. 2021. Accessed February 21, 2022. <https://www.theclearinghouse.org/payment-systems/rtp>.
- “RTP Frequently Asked Questions.” The Clearing House. 2017. Accessed February 21, 2022. <https://www.theclearinghouse.org/payment-systems/rtp/institution>.
- “RTP Participant Fee Schedule.” The Clearing House. 2021. Accessed February 21, 2022. [https://www.theclearinghouse.org/-/media/new/tch/documents/payment-systems/rtp\\_pricing\\_01-01-2021.pdf](https://www.theclearinghouse.org/-/media/new/tch/documents/payment-systems/rtp_pricing_01-01-2021.pdf).