LIBOR Transition Playbook

April 2021
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**Changes Summary**

The table below details the list of changes since the November 2020 version of the playbook published on the Fannie Mae and Freddie Mac websites.

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<th>Summary of changes</th>
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<td>1 Overview</td>
<td>Incorporated updates related to recent industry announcements regarding LIBOR cessation</td>
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<td>2 Single-Family (“SF”) ARMs and Securities</td>
<td>Updated transition timelines to reflect latest market announcements and consultations;</td>
</tr>
<tr>
<td></td>
<td>Updated and removed language to reflect the GSEs no longer purchasing SF LIBOR-indexed ARMs</td>
</tr>
<tr>
<td>3 Single-Family (“SF”) Credit Risk Transfer</td>
<td>Updated figures to reflect the GSEs’ current outstanding legacy SF CRT notes</td>
</tr>
<tr>
<td></td>
<td>Updated language around the discontinuation of LIBOR-indexed SF CRT deals at the end of Q4 2020 and current structure of SOFR-indexed CRT transactions</td>
</tr>
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<td>5 Fannie Mae Multifamily (“MF”) ARMs and MBS</td>
<td>Updated and removed language to reflect Fannie Mae no longer purchasing MF LIBOR-indexed ARMs</td>
</tr>
<tr>
<td></td>
<td>Updated language around legacy LIBOR-indexed ARM product conversion</td>
</tr>
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<td></td>
<td>Included new actions to consider for selling and delivering MF SOFR-indexed ARMs</td>
</tr>
<tr>
<td>6 Freddie Mac Multifamily Floating Rate Loans &amp; Securities</td>
<td>Updated language to address termination of LIBOR Cap option; removed requirements for purchasing a LIBOR based Cap</td>
</tr>
<tr>
<td></td>
<td>Modified tenses to reflect what has been done and what is still to be done</td>
</tr>
<tr>
<td></td>
<td>Updated language to indicate that the SOFR-SOFR bond structure that started in K-F95 is the current structure in use</td>
</tr>
<tr>
<td></td>
<td>Removed various subsections that contained outdated information</td>
</tr>
<tr>
<td></td>
<td>Removed pipeline management, communications, and borrower outreach best practices from section 6.6</td>
</tr>
<tr>
<td>7 Fannie Mae Multifamily Credit Risk Transfer</td>
<td>Updated figures to reflect Fannie Mae’s current outstanding legacy MF CRT notes</td>
</tr>
<tr>
<td>8 Freddie Mac MF CRT Transactions</td>
<td>Updated content to reflect completion of Freddie Mac’s first SOFR-indexed MF CRT issuance</td>
</tr>
<tr>
<td></td>
<td>Removed “Timeline and milestones” section</td>
</tr>
<tr>
<td></td>
<td>Updated Legacy CRT transition section to reflect the plan to not issue any LIBOR based CRT deals in the future</td>
</tr>
</tbody>
</table>
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1 Overview

1.1 Introduction

❖ Playbook purpose and scope

To assist stakeholders in preparing for the transition from the London Interbank Offered Rate (“LIBOR”) to alternative reference rates (“ARRs”), the GSEs are jointly publishing this LIBOR Transition Playbook, targeted to readers who need information about the following products:

- Single-Family (“SF”) Adjustable Rate Mortgages (“ARMs”) and securities, i.e., Mortgage-backed Securities (“MBS”) and Participation Certificates (“PCs”)
- Single-Family Credit Risk Transfer (“SF CRT”) transactions
- Collateralized Mortgage Obligations (“CMOs”)
- Fannie Mae Multifamily (“MF”) ARMs and MBS
- Freddie Mac MF Floating Rate loans and securities
- Multifamily CRT (“MF CRT”) transactions

This playbook describes key transition milestones and recommended actions for stakeholders to consider as they manage the upcoming transition from LIBOR. This document serves as a tool to help plan and adapt business policies, procedures, and processes to support products linked to ARRs and prepare for discontinuing the use of LIBOR as an index. Details regarding transition timing and impacts will be periodically updated in this playbook as new information becomes available for various products.

Under the guidance of FHFA, the GSEs have been working together on several aspects of the LIBOR transition. Where appropriate, the GSEs have aligned policies and milestones. However, each GSE’s timelines and product details may differ. Readers should take note of these differences which are further explained in each chapter of this document.

For more details and FAQs on each GSE’s transition, refer to LIBOR/SOFR transition webpages for Fannie Mae and Freddie Mac, respectively.

Please direct any additional questions to your Fannie Mae or Freddie Mac account management teams.

❖ Why is there a need to transition from LIBOR?

LIBOR is currently the most widely used global interest rate benchmark, and it is deeply embedded in global financial products.

The long-term viability of LIBOR has been undermined due to cases of rate manipulation, low volumes for underlying interbank transactions and the reluctance of panel banks to submit quotes used to calculate LIBOR.

As a result, the Financial Conduct Authority (“FCA”), the British regulator of the LIBOR benchmark administrator, has warned that:

- Publication of LIBOR is not guaranteed beyond 2021;
▪ Sustainability of LIBOR is in question due to the absence of active market support; and
▪ The cessation of LIBOR poses a financial stability risk without advanced preparation.

On March 5, 2021 the FCA released an announcement regarding the end of LIBOR, which stated the following:
▪ 1-week and 2-month USD LIBOR either will cease to be published or will be deemed no longer representative immediately after December 31, 2021;
▪ All other USD LIBOR tenors either will cease to be published or will be deemed no longer representative immediately after June 30, 2023;
▪ The FCA does not expect that any USD LIBOR setting will become unrepresentative before the relevant dates set out above; and
▪ Spread adjustments for USD LIBOR fallback rates for non-cash products are set as of March 5, 2021.

To prepare for the transition from LIBOR, public sector and private market participants have undertaken a series of benchmark reform initiatives, including design and selection of robust ARRs and incorporating comprehensive fallback language into derivative and cash products.

❖ What is the ARRC?

The Alternative Reference Rates Committee (“ARRC”) is a group of private market participants convened by the Board of Governors of the Federal Reserve System and the Federal Reserve Bank of New York (“NY Fed”) to support a successful transition from U.S. Dollar (“USD”) LIBOR to an ARR. The ARRC recommended the Secured Overnight Financing Rate (“SOFR”) as a replacement index for USD LIBOR-indexed contracts.

❖ What is SOFR and why are we using it?

SOFR is an overnight interest rate based on U.S. dollar (USD) Treasury repurchase agreements (“repos”). The ARRC recommended SOFR because it is:
▪ Based on observable market transactions from a robust and well-defined market that was able to weather the global financial crisis
▪ Produced in a transparent, direct manner
▪ Produced by the NY Fed and meets international benchmark standards

On March 2, 2020, the NY Fed began daily publication of 30, 90 and 180-day compound historical averages of SOFR, which are also available from third party vendors (e.g., Bloomberg and Refinitiv).

On March 17, 2021, the ARRC announced that it has selected Refinitiv to publish its recommended spread adjustments and spread-adjusted SOFR rates for cash products transitioning away from U.S. dollar (USD) LIBOR.

1.2 LIBOR transition timelines

The GSEs have established milestones leading to the transition from LIBOR to ARRs, including
timelines for beginning acquisition and issuance of SOFR-indexed products and ceasing acquisition and issuance of LIBOR-indexed products.

Transition timelines are defined for major products offered by the GSEs based on timing for finalizing transition strategies and external market dependencies. Milestones will continue to be updated as necessary. For more detailed timelines, refer to the individual chapters for each product.

### Key transition milestones

<table>
<thead>
<tr>
<th>Product</th>
<th>Fannie Mae</th>
<th>Freddie Mac</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Offer SOFR products</td>
<td>No longer offer LIBOR products</td>
</tr>
<tr>
<td>SF ARMs and securities¹</td>
<td>Aug. 3, 2020</td>
<td>Dec. 31, 2020²</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SF CRT transactions</td>
<td>H1 2021</td>
<td>End of Q4 2020</td>
</tr>
<tr>
<td>CMOs</td>
<td>July 2020</td>
<td>October 2020³</td>
</tr>
<tr>
<td>Fannie Mae MF ARMs and MBS¹</td>
<td>September 1, 2020</td>
<td>Dec. 31, 2020</td>
</tr>
<tr>
<td>Freddie Mac MF Floating Rate loans and securities</td>
<td>N/A</td>
<td>Floating Rate loans: Sep. 1, 2020</td>
</tr>
<tr>
<td></td>
<td>H1 2021</td>
<td>End of Q4 2020</td>
</tr>
</tbody>
</table>

The GSEs are actively planning transition strategies for legacy LIBOR-indexed products to ARRs.

### 1.3 Actions market participants should consider

The GSEs encourage all market participants to conduct an operational assessment and start

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¹ The underlying mortgages needed to have an application date no later than September 30, 2020. LIBOR-indexed MBS/PCs and Megas/Giants can still be resecuritized after 2020.

² The GSEs stopped accepting LIBOR-indexed pool deliveries after this date. However, the GSEs may continue to issue LIBOR-indexed MBS products after December 31, 2020 using cash loans with application dates of September 30, 2020 or earlier in its portfolio.

³ The GSEs will continue to issue new resecurtitizations of previously issued LIBOR-indexed certificates (whether CMO or ARM certificates), provided that such resecurtitizations do not increase the total unpaid principal balance of the LIBOR-indexed certificates outstanding.
their operational builds as early as possible. Key resources include but are not limited to:

- ARRC User's guide to SOFR
- ARRC Vendor survey and buy-side checklist
- ARRC Recommended Best Practices for Vendors on Completing the Transition from LIBOR
- CFPB’s Consumer handbook on adjustable-rate mortgages
- ARRC’s LIBOR ARM Transition Resource Guide
- ARRC’s Progress Report

❖ Accounting and tax considerations

The transition may have an impact on the accounting treatment for existing contracts, hedge accounting relationships or other transactions that reference LIBOR. The Financial Accounting Standards Board ("FASB") issued a final accounting standard update to provide temporary optional guidance to ease the potential burden in transitioning from LIBOR. The GSEs encourage market participants to evaluate the accounting standards update and the accounting relief that can be applied for transition. See below for the issued accounting standard update and additional implementation information:

- **FASB Project – Reference Rate Reform**

The transition of legacy LIBOR-indexed transactions in the future may result in tax implications. The GSEs encourage all stakeholders to review regulations issued by the Internal Revenue Service ("IRS") and Treasury to identify potential impacts due to transitioning from LIBOR:

- **IRS proposed rule**

❖ Compliance considerations

The transition of legacy LIBOR-indexed transactions may involve compliance risk related to disclosure.

Both GSEs maintain processes which provide reasonable assurance that they comply with disclosure laws and regulations.
2 Single-Family ("SF") ARMs and Securities

2.1 Introduction

The GSEs have taken the following steps, under FHFA’s guidance, to prepare for the transition from LIBOR for SF ARMs:

- Updated existing uniform ARM notes and riders to include fallback and trigger language as recommended by the ARRC
- Designed (in conjunction with the ARRC) new SF ARMs that use the NY Fed’s 30-day compound average of SOFR (“30-day Average SOFR”) as the underlying index
  - Fannie Mae began accepting delivery of SOFR-indexed ARMs on August 3, 2020, and Freddie Mac began underwriting SOFR-indexed ARMs on October 1, 2020 and accepting delivery of SOFR-indexed ARMs on November 9, 2020
- Stopped accepting delivery of LIBOR-indexed ARM MBS/Guarantor PCs (with the last issue date being December 1, 2020 and the last ARM settlement date being December 31, 2020)
- Stopped cash/whole loan purchase of LIBOR-indexed ARMs after December 31, 2020
- Started discussing strategies for the transition of existing LIBOR-indexed ARMs

The following chapter will help you understand:

- Key milestones for the SF ARM LIBOR transition
- Differences and similarities between LIBOR-indexed vs. SOFR-indexed ARMs
- How to prepare for origination, selling, servicing and securitization of SOFR-indexed ARMs
- How to prepare for the cessation of LIBOR-indexed ARM purchases and issuance of MBS/Guarantor PCs
- High-level considerations for transitioning existing LIBOR-indexed ARMs to an ARR

2.2 SF transition milestones

The GSEs defined and met key dates related to the origination, commitment, pricing and delivery processes for SOFR-indexed ARMs, as well as dates for the cessation of LIBOR-indexed ARM purchases and related securitizations. The GSEs are also working with industry participants (e.g., the ARRC) to develop a unified recommended strategy to transition existing LIBOR-indexed ARMs to an ARR.

Additional details and milestones for existing loans will be provided as they become available. The subsequent timeline identifies key transition milestones for SF ARMs.
2.3 SOFR-indexed ARM characteristics

**LIBOR vs. SOFR ARMs**

The GSEs designed SF SOFR-indexed ARM products in conjunction with other members of the ARRC Consumer Products Working Group. These products are based on the 30-day Average SOFR index as published by the [NY Fed](https://www.newyorkfed.org). Sellers and Servicers are instructed to use the final/revised values of the index which are published daily at approximately 2:30 p.m. ET.

The primary features of SOFR-indexed ARMs and MBS/PCs that differ from LIBOR-indexed ARMs and MBS/PCs include:

- **Interest rate index**: 30-day Average SOFR
- **Initial fixed period**: varies, with a minimum initial fixed period of 3 years for SOFR-indexed ARMs
- **Interest rate adjustment period**: 6 months
- **Interest rate adjustment cap**: +/- 1 percentage point (“%”) per subsequent adjustment period
- **Margin**: will likely differ due to basis and other market-based adjustments
- **New ARM plans**: introduced for SOFR (Fannie Mae)
- **New Cash Contract and Guarantor Pooling Products**: introduced to support SOFR-indexed ARMs (Freddie Mac)

The following table summarizes key product features for both SOFR and LIBOR ARMs:

<table>
<thead>
<tr>
<th></th>
<th>LIBOR ARMs</th>
<th>SOFR ARMs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest rate index</td>
<td>1-Year WSJ LIBOR</td>
<td>30-day Average SOFR</td>
</tr>
<tr>
<td>Initial fixed period</td>
<td>1, 3, 5, 7 or 10 years</td>
<td>3, 5, 7 or 10 years</td>
</tr>
<tr>
<td></td>
<td>(no 1-year initial fixed period)</td>
<td></td>
</tr>
<tr>
<td>Interest rate adjustment period</td>
<td>Changes every 1 year after initial fixed period</td>
<td>Changes every 6 months after initial fixed period</td>
</tr>
<tr>
<td></td>
<td>LIBOR ARMs</td>
<td>SOFR ARMs</td>
</tr>
<tr>
<td>------------------------</td>
<td>----------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Lookback period</td>
<td>New rate determined 45 days in advance</td>
<td>No change</td>
</tr>
<tr>
<td>Cap at first adjustment</td>
<td>+/-2% for 3- and 5-year ARMs; +/-5% for 7- and 10-year ARMs</td>
<td>No change</td>
</tr>
<tr>
<td>Cap at subsequent adjustments</td>
<td>+/-2%</td>
<td>+/-1%</td>
</tr>
<tr>
<td>Life cap</td>
<td>Up to 5% for Fannie Mae; Up to 5% for Freddie Mac</td>
<td>No change for Fannie Mae 5% for Freddie Mac</td>
</tr>
<tr>
<td>Margin (lender discretion)</td>
<td>2.25% for Fannie Mae; Defined based on Execution for Freddie Mac</td>
<td>Up to 3% (Fannie Mae) Min 1%/Max 3% (Freddie Mac)</td>
</tr>
</tbody>
</table>

Fannie Mae has updated ARM plans and a Special Feature code ("SFC") in support of the transition to SOFR, as detailed below:

<table>
<thead>
<tr>
<th></th>
<th>LIBOR ARMs</th>
<th>SOFR ARMs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Import: GEN2, GEN5, GEN7, GEN10</td>
<td>DU User Interface (&quot;UI&quot;): FM GENERIC, 3 YR, FM GENERIC, 5 YR, FM GENERIC, 7 YR, FM GENERIC, 10 YR</td>
<td>No change</td>
</tr>
<tr>
<td>ARM plans submitted to Desktop Underwriter® (&quot;DU&quot;)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARM plans submitted to Loan Delivery</td>
<td>2720 through 2729, 2737 and 3252</td>
<td>4926, 4927, 4928, 4929</td>
</tr>
<tr>
<td>SFC for notes with fallback language</td>
<td>785</td>
<td>None – all SOFR- ARM notes will contain fallback language</td>
</tr>
</tbody>
</table>

Freddie Mac has updated Cash Contract Products, Guarantor Security Products, Guarantor Product Types and an Investor Feature Identifier ("IFI") in support of the transition to SOFR, as detailed below:

<table>
<thead>
<tr>
<th></th>
<th>LIBOR-indexed ARMs</th>
<th>SOFR-indexed ARMs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loan Product Advisor®</td>
<td>No product information is submitted</td>
<td>No changes</td>
</tr>
<tr>
<td>Contract products for Take Out ARM Cash Contract</td>
<td>1/1 1-Year LIBOR- ARM 2/2/6, 3/1 1-Year LIBOR- ARM 2/2/5 or 6, 5/1 1-Year LIBOR ARM 2/2/5 or 6, 7/1 1-Year LIBOR ARM 5/2/5, 10/1 1-Year LIBOR ARM 5/2/5</td>
<td>3-Year 6-Month 30-day Average SOFR ARM 2/1/5, 5-Year 6-Month 30-day Average SOFR ARM 2/1/5, 7-Year 6-Month 30-day Average SOFR ARM 5/1/5, 10-Year 6-Month 30-day Average SOFR ARM 5/1/5</td>
</tr>
<tr>
<td>Security Products for Take Out ARM Guarantor Contract</td>
<td>NonCnvt 1/1 1-Year LIBOR- ARM 2/2/2-6, NonCnvt 3/1 1-Year LIBOR ARM 2/2/2-6, NonCnvt 5/1 1-Year LIBOR ARM 2/2/2-6, NonCnvt 7/1 1-Year LIBOR ARM 2/2/2-6, NonCnvt 7/1 1-Year LIBOR ARM 5/2/5-6, NonCnvt 10/1 1-Year LIBOR ARM 5/2/5-6, NonCnvt 10/1 1-Year LIBOR ARM</td>
<td>NonCnvt 3-Year 6-Month 30-day Average SOFR ARM 2/1/5, NonCnvt 5-Year 6-Month 30-day Average SOFR ARM 2/1/5, NonCnvt 7-Year 6-Month 30-day Average SOFR ARM 5/1/5, NonCnvt 10-Year 6-Month 30-day Average SOFR ARM 5/1/5</td>
</tr>
</tbody>
</table>
For more background on how the new SOFR-indexed ARM was developed, refer to the Options for Using SOFR in Adjustable Rate Mortgages published by the NY Fed in July 2019.

❖ Additional SOFR ARM details

**SOFR index calculation**

SOFR-indexed ARMs are based on the 30-day Average SOFR index, as published by the New York Federal Reserve Bank. The 30-day Average SOFR index is a compounded average of overnight SOFR over the preceding 30 calendar days.

**Index source**

The NY Fed publishes the 30, 90, and 180-day compounded SOFR averages daily.

**Interest rate calculation**

There is no change as to how the borrower interest rate will be calculated when using 30-day Average SOFR.

2.4 Preparation for SF SOFR ARMs

❖ Originating and underwriting SF SOFR ARMs

Generally, the processes for originating and underwriting SOFR ARMs will be like the existing processes used to originate and underwrite ARMs tied to any other index, and all existing conventional ARM requirements will apply to SOFR ARMs.

**Key concepts**

The GSEs have made multiple specification updates in the latest versions of their automated underwriting systems (“AUS”) in support of SOFR ARMs, including adding a new enumeration to represent the use of 30-day Average SOFR.

Fannie Mae has applied the specification updates noted below to DU Specification MISMO 3.4 (DU Spec), while Freddie Mac applied specification updates to Loan Product Advisor specifications v4.8.01. Loan Product Advisor v5.0.06 became available as of January 1, 2021 with mandated usage as of March 1, 2021. Other existing data requirements (e.g., for margin and index value) will still be required unless otherwise noted.

Lenders should note the following AUS updates when preparing for the origination and
underwriting of SOFR-indexed loans.

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Fannie Mae SOFR ARMs</th>
<th>Freddie Mac SOFR ARMs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Update timeline</td>
<td>Specification updates complete</td>
<td>• Loan Product Advisor v. 4.8.01 updates complete</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Loan Product Advisor v5.0.06 available January 1, 2021; mandated March 1, 2021</td>
</tr>
<tr>
<td>AUS version</td>
<td>DU Specification MISMO 3.4 (DU Spec)¹</td>
<td>LPA v4.8.01 and v5.0.06</td>
</tr>
<tr>
<td>Enumerations</td>
<td>• “30DayAverageSOFR” added for IndexSourceTypeDescription</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• <strong>Note:</strong> Use of enumeration is optional, as DU does not require identification of a specific ARM index for underwriting evaluation</td>
<td></td>
</tr>
<tr>
<td>ARM index</td>
<td>• Populate IndexSourceType using “Other” in DU</td>
<td>• Lenders to use the following data points in Loan Product Advisor:</td>
</tr>
<tr>
<td></td>
<td>• Users have the option to populate IndexSourceTypeOtherDescription with “30DayAverageSOFR”</td>
<td>o IndexSourceType = “Other”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o IndexSourceTypeOtherDescription = “30DayAverageSOFR”</td>
</tr>
<tr>
<td>ARM plan data</td>
<td>• Users are still required to submit ARM plans in DU for underwriting evaluation</td>
<td>• The data point IndexSourceType will continue to be required for all ARMs</td>
</tr>
<tr>
<td></td>
<td>• Submit generic ARM plans using the InvestorProductPlanIdentifier field</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Do not submit lender ARM plan data or SOFR ARM plan numbers</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>N/A</td>
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</tbody>
</table>

In addition, Lenders should note the following with respect to Uniform Mortgage Data Program (“UMDP”) requirements:

- No updates are necessary for the Uniform Loan Application Dataset (“ULAD”), since ARM indexes are not displayed on the Uniform Residential Loan Application (“URLA”)
- There are no planned updates for the Uniform Closing Dataset (“UCD”)
- The new SOFR index will be delivered using IndexType = “Other” and IndexTypeOtherDescription = SOFR
- Data point names for each GSE’s AUS vs. the UCD are different

For more information on existing SOFR impacts on UMDP requirements, refer to this link.

¹Fannie Mae’s EarlyCheck system also uses the DU input file. The guidance provided for DU submissions is also applicable to EarlyCheck.
### Necessary actions

<table>
<thead>
<tr>
<th>Focus area</th>
<th>Necessary actions</th>
</tr>
</thead>
</table>
| Documentation                    | ▪ Update FAQs and borrower ARM disclosure documentation  
▪ Update closing instructions and/or train closing agents, escrow agents and closing attorneys  
▪ Review updated procedures for printed vs. eNotes  
▪ Test printing of all updated documents (e.g., notes, riders, Closing Disclosure, other disclosures)  
▪ Update training manuals for origination staff including originators, processors, underwriters, closers, post-closers, and QC  
▪ Update broker and correspondent lending training manuals, policies and documentation |
| Lender systems, processes and training | ▪ Maintain awareness of new field options for standard ARM enumerations (e.g., index type and rate reset period)  
▪ Update Loan Origination System ("LOS") /vendor systems with new SOFR ARM-related enumerations  
▪ Update LOS product, eligibility and pricing rules  
▪ Develop and implement pricing, hedging and execution strategies  
▪ Provide training for staff including originators, processors, underwriters, closers, post-closers and QC  
  o SOFR adjusts every 6 months, not every year  
  o The minimum initial fixed period for SOFR loans is three years  
▪ Provide communications and/or training for brokers, correspondents, eNote vaults, electronic registries, Document Preparation ("Doc Prep") and other third-party vendors |
| GSE systems                      | ▪ Directly integrated lenders, LOS and other third-party vendors should be coordinating with each GSE to update their interfaces to accommodate new SOFR ARM products |
| Document custodian               | ▪ Remember that as part of the note certification process, the GSEs require that the Custodian verify, for ARM Notes with the revision date “(rev. 2/20)”, the Lifetime Floor is equal to the ARM’s Margin as stated in the note; if it does not, the discrepancy will be reported as a documentation issue and the Note will not be certified for sale  
  o This information is reflected in Fannie Mae’s ARM Plans, and an annual update of Freddie Mac’s Document Custody Procedures Handbook will reflect this requirement |
Helpful links
For more information on origination and underwriting, refer to the following resources:

Fannie Mae
- ARM Plan Matrix
- ARM Note Riders and Addenda
- Legal Documents web page

Freddie Mac
- Freddie Mac's Guide Chapter 4401

❖ Selling and delivering SOFR ARMs

Generally, the processes for selling and delivering SOFR ARMs is the same as the existing processes used to sell and deliver ARMs tied to any other index. Sellers will see additional dropdown options available in GSE systems to reflect the addition of new SOFR offerings, as applicable.

All existing, conventional ARM requirements apply to SOFR ARMs, including existing Uniform Loan Delivery Dataset (“ULDD”) requirements. For more information on existing UMDP requirements as well as updates to support the transition to the SOFR ARM index, refer to this link.

Key concepts

The GSEs have updated their respective ULDD specifications in support of SOFR ARMs, like updates made for AUS specifications. Users should note the following updates when preparing to sell SOFR-indexed loans to the GSEs.

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Fannie Mae SOFR-indexed ARMs</th>
<th>Freddie Mac SOFR-indexed ARMs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Update timeline</td>
<td>Loan Delivery system updates were made available August 3, 2020</td>
<td>Loan Selling Advisor system updates were made available November 9, 2020</td>
</tr>
<tr>
<td>Enumerations</td>
<td>“30DayAverageSOFR” added to IndexSourceTypeDescription</td>
<td>“Other” added to IndexSourceType</td>
</tr>
<tr>
<td>ARM index data</td>
<td>The new index will be delivered using IndexSourceType = “Other” plus IndexSourceTypeOtherDescription = “30DayAverageSOFR”</td>
<td>IndexSourceTypeDescription added as a data point</td>
</tr>
<tr>
<td></td>
<td>The new index will be delivered using IndexSourceType = “Other” plus IndexSourceTypeOtherDescription = “30DayAverageSOFR”</td>
<td>The new index will be delivered using IndexSourceType = “Other” plus IndexSourceTypeOtherDescription = “30DayAverageSOFR”</td>
</tr>
</tbody>
</table>
The GSEs have also updated reference product labels, ARM plans, subtypes and pool prefixes as applicable for new SOFR-indexed loans and securities. Refer to the “Securitization of SF SOFR ARMs” section below for more detail.

**Necessary actions**

<table>
<thead>
<tr>
<th>Focus areas</th>
<th>Necessary actions</th>
</tr>
</thead>
</table>
| Seller systems, processes and training | ▪ Train Capital Markets/Secondary Marketing staff to use new pricing screens available for SOFR ARM whole loan commitments, including guaranty fee amounts (“G-fee” amounts for Fannie Mae and Credit Fee in Yield amounts for Freddie Mac)  
▪ Identify source for current SOFR rates and update internal system feeds  
▪ Ensure SOFR-indexed ARM interest rates are distributed via all existing methods to all channels  
▪ Update LOS product, eligibility and pricing rules  
▪ Develop and implement pricing, hedging and execution strategies  
▪ Provide training for staff (e.g., capital markets/secondary, post-closers, shippers and investor relations) on all aspects of new products  
▪ Provide communications and/or training for brokers, correspondents, document custodians, warehouse lenders, disbursement agents, eNote vaults, electronic registries, document file preparers and other third-party vendors  
▪ GSEs’ loan delivery UIs are available for manual data entry, if needed |
| GSE systems                         | ▪ Maintain awareness of how SOFR ARM characteristics are reflected in existing pricing execution, committing and delivery applications:  
  o Pricing menu options for cash execution  
  o G-fee pricing menu options for MBS execution  
  o Additional options for enumerations and ARM Plans (*Fannie Mae only*) for SOFR-indexed ARM loans  
  o Additional Cash Contract Products, Guarantor Security Products, and Guarantor Product Types for SOFR-indexed ARMs (*Freddie Mac only*) |

**Helpful links**

For more information on LIBOR transition impacts to selling and delivering SOFR ARMs, refer
Fannie Mae

- Fannie Mae’s Selling Guide

Freddie Mac

- Freddie Mac’s Seller/Servicer Guide

❖ Securitization of SF SOFR ARMs

The GSEs developed new pool prefixes, subtypes and documentation language to support the securitization of SOFR-indexed ARMs. Impacted parties should be ready to operationalize these changes when involved in the purchase, trading or investor reporting of SOFR MBS/PCs and Megas/Giants.

Key concepts

The GSEs introduced new prefixes and subtypes for MBS/Megas and PCs/Giants as outlined in the subsequent chart:

<table>
<thead>
<tr>
<th>Product description</th>
<th>Fannie Mae</th>
<th>Freddie Mac</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Prefix</td>
<td>ARM plan numbers</td>
</tr>
<tr>
<td>3 Year SO</td>
<td>4926</td>
<td>85A</td>
</tr>
<tr>
<td>5 Year SO</td>
<td>4927</td>
<td>85B</td>
</tr>
<tr>
<td>7 Year SO</td>
<td>4928</td>
<td>85C</td>
</tr>
<tr>
<td>10 Year SO</td>
<td>4929</td>
<td>85D</td>
</tr>
</tbody>
</table>

Freddie Mac is using the existing pool prefix for 30-day Average SOFR ARM Giant PCs.

<table>
<thead>
<tr>
<th>Product description</th>
<th>Prefix</th>
<th>Pool number range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Various indices, WAC ARM Giant</td>
<td>84</td>
<td>840001-849999</td>
</tr>
</tbody>
</table>

In addition, the 30-day Average SOFR Hybrid ARM Index codes were created by each GSE for MBS/PC and Mega/Giants disclosure purposes:

- Fannie Mae reflects a new index code (061) and new subtypes in its Single-Family MBS Disclosure Guide and Subtype webpage.

- Freddie Mac added code 61 for 30-day Average SOFR. This Index code will be disclosed via the existing disclosure field for loan level (ID L-046) and security level (ID S-51). Refer to the Single-Family Disclosure Guide for disclosure file details.

SF legal documentation, including MBS Disclosures, Prospectus and Prospectus Supplements have been updated to include SOFR as an index.
Eligible collateral for Freddie Mac new issue ARM Giant PCs

The 45-day Fixed-rate and 75-day ARM Giant Collateral Prefix Eligibility Chart has been updated to include 30-day Average SOFR-indexed ARMs. In addition, the existing ARM Giant PC pooling rules are available on Freddie Mac’s Mortgage-Backed Securities website.

Necessary actions

<table>
<thead>
<tr>
<th>Focus areas</th>
<th>Necessary actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Documentation</td>
<td>▪ Note updates to base language in prospectus documents, including new index codes</td>
</tr>
<tr>
<td>GSE systems</td>
<td>▪ Note the inclusion of a new pool prefix, subtypes and index code to represent new SOFR ARM characteristics</td>
</tr>
</tbody>
</table>

Helpful links

For more information on LIBOR transition impacts on securitization of SOFR ARMs, refer to the following resources:

Fannie Mae

▪ [Fannie Mae’s Pool Prefix Glossary](#)  
▪ [Fannie Mae’s ARM MBS Subtypes](#)  
▪ [Fannie Mae’s updated MBS Prospectus language](#)

Freddie Mac

▪ [Freddie Mac's Prefix Library](#)

❖ Servicing SF SOFR ARMs

While a new underlying index will be used to calculate borrower payments, the calculations themselves will not change.

Key concepts

Servicers will need to incorporate the new SOFR index into calculations and reconciliations for borrower payments; however, the calculations are not changing.

Servicers will need to incorporate the SOFR index into their current rate and payment adjustment processes.
Necessary actions

<table>
<thead>
<tr>
<th>Focus areas</th>
<th>Necessary actions</th>
</tr>
</thead>
</table>
| Use of a new index in rate and payment calculations | ▪ Update and test systems, reporting and other processes or activities related to interest rate adjustment calculations to incorporate SOFR index product parameters  
 ▪ These include initial fixed period, current index value, margin, lookback period, and rounding method, plus the initial, subsequent and lifetime caps/ceilings and floors, underlying index, reset periods and subsequent caps |
| Transfer of servicing                              | ▪ Ensure that servicing transferees have the capability to service SOFR loans                                                                                                                                           |

Helpful links

For more information on LIBOR transition impacts on servicing of SOFR ARMs, refer to:

▪ [Fannie Mae’s Single-Family Servicing Guide](#)  
▪ [Freddie Mac's Seller/Servicer Guide](#)

❖ Cessation of purchase of SF LIBOR ARMs

As of December 31, 2020, the GSEs have stopped purchasing LIBOR-indexed ARMs. At this point, lenders, servicers and other relevant parties should have taken the necessary steps from a systems, process and training perspective to discontinue the origination and delivery of LIBOR ARMs.

Key concepts

▪ The GSEs no longer purchase LIBOR ARMs as whole loans for cash or in exchange for securities provided the related MBS/PC pools.  
▪ **Fannie Mae:** Sellers have been instructed to deliver SFC 785 for any non-SOFR-indexed ARMs with a note and rider containing new fallback language.  
▪ **Freddie Mac:** Sellers have been instructed to deliver IFI J23 for any non-SOFR-indexed ARMs with a note and rider containing new fallback language.

Helpful links

For more information on LIBOR transition impacts on the ability to sell and deliver LIBOR ARMs, refer to:

▪ [Fannie Mae’s Selling Guide](#)  
▪ [Freddie Mac’s Seller/Servicer Guide](#)
2.5 Transitioning existing SF LIBOR ARMs

The GSEs are continuing to work with the ARRC to define the timing and strategy for transitioning legacy LIBOR ARMs to an ARR (i.e., SOFR). The GSEs are coordinating closely with FHFA on this important matter. Additional details (including details around servicing requirements, legal/document updates and other impacts) will be released as the timeline and strategy are finalized.

For updates on industry efforts to advance the legacy transition, refer to the ARRC’s website.
3 Single-Family Credit Risk Transfer (‘‘SF CRT’’) transactions

3.1 Introduction

The purpose of this chapter is to provide market participants guidance on new SOFR-indexed SF CRT issuances and the transition of legacy LIBOR-indexed SF CRT transactions in the future.

3.2 SOFR-indexed SF CRT new issuance

❖ Objectives

Freddie Mac began issuing SOFR-indexed SF CRT deals in October 2020 and discontinued issuing LIBOR-indexed SF CRT deals at the same time. Fannie Mae will have the capability to issue SOFR-indexed CRT deals in Q1 2021 and discontinued issuance of LIBOR-indexed SF CRT deals at the end of Q4 2020.

The move to SOFR-indexed SF CRT issuances is relatively simple for the GSEs from an operational perspective if there is a well-defined SOFR-based index to determine the coupon payments due on the notes. This is because GSE SF CRT programs use a synthetic reference pool.

❖ SOFR indices

Currently there is no Term SOFR available for use in SOFR-indexed CRT deals. However, the availability of Term SOFR is not critical for the issuance of the first SOFR SF CRT transaction.

The GSEs currently are structuring SOFR-indexed CRT transactions so that they:

- Initially use 30-day Average SOFR (published by the NY Fed) as the reference rate, with a Determination Date of 2 Business Days (2BD) prior to the beginning of the accrual period for CRT securities
- Subsequently transition to using an IOSCO compliant one-month Term SOFR at a later date, if the ARRC endorses such a rate:
  - The subsequent transition would be made as soon as one-month Term SOFR can be operationalized and is administratively feasible, and the transition would make use of the same Determination Date conventions mentioned for 30-day Average SOFR above.
  - The GSEs do not anticipate that a spread adjustment will be applied when this subsequent transition to term SOFR is made.
  - This subsequent transition could occur prior to the time LIBOR ceases or is declared to be non-representative.

Once Term SOFR is operationalized and administratively feasible and endorsed by the ARRC, the GSEs would cease any further new issuance using a compound average of SOFR and would solely utilize Term SOFR.
3.3 Timeline and milestones

The following timeline illustrates upcoming milestones related to issuing SOFR-indexed SF CRTs and ceasing to issue LIBOR-indexed SF CRTs. Freddie Mac issued its first SOFR-indexed STACR transaction (STACR 2020-DNA5) in October 2020, and Fannie Mae plans to be operationally ready to issue SOFR-indexed SF CRTs in Q1 2021.

- **February 28, 2020**
  - Market Readiness
  - Initial survey to assess the readiness of key market participants for SOFR-indexed CRTs

- **March 2, 2020**
  - NY Fed Publishes Index
  - NY Fed begins daily publication of 30 Day Average SOFR index

- **May 28, 2020**
  - GSE CRT Announcement
  - Issue joint Freddie/Fannie announcement on SOFR CRT issuance; publish joint FAQs and joint playbook chapter for SOFR-indexed CRT issuance on website

- **June 30, 2020**
  - Market Readiness
  - Conduct second iteration of industry survey to assess the readiness of key market participants (including investors, broker/dealers, trustees/calculator vendors, data vendors) for a SOFR-indexed CRT transaction

- **October 20, 2020**
  - Freddie Mac Issue
  - Freddie Mac issued their first SOFR-indexed CRT deal

- **Q1 2021**
  - **Fannie Mae Issue**
  - Fannie Mae will be operationally prepared to begin issuing SOFR-indexed SF CRT transactions, with actual execution based on market readiness

- **By end of Q4 2020**
  - **GSE LIBOR SF CRT Issue**
  - Discontinue issuance of LIBOR-indexed SF CRTs

❖ Related SOFR market development

**SOFR market conventions:**

- **SOFR market conventions:** Fed’s calculator for computing compound averages of SOFR and a SOFR index became available on March 2, 2020.

- **Development of SOFR derivatives market:** The move to SOFR-based discounting by CME/LCH should significantly improve the liquidity of the SOFR derivatives market.

- **SOFR term structure:** Currently there is no forward-looking Term SOFR available. However, the availability of a forward-looking term SOFR is not critical for the issuance of the first SOFR SF CRT transaction.

❖ GSE alignment

The GSEs are aligned on the choice of an ARR that will be utilized for future SF CRT securities. This alignment will ensure the SF CRT transitions are consistent between the GSEs and will minimize potential disruptions to the SF CRT market. Specifically, Fannie Mae’s CAS program and Freddie Mac’s STACR program will be aligned on the following:

- Selection of SOFR as the index for new issuance SF CRT deals
- SOFR index and methodology (e.g., 30-day Average SOFR or a forward-looking one-month Term SOFR)
- Fallback triggers and waterfall for SOFR new issuances

❖ Actions market participants should consider
The GSEs encourage all SF CRT market participants to conduct an internal operational readiness assessment and start any operational build needed to participate in SOFR-indexed SF CRT transactions as early as practicable. Investment guidelines and other key governance documentation should be reviewed to ensure that they can transact in SOFR. Please refer to section 1.3, Actions market participants should consider, for FAQs and other resources related to the SF CRT LIBOR transition.

3.4 Legacy SF CRT transition

❖ Objectives

As of December 31, 2020, Fannie Mae and Freddie Mac have $26.2 billion and $26.35 billion respectively of outstanding SF CRT notes that are indexed to one-month LIBOR. The GSEs are continuing to work with FHFA and the ARRC to define the timing and strategy for transitioning outstanding SF CRT notes to an ARR (i.e., SOFR), and additional details will be released as the timeline and strategy are finalized.

In moving existing LIBOR-indexed SF CRT notes to an ARR, the GSEs will consider, among other things, the following:

- Maintaining the economics of the existing notes
- Minimizing negative impact to the liquidity of existing notes
- Transparency and consistency with industry solutions and applicable laws/regulations

❖ Trigger events in existing SF CRT deals

The GSEs have different contract language for their deals and expect to provide more updates in 2021 on the transition plan for legacy SF contracts. For more information on trigger events and fallback language for existing deals, refer to the following links for Fannie Mae and Freddie Mac.
4 Collateralized Mortgage Obligations (“CMOs”)

4.1 Introduction

The ARRC endorsed SOFR as its recommended alternative rate to LIBOR in anticipation of the potential cessation of LIBOR. To prepare for a potential cessation of LIBOR, the GSEs adopted a slightly modified version of the ARRC securitization waterfall for new-issue LIBOR-indexed CMOs. This waterfall language generally provides for the use of Term SOFR as the first alternative rate. If Term SOFR is not available, the next alternative rate is 30-day Average SOFR.

The GSEs started offering SOFR-indexed CMOs for settlement in July 2020. Additionally, under the guidance of FHFA, Freddie Mac and Fannie Mae ceased offering new LIBOR-indexed CMOs for issuance. This cessation does not apply to (i) RCR/MACR exchanges, or (ii) resecuritizations of previously issued LIBOR-indexed certificates (whether CMO or ARM certificates) as long as such resecuritizations do not increase the exposure of LIBOR-indexed certificates.

4.2 Overview

The GSEs have structured new-issue Delay and Non-Delay SOFR-indexed CMOs so that they:

- Initially use 30-day Average SOFR published by the NY Fed as the reference rate, with a Determination Date of 2 Business Days (2BD) prior to the beginning of the accrual period for 45-day, 55-day, and 75-day Delay and Non-Delay securities (same as current LIBOR-indexed CMOs)
  - The CMO program will transition to a Term SOFR rate at the GSEs’ discretion at a later date if the appropriate regulatory authority approves such a rate (for this purpose, “appropriate regulatory authority” generally refers to the Federal Reserve, the NY Fed or applicable official committee (e.g., the ARRC))
  - The transition would be made as soon as the Term SOFR rate can be operationalized and is administratively feasible, and the transition would make use of the same Determination Date conventions mentioned for 30-day Average SOFR above
  - This transition could occur prior to the time LIBOR ceases or is declared to be non-representative

- Utilize at-issuance disclosure and operative documents that provide that the CMO securities accrue interest in accordance with the bullets above

Once a Term SOFR rate is operationalized, administratively feasible, and endorsed by the ARRC, the GSEs would cease any further new issuance using 30-day Average SOFR and would utilize solely the Term SOFR rate.

4.3 Eligible collateral

For new-issue SOFR-indexed CMOs, the GSEs will accept all collateral that is currently
acceptable for LIBOR-indexed structures at each respective entity. For more information on how collateral may be affected by the transition, refer to “Securitization of SOFR ARMs” in section 2.4 Preparation for SF SOFR ARMs.

4.4 Issuance
❖ Delay and Non-Delay (30-day Average SOFR)

Key updates
The Determination Date for 45-day, 55-day, and 75-day Delay and Non-Delay securities based on 30-day Average SOFR is 2BD prior to the beginning of the accrual period. This is the same as the practice that was used for LIBOR-indexed securities.

If the GSEs transition the Delay and Non-Delay securities from 30-day Average SOFR to Term SOFR, there will be no change to the Determination Date. The Determination Date will continue to be 2BD prior to the beginning of the accrual period.

4.5 Administration
❖ Delay

Key updates: 45-day, 55-day and 75-day Delay CMOs
For 45-day, 55-day and 75-day Delay CMOs based on 30-day Average SOFR (or “Compounded SOFR” per the subsequent timelines), the Determination Date will be 2BD prior to the beginning of the accrual period. This is the same as for LIBOR-indexed CMOs, which also have a Determination Date of 2BD prior to the accrual period (prior month). The graphics on the subsequent pages display the timing:
45-day Delay

**Legacy:** One-Month LIBOR

July: 7/30 LIBOR Determination Date
August: 8/1 Accrual Period
September: 8/30 LIBOR Forward Rate Period
9/15 Payment Date

**Current Implementation:** Compounded SOFR

July: 7/30 Fed Published 30 Day Rate (actual observed rate)
August: 8/1 Accrual Period
9/15 Payment Date

**Hypothetical Availability:** Term SOFR

July: 7/30 Term SOFR Determination Date
August: 8/1 Accrual Period
9/15 Payment Date

55-day Delay

**Legacy:** One-Month LIBOR

July: 7/30 LIBOR Determination Date
August: 8/1 Accrual Period
September: 8/30 LIBOR Forward Rate Period
9/25 Payment Date

**Current Implementation:** Compounded SOFR

July: 7/30 Fed Published 30 Day Rate (actual observed rate)
August: 8/1 Accrual Period
9/25 Payment Date

**Hypothetical Availability:** Term SOFR

July: 7/30 Term SOFR Determination Date
August: 8/1 Accrual Period
9/25 Payment Date

---

**Legend**
- Green = Rate Aligns with Accrual Period
- Purple = Rate Does Not Align with Accrual Period
75-day Delay

Key updates: 45-day, 55-day and 75-day Non-Delay CMOs

For 45-day, 55-day and 75-day Non-Delay CMOs based on 30-day Average SOFR, the Determination Date will be 2BD prior to the beginning of the accrual period. This is the same as for LIBOR-indexed CMOs, which have a Determination Date of 2BD prior to their respective accrual periods (the 13th for 45-day, or the 23rd for 55-day) of the month preceding payment, or the 13th (75-day) of the second month preceding payment. The graphics on the subsequent pages display the timing:
45-day Non-Delay

July

Legacy:
One-Month LIBOR

August

Accrual Period

September

8/13 LIBOR Determination Date

15th

LIBOR Forward Rate Period

14th

9/13 Payment Date

Current Implementation:
Compounded SOFR

Fed Published 30 Day Rate (actual observed rates)

8/22 Compounded SOFR Determination Date

Hypothetical Availability:
Term SOFR

15th

Term SOFR Forward Rate Period

14th

8/13 Payment Date

55-day Non-Delay

July

Legacy:
One-Month LIBOR

August

Accrual Period

September

8/23 LIBOR Determination Date

24th

LIBOR Forward Rate Period

24th

9/23 Payment Date

Current Implementation:
Compounded SOFR

Fed Published 30 Day Rate (actual observed rates)

8/23 Compounded SOFR Determination Date

Hypothetical Availability:
Term SOFR

25th

Term SOFR Forward Rate Period

24th

8/23 Payment Date

Legend

= Rate Aligns with Accrual Period

= Rate Does Not Align with Accrual Period
4.6 Disclosure changes

❖ Key updates

Index rate disclosure files now contain a new column titled “Current Month Payment Indicator” which contains a “Y” if the rate applies to the current month’s payment factor calculation and an “N” if it does not.

CSS will publish index rate files on BD1 (for all Delay securities), on the 15th of the month minus 2 business days (for Non-Delay 45-day and 75-day securities), and the 25th of the month minus 2 business days (for Non-Delay 55-day securities) at 6:30 PM; the previous schedule had the posting of files at 4:30 PM for Freddie Mac.

❖ Actions to consider

Discuss changes to disclosures with your disclosure vendor to ensure that your system can correctly apply the new “Current Month Payment Indicator” value.
4.7 Approach for transitioning legacy CMOs

The GSEs are continuing to work on defining the timing and strategy for transitioning legacy LIBOR-based CMOs to an ARR. The GSEs are coordinating closely with FHFA on this important matter. The Enterprises each announced that they intend for certain of their respective legacy LIBOR-indexed CMOs that were supplemented with ARRC-recommended fallback language to be treated the same as their new-issue LIBOR-indexed CMOs in the event LIBOR ceases to be published or is declared to no longer be representative, in that the legacy LIBOR-indexed CMOs that were supplemented would also transition to Term SOFR (if approved by the appropriate regulatory authority, and if such rate is operationally, administratively and technically feasible) or, if such conditions are not met, to 30-day Average SOFR. If legacy LIBOR-indexed CMOs transition to 30-day Average SOFR and Term SOFR becomes available in the future, subject to operational, administrative and technical feasibility as determined by the GSEs in their discretion, SOFR-indexed CMOs accruing interest based on 30-day Average SOFR will transition to accruing interest based on Term SOFR. For more information, see the announcements made by Fannie Mae and Freddie Mac.
5  Fannie Mae Multifamily (“MF”) ARMs and MBS

5.1 Introduction

The Multifamily borrower community relies on a wide range of variable rate financing options from Fannie Mae. In order to ensure stability across all product lines, Fannie Mae has developed SOFR-indexed offerings for the Structured ARM (“SARM”), 7/6 ARM and Hybrid ARM products. In addition, Fannie Mae has developed a second capped SOFR-indexed ARM structure to ensure a broad range of financing solutions.

More product information can be found on Fannie Mae’s Multifamily website.

❖ Transition preparation

Fannie Mae has taken the following steps to prepare for the transition from LIBOR for MF ARMs:

▪ Stopped accepting MBS deliveries (the last eligible MBS pool issue date for LIBOR-indexed ARM pools was December 1, 2020)
▪ Stopped cash/whole loan purchase of LIBOR-indexed ARMs after December 31, 2020
▪ Stopped accepting LIBOR loans with commitment dates after September 30, 2020
▪ Developed SOFR-indexed offerings using existing product structures (i.e. SARM, ARM 7/6 and Hybrid ARM products)
▪ Designed a MF capped ARM product that uses 30-day Average SOFR as the underlying index
▪ Started developing a comprehensive plan for the transition of existing LIBOR-indexed ARMs on Fannie Mae’s book to an ARR once LIBOR is no longer available
▪ Continued providing information and training to ensure a smooth transition

5.2 Transition milestones

Fannie Mae stopped purchasing and securitizing LIBOR-indexed ARMs at the end of 2020. Fannie Mae began purchasing SOFR-indexed ARMs on September 1, 2020. By doing this, Fannie Mae has met demand for variable rate loans without disruption.

Fannie Mae is working toward a coordinated strategy, in advance of LIBOR cessation, with ARRC, FHFA and industry stakeholders to transition legacy LIBOR-indexed instruments.
5.3 SOFR-indexed ARM characteristics

❖ Product conventions

In accordance with the transition timeline, specific product features were made available on Fannie Mae’s Multifamily website, as well as during external training sessions that took place through September 2020 and will be made available on an ongoing basis as needed.

Product conventions are described at a high level in the table below:

<table>
<thead>
<tr>
<th>#</th>
<th>Timeline</th>
<th>Milestone</th>
</tr>
</thead>
</table>
| 1  | September 1, 2020 | ▪ MF released a new SOFR-indexed capped ARM product and began offering SOFR-indexed SARMs, 7/6 ARMs and Hybrid ARMs  
▪ System capabilities are in place for Lenders to deliver SOFR-indexed ARMs with an embedded cap and SOFR-indexed uncapped ARMs. See below for notes on the external cap market  
▪ Investors are able to invest in Fannie Mae issued MBS based on a capped SOFR-indexed ARM |
| 2  | October 1, 2020  | Commitments for LIBOR-indexed ARMs are no longer accepted (i.e., must have been designated as “Committed” in DUS Gateway® on or before September 30, 2020). |
| 3  | January 1, 2021  | Multifamily no longer purchases LIBOR-indexed ARMs (i.e., had to be purchased on or before December 31, 2020 as a Cash Mortgage Loan or MBS Mortgage Loan with an Issue Date on or before December 1, 2020) |
| 4  | TBD            | Legacy LIBOR-indexed ARM products will be converted to an ARR at MF’s discretion upon LIBOR no longer being representative or available |

<table>
<thead>
<tr>
<th></th>
<th>LIBOR ARMs</th>
<th>SOFR ARMs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate determination</td>
<td>Survey of inter-bank lending</td>
<td>Treasury collateralized repo market</td>
</tr>
<tr>
<td>Floating-rate index</td>
<td>1-month, 3-month or 6-month LIBOR</td>
<td>30-Day Average SOFR</td>
</tr>
<tr>
<td>Cap requirement</td>
<td>Embedded or 3rd party caps available</td>
<td>Embedded or 3rd party caps available</td>
</tr>
</tbody>
</table>

The underlying index for MF SOFR-indexed ARMs, the 30-day Average SOFR, is published by the NY Fed at approximately 2:30 p.m. ET and can be found on the New York Fed website. The new index is also available from third party vendors (e.g., Bloomberg and Refinitiv).
❖ **Interest rate calculation**

Fannie Mae’s MF SOFR-indexed products accrue interest based on the same calendar-month accrual periods that exist for LIBOR-indexed ARMs.

On each interest rate change date, the interest rate is adjusted to equal the sum of the mortgage margin plus the latest index value available as of the date that precedes the interest rate change date by the number of days set forth in the mortgage note (1 business day for all MF SOFR-indexed ARM loans).

The following sample timeline exhibits how the interest rate is determined for a January accrual month.

1. **Last Day of December**
   - 30-Day Average SOFR Rate published at 2:30pm E.T.

2. **First Day of January**
   - Rate change date.
   - Interest rate adjusts based on prior days published 30-Day Average SOFR Rate.

3. **First Day of February**
   - Borrower payment due, including interest accrued in January.

❖ **External cap market**

The availability of 3rd party SOFR interest rate caps is necessary for offering and acquiring uncapped MF SOFR-indexed ARMs. At this time, several cap providers are prepared to issue SOFR-indexed interest rate caps. Multifamily is actively engaging with 3rd party interest rate cap providers to prepare for and understand developments in the market for 3rd party interest rate caps.

For more information on the transition of existing LIBOR-indexed caps, refer to the Transitioning existing MF LIBOR-indexed ARMs section below.

❖ **MBS features**

Fannie Mae has created new ARM plans and subtypes to support SOFR-indexed ARM MBS. These new ARM features have been updated on Fannie Mae’s website.

Fannie Mae has also created new pool prefixes, which have been added to the Pool Prefix glossary.

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HF</td>
<td>Conventional Adjustable-Rate Mortgages, Secured Overnight Financing Rate, Actual/360 interest day basis calculation; Multifamily</td>
</tr>
<tr>
<td>MF</td>
<td>Conventional Adjustable-Rate Mortgages, Secured Overnight Financing Rate, 30/360 interest day basis calculation; Multifamily</td>
</tr>
<tr>
<td>Prefix</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>-------------</td>
</tr>
<tr>
<td>HW</td>
<td>Conventional Adjustable-Rate Supplemental Lien Mortgages, Secured Overnight Financing Rate, Actual/360 interest day basis calculation; Multifamily</td>
</tr>
<tr>
<td>XF</td>
<td>Adjustable-Rate Mega backed by Conventional Adjustable-Rate Mortgages indexed to the Secured Overnight Financing Rate; Actual/360 interest day basis calculation; Multifamily</td>
</tr>
<tr>
<td>YF</td>
<td>Adjustable-Rate Mega backed by Conventional Adjustable-Rate Mortgages indexed to the Secured Overnight Financing Rate; 30/360 interest day basis calculation; Multifamily</td>
</tr>
<tr>
<td>XW</td>
<td>Adjustable-Rate Mega backed by Conventional Adjustable Rate Supplemental Lien Mortgages indexed to the Secured Overnight Financing Rate; Actual/360 interest day basis calculation; Multifamily</td>
</tr>
<tr>
<td>HC</td>
<td>Conventional Hybrid Adjustable-Rate Mortgages; initial Fixed-Rate period followed by an Adjustable-Rate period for the remaining term; Secured Overnight Financing Rate, Actual/360 interest day basis calculation; Multifamily</td>
</tr>
<tr>
<td>MC</td>
<td>Conventional Hybrid Adjustable-Rate Mortgages; initial Fixed-Rate period followed by an Adjustable-Rate period for the remaining term; Secured Overnight Financing Rate, 30/360 interest day basis calculation; Multifamily</td>
</tr>
<tr>
<td>HU</td>
<td>Conventional Hybrid Adjustable-Rate Supplemental Lien Mortgages; initial Fixed-Rate period followed by an Adjustable-Rate period for the remaining term; Secured Overnight Financing Rate, Actual/360 interest day basis calculation; Multifamily</td>
</tr>
</tbody>
</table>

5.4 Preparation for MF SOFR-indexed ARMs

❖ Originating and underwriting MF SOFR-indexed ARMs

Originators and underwriters are impacted by the change in index as well as new terms that arise from SOFR-indexed ARM loan products. Originators also play a central role in educating Multifamily borrowers on Fannie Mae ARM products and impacts resulting from the transition from LIBOR. Specific product terms have been publicly announced and are available on our website.

Key updates

- New index publication source
- Floating rate adjustment period
- Cap structure
- Product terms of SOFR-indexed ARMs
**Necessary actions**

<table>
<thead>
<tr>
<th>Focus area</th>
<th>Necessary actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borrower communications</td>
<td>▪ Work with Fannie Mae to develop communication plans to explain changes resulting from the LIBOR transition and availability of SOFR-indexed ARMs to Multifamily borrowers</td>
</tr>
</tbody>
</table>
| System identification and update | ▪ Conduct an inventory of impacted processes and systems  
▪ Update origination processes and underwriting systems to accommodate MF SOFR-indexed ARMs |
| Information             | ▪ Follow industry developments and announcements and determine impacts to origination and underwriting that may arise  
▪ Read Multifamily communications and attend product trainings related to MF SOFR-indexed ARMs |

**Other considerations**

The Multifamily Guide has been updated to reflect MF SOFR-indexed ARMs.

**Helpful links**

For more information on LIBOR transition impacts to origination and underwriting, refer to:

▪ [ARRC website](#)
▪ [Multifamily Guide](#)

❖ **Selling and delivering MF SOFR-indexed ARMs**

The process for selling and delivering SOFR-indexed ARMs does not vary substantially from the previous process for LIBOR-indexed ARMs. Updates to Fannie Mae systems have been made to align with the availability of SOFR-indexed ARMs.

Lenders should reach out to Fannie Mae to address any issues that may arise from selling and delivering a SOFR-indexed ARM.

**Key updates**

▪ LIBOR-indexed ARMs can no longer be purchased at Fannie Mae.
▪ Fannie Mae systems reflect options and dropdowns for SOFR-indexed ARMs.
▪ Options and dropdowns for LIBOR-indexed loan products are no longer available in the systems.
Necessary actions

<table>
<thead>
<tr>
<th>Focus areas</th>
<th>Necessary actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>System identification and update</td>
<td>▪ Conduct an inventory of impacted processes and systems</td>
</tr>
<tr>
<td></td>
<td>▪ Update selling and delivery systems and processes to accommodate SOFR-indexed ARMs</td>
</tr>
<tr>
<td></td>
<td>▪ LIBOR-indexed ARM fields and forms should be removed from selling and delivery systems</td>
</tr>
<tr>
<td>Information</td>
<td>▪ Attend trainings and read FAQs and job aids released by Fannie Mae providing details related to selling and delivering SOFR-indexed ARMs</td>
</tr>
</tbody>
</table>

Helpful links

For more information on selling and delivering, refer to:
▪ Multifamily Learning Center

❖ Securitization of MF SOFR-indexed ARMs

Fannie Mae-issued SOFR-indexed MBS include new attributes to facilitate securitization and accurate disclosure in the capital markets. The process mirrors the issuance of LIBOR-indexed securities. Investors should understand the differences between LIBOR- and SOFR-indexed ARMs that underpin the MBS they invest in.

Key updates
▪ As detailed in previous sections, new MF ARM plans have been created and added to Multifamily systems to represent SOFR-indexed ARMs.
▪ Pool prefixes have been created to detail security characteristics.
▪ Legal documentation has been updated to note the inclusion of SOFR as a valid underlying index.

Necessary actions

<table>
<thead>
<tr>
<th>Focus areas</th>
<th>Necessary actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investor awareness</td>
<td>▪ Investors should maintain awareness of market developments and impacts that a new underlying index may have when investing in SOFR-indexed MBS</td>
</tr>
<tr>
<td>Legal documentation</td>
<td>▪ Review updates to base prospectus documents</td>
</tr>
<tr>
<td>Security characteristics</td>
<td>▪ Note the inclusion of pool prefixes and subtypes to represent new SOFR-indexed ARM characteristics</td>
</tr>
</tbody>
</table>

Helpful links

For more information on LIBOR transition impacts to securitization of MF SOFR-indexed
ARMS, refer to:
  - DUS Disclose

❖ Servicing MF SOFR-indexed ARMs

Servicers are required to manage ARM payments throughout the life of newly originated SOFR-indexed loans. Servicing systems require updates to manage calculations and reconciliations for borrower payments using the new index rate. If a servicing transfer is necessary, the existing servicer must also be aware of the ability for new servicers to conduct activities using a new index.

Key changes
- Interest payments calculated based on SOFR
- New index location
- Relevant systems and processes require updates to reflect the new index and adjustment period

Necessary actions

<table>
<thead>
<tr>
<th>Focus areas</th>
<th>Necessary actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest payment calculations</td>
<td>Update and test systems, reporting and other processes or activities so that they may:</td>
</tr>
<tr>
<td></td>
<td>o Process/incorporate the SOFR index</td>
</tr>
<tr>
<td></td>
<td>o Adjust interest accrual calculations for changes in the underlying index, reset periods and subsequent caps</td>
</tr>
<tr>
<td>Transfer of servicing</td>
<td>Ensure that potential servicing transferees have the capability to service SOFR-indexed ARMs</td>
</tr>
<tr>
<td>System updates</td>
<td>Catalogue impacted systems and execute system updates for the delivery of SOFR-indexed ARMs</td>
</tr>
</tbody>
</table>

Helpful links

For more information on LIBOR transition impacts to servicing SOFR-indexed ARMs, refer to:
  - Practical Implementation Checklist for SOFR Adoption
  - CRE Finance Council LIBOR Transition Updates
  - Multifamily Learning Center
  - DUS Guide

5.5 Transitioning existing MF LIBOR-indexed ARMs

Fannie Mae is continuing to participate in industry discussions through the ARRC on the timing and strategy for transitioning legacy LIBOR-indexed ARMs to an ARR (i.e., SOFR). In addition, Fannie Mae is coordinating with FHFA on these topics.
❖ Existing third-party caps

Consult your interest rate cap agreements for specific language on the transition to an ARR. Fannie Mae expects that each interest rate cap provider will select a market accepted alternative. The borrower’s obligation to purchase replacement interest rate caps as required by the loan documents for existing LIBOR-indexed ARMs is unaffected.

Fannie Mae will develop a transition strategy for loans with third party LIBOR-indexed caps. For updates on industry efforts to advance the legacy transition, refer to the ARRC website. Additional details will be released as the timeline is finalized.
6 Freddie Mac Multifamily (“MF”) Floating Rate Loans and Securities

6.1 Introduction
Floating-rate and Hybrid loans are a key component of all Multifamily lines of business: Conventional, Seniors Housing, Targeted Affordable Housing (TAH) and Small Balance Loans (SBL). Freddie Mac recognizes the importance of offering financing solutions with diverse loan structures and intends to preserve all existing floating-rate products throughout the transition to SOFR.

Product information is available on our website.

6.2 Planned product modifications
Transitioning to SOFR is a complex undertaking, so our objective is to mitigate the complexity by avoiding non-essential product modifications. The summary below includes critical product modifications that support our shared mission to adopt SOFR.

❖ Conventional, Seniors Housing, Targeted Affordable Housing (TAH)

SOFR index calculation
For our Conventional, Seniors Housing, and TAH business lines, SOFR-indexed loans are initially indexed to a compound average of SOFR. The compound average rate is the 30-day Average SOFR (as published by the NY Fed) which will then be applied to the upcoming interest accrual period (“SOFR Index”). As more particularly described in Freddie Mac’s form notes for SOFR-indexed loans, the SOFR index on each SOFR-indexed loan will transition from 30-day Average SOFR to a one-month term SOFR rate selected or recommended by the ARRC (“Term SOFR”) when Freddie Mac is operationally, administratively, and technically feasible to transition to Term SOFR and so long as the transition does not cause an adverse tax effect with respect to the loan or any trust or securitization to which the loan is assigned.

Index source
The NY Fed publishes 30, 90, and 180-day SOFR averages on their website along with index values for use in calculating the SOFR average of alternative day counts.

Freddie Mac will use the NY Fed’s published rates on its website for index determination, currently at NY Fed.

Interest rate calculation
Similar to our LIBOR-indexed loan products, SOFR-indexed loans continue to feature calendar-month interest accrual periods. Like LIBOR which is determined on the business day preceding the beginning of the interest accrual period, 30-day Average SOFR is determined after 3:00 p.m. ET on the business day preceding the beginning of the interest accrual period.

Note that even though the SOFR Index is determined based on a 30-day “lookback”, the rate
is applied “in advance” of the applicable interest accrual period. For example, for a January accrual period, the SOFR Index will be determined based on the daily SOFR rates from the 30 days preceding the last business day of December.

That Index will then be applied to calculate interest throughout January, which will then be payable on February 1.

**Interest rate protection**

Freddie Mac generally requires all floating-rate loan borrowers to obtain third-party interest rate caps. For existing and new SOFR-based, floating-rate loans, these caps will be indexed to SOFR. For existing and replacement LIBOR-based, floating-rate loans, these caps will be indexed to LIBOR and will transition to a SOFR-based index only in accordance with their governing documents and the loan documents.

As of January 15, 2021, SOFR-based, floating-rate loan borrowers are no longer permitted to purchase initial LIBOR-based cap agreements. Instead, only SOFR-based cap agreements are permitted.

❖ **Small Balance Loan Hybrid Floating Rate loans**

Unlike other Multifamily lines of business, Small Balance Loans offer delegated quoting. SOFR-related modifications to the SBL Hybrid loans origination are minor, however, any changes deemed necessary have been tailored to the delegated quote process. Details on the SOFR-indexed SBL Hybrid loan structure have been included below:

**Loan Structure Changes Floating-rate Index:** SOFR-indexed SBL Hybrids will be indexed to 30-day Average SOFR during the floating rate period. Freddie Mac will use the NY Fed’s published rates on its website for index determination.

It is important to note that the rate reset frequency will remain unchanged and will continue to reset every 6 months during the floating rate period. Similarly, interest rate protection will remain unchanged and will continue to have an embedded structure.

If any aspect of the SOFR-indexed SBL Hybrid loan structure is not mentioned in this playbook, no change is currently planned relative to the existing loan structure for SBL Hybrids with a floating rate period indexed to LIBOR.

### 6.3 Selling and delivering MF SOFR Floating Rate loans

❖ **What’s changing?**

Loan Documents have been revised to reflect the SOFR index.

❖ **What’s not changing?**

The Delivery process will remain unchanged. SOFR will impact the index language in the legal documents and the Purchase team will review to ensure the appropriate index is referenced as agreed to in the Commitment.
6.4 MF Floating Rate securities indexed to SOFR

As part of Freddie Mac’s broader LIBOR transition efforts, floating-rate K-Deals now include at least one bond class with a coupon indexed to SOFR. The SOFR-indexed bonds are collateralized by loans indexed to either LIBOR or SOFR.

KF SOFR Bonds with LIBOR-indexed Collateral (“LIBOR-SOFR Bonds”)

Freddie Mac Multifamily priced its first floating-rate K-Deal (KF73) with bonds indexed to SOFR and collateralized by LIBOR-based loans in December 2019. The intent was to provide support to the SOFR bond market ahead of a SOFR loan offering, create liquidity, and provide proof of concept, thus easing the ultimate transition to SOFR. KF73 provided such proof of concept.

LIBOR-SOFR Bond Structure

K-F73 – K-F94:

The classes of securities issued are similar to prior LIBOR floating-rate K-Deals with a couple of changes:

(a) The Class A certificates are split into two pro-rata classes of securities:

   (i) LIBOR-indexed Class AL, and
   (ii) SOFR-indexed Class AS

(b) Class X Interest calculation:

The Class X (formerly split into Class XI and Class XP) certificate holders receive interest-only payments indexed to LIBOR. Solely for the purpose of determining the interest amount payable to the Class X certificate holders, Class AS is calculated as a LIBOR-indexed bond (not a SOFR-indexed bond).

1. The Class X Certificates 1) receive interest-only payments indexed to LIBOR and notional to Classes AL, AS, B, and C, and 2) are entitled to Static Prepayment Premiums.
2. Class AL is paid pro rata with Class AS. The Class AL and AS Principal Balances are sized based on investor demand.
3. For illustrative purposes only, class sizes do not reflect actual bond offering.

(c) Basis Risk Guarantee

Should SOFR exceed LIBOR, an additional Freddie Mac guarantee covers any basis mismatch between the SOFR-indexed bonds and the LIBOR-indexed loans:

- Freddie Mac is providing a Basis Risk Guarantee that is in addition to the standard K-Deal Credit Guarantee.
- The Credit Guarantee continues to cover credit losses while the Basis Risk Guarantee covers any cash flow shortfalls to the LIBOR-SOFR bonds due to the mismatch between amounts collected on the LIBOR-indexed loans and amounts due on the SOFR-indexed bonds.
- Example 1 illustrates what happens in the event SOFR is greater than LIBOR. LIBOR is assumed to be 2.00%, and SOFR is assumed to be 2.05%. In this example, there is not enough interest on the LIBOR loans to pay the SOFR bond coupon creating an interest shortfall. The 2.00% LIBOR loan interest is passed through to certificate holders, and Freddie Mac provides a Basis Risk Guarantee Cap Payment to cover the shortfall of 0.05%.

Example 2 illustrates the case where LIBOR is greater than SOFR creating an interest excess. LIBOR is assumed to be 2.05%, and SOFR is assumed to be 2.00%. 2.00% of the 2.05% LIBOR loan interest is passed through to certificate holders, and Freddie Mac receives the 0.05% interest excess in the form of a Basis Risk Guarantee Fee.
1. Interest income received by the Trust from the underlying LIBOR-indexed loans (assumed to be 2.05% for illustrative purposes)
2. Interest due to Class AS certificate holders calculated using monthly SOFR (assumed to be 2.00% for illustrative purposes)
3. Freddie Mac receives a Basis Risk Guarantee Fee equal to the interest surplus caused by the mismatch between LIBOR loan inflows and SOFR bond outflows due to Class AS certificate holders (0.05%).

The LIBOR-indexed loans and LIBOR-indexed bonds are expected to convert to an ARR, which will be the 30-day Average SOFR rate published by the Federal Reserve Bank of New York, when LIBOR ceases to be published and subsequently, at the sole discretion of Freddie Mac, will be changed to a forward-looking SOFR term rate if an appropriate term rate is endorsed by the ARRC.

**LIBOR-SOFR Bond Index**

The Federal Reserve Bank of New York (“FRBNY”) publishes 30, 90, and 180-day SOFR averages on their website along with index values for use in calculating the SOFR average of alternative day counts.

Interest due to LIBOR-SOFR Bond classes will be calculated “in advance” of interest being due.

**K-F73 — K-F76:**
Freddie Mac calculates the SOFR rate based on a calendar month compound average using the FRBNY’s published index. Said differently, Freddie Mac built a SOFR calculator based on the calculation methodology published by the FRBNY/ARRC on November 4, 2019. Freddie Mac discloses the calculated rates on its website (See “Vendor Readiness” section below for instructions).

**K-F77 – K-F94:**
The applicable SOFR rate is the 30-day Average SOFR rate published on the FRBNY’s website on or about 2:30 p.m. (New York City time).

**LIBOR-SOFR Bond Index Determination**

**K-F73 – K-F76:**
The LIBOR-SOFR bond has a SOFR Determination Date on the first business day of the Loan
Interest Accrual Period.

- LIBOR-indexed bonds and LIBOR-indexed loans have a LIBOR Determination Date on the last business day of the month prior to the Loan Interest Accrual Period.
- As always bond payments are made on the 25th day of the calendar month (or the succeeding business day) in which the Loan Payment Date occurs. The following example illustrates the loan interest accrual and the bond interest accrual timelines.

Example Bond Timeline: October Payment

1. The current LIBOR-indexed bonds have a LIBOR Determination Date the business day prior to the Loan Interest Accrual Period.
2. Since SOFR is published one business day after its effective date, SOFR-indexed bonds have a SOFR Determination Date on the first business day of the Loan Interest Accrual Period.

- As with LIBOR-indexed bonds, the SOFR index applicable to the LIBOR-SOFR bonds in K-F73 – K-F94 cannot be less than zero.

**K-F77 – K-F94:**

Similar to LIBOR, the SOFR Determination Date is the business day prior to the Loan Interest Accrual Period.

- As always, bond payments are made on the 25th day of the calendar month (or the succeeding business day) in which the Loan Payment Date occurs. The following example illustrates the loan interest accrual and the bond interest accrual timelines:

Example Timeline: October Payment

1. The current LIBOR-indexed bonds have a LIBOR Determination Date the business day prior to the Loan Interest Accrual Period.
2. The SOFR-indexed bonds have a SOFR Determination Date that is also the business day prior to the Loan Interest Accrual Period.

- LIBOR-SOFR bonds in K-F77 – K-F94 will in no event have a pass-through rate less
than zero.
Example: Class AS Pass-Through 0.00% Rate Floor (K-F77 – K-F94)

1. 30-Day Average SOFR rate assumed to be -1.00%, -0.75%, and -0.50% respectively for illustrative purposes.
2. Class AS Margin assumed to be 0.25%, 0.50%, and 0.75% respectively for illustrative purposes.
3. Since the LIBOR-SOFR Bond in K-F77 – K-F94 cannot have a pass-through rate less than zero, the Class AS Pass-Through Rates in Scenarios 1 and 2 are floored at 0.00%.

**KF SOFR Bonds with SOFR-indexed Collateral (“SOFR-SOFR Bonds”)**

Freddie Mac Multifamily began offering SOFR-based loans on September 1, 2020 and stopped purchasing LIBOR-based loans after December 31, 2020. K-F95 was the first floating-rate K-Deal with bonds indexed to SOFR and collateralized by SOFR-based loans.

**SOFR-SOFR Bond Structure**

The current bond structure of the securities issued is similar to existing LIBOR floating-rate K-Deals with the principal variance being that the SOFR-SOFR Bonds (Classes AS, BS, CS, and XS) and their SOFR loan collateral is indexed to the 30-day Average SOFR rate.

Freddie Mac Multifamily may or may not offer LIBOR bonds (Classes AL, BL, CL, and XL) collateralized by LIBOR-based loans in the same KF transaction in which SOFR-SOFR bonds are offered. If LIBOR bonds are offered, underlying mortgage loans are group directed such that:

(a) LIBOR bonds are collateralized exclusively by LIBOR-based loans, and
(b) SOFR-SOFR bonds are collateralized exclusively by SOFR-based loans.

1. The Class XL Certificates 1) receive interest-only payments indexed to LIBOR and notional to Classes AL, BL, and CL, and 2) are entitled to Static Prepayment Premiums.
2. The Class XS Certificates 1) receive interest-only payments indexed to SOFR and notional to Classes AS, BS, and CS, and 2) are entitled to Static Prepayment Premiums.
3. For illustrative purposes only, class sizes do not reflect actual bond offering.
4. MF may not offer Class BL or BS Classes. If Class BL and BS are not offered, Classes AL and AS may extend to the 7.5% credit enhancement level.

**SOFR-SOFR Bond Index**

Interest due to SOFR-SOFR Bond classes will be calculated “in advance” of interest being due. The applicable SOFR rate is the 30-day Average SOFR rate published on or about 2:30 p.m. (New York City time) on the FRBNY’s website.

**SOFR-SOFR Bond Determination**

Similar to LIBOR bonds, the SOFR Determination Date is the business day prior to the loan interest accrual period.
- As always, bond payments are made on the 25th day of the calendar month (or the succeeding business day) in which the Loan Payment Date occurs. The following example illustrates the loan interest accrual and the bond interest accrual timelines:
1. The current LIBOR-indexed bonds have a LIBOR Determination Date the business day prior to the Loan Interest Accrual Period.
2. The SOFR-SOFR Bonds have a SOFR Determination Date that is also the business day prior to the Loan Interest Accrual Period.

- Similar to LIBOR bonds, the SOFR index applicable to SOFR-SOFR bonds cannot be less than zero.

Example: Pass-Through 0.00% SOFR Index Rate Floor (K-F95+)

1. Interest income received by the Trust from underlying SOFR based loans (assumed to be 2.00% for illustrative purposes)
2. Interest due to SOFR-SOFR (class AS, BS, CS, or XS) bondholders calculated using SOFR (assumed to be 2.00% for illustrative purposes)

❢ Vendor Readiness

**K-F73 – K-F76:**
Freddie Mac discloses the calculated rate on its website via the monthly SOFR rate disclosure. Here are the instructions:

- If you haven’t done so, create an account. In the top right-hand corner, click “Login” to get started.
- Once you’re logged in, click the blue dot in the upper right-hand corner. In the drop-down menu, click "Data Files and Reports."
- On the menu on the left-hand side of the page, under "Multi-Class" you’ll see 3 options. Click "Reset."
At the top of the page in blue, click "Report" and select "Off-Platform Deal Indices." Then, click "Year" in blue, and select "2020." Finally, click “Month” in blue and select the appropriate month.

For January 2020, the file is named "OP2001." Select the desired file name and save it.

The file is a text file. Scroll all the way over to the right. At the end of the text string, you'll see it. For January 2020, it is: "SOFR_KEOM|1.54741|Fed. SOFR Rate- 1 Month Lookback Average."

Copy all of the text in the string, Paste Special in Excel, and choose "Text" to paste the contents into appropriate Excel columns, which will make the file contents readily functional.

*If you already have an account created, click the link above, login to the site, and be patient. It is a long running script that will take you through step 3 above.

**Beginning with K-F77:**

- **30-day Average SOFR** is published on the NY Fed’s website on or about 2:30 p.m. (New York City time)
- As above, the 30-day SOFR Average rate is disclosed on Freddie Mac’s website via the monthly SOFR rate disclosure

**PC Securities**

On account of its pass-through nature, SOFR-indexed Multi PCs will only be issued if the underlying loan for a PC is SOFR-indexed. Freddie Mac cannot issue a SOFR-indexed Multi PC with an underlying loan indexed to LIBOR. Since a Multi PC is a pass-through, the SOFR index on a PC will be the same as the SOFR index on the underlying loan; index determination will be in sync with the index determination on the underlying loan. SOFR-indexed Multi PCs will have the same accrual period and method as the underlying SOFR-indexed loan with a 55-day delay convention.

Freddie Mac has only issued floating rate Multi PCs indexed to LIBOR in the past. The transition of such LIBOR-indexed Multi PCs will be addressed to be consistent with other legacy MF LIBOR loan and bond approaches.

**6.5 Servicing MF SOFR Floating Rate loans**

This chapter focuses on floating rate loans that have been tied to a SOFR index since origination and will not require conversion upon LIBOR cessation.

**What’s changing vs. what’s not changing?**

**Reporting and remitting**

Generally, servicing of a SOFR-indexed floating rate loan is not expected to be materially different from the servicing of a LIBOR-indexed loan. In particular, Freddie Mac does not anticipate there will be any impact to the following:
A SOFR-indexed loan does present some fundamental differences compared to a LIBOR-indexed loan, including in the following areas:

- Published source of the index value
- Index value availability timing
- Index determination methodology

**Master servicing**

The servicing impact for SOFR loans is becoming operationally prepared to calculate a SOFR-based interest rate. This occurs at the primary servicing level. Master servicers will need to become familiar with SOFR index calculation protocols and ensure that their primary servicers are equally capable of processing rate changes under the new SOFR index environment.

**Transfer of servicing**

Similar to any servicing transfer, it is the responsibility of the transferor to ensure the transferee, as the receiving servicer, is aware and able to support SOFR loans without interruption. Particular attention should be taken to confirm transferees know the published source of indices, timing of availability, and calculations.

❖ What actions may servicers take to be ready?

**Best practices and actions servicers may take to prepare**

Readiness for SOFR requires an assessment of internal processes and systems prior to implementation. There are a number of industry resources where servicers can find guidance on the implementation of SOFR, including the following:

- CRE Finance Council (CREFC) produces updates and guidance associated with SOFR
- The ARRC published “Practical Implementation Checklist for SOFR Adoption” in September 2019

**Additional considerations for servicers**

- Servicers should anticipate that more than one SOFR index may be offered (e.g., 30-day, 90-day, calendar month, etc.).
- Servicers should understand how the applicable index is determined and calculated and know the officially published sources for the index.
- Servicers will need to determine if their systems are operationally able to process the monthly recalculation of the SOFR index.
• Servicers will need to determine if this recalculation can be done automatically or manually to correctly have the entire accrual period calculated using the new floating rate.

6.6 Discontinuation of originating and selling MF LIBOR Floating Rate loans

❖ Timeline leading up to the cessation of purchasing LIBOR Floating Rate loans

Below are the milestones that have passed relating to our transition of our new products from LIBOR to SOFR.

- **September 1, 2020**: Freddie Mac ceased issuing quotes for LIBOR-indexed loans; all new floating-rate quotes are for SOFR-indexed loans. For SBL, Optigo® lenders can no longer issue applications for SBL hybrid loans with a floating-rate period indexed to LIBOR; all new hybrid loan applications issued are SOFR-based.
- **November 9, 2020**: The last day for submission of underwriting package for LIBOR-indexed floating-rate and hybrid loans to Freddie Mac.
- **December 11, 2020**: Last day for submission of final delivery package for LIBOR-indexed floating-rate and hybrid loans to Freddie Mac.
- **December 31, 2020**: Last day for Freddie Mac to purchase LIBOR-indexed floating-rate and hybrid loans, regardless of the loan application or the date of the note.

❖ What’s not changing?

The Delivery process will remain unchanged. The Purchase team will review to ensure the appropriate index is referenced as agreed to in the Commitment. As loans are designated for securitization, the Loan Sales team will package the applicable mortgage and servicing files and forward them to the Trustees and Master Servicers.

6.7 Legacy MF LIBOR Floating Rate loans transition

The GSEs are continuing to work with the ARRC to define the timing and strategy for transitioning legacy LIBOR-indexed Floating Rate loans to an ARR (i.e., SOFR). We are coordinating closely with FHFA on this important matter. Additional details will be released as the timeline and strategy are finalized.
7 Fannie Mae Multifamily Credit Risk Transfer (“MF CRT”) transactions

7.1 Introduction
The purpose of this chapter is to provide market participants guidance on Fannie Mae Multifamily’s new SOFR-indexed MF CRT issuances and the transition of legacy LIBOR-indexed MF CRT transactions in the future.

MF CRT transaction details are divided into two sections: (1) New issuance CRT transition and (2) Legacy CRT transition.

7.2 SOFR-indexed CRT new issuance

❖ Objectives
Fannie Mae plans to be operationally prepared to issue MF SOFR-indexed CRT deals in Q1 2021 with the ultimate timing of a SOFR-indexed MF CRT transaction depending upon market readiness. Because the Multifamily Connecticut Avenue Securities (“MCAS”) program is synthetic and does not rely on the cash flows of the underlying loans from the reference pool, the move to SOFR-indexed MF CRT issuance is expected to be relatively simple for Fannie Mae from an operational perspective as long as there is a well-defined SOFR-based index to determine the coupon payments due on the MCAS notes.

❖ SOFR indices
Currently there is no Term SOFR available for use in SOFR-indexed CRT deals. However, the availability of Term SOFR is not critical for the issuance of the first SOFR MF CRT transaction. Fannie Mae currently plans to structure SOFR-indexed MF CRT transactions so that they would:

- Initially use a 30-day Average SOFR (published by the NY Fed) as the reference rate, with a Determination Date of 2 business days (2BD) prior to the beginning of the accrual period for CRT securities
- Subsequently transition to using an IOSCO compliant Term SOFR at Fannie Mae’s discretion at a later date, if the appropriate regulatory authority approves such a rate:
  - The subsequent transition would be made as soon as Term SOFR can be operationalized and is administratively feasible, and the transition would make use of the same Determination Date conventions mentioned for the 30-day Average SOFR above.
  - The GSEs do not anticipate that a spread adjustment will be applied when this subsequent transition to term SOFR is made.
This subsequent transition could occur prior to the time LIBOR ceases or is declared to be non-representative.

Once Term SOFR is operationalized and administratively feasible, Fannie Mae would cease any further new issuance using a compound average of SOFR and would solely utilize Term SOFR.

❖ **Timeline and milestones**

The following timeline illustrates upcoming milestones related to issuing SOFR-indexed MF CRTs and ceasing to issue LIBOR-indexed MF CRTs. While Fannie Mae plans to be operationally ready to issue SOFR-indexed MF CRTs in Q1 2021, actual issuance timelines will depend on the readiness of investors, broker/dealer, trustees/global agents and data/analytics vendors to support or invest in SOFR-indexed CRT deals.

❖ **Related SOFR market development**

- **SOFR market conventions:** The Fed’s calculator for computing compound averages of the SOFR and a SOFR index became available on March 2, 2020.

- **Development of SOFR derivatives market:** It is expected that the move to SOFR-based discounting by CME/LCH will significantly improve the liquidity of the SOFR derivatives market.

- **SOFR term structure:** Currently there is no forward-looking Term SOFR available. This is not critical for the issuance of the first MF SOFR CRT transaction.

❖ **Actions market participants should consider**

Fannie Mae encourages all CRT market participants to conduct an internal operational readiness assessment and start any operational build needed to participate in SOFR-indexed CRT transactions as early as practicable. Investment guidelines and other key governance documentation should be reviewed to ensure that they can transact in SOFR. Please refer to section 1.3, Actions Market Participants Should Consider, for FAQs and other resources related to the MF CRT LIBOR transition.
7.3 Legacy CRT transition

Fannie Mae Multifamily had approximately $0.9 billion of outstanding CRT notes that are indexed to one-month LIBOR as of December 31, 2020. Fannie Mae is continuing to work with Freddie, FHFA and the ARRC to define the timing and strategy for transitioning outstanding MF CRT notes to an ARR (i.e., SOFR). The goal is to achieve a smooth transition for all LIBOR-indexed CRT transactions in the future.

In moving existing LIBOR-indexed MF CRT notes to an ARR, Fannie Mae will consider, among other things, the following:

- Maintaining the economics of the existing notes
- Minimizing negative impact to the liquidity of existing notes
- Transparency and consistency with industry solutions and applicable law/regulations

Additional details will be released as the timeline and strategy are finalized.
8 **Freddie Mac MF CRT transactions**

8.1 **Introduction**

The purpose of this chapter is to provide market participants guidance on new SOFR-indexed MF CRT issuances from Freddie Mac, which is known as Multifamily Structured Credit Risk Notes ("Multifamily SCR Notes" or "MSCR Notes")

Freddie Mac completed its first SOFR-indexed MF CRT issuance, MSCR 2021-MN1 in January 2021. Prior to this SOFR issuance, Freddie Mac had three Multifamily SCR Notes issuances between 2016 and 2017, all of which were fixed rate notes, so there are no Legacy MF CRT LIBOR securities to transition to an alternative rate.

8.2 **Legacy CRT transition**

Legacy transition considerations are not applicable to Freddie Mac MF CRTs due to their fixed rate nature. Freddie Mac Multifamily does not plan to issue any LIBOR based CRT deals in the future.

8.3 **Alignment with SF CRT**

The GSEs, with the support of FHFA, intend to align to the SF CRT offering and minimize potential disruptions to the CRT market. In addition, Freddie Mac’s STACR program and MSCR programs will be aligned as to the following: (1) the selection of the index as the replacement of LIBOR for new issuance CRT deals; (2) the alternative index and methodology; (3) the fallback triggers and waterfall.

Freddie Mac’s Multifamily SCR Notes program is looking to attract large investors from STACR. Thus, alignment with SF CRT is essential to ensure broad market acceptance.
## 9 Summary of Prior Changes

<table>
<thead>
<tr>
<th>Section</th>
<th>Summary of changes</th>
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<tbody>
<tr>
<td><strong>June 2020</strong></td>
<td></td>
</tr>
<tr>
<td>1.2 LIBOR transition milestones</td>
<td>Updated the date of the first SOFR-indexed CMO issuance from June 2020 to July 2020</td>
</tr>
<tr>
<td>4. Collateralized Mortgage Obligations (“CMOs”)</td>
<td>Updated the date of the first SOFR-indexed CMO issuance from June 2020 to July 2020; Changed the “Determination Date” to 2 Business Days (2BD) prior to the beginning of the accrual period; Updated graphics to reflect a Determination Date of 2 BD prior to the beginning of the accrual period for 45-day, 55-day and 75-day delay and Non-Delay Compounded SOFR-indexed securities (per investor deck)</td>
</tr>
<tr>
<td><strong>July 2020</strong></td>
<td></td>
</tr>
<tr>
<td>3. Single-Family Credit Risk Transfer (“SF CRT”) transactions</td>
<td>Specified that the Determination Date will be 2 Business Days (2BD) prior to the beginning of the accrual period for CRT securities</td>
</tr>
<tr>
<td>5. Fannie Mae Multifamily (“MF”) ARMs and MBS</td>
<td>Clarified that Fannie Mae is currently designing a new MF SOFR-indexed “capped” ARM; Specified that MF SOFR-indexed product terms will be publicly announced in the third quarter of 2020</td>
</tr>
<tr>
<td>7. Fannie Mae Multifamily Credit Risk Transfer (“MF CRT”) transactions</td>
<td>Specified that the Determination Date will be 2 Business Days (2BD) prior to the beginning of the accrual period for CRT securities</td>
</tr>
<tr>
<td><strong>August 2020</strong></td>
<td></td>
</tr>
<tr>
<td>1. Overview</td>
<td>Freddie Mac Multifamily – Updated LIBOR product dates</td>
</tr>
<tr>
<td>2. Single-Family (“SF”) ARMs and Securities</td>
<td>Updated language to reflect that Fannie Mae is now accepting delivery of SOFR-indexed ARMs</td>
</tr>
<tr>
<td>4. Collateralized Mortgage Obligations (“CMOs”)</td>
<td>Updated language to reflect that Fannie Mae and Freddie Mac are now issuing SOFR-indexed CMOs</td>
</tr>
<tr>
<td>6. Freddie Mac Multifamily (“MF”) Floating Rate Loans and Securities</td>
<td>Updated SOFR-indexed loan offering details, including loan structure, interest rate protection, and origination and underwriting process changes.</td>
</tr>
<tr>
<td><strong>September 2020</strong></td>
<td></td>
</tr>
<tr>
<td>1. Overview</td>
<td>Updated the date to offer SF ARMs and securities products for Freddie Mac from Nov. 16, 2020 to Nov. 9, 2020; Updated Freddie Mac cessation of SF LIBOR ARMs and securities to include the last LIBOR ARM settlement on Dec. 31, 2020 and the last LIBOR ARM Guarantor PC issue date on Dec. 1, 2020</td>
</tr>
<tr>
<td>2. Single Family ARMs and Securities</td>
<td>Updated the announcement regarding the last MBS/Guarantor PC issue date to indicate that it would be for LIBOR ARMs with a latest settlement date of Dec. 31, 2020; Changed date from Nov. 16, 2020 to Nov. 9, 2020 for Loan Selling Advisor system updates and made a minor word change (i.e., “similar to” to “like”).</td>
</tr>
<tr>
<td>4. Collateralized Mortgage Obligations (&quot;CMOs&quot;)</td>
<td>Updated to indicate that the cessation will not apply to RCR/MACR exchange or resecuritisations of previously issued Libor-indexed certificates (whether CMO or ARM certificates) as long as such resecuritisations do not increase the exposure of Libor-indexed certificates</td>
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</tbody>
</table>
| 5. Fannie Mae Multifamily ("MF") ARMs and MBS | Updated to indicate that Fannie Mae has developed the Structured ARM, 7/6 ARM, Hybrid ARM and a new MF capped ARM product and released them on Sep. 1, 2020;  
Updated to indicate that Fannie Mae has the capability to purchase SOFR-indexed ARMs beginning Sep. 1, 2020;  
Specified that product-specific features were made available on Fannie Mae’s Multifamily website as well as during external training sessions;  
Noted that at this time, at least one cap provider is prepared to issue SOFR-indexed interest rate caps;  
Removed margin resulting from change in index from key update in originating and underwriting MF SOFR-indexed ARMs;  
Specified that the Multifamily Guide has been updated;  
Updated that Fannie Mae systems reflect options and dropdowns for SOFR-indexed ARMs;  
Specified that servicers are required to manage ARM payments throughout the life of newly originated SOFR-indexed loans;  
Specified that servicing systems require updates to manage calculations and reconciliation for borrower payments using the new rate |
| 6. Freddie Mac Multifamily ("MF") Floating Rate Loans and Securities | Updated Interest rate protection section with details on availability and interest rate caps. Also updated Small Balance Loan Hybrid Floating Rate loans section;  
Deleted details regarding overlap period in the Conventional, Seniors Housing, TAH section. Updated link for “Refinance Test”;  
Updated to indicate that as of Sep. 1, 2020, Freddie Mac ceased issuing quotes for LIBOR-indexed loans; |
### October 2020

<table>
<thead>
<tr>
<th>Section</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2 LIBOR transition timelines</td>
<td>Made grammatical and tense changes to the section 6. Added a footnote to clarify that the GSEs will no longer accept LIBOR-indexed pool deliveries after December 31, 2020. However, the GSEs may continue to issue LIBOR-indexed MBS products after December 31, 2020 using cash loans with application dates of September 30, 2020 or earlier in its portfolio. Revised footnote 3 to reflect GSE's continued issuance of resecuritizations of previously issued LIBOR-indexed certificates and include details of total unpaid balance of LIBOR-indexed certificates.</td>
</tr>
<tr>
<td>2 Single-Family (“SF”) ARMs and Securities</td>
<td>Updated language to clarify that December 1, 2020 is the last issue date for LIBOR-indexed ARM MBS/Guarantor PCs to be delivered to the GSEs with a latest LIBOR-indexed ARM settlement date of December 31, 2020; Updated language to indicate that the GSEs have stopped accepting LIBOR ARMs with Application Received Dates after September 30, 2020; Updated the transition timeline graph to clarify the milestone description for December 31, 2020; Deleted language calling out specific plan that the GSEs will stop purchasing after December 31, 2020</td>
</tr>
<tr>
<td>4 Collateralized Mortgage Obligations (“CMOs”)</td>
<td>Updated language to indicate that Freddie Mac and Fannie Mae have ceased offering new LIBOR-indexed CMOs for issuance; Updated the graphs in the administration section to indicate that LIBOR is no longer the current state and Compounded SOFR is no longer a hypothetical implementation</td>
</tr>
<tr>
<td>4.7 Approach for transitioning legacy CMOs</td>
<td>Updated language to reflect next steps for legacy LIBOR-indexed CMOs</td>
</tr>
<tr>
<td>5 Fannie Mae Multifamily (“MF”) ARMs and MBS</td>
<td>Updated language to reflect that Fannie Mae now has new SOFR-indexed product offerings available</td>
</tr>
<tr>
<td>6 Freddie Mac MF CRT Transactions</td>
<td>Removed “In the event that Freddie Mac believes it is necessary to issue new SCR Notes again prior to market readiness and interest in MF CRT Floating Rate securities based on an ARR, Freddie Mac expects the SCR Notes will be a LIBOR Floating Rate CRT issuance and will be structured in alignment with the STACR program.”</td>
</tr>
</tbody>
</table>

### November 2020

<table>
<thead>
<tr>
<th>Section</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Overview</td>
<td>Updated dates and details around SOFR and LIBOR product offerings for Fannie Mae MF ARMs and MBS; Removed references to specific ARRs for existing contracts from the overview section and added them to the product-specific sections</td>
</tr>
<tr>
<td>2 Single-Family (“SF”) ARMs and Securities</td>
<td>Updated the transition timeline graph to clarify delivery milestones in December 2020 and updated the transition of existing LIBOR ARM loans to TBD</td>
</tr>
<tr>
<td>3 Single-Family Credit Risk Transfer (“SF CRT”)</td>
<td>Updated language to indicate Fannie will have the capability to issue SOFR-indexed CRT deals in Q1 2021;</td>
</tr>
<tr>
<td>Transactions</td>
<td>Updates</td>
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<tr>
<td>Updated outstanding SF CRT notes that are indexed to one-month LIBOR as of September 30, 2020 at Fannie Mae ($25.6 billion) and at Freddie Mac ($27.5 billion); Updated the language and SF CRT timeline to indicate the issuance of Freddie Mac's SOFR-indexed CRT</td>
<td></td>
</tr>
<tr>
<td>4 Collateralized Mortgage Obligations (&quot;CMOs&quot;)</td>
<td>Added language on SOFR-indexed CMOs, transitioning from 30-day Average SOFR to Term SOFR, when Term SOFR becomes available</td>
</tr>
<tr>
<td>5 Fannie Mae Multifamily (&quot;MF&quot;) ARMs and MBS</td>
<td>Updated language to indicate that Fannie Mae has stopped accepting LIBOR loans with commitment dates after September 30, 2020; Updated language to indicate that Fannie Mae has stopped issuing LIBOR-indexed ARM pools with MBS pool issue dates after December 1, 2020; Updated transition milestone timeline to indicate that timeline for the legacy positions conversion to an ARR at MF’s discretion is TBD; Updated language to clarify that Fannie Mae will purchase both LIBOR- and SOFR-indexed ARMs through the end of 2020</td>
</tr>
<tr>
<td>6 Freddie Mac Multifamily (&quot;MF&quot;) Floating Rate Loans and Securities</td>
<td>Updated language to include SOFR-indexed bonds; Added details on K-F-73, K-F76, K-F77, K-F94, SOFR-SOFR bonds; Updated verbiage and added explanation of remaining key dates</td>
</tr>
<tr>
<td>7 Fannie Mae Multifamily Credit Risk Transfer (&quot;MF CRT&quot;) transactions</td>
<td>Updated the &quot;as of date&quot; for the $0.9 billion outstanding CRT notes indexed to one-month LIBOR from June 30, 2020 to September 30, 2020 (exposure remained the same since June)</td>
</tr>
</tbody>
</table>