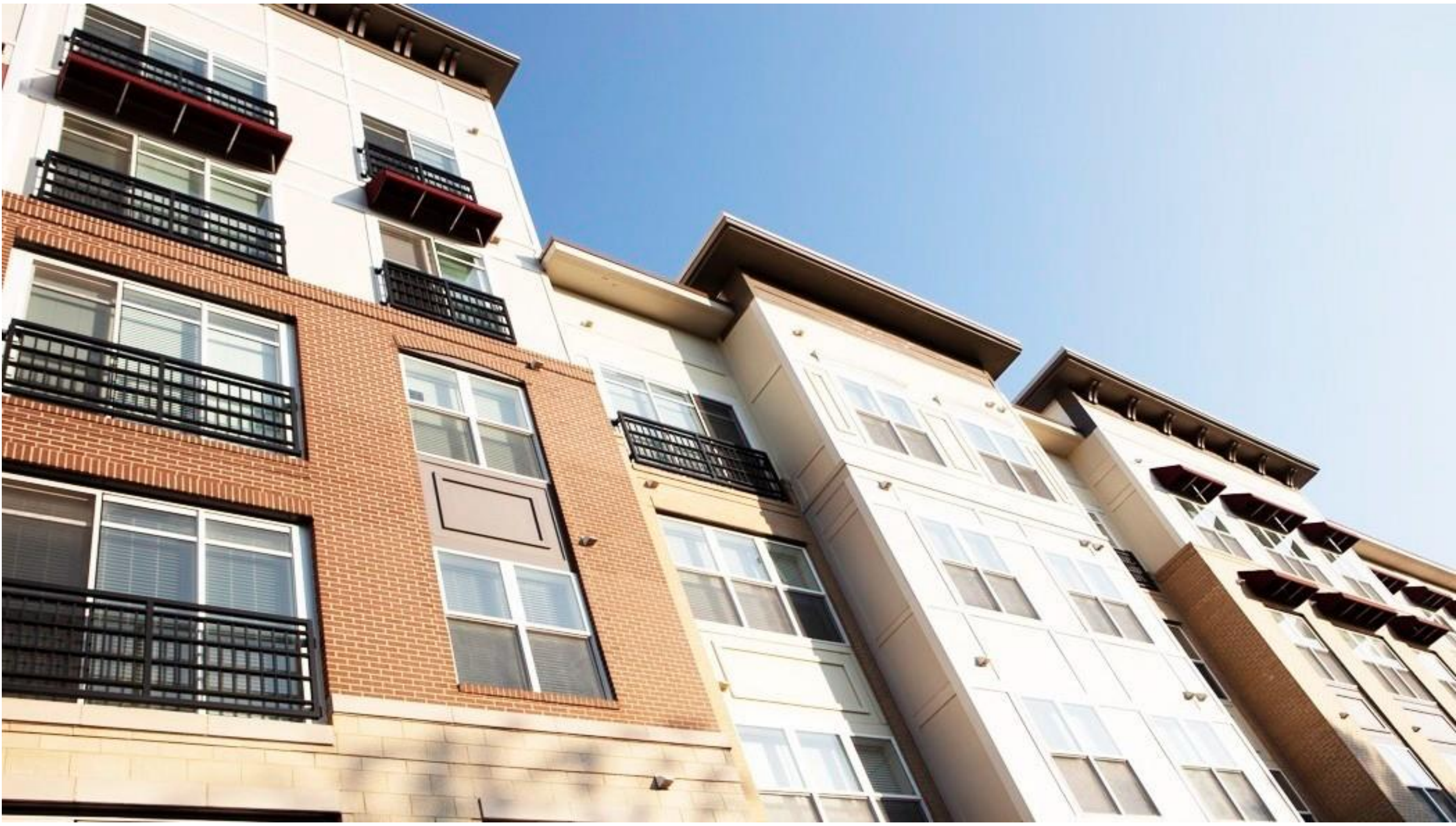


LIBOR Transition Playbook
Multifamily Floating Rate Loans and Securities
Multifamily Credit Risk Transfer

August 2020

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 intend 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 will 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 will initially be indexed to a compound average of SOFR. The compound average rate will be 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 will 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 will be 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 will be determined based on a 30-day “lookback”, the rate will be 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

Interest rate protection will be required for our SOFR-indexed loans. As with LIBOR-indexed loan products, Freddie Mac will require borrowers to obtain third-party caps. At this time, third-party caps that reference a SOFR-based index are not available, so borrowers will be permitted, on a temporary basis, to purchase an initial LIBOR-based cap agreement instead of a SOFR-based cap agreement. Please note that this optionality will not be offered for the replacement cap, which must reference a SOFR-based index.

While Freddie Mac’s requirements for interest rate caps are not expected to change if a SOFR-based cap agreement is purchased, additional requirements will apply if the borrower elects to purchase a LIBOR-based cap. The additional requirements have been outlined below:

1. Borrower will be required to make monthly replacement cap reserve deposits with the servicer sufficient to purchase a replacement SOFR-based third-party cap within 12 months of the loan closing.
2. Lender will have the right to apply amounts in the reserve toward the purchase of a replacement SOFR-indexed third-party cap if 30-day Average SOFR is above 1.25% <u>and</u> higher than 1-month LIBOR by more than 0.25% on the SOFR Determination Date for any Interest Adjustment Period.
3. A guarantor will guarantee payment of the difference between the reserve amount and the cost of the replacement cap.
4. Borrower and the cap provider must agree to use Freddie Mac’s updated form LIBOR cap documentation, including provisions governing the transition to SOFR.

❖ 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 process is expected to be minor, however, any changes deemed necessary will be tailored to the delegated quote process. Additionally, our objective is to keep non-essential loan structure and process changes to a minimum. 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 Origination & underwriting process impacts

❖ Conventional, Seniors Housing, TAH

Quote submission

(a) Specify the requested index:
There may be an overlap period where both LIBOR- and SOFR-indexed loans will be available for quote. During any overlap period, all quote request packages should specify the requested index type. An indication should be provided in the narrative, Loan Submission Template (LST) and Digital Loan Submission.

(b) Refinance Test verification:
To assess maturity risk, our Refinance Test considers the loan's index to project future floating-rate debt service payments. Freddie Mac has added SOFR as an index option. Ahead of quote submission, the Optigo® Lender should confirm that the latest Refinance Test with SOFR optionality has been used, and that the correct index has been chosen.

The Refinance Test is available on our website

(c) Review your quote:
When you receive a floating-rate quote during the transition to SOFR, Freddie Mac recommends a thorough review of the quoted loan terms and stipulations. If clarification is needed on any of the items in your quote – whether they are key dates or stipulations – Freddie Mac encourages you to reach out to your Freddie Mac producer.

Note: Timing for delivery of both the **Full Underwriting Package** and **Final Delivery Package** for loans with a LIBOR index will be clearly communicated in the quote. There will be no flexibility on the specified dates given the hard stop of December 31, 2020 for purchase of loans indexed to LIBOR.

Underwriting & full underwriting package

(a) Specify the requested index:
Freddie Mac expects an overlap period where both LIBOR- and SOFR-indexed loans will be in underwriting. To ensure accurate loan tracking, all Mortgage Transaction Narratives should specify the loan's index type, and the correct selection should be made in the LST.

(b) Refinance Test verification:
The Optigo Lender should verify that the latest Refinance Test with SOFR optionality has been used, and that the correct index has been chosen.

The Refinance Test is available on our website.

(c) Refer to the Commitment:
As a reminder, the Commitment contains key loan terms such as the applicable index and interest rate cap requirements. The Commitment form has been modified to accommodate SOFR-indexed loans. Your Freddie Mac underwriter is available to answer Commitment-related questions, and other aspects of the underwriting process that may be impacted by the transition to SOFR.

❖ Small Balance Loan Hybrid Floating Rate loans

Process changes for SOFR-indexed SBL Hybrids are as follows:
Specify the requested index:

- Prescreen, exception, and pricing waiver requests should clearly note if the request is for a SOFR-indexed Hybrid loan.
- The SBL Pipeline Manager Tool (PMT) will include additional selection options in the "Loan Structure" field, that should be chosen for SOFR-indexed Hybrids.
- Full package submission emails should indicate the applicable term and indicate that the loan is a SOFR-indexed Hybrid in the "Product type" field.

6.4 Selling and delivering MF SOFR Floating Rate loans

❖ What's changing?

Loan Documents will be 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.

6.5 MF Floating Rate securities indexed to SOFR

❖ KF SOFR Bonds with LIBOR-indexed Collateral

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 LIBOR-indexed loans.

Freddie Mac Multifamily priced its first floating-rate K-Deal (KF73) with bonds indexed to SOFR 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.

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

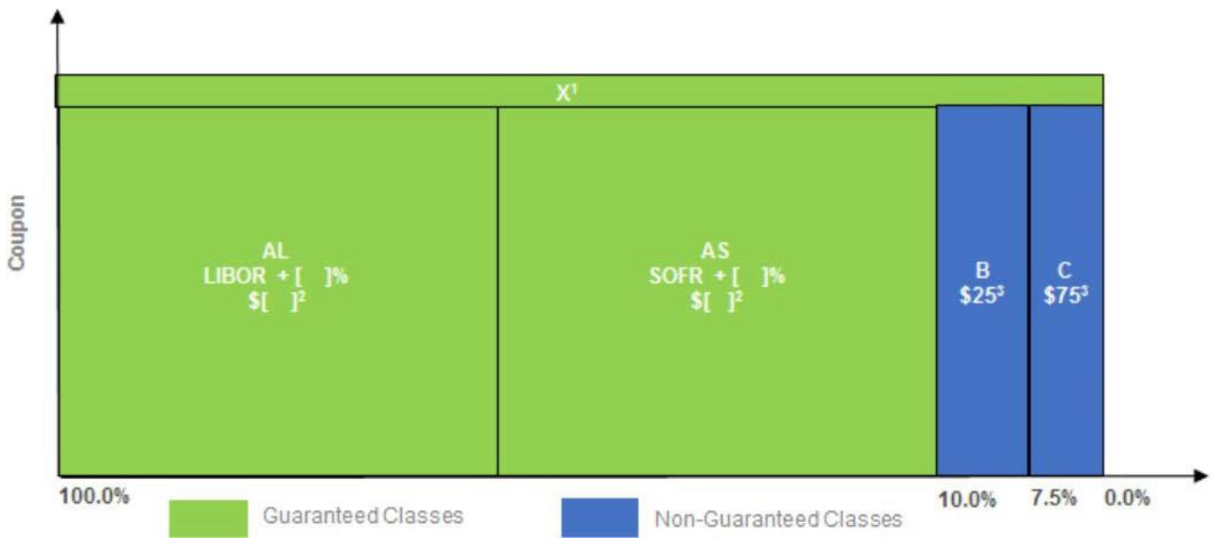
(a) The Class A certificates are split into two pro-rata classes of securities:

(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

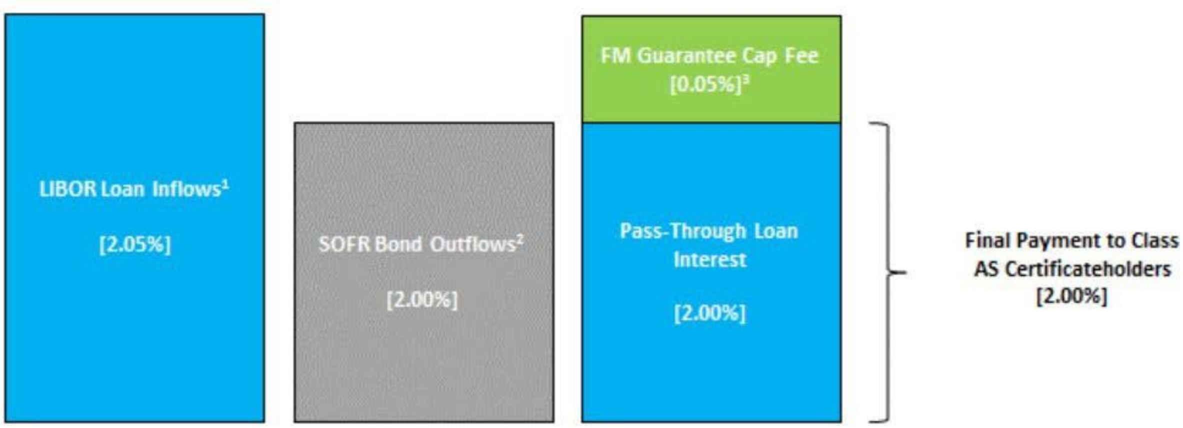
Should SOFR exceed LIBOR, an additional Freddie Mac guarantee covers any basis mismatch between the SOFR-indexed bonds and the LIBOR-indexed loans:

- 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 will cover any cash flow shortfalls to the SOFR-indexed 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%.

1. Interest income received by the Trust from the underlying LIBOR-indexed loans (assumed to be 2.00% for illustrative purposes)
2. Interest due to Class AS certificate holders calculated using monthly SOFR (assumed to be 2.05% for illustrative purposes)
3. Freddie Mac provides a Guarantee Cap Payment to the Trust to cover the interest shortfall caused by the mismatch between LIBOR loan inflows and SOFR bond outflows due to Class AS certificate holders (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 SOFR, when LIBOR ceases to be published.

SOFR calculation

The Federal Reserve Bank of New York (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.

K-F73 — K-F76:
Freddie Mac calculates the SOFR rate based on a calendar month compound average using the Fed's published index. Said differently, Freddie Mac built a SOFR calculator using a calculation methodology similar to the Fed's Data and Calculation Methodology for SOFR Averages and Index. Freddie Mac discloses the calculated rates on its website (See "Vendor Readiness" section below for instructions).

Beginning with K-F77:
The applicable SOFR rate is the 30-day Average SOFR as published on the NY Fed's website.

❖ Interest Accrual / Rate Determination

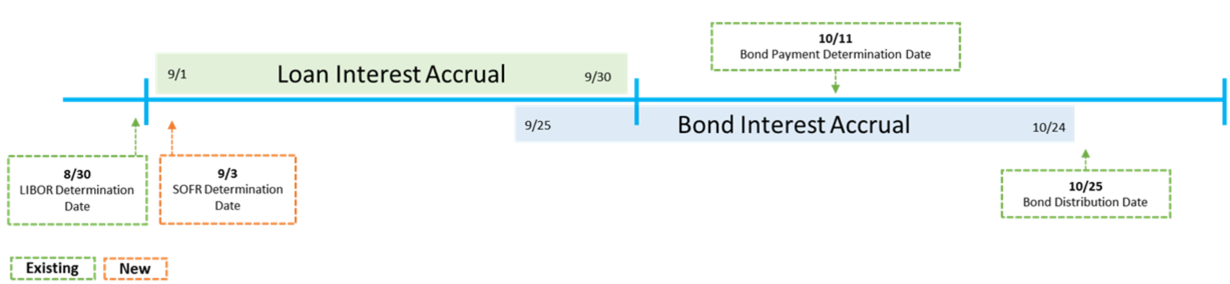
KF SOFR bonds

Interest due to Class AS will be calculated "in advance" of interest being due.

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

- Until conversion, LIBOR-indexed bonds and LIBOR-indexed loans will continue to have a LIBOR Determination Date on the last business day of the month prior to the Loan Interest Accrual Period.
- As always bond payments will be 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.

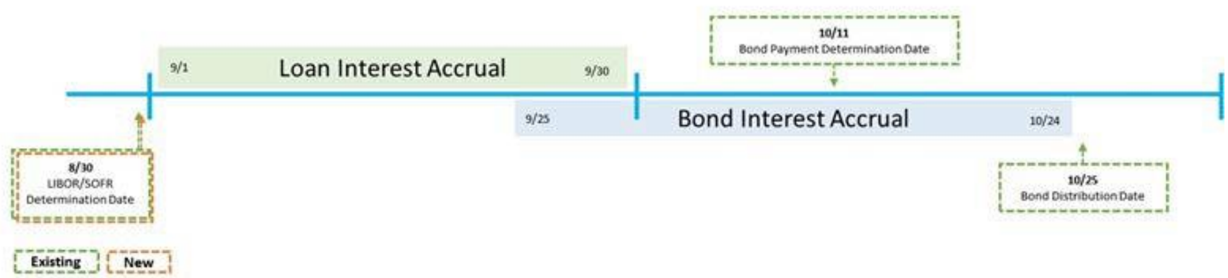
2. Since SOFR is published one business day after its effective date, SOFR-indexed bonds have a SOFR Determination Date on the first business day of the Loan Interest Accrual Period.

Beginning with K-F77:

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

- As always bond payments will be 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 will have a SOFR Determination Date that is also the business day prior to the Loan Interest Accrual Period.

❖ 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
- 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 calculation on a PC will be the same as the underlying SOFR loan; rate determination will be in sync with the underlying SOFR loan rate reset. SOFR Multi PCs will have the same accrual period and method as the underlying SOFR 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.

6.6 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:

- Floating rate calculation
- Servicer reporting and remittance deadlines
- Systems and processes used to report to Freddie Mac
- Data reported to Freddie Mac
- Interest day basis and accrual periods
- Custodial accounts tied to underlying loans

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.

6.7 Discontinuation of originating and selling MF LIBOR Floating Rate loans

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

Please note the key dates below relating to our transition from LIBOR to SOFR. These dates are outside dates; a specific LIBOR-indexed floating-rate or hybrid loan may be subject to earlier deadlines.

- **September 1, 2020:** Freddie Mac will no longer issue quotes for LIBOR-indexed loans; all new floating-rate quotes will be for SOFR-indexed loans.

  For SBL, Optigo® lenders will no longer issue applications for SBL hybrid loans with a

floating-rate period indexed to LIBOR; all new hybrid loan applications issued will be SOFR-based.
- **September 30, 2020:** Last day for LIBOR-indexed floating-rate and hybrid loans to go under application.
- **November 9, 2020:** 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.

Timing for delivery of both the **Full Underwriting Package** and **Final Delivery Package** for loans with a LIBOR index will be clearly communicated in the quote. There will be no flexibility on the specified dates given the hard stop of December 31, 2020 for purchase of loans indexed to LIBOR.

❖ 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.

❖ Best practices

Pipeline management during LIBOR-SOFR overlap

Accurate identification of LIBOR- and SOFR-indexed loans during the overlap period is critical to protecting from operational issues. Freddie Mac recommends introducing an indicator to your internal loan processing systems to identify the loan index and using the indicator to ensure compliance with LIBOR cut-off dates.

Open communication with Freddie Mac

If you suspect that your loan may not meet the mandatory LIBOR cut-off dates, Optigo Lenders should notify Freddie Mac as soon as possible. For example, if your LIBOR-indexed loan requires purchase by December 31, 2020, but the underwriting process has been prolonged because of challenges collecting due diligence, communicating your concerns to Freddie Mac will benefit all parties involved in the transaction. Adequate lead time will allow us to partner with you to find a solution, so don't hesitate to reach out – we're here to help.

Borrower outreach

Freddie Mac encourages ongoing borrower outreach, including discussions regarding the mandatory LIBOR cut-off dates and related to opting for a SOFR-indexed loan ahead of the LIBOR cut-off dates. Our Production team is well-equipped to support your outreach efforts through conference calls and in-person meetings. Additionally, the MFLIBOR@freddiemac.com mailbox is operational, and the Freddie Mac LIBOR transition team is ready to assist.

6.8 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. We are coordinating closely with FHFA on this important matter. 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 Freddie Mac Multifamily's plan to issue new SOFR-indexed CRT floating rate securities in the future.

Because Freddie Mac's MF CRT security, Structured Credit Risk Notes ("SCR Notes"), are synthetic and do not rely on the cash flows of the underlying loans from the reference pool, the introduction of a non-LIBOR indexed floating rate CRT issuance is relatively simple for Freddie Mac from an operational perspective as long as there is a well-defined index to determine the coupon payments due on the SCR notes.

Multifamily has had three SCR Notes issuances since its inception in 2016, all of which are fixed rate notes, so there are no Legacy MF CRT LIBOR securities to transition to an alternative rate.

❖ Timeline and milestones

Freddie Mac plans to be operationally prepared to begin issuing SOFR-indexed MF CRTs in Q4 2020. Actual issuance dates will be based on readiness timelines for investors, broker/dealers, trustees/global agents and data/analytics vendors.

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.

8.2 Legacy CRT transition

Legacy transition considerations are not applicable to Freddie Mac MF CRTs, as Freddie Mac Multifamily has not executed any floating rate CRT to date.

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. Specifically, Freddie Mac's STACR program and SCR 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.

As a smaller player in the CRT space, Freddie Mac's Multifamily SCR Notes program is looking to attract large investors from STACR. Thus, alignment with SF CRT is essential to ensure seamless market readiness.

9 Change Summary Inventory

Section	Summary of changes
June 2020	
1.2 LIBOR transition milestones	Updated the date of the first SOFR-indexed CMO issuance from June 2020 to July 2020
4. Collateralized Mortgage Obligations ("CMOs")	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)
July 2020	
3. Single-Family Credit Risk Transfer ("SF CRT") transactions	Specified that the Determination Date will be 2 Business Days (2BD) prior to the beginning of the accrual period for CRT securities
5. Fannie Mae Multifamily ("MF") ARMs and MBS	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
7. Fannie Mae Multifamily Credit Risk Transfer ("MF CRT") transactions	Specified that the Determination Date will be 2 Business Days (2BD) prior to the beginning of the accrual period for CRT securities