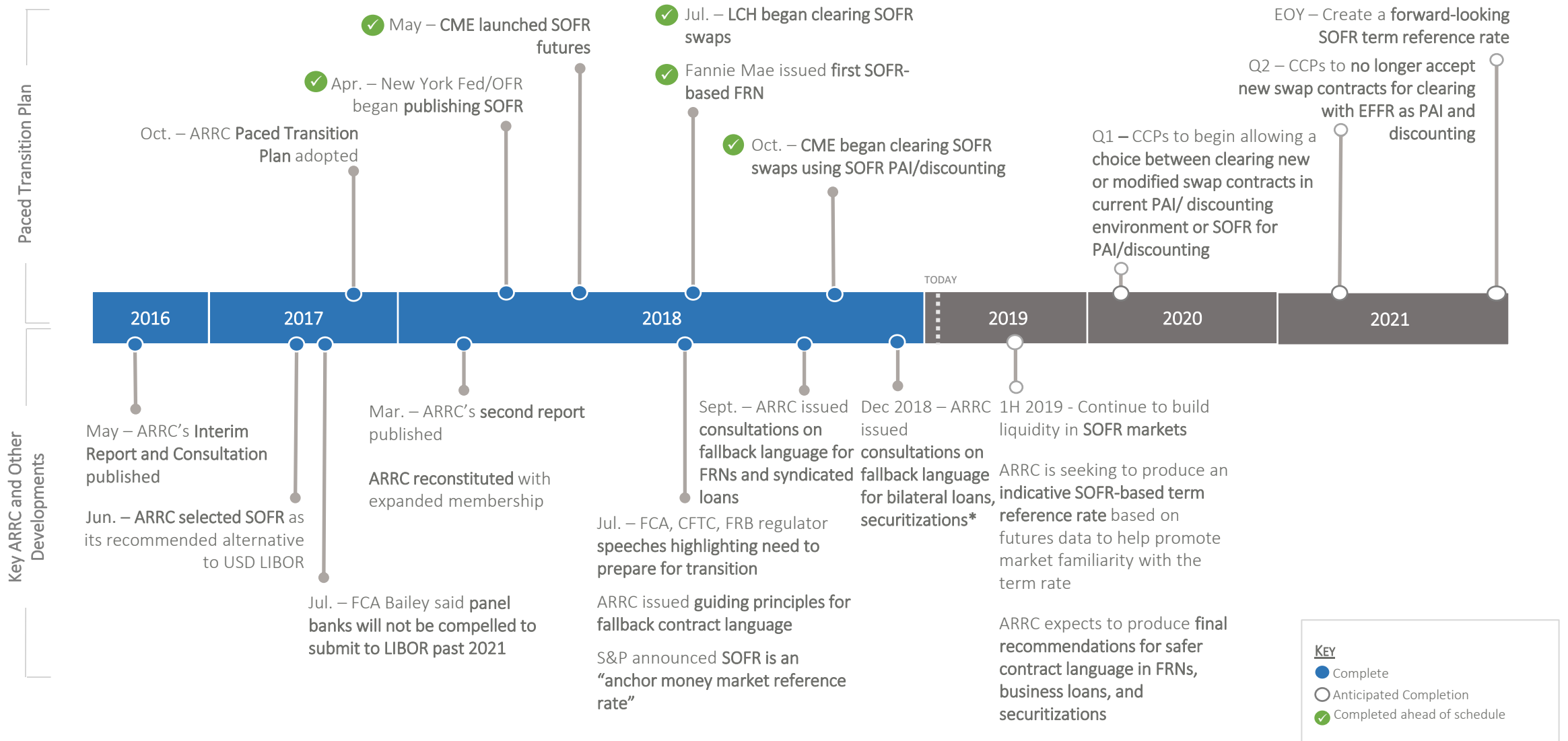


Transition from U.S. Dollar LIBOR – Timeline

The Alternative Reference Rates Committee (ARRC) was originally convened in November 2014. Significant progress has been made to date.



*ARRC expects to consult on fallback language for other cash products

The ARRC's Paced Transition Plan for Developing SOFR Markets is Ahead of Schedule

	Step	Anticipated Date of Completion	Actual Date
1.	Infrastructure for futures and/or OIS trading in the new rate is put in place by ARRC members	2018 H2	✓ ARRC members already trading futures and OIS
2.	Trading begins in futures and/or bilateral, uncleared, OIS that reference SOFR.	by end 2018	✓ CME launched SOFR Futures on May 7, 2018
3.	Trading begins in cleared OIS that reference SOFR in the current (EFFR) PAI and discounting environment	2019 Q1	✓ LCH began clearing SOFR swaps on July 18, 2018 ; CME began clearing SOFR swaps on October 1, 2018
4.	CCPs begin allowing market participants a choice between clearing new or modified swap contracts (swaps paying floating legs benchmarked to EFFR, LIBOR, and SOFR) into the current PAI/discounting environment or one that uses SOFR for PAI and discounting.	2020 Q1	✓ CME began clearing SOFR swaps using SOFR PAI/discounting on October 1, 2018
5.	CCPs no longer accept new swap contracts for clearing with EFFR as PAI and discounting except for the purpose of closing out or reducing outstanding risk in legacy contracts that use EFFR as PAI and discount rate. Existing contracts using EFFR as PAI and the discount rate continue to exist in the same pool, but would roll off over time as they mature or are closed out.	2021 Q2	
6.	Creation of a term reference rate based on SOFR-derivatives markets once liquidity has developed sufficiently to produce a robust rate.	by end of 2021	