STARWOOD REAL ESTATE INCOME TRUST, INC. SUPPLEMENT NO. 13 DATED OCTOBER 21, 2020 TO THE PROSPECTUS DATED APRIL 15, 2020

This prospectus supplement ("Supplement") is part of and should be read in conjunction with the prospectus of Starwood Real Estate Income Trust, Inc., dated April 15, 2020 (as supplemented to date, the "Prospectus"). Unless otherwise defined herein, capitalized terms used in this Supplement shall have the same meanings as in the Prospectus. References herein to the "Company," "we," "us," or "our" refer to Starwood Real Estate Income Trust, Inc. and its subsidiaries unless the context specifically requires otherwise.

The purposes of this Supplement are as follows:

- to disclose updates to our share repurchase plan; and
- to disclose updates to our distribution reinvestment plan.

Share Repurchase Plan

The following supersedes and replaces the "Share Repurchases" section of the Prospectus and modifies other disclosures in the Prospectus related to our share repurchase plan:

SHARE REPURCHASES

General

While you should view your investment as long term with limited liquidity, we have adopted a share repurchase plan, whereby on a monthly basis, stockholders may request that we repurchase all or any portion of their shares. Due to the illiquid nature of investments in real estate, we may not have sufficient liquid resources to fund repurchase requests. In addition, we have established limitations on the amount of funds we may use for repurchases during any calendar month and quarter. See "—Repurchase Limitations" below.

You may request that we repurchase shares of our common stock through your financial advisor or directly with our transfer agent. The procedures relating to the repurchase of shares of our common stock are as follows:

- Under our share repurchase plan, to the extent we choose to repurchase shares in any particular month we will only repurchase shares following the close of business as of the last calendar day of that month (a "Repurchase Date"). To have your shares repurchased, your repurchase request and required documentation must be received in good order by 4:00 p.m. (Eastern time) on the second to last business day of the applicable month. Settlements of share repurchases will be made within three business days of the Repurchase Date. Repurchase requests received and processed by our transfer agent will be effected at a repurchase price equal to the transaction price on the applicable Repurchase Date (which will generally be equal to our prior month's NAV per share), subject to any Early Repurchase Deduction.
- A stockholder may withdraw his or her repurchase request by notifying the transfer agent, directly or through the stockholder's financial intermediary, on our toll-free, automated telephone line, 833-433-4344. The line is open on each business day between the hours of 9:00 a.m. and 6:00 p.m. (Eastern time). Repurchase requests must be cancelled before 4:00 p.m. (Eastern time) on the last business day of the applicable month.
- If a repurchase request is received after 4:00 p.m. (Eastern time) on the second to last business day of the applicable month, the repurchase request will be executed, if at all, on the next month's Repurchase Date at the transaction price applicable to that month (subject to any Early Repurchase Deduction), unless such request is withdrawn prior to the repurchase. Repurchase requests received and processed by our transfer agent on a business day, but after the close of business on that day or on

a day that is not a business day, will be deemed received on the next business day. All questions as to the form and validity (including time of receipt) of repurchase requests and notices of withdrawal will be determined by our company, in our sole discretion, and such determination shall be final and binding.

• Repurchase requests may be made by mail or by contacting your financial intermediary, both subject to certain conditions described in this prospectus. If making a repurchase request by contacting your financial intermediary, your financial intermediary may require you to provide certain documentation or information. If making a repurchase request by mail to the transfer agent, you must complete and sign a repurchase authorization form, which can be found in our share repurchase plan filed as an exhibit to this registration of which this prospectus forms a part and which will also be available on our website, www.starwoodNAV.reit. Written requests should be sent to the transfer agent at the following address:

DST Systems, Inc. PO Box 219426 Kansas City, MO 641121-9349

Overnight Address: DST Systems, Inc. 430 W 7th St. Suite 219349 Kansas City, MO 64105

Toll Free Number: 833-433-4344

Corporate investors and other non-individual entities must have an appropriate certification on file authorizing repurchases. A signature guarantee may be required.

- For processed repurchases, stockholders may request that repurchase proceeds are to be paid by mailed check provided that the amount is less than \$100,000 and the check is mailed to an address on file with the transfer agent for at least 30 days.
- Processed repurchases of more than \$100,000 will be paid only via wire transfer. For this reason, stockholders who own more than \$100,000 of our common stock must provide wiring instructions for their brokerage account or designated U.S. bank account. Stockholders who own less than \$100,000 of our common stock may also receive repurchase proceeds via wire transfer, provided the payment amount is at least \$2,500. For all repurchases paid via wire transfer, the funds will be wired to the account on file with the transfer agent or, upon instruction, to another financial institution provided that the stockholder has made the necessary funds transfer arrangements. The customer service representative can provide detailed instructions on establishing funding arrangements and designating your bank or brokerage account on file. Funds will be wired only to U.S. financial institutions (ACH network members).
- A medallion signature guarantee will be required in certain circumstances. The medallion signature process protects stockholders by verifying the authenticity of a signature and limiting unauthorized fraudulent transactions. A medallion signature guarantee may be obtained from a domestic bank or trust company, broker-dealer, clearing agency, savings association or other financial institution which participates in a medallion program recognized by the Securities Transfer Association. The three recognized medallion programs are the Securities Transfer Agents Medallion Program, the Stock Exchanges Medallion Program and the New York Stock Exchange, Inc. Medallion Signature Program. Signature guarantees from financial institutions which are not participating in any of these medallion programs will not be accepted. A notary public cannot provide signature guarantees. We reserve the right to amend, waive or discontinue this policy at any time and establish other criteria for verifying the authenticity of any repurchase or transaction request. We may require a medallion signature guarantee if, among other reasons: (1) the amount of the repurchase request is over \$500,000; (2) you wish to have repurchase proceeds transferred by wire to an account other than the designated bank or brokerage account on file for at least 30 days or sent to an address other than your address of record

- for the past 30 days; or (3) our transfer agent cannot confirm your identity or suspects fraudulent activity.
- If a stockholder has made multiple purchases of shares of our common stock, any repurchase request will be processed on a first in/first out basis unless otherwise requested in the repurchase request.

Minimum Account Repurchases

In the event that any stockholder fails to maintain the minimum balance of \$500 of shares of our common stock, we may seek to repurchase all of the shares held by that stockholder at the repurchase price in effect on the date we determine that the stockholder has failed to meet the minimum balance, less any Early Repurchase Deduction. Minimum account repurchases will apply even in the event that the failure to meet the minimum balance is caused solely by a decline in our NAV. Minimum account repurchases are subject to Early Repurchase Deduction.

Sources of Funds for Repurchases

We may fund repurchase requests from sources other than cash flow from operations, including, without limitation, the sale of assets, borrowings, return of capital or offering proceeds (including from sales of our common stock or Operating Partnership units), and we have no limits on the amounts we may pay from such sources.

In an effort to have adequate cash available to support our share repurchase plan, we may reserve borrowing capacity under a line of credit. We could then elect to borrow against this line of credit in part to repurchase shares presented for repurchase during periods when we do not have sufficient proceeds from operating cash flows or the sale of shares in this continuous offering to fund all repurchase requests. If we determine to obtain a line of credit, we would expect that it would afford us borrowing availability to fund repurchases.

Repurchase Limitations

We may repurchase fewer shares than have been requested in any particular month to be repurchased under our share repurchase plan, or none at all, in our discretion at any time. In addition, the total amount of aggregate repurchases of Class T, Class S, Class D and Class I shares (excluding any Early Repurchase Deduction) is limited to no more than 2% of our aggregate NAV per month (measured using the aggregate NAV as of the end of the immediately preceding month) and no more than 5% of our aggregate NAV per calendar quarter (measured using the aggregate NAV as of the end of the immediately preceding quarter).

In the event that we determine to repurchase some but not all of the shares submitted for repurchase during any month, shares submitted for repurchase during such month are repurchased on a pro rata basis. All unsatisfied repurchase requests must be resubmitted after the start of the next month or quarter, or upon the recommencement of the share repurchase plan, as applicable.

If the transaction price for the applicable month is not made available by the tenth business day prior to the last business day of the month (or is changed after such date), then no repurchase requests are accepted for such month and stockholders who wish to have their shares repurchased the following month must resubmit their repurchase requests.

Should repurchase requests, in our judgment, place an undue burden on our liquidity, adversely affect our operations or risk having an adverse impact on the company as a whole, or should we otherwise determine that investing our liquid assets in real properties or other investments rather than repurchasing our shares is in the best interests of the company as a whole, we may choose to repurchase fewer shares in any particular month than have been requested to be repurchased, or none at all. Further, our board of directors may make exceptions to, modify, suspend or terminate our share repurchase plan if it deems such action to be in our best interest and the best interest of our stockholders. Material modifications, including any amendment to the 2% monthly or 5% quarterly limitations on repurchases, to and suspensions of the share repurchase plan will be promptly disclosed to stockholders in a prospectus supplement (or post-effective amendment if required by the Securities Act) or special or periodic report filed by us. Material modifications will also be disclosed on our website. In addition, we may determine to suspend the share repurchase plan due to regulatory changes, changes in law or if we become aware of undisclosed material information that we believe should be publicly disclosed before shares are repurchased. Once the share repurchase plan is suspended, our board of directors must affirmatively authorize the recommencement of the plan before stockholder requests will be considered again.

Shares held by the Advisor acquired as payment of the Advisor's management fee will not be subject to the share repurchase plan, including with respect to any repurchase limits, the Early Repurchase Deduction or the calculation of NAV. Stockholders who are exchanging a class of shares for an equivalent aggregate NAV of another class of shares will not be subject to, and will not be treated as repurchases for the calculation of, the 2% monthly or 5% quarterly limitations on repurchases and will not be subject to the Early Repurchase Deduction, and such sales receive priority over other shares for which repurchase is requested during such period. Repurchases of our shares or Operating Partnership units from the Special Limited Partner distributed to the Special Limited Partner with respect to its performance participation interest are not subject to the Early Repurchase Deduction, but, in the case of shares, such repurchases are subject to the monthly and quarterly volume limitations and do not receive priority over other shares for which repurchase is requested during such period.

Early Repurchase Deduction

There is no minimum holding period for shares of our common stock and stockholders can request that we repurchase their shares at any time. However, subject to limited exceptions, shares that have not been outstanding for at least one year are repurchased at 95% of the transaction price. The one-year holding period is measured from the first calendar day of the month the shares were issued. Additionally, stockholders who have received shares of our common stock in exchange for their Operating Partnership units may include the period of time such stockholder held such Operating Partnership units for purposes of calculating the holding period for such shares of our common stock. This Early Repurchase Deduction will also generally apply to minimum account repurchases. The Early Repurchase Deduction will not apply to shares acquired through our distribution reinvestment plan.

The Early Repurchase Deduction will inure indirectly to the benefit of our remaining stockholders and is intended to offset the trading costs, market impact and other costs associated with short-term trading in our common stock. We may, from time to time, waive the Early Repurchase Deduction in the following circumstances:

- repurchases resulting from death or qualifying disability; or
- in the event that a stockholder's shares are repurchased because the stockholder has failed to maintain the \$500 minimum account balance.

As set forth above, we may waive the Early Repurchase Deduction in respect of repurchase of shares resulting from the death of a stockholder who is a natural person, subject to the conditions and limitations described above,

including shares held by such stockholder through a revocable grantor trust or an IRA or other retirement or profit-sharing plan, after receiving written notice from the estate of the stockholder, the recipient of the shares through bequest or inheritance, or, in the case of a revocable grantor trust, the trustee of such trust, who shall have the sole ability to request repurchase on behalf of the trust. We must receive the written repurchase request within 12 months after the death of the stockholder in order for the requesting party to rely on any of the special treatment described above that may be afforded in the event of the death of a stockholder. Such a written request must be accompanied by a certified copy of the official death certificate of the stockholder. If spouses are joint registered holders of shares, the request to have the shares repurchased may be made if either of the registered holders dies. If the stockholder is not a natural person, such as certain trusts or a partnership, corporation or other similar entity, the right of repurchase upon death does not apply.

Furthermore, as set forth above, we may waive the Early Repurchase Deduction in respect of repurchase of shares held by a stockholder who is a natural person who is deemed to have a qualifying disability (as such term is defined in Section 72(m)(7) of the Code), subject to the conditions and limitations described above, including shares held by such stockholder through a revocable grantor trust, or an IRA or other retirement or profit-sharing plan, after receiving written notice from such stockholder, provided that the condition causing the qualifying disability was not pre-existing on the date that the stockholder became a stockholder. We must receive the written repurchase request within 12 months of the initial determination of the stockholder's disability in order for the stockholder to rely on any of the waivers described above that may be granted in the event of the disability of a stockholder. If spouses are joint registered holders of shares, the request to have the shares repurchased may be made if either of the registered holders acquires a qualifying disability. If the stockholder is not a natural person, such as certain trusts or a partnership, corporation or other similar entity, the right of repurchase upon disability does not apply.

Our board of directors has designated the following persons as "Key Persons" under our share repurchase plan: Barry Sternlicht, John McCarthy, Chris Graham, Jeff Dishner and any individual that replaces such persons. Our share repurchase plan provides that if two or more such Key Persons are no longer actively involved in the business and activities of our sponsor, or are otherwise unable or unwilling to exercise the authority and discharge those day-to-day management responsibilities with respect to our sponsor as are currently exercised and discharged by such Key Person(s) (such inactivity, inability or unwillingness, "Inactivity"), and our sponsor or Starwood Capital has not appointed one or more replacements who will fulfill substantially all of the duties of one of such Key Persons within 90 days from the date such Inactivity began (meaning, for the sake of clarity, that one Key Person's responsibilities may remain unfilled for longer than 90 days) (a "Key Person Triggering Event"), then the Early Repurchase Deduction is waived with respect to shares that have been purchased in the 12 months preceding the expiration of five business days after the public disclosure of the occurrence of such Key Person Triggering Event until the completion of three full calendar months from the time the Key Person Triggering Event is publicly disclosed. The waiver of the Early Repurchase Deduction set forth in this paragraph will not apply to shares acquired through our distribution reinvestment plan.

Items of Note

When you make a request to have shares repurchased, you should note the following:

- if you are requesting that some but not all of your shares be repurchased, keep your balance above \$500 to avoid minimum account repurchase, if applicable;
- you will not receive interest on amounts represented by uncashed repurchase checks;
- under applicable anti-money laundering regulations and other federal regulations, repurchase requests may be suspended, restricted or canceled and the proceeds may be withheld; and

• all shares of our common stock requested to be repurchased must be beneficially owned by the stockholder of record making the request or his or her estate, heir or beneficiary, or the party requesting the repurchase must be authorized to do so by the stockholder of record of the shares or his or her estate, heir or beneficiary, and such shares of common stock must be fully transferable and not subject to any liens or encumbrances. In certain cases, we may ask the requesting party to provide evidence satisfactory to us that the shares requested for repurchase are not subject to any liens or encumbrances. If we determine that a lien exists against the shares, we are not obligated to repurchase any shares subject to the lien.

IRS regulations require us to determine and disclose on Form 1099-B the adjusted cost basis for shares of our stock sold or repurchased. Although there are several available methods for determining the adjusted cost basis, unless you elect otherwise, which you may do by checking the appropriate box on the repurchase authorization form or calling our customer service number at 833-433-4344, we will utilize the first-in-first-out method.

Frequent Trading and Other Policies

We may reject for any reason, or cancel as permitted or required by law, any purchase orders for shares of our common stock. For example, we may reject any purchase orders from market timers or investors that, in our opinion, may be disruptive to our operations. Frequent purchases and sales of our shares can harm stockholders in various ways, including reducing the returns to long-term stockholders by increasing our costs, disrupting portfolio management strategies and diluting the value of the shares of long-term stockholders.

In general, stockholders may request that we repurchase their shares of our common stock once every 30 days. However, we prohibit frequent trading. We define frequent trading as follows:

- any stockholder who requests that we repurchase its shares of our common stock within 30 calendar days of the purchase of such shares;
- transactions deemed harmful or excessive by us (including, but not limited to, patterns of purchases and repurchases), in our sole discretion; and
- transactions initiated by financial advisors, among multiple stockholder accounts, that in the aggregate are deemed harmful or excessive.

The following are excluded when determining whether transactions are excessive:

- purchases and requests for repurchase of our shares in the amount of \$2,500 or less;
- purchases or repurchases initiated by us; and
- transactions subject to the trading policy of an intermediary that we deem materially similar to our policy.

At the Dealer Manager's discretion, upon the first violation of the policy in a calendar year, purchase and repurchase privileges may be suspended for 90 days. Upon a second violation in a calendar year, purchase and repurchase privileges may be suspended for 180 days. On the next business day following the end of the 90 or 180 day suspension, any transaction restrictions placed on a stockholder may be removed.

Mail and Telephone Instructions

We and our transfer agent will not be responsible for the authenticity of mail or phone instructions or losses, if any, resulting from unauthorized stockholder transactions if they reasonably believe that such instructions were

genuine. Our transfer agent has established reasonable procedures to confirm that instructions are genuine including requiring the stockholder to provide certain specific identifying information on file and sending written confirmation to stockholders of record no later than five days following execution of the instruction. Stockholders, or their designated custodian or fiduciary, should carefully review such correspondence to ensure that the instructions were properly acted upon. If any discrepancies are noted, the stockholder, or its agent, should contact his, her or its financial advisor as well as our transfer agent in a timely manner, but in no event more than 60 days from receipt of such correspondence. Failure to notify such entities in a timely manner will relieve us, our transfer agent and the financial advisor of any liability with respect to the discrepancy.

Distribution Reinvestment Plan

Appendix A to this Supplement supersedes and replaces Appendix A to the Prospectus.

APPENDIX A: DISTRIBUTION REINVESTMENT PLAN

Effective October 31, 2020

This Distribution Reinvestment Plan (the "Plan") is adopted by Starwood Real Estate Income Trust, Inc. (the "Company") pursuant to its Articles of Amendment and Restatement (as amended, restated or otherwise modified from time to time, the "Charter"). Unless otherwise defined herein, capitalized terms shall have the same meaning as set forth in the Charter.

- 1. Distribution Reinvestment. As agent for the stockholders (the "Stockholders") of the Company who (i) purchase Class T shares, Class S shares, Class D shares or Class I shares of the Company's common stock (collectively the "Shares") pursuant to the Company's continuous public offering (the "Offering"), or (ii) purchase Shares pursuant to any future offering of the Company (a "Future Offering"), and who do not opt out of participating in the Plan (or who affirmatively elect to participate in the Plan, as applicable, as set forth in Section 3 below) (the "Participants"), the Company will apply all dividends and other distributions declared and paid in respect of the Shares held by each Participant and attributable to the class of Shares purchased by such Participant (the "Distributions"), including Distributions paid with respect to any full or fractional Shares acquired under the Plan, to the purchase of additional Shares of the same class for such Participant.
 - 2. Effective Date. The effective date of this Plan shall be October 31, 2020.
- 3. Procedure for Participation. Any Stockholder who has received a Prospectus, as contained in the Company's registration statement filed with the Securities and Exchange Commission (the "SEC"), will automatically become a Participant unless they elect not to become a Participant by noting such election on their subscription agreement; provided, however that any Stockholder who (a) resides in a state or jurisdiction that requires affirmative enrollment in the Plan or (b) or is a client of a participating broker-dealer that requires affirmative enrollment in the Plan will only become a Participant if they elect to become a Participant by noting such election on their subscription agreement. Any Stockholder that is not a Participant may later elect to become a Participant by subsequently completing and executing an enrollment form or any appropriate authorization form as may be available from the Company, the Company's transfer agent, the dealer manager for the Offering or any soliciting dealer participating in the distribution of Shares for the Offering. Participation in the Plan will begin with the next Distribution payable after acceptance of a Participant's subscription, enrollment or authorization. Shares will be purchased under the Plan on the date that Distributions are paid by the Company.
- **4.** *Suitability.* Each Participant is requested to promptly notify the Company in writing if the Participant experiences a material change in his or her financial condition, including the failure to meet the income, net worth and investment concentration standards imposed by such Participant's state of residence and set forth in the Company's most recent prospectus. For the avoidance of doubt, this request in no way shifts to the Participant the responsibility of the Company's sponsor, or any other person selling shares on behalf of the Company to the Participant to make every reasonable effort to determine that the purchase of Shares is a suitable and appropriate investment based on information provided by such Participant.

5. Purchase of Shares.

A. Participants will acquire Shares from the Company (including Shares purchased by the Company for the Plan in a secondary market (if available) or on a stock exchange (if listed)) under the Plan (the "Plan Shares")

at a price equal to the most recently disclosed transaction price per Share applicable to the class of Shares purchased by the Participant on the date that the distribution is payable (calculated as of the most recent month end). No upfront selling commissions will be payable with respect to shares purchased pursuant to the Plan, but such shares will be subject to ongoing stockholder servicing fees. Participants in the Plan may purchase fractional Shares so that 100% of the Distributions will be used to acquire Shares. However, a Participant will not be able to acquire Plan Shares and such Participant's participation in the Plan will be terminated to the extent that a reinvestment of such Participant's distributions in Shares would cause the percentage ownership or other limitations contained in the Charter to be violated.

- B. Shares to be distributed by the Company in connection with the Plan may (but are not required to) be supplied from: (i) the Plan Shares which will be registered with the SEC in connection with the Offering or (ii) Shares to be registered with the SEC in a Future Offering for use in the Plan (a "Future Registration").
- **6.** Taxes. THE REINVESTMENT OF DISTRIBUTIONS DOES NOT RELIEVE A PARTICIPANT OF ANY INCOME TAX LIABILITY THAT MAY BE PAYABLE ON THE DISTRIBUTIONS. INFORMATION REGARDING POTENTIAL TAX INCOME LIABILITY OF PARTICIPANTS MAY BE FOUND IN THE PUBLIC FILINGS MADE BY THE COMPANY WITH THE SEC.
- **7.** *Share Certificates.* The ownership of the Shares purchased through the Plan will be in book-entry form unless and until the Company issues certificates for its outstanding Shares.
- **8.** *Reports.* On a quarterly basis, the Company shall provide each Participant a statement of account describing, as to such Participant: (i) the Distributions reinvested during the quarter; (ii) the number and class of Shares purchased pursuant to the Plan during the quarter; (iii) the per share purchase price for such Shares; and (iv) the total number of Shares purchased on behalf of the Participant under the Plan. On an annual basis, tax information with respect to income earned on Shares under the Plan for the calendar year will be provided to each applicable participant.
- **9.** *Termination by Participant.* A Participant may terminate participation in the Plan at any time, without penalty, by delivering at least 10 business days' prior written notice to the Company and the Company may, in its discretion, accept and terminate participation for any notice received less than 10 business days prior to the payment of a distribution. Any transfer of Shares by a Participant to a non-Participant will terminate participation in the Plan with respect to the transferred Shares. If a Participant requests that the Company repurchase all or any portion of the Participant's Shares, the Participant's participation in the Plan with respect to the Participant's Shares for which repurchase was requested but that were not repurchased will be terminated. If a Participant terminates Plan participation, the Company may, at its option, ensure that the terminating Participant's account will reflect the whole number of shares in such Participant's account and provide a check for the cash value of any fractional share in such account. Upon termination of Plan participation for any reason, future Distributions will be distributed to the Stockholder in cash.
- **10.** Amendment, Suspension or Termination by the Company. The Board of Directors may by majority vote amend any aspect of the Plan; provided that the Plan cannot be amended to eliminate a Participant's right to terminate participation in the Plan and that notice of any material amendment must be provided to Participants at least 10 days prior to the effective date of that amendment. The Board of Directors may by majority vote suspend or terminate the Plan for any reason upon ten days' written notice to the Participants.

11. Liability of the Company. The Company shall not be liable for any act done in good faith, or for any good faith omission to act, including, without limitation, any claims or liability (i) arising out of failure to terminate a Participant's account upon such Participant's death prior to timely receipt of notice in writing of such death or (ii) with respect to the time and the prices at which Shares are purchased or sold for a Participant's account. To the extent that indemnification may apply to liabilities arising under the Securities Act, or the securities laws of a particular state, the Company has been advised that, in the opinion of the SEC and certain state securities commissioners, such indemnification is contrary to public policy and, therefore, unenforceable.