

WELLS REAL ESTATE INVESTMENT TRUST, INC.
SUPPLEMENT NO. 5 DATED SEPTEMBER 5, 2000 TO THE PROSPECTUS
DATED DECEMBER 20, 1999

This document supplements, and should be read in conjunction with, the prospectus of Wells Real Estate Investment Trust, Inc. dated December 20, 1999, as supplemented and amended by Supplement No. 2 dated March 15, 2000, Supplement No. 3 dated April 25, 2000 and Supplement No. 4 dated July 21, 2000. Supplement No. 2 included the information in and superseded Supplement No. 1 dated January 5, 2000. When we refer to the "prospectus" in this supplement, we are also referring to any and all supplements to the prospectus. Unless otherwise defined in this supplement, capitalized terms used in this supplement shall have the same meanings as set forth in the prospectus.

The purpose of this supplement is to describe the following:

- (1) The status of the offering of shares of common stock of Wells Real Estate Investment Trust, Inc. (Wells REIT);
- (2) Description of a revolving credit facility entered into between SouthTrust Bank, N.A. (SouthTrust) and Wells Operating Partnership, L.P. (Wells OP); and
- (3) Revisions to the "Management's Discussion and Analysis of Financial Condition and Results of Operations" section of the prospectus.

Status of the Offering

We commenced our initial public offering of common stock on January 30, 1998. Our initial public offering was terminated on December 20, 1999. We received approximately \$132,181,919 in gross offering proceeds from the sale of 13,218,192 shares in our initial public offering.

Pursuant to the prospectus, we commenced a second offering of common stock on December 20, 1999. As of September 5, 2000, we had received an additional \$117,093,293 in gross offering proceeds from the sale of 11,709,329 shares in the second offering net of shares repurchased pursuant to our share redemption program. Accordingly, as of September 5, 2000, we had received in the aggregate approximately \$249,275,212 in gross offering proceeds from the sale of 24,927,521 shares of our common stock.

The SouthTrust Revolving Credit Facility

On May 3, 2000, Wells OP entered into a Revolving Loan Agreement with SouthTrust whereby SouthTrust agreed to loan up to \$35,000,000 to Wells OP in connection with its purchase of real properties (SouthTrust Revolving Credit Facility). Wells OP paid loan commitment fees to SouthTrust in the amount of \$87,500 and will pay actual advance fees equal to 0.125% of each amount advanced.

The SouthTrust Revolving Credit Facility requires monthly payments of interest only and matures on June 10, 2002. The interest rate on the SouthTrust Revolving Credit Facility is an annual variable rate equal to the London InterBank Offered Rate for a thirty day period plus 200

basis points. The current interest rate on the SouthTrust Revolving Credit Facility is 8.62% per annum. The SouthTrust Revolving Credit Facility is secured by first mortgages against the Cinemark Building, the Dial Building and the ASML

Building. Wells REIT is a guarantor of the SouthTrust Revolving Credit Facility. As of September 5, 2000, there was no outstanding principal balance on the SouthTrust Revolving Credit Facility.

Management's Discussion and Analysis of Financial Condition and Results of Operation

The information contained on page 97 in the "Management's Discussion and Analysis of Financial Condition and Results of Operations - Liquidity and Capital Resources" section of the prospectus is revised as of the date of this supplement by the deletion of the first paragraph of that section and the insertion of the following paragraphs in lieu thereof:

We received approximately \$132,181,919 in gross offering proceeds from the sale of 13,218,192 shares of common stock in our initial public offering, which commenced on January 30, 1998 and was terminated on December 20, 1999. Of the \$132,181,919 raised in the initial offering, we invested a total of \$111,032,812 in properties.

Pursuant to the prospectus, we commenced this second offering of shares of our common stock on December 20, 1999. As of September 5, 2000, we had received an additional \$117,093,293 in gross offering proceeds from the sale of 11,709,329 shares in the second offering.

As of September 5, 2000, we had received in the aggregate approximately \$249,275,212 in gross offering proceeds from the sale of 24,927,521 shares of our common stock. As of September 5, 2000, we had repurchased a total of 64,076 shares of common stock through our share redemption program resulting in gross offering proceeds of \$248,634,455 net of such shares repurchased. Out of this amount, as of September 5, 2000, we had paid \$8,702,206 in acquisition and advisory fees and acquisition expenses, had paid \$31,079,307 in selling commissions and organizational and offering expenses, had invested \$205,026,154 in properties and were holding net offering proceeds of \$3,826,788 available for investment in additional properties.