REALTY INCOME CORP Form 424B5 April 12, 2012

Use these links to rapidly review the document TABLE OF CONTENTS

Table of Contents

The information in this preliminary prospectus supplement is not complete and may be changed. This preliminary prospectus supplement and the accompanying prospectus are not an offer to sell these securities and are not soliciting an offer to buy these securities in any state or other jurisdiction where the offer or sale is not permitted.

Filed Pursuant to Rule 424(b)(5) Registration Statement No. 333-179872

Subject to Completion
Preliminary Prospectus Supplement dated April 12, 2012

PROSPECTUS SUPPLEMENT (To prospectus dated March 2, 2012)

1,400,000 Shares

6.625% Monthly Income Class F Cumulative Redeemable Preferred Stock (Liquidation Preference \$25.00 Per Share)

We will pay monthly cumulative dividends, in arrears, on the Class F preferred stock offered hereby from and including April 15, 2012. Dividends on the Class F preferred stock offered hereby are payable in arrears on the 15th day of each month (or, if the 15th day of the month is not a business day, on the next business day), commencing May 15, 2012.

The Class F preferred stock is not redeemable before February 15, 2017, except under circumstances intended to preserve our status as a real estate investment trust for federal and/or state income tax purposes and except as described below upon the occurrence of a Change of Control (as defined). Beginning February 15, 2017, we may, at our option, redeem any or all of the shares of the Class F preferred stock at \$25.00 per share plus any accrued and unpaid dividends. In addition, upon the occurrence of a Change of Control, we may, at our option, redeem any or all of the shares of Class F preferred stock, within 120 days after the first date on which such Change of Control occurred, at \$25.00 per share plus any accrued and unpaid dividends. The shares of Class F preferred stock have no stated maturity, are not subject to any sinking fund or mandatory redemption and will remain outstanding indefinitely unless we redeem or otherwise repurchase them.

Upon the occurrence of a Change of Control, each holder of Class F preferred stock will have the right (unless, prior to the Change of Control Conversion Date (as defined), we have provided or provide notice of our election to redeem some or all of the shares of Class F preferred stock held by such holder as described in this prospectus supplement, in which case such holder will have the right only with respect to shares of Class F preferred stock that are not called for redemption) to convert some or all of the Class F preferred stock held by such holder into shares of our common stock on the Change of Control Conversion Date, all on the terms and subject to the conditions described in this prospectus supplement, and subject to a Share Cap (as defined) and to provisions for the receipt, under specified circumstances, of alternative consideration as described in this prospectus supplement.

Realty Income Corporation, The Monthly Dividend Company®, is a Maryland corporation organized to operate as an equity real estate investment trust, or REIT. We are a fully integrated, self-administered real estate company with in-house acquisition, leasing, legal, credit research, real estate research, portfolio management and capital markets expertise. As of December 31, 2011, we owned a diversified portfolio of 2,634 properties located in 49 states with over 27.3 million square feet of leasable space leased to 136 different retail and other commercial enterprises doing business in 38 separate industries.

The shares of Class F preferred stock offered hereby and the 14,950,000 outstanding shares of Class F preferred stock that we issued on February 7, 2012 will constitute a single class of preferred stock under our charter. The outstanding Class F preferred stock is listed on the New York Stock Exchange, or NYSE, under the symbol "OprF." On April 11, 2012, the last reported sale price of the Class F preferred stock on the NYSE was \$25.48 per share. We plan to apply to list the shares of Class F preferred stock offered hereby on the NYSE.

Investing in the Class F preferred stock involves risks. See "Risk Factors" beginning on page S-7 of this prospectus supplement.

	Per Share	Total
Public offering price(1)	\$	\$
Underwriting discount	\$	\$
Proceeds, before expenses, to Realty Income Corporation(1)	\$	\$

(1)
Plus accrued dividends from and including April 15, 2012. Accordingly, investors who purchase shares of Class F preferred stock offered hereby for delivery on April 19, 2012 will be required to pay the public offering price appearing above plus an amount equal to \$0.0184 per share representing accrued dividends from April 15, 2012.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus supplement or the accompanying prospectus. Any representation to the contrary is a criminal offense.

The shares of Class F preferred stock will be ready for delivery on or about April 19, 2012.

Citigroup

The date of this prospectus supplement is April , 2012.

TABLE OF CONTENTS

	Page
Prospectus Supplement	
Prospectus Supplement Summary	<u>S-1</u>
Risk Factors	<u>S-7</u>
Ratios of Earnings from Continuing Operations to Fixed Charges and Combined Fixed Charges and Preferred Stock Dividends	<u>S-14</u>
<u>Use of Proceeds</u>	<u>S-14</u>
Description of Class F Preferred Stock	<u>S-15</u>
Supplemental United States Federal Income Tax Considerations	<u>S-29</u>
<u>Underwriting (Conflicts of Interest)</u>	<u>S-30</u>
<u>Legal Matters</u>	<u>S-32</u>
<u>Experts</u>	<u>S-32</u>
<u>Incorporation by Reference</u>	<u>S-32</u>
Prospectus	
About this Prospectus	<u>1</u>
<u>The Company</u>	<u>3</u>
Risk Factors	<u>4</u>
Forward-Looking Statements	<u>4</u>
<u>Use of Proceeds</u>	<u>5</u>
Ratios of Earnings from Continuing Operations to Fixed Charges and Combined Fixed Charges and Preferred Stock Dividends	3 4 4 5 6 7
<u>Description of Debt Securities</u>	
Description of Common Stock	<u>20</u>
General Description of Preferred Stock	<u>24</u>
Description of Depositary Shares	<u>32</u>
Description of Warrants	<u>33</u>
Restrictions on Ownership and Transfers of Stock	<u>34</u>
<u>United States Federal Income Tax Considerations</u>	<u>37</u>
<u>Plan of Distribution</u>	<u>61</u>
<u>Experts</u>	<u>62</u>
<u>Legal Matters</u>	20 24 32 33 34 37 61 62 62 62
Where You Can Find More Information	<u>62</u>
<u>Incorporation by Reference</u>	<u>63</u>

You should rely only on the information contained or incorporated by reference in this prospectus supplement and the accompanying prospectus and, if applicable, any free writing prospectus we may provide you in connection with this offering. We have not, and the underwriter has not, authorized any person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We are not, and the underwriter is not, making an offer to sell these securities or soliciting an offer to buy these securities in any jurisdiction where the offer or sale of these securities is not permitted. You should assume that the information appearing in this prospectus supplement, the accompanying prospectus, the documents incorporated by reference herein or therein and, if applicable, any free writing prospectus we may provide you in connection with this offering is accurate only as of those documents' respective dates. Our business, financial condition, results of operations and prospects may have changed since those dates.

This document is in two parts. The first part is this prospectus supplement, which adds to and updates information contained in the accompanying prospectus. The second part, the prospectus, provides more general information, some of which may not apply to this offering. Generally, when we

i

Table of Contents

refer to this prospectus, we are referring to both parts of this document combined. To the extent there is a conflict between the information contained in this prospectus supplement and the information contained in the accompanying prospectus, you should rely on the information in this prospectus supplement.

Before purchasing any securities, you should carefully read both this prospectus supplement and the accompanying prospectus, together with the incorporated documents described under the heading "Incorporation by Reference" in this prospectus supplement and the accompanying prospectus, and any free writing prospectus we may provide to you in connection with this offering.

No action has been or will be taken in any jurisdiction by us or by the underwriter that would permit a public offering of these securities or possession or distribution of this prospectus supplement, the accompanying prospectus or any related free writing prospectus where action for that purpose is required, other than in the United States. Unless otherwise expressly stated or the context otherwise requires, references to "dollars" and "\$" in this prospectus supplement, the accompanying prospectus and any related free writing prospectus are to United States dollars.

PROSPECTUS SUPPLEMENT SUMMARY

This summary does not contain all the information that may be important to you. You should read the entire prospectus supplement and the accompanying prospectus and the documents incorporated and deemed to be incorporated by reference herein and therein, including the financial statements and related notes, and, if applicable, any free writing prospectus we may provide you in connection with this offering before making an investment decision. Unless this prospectus supplement otherwise indicates or the context otherwise requires, the terms "Realty Income," "our," "us" and "we" as used in this prospectus supplement refer to Realty Income Corporation and its subsidiaries on a consolidated basis. Unless otherwise expressly stated or the context otherwise requires, all information in this prospectus supplement relating to our properties excludes properties owned by our wholly-owned subsidiary Crest Net Lease, Inc., which we refer to as Crest.

In this prospectus supplement, we sometimes refer to the 6.625% Monthly Income Class F Cumulative Redeemable Preferred Stock we are offering and our outstanding shares of 6.625% Monthly Income Class F Cumulative Redeemable Preferred Stock as, collectively, the Class F preferred stock, and we sometimes refer to our 7.375% Monthly Income Class D Cumulative Redeemable Preferred Stock, which was redeemed by us on March 1, 2012, and our outstanding 6.75% Monthly Income Class E Cumulative Redeemable Preferred Stock as the Class D preferred stock and the Class E preferred stock, respectively.

Realty Income

We are The Monthly Dividend Company®. We are organized to operate as an equity real estate investment trust, commonly referred to as a REIT. Our primary business objective is to generate dependable monthly cash distributions from a consistent and predictable level of funds from operations, or FFO, per share. Additionally, we seek to increase distributions to common stockholders and FFO per share through both active portfolio management and the acquisition of additional properties.

We are a fully integrated, self-administered real estate company with in-house acquisition, leasing, legal, credit research, real estate research, portfolio management and capital markets expertise. As of December 31, 2011, we owned a diversified portfolio of 2,634 properties located in 49 states, with over 27.3 million square feet of leasable space leased to 136 different retail and other commercial enterprises doing business in 38 separate industries. Of the 2,634 properties in the portfolio at that date, 2,619, or 99.4%, were single-tenant properties, and the remaining 15 were multi-tenant properties. At December 31, 2011, of the 2,619 single-tenant properties, 2,533 were leased with a weighted average remaining lease term (excluding rights to extend a lease at the option of the tenant) of approximately 11.3 years.

Our principal executive offices are located at 600 La Terraza Boulevard, Escondido, California 92025-3873 and our telephone number is (760) 741-2111.

Recent Acquisition Activity

We have acquired or entered into agreements to acquire properties with an aggregate value of approximately \$514 million during the second quarter of 2012. These acquisitions consist of approximately 250 properties leased to four different tenants, and all are in industries that we already have in our portfolio. The acquisitions that have not closed yet are subject to various customary conditions to closing, the failure of which could delay the closing of one or more of these proposed acquisitions or result in one or more of these proposed transactions not closing or closing on terms that are different from those we currently contemplate. We expect to fund any of these acquisitions that close in the future with borrowings under our acquisition credit facility or possible issuances of additional securities.

The Offering

We are selling all of the shares of the Class F preferred stock offered by this prospectus supplement. For a description of our Class F preferred stock, see "Description of Class F Preferred Stock" in this prospectus supplement and "General Description of Preferred Stock" in the accompanying prospectus.

Issuer
Securities Offered
Shares of Class F preferred stock to be outstanding after this offering

Dividends

Maturity

Optional Redemption

Realty Income Corporation

1,400,000 shares of 6.625% Monthly Income Class F Cumulative Redeemable Preferred Stock. 16,350,000 shares, consisting of the 1,400,000 shares of Class F preferred stock offered hereby and the 14,950,000 outstanding shares of Class F preferred stock that we issued on February 7, 2012. The shares of Class F preferred stock offered hereby and the outstanding shares of Class F preferred stock will constitute a single class of our preferred stock under our charter. Investors will be entitled to receive cumulative cash dividends at a rate of 6.625% per annum of the \$25.00 per share liquidation preference (equivalent to \$1.65625 per annum per share). Dividends on the Class F preferred stock offered hereby will be payable monthly in arrears on the 15th day of each month (or, if the 15th day of the month is not a business day, on the next business day), commencing May 15, 2012. Dividends on the Class F preferred stock offered hereby will accrue and be cumulative from April 15, 2012. The first dividend payment date for the Class F preferred stock offered hereby is May 15, 2012, and that dividend, which will be equal to a regular monthly dividend on the Class F preferred stock, will be paid to the persons who are the holders of record of the Class F preferred stock offered hereby at the close of business on the corresponding record date, which will be May 1, 2012.

The Class F preferred stock does not have any stated maturity date nor are we required to redeem or otherwise repurchase the Class F preferred stock. Accordingly, the shares of Class F preferred stock will remain outstanding unless we decide to redeem or otherwise repurchase them or they become convertible and are converted as described below under " Conversion Rights." In addition, we are not required to set aside funds to redeem the Class F preferred stock.

The Class F preferred stock is not redeemable by us prior to February 15, 2017, except under circumstances intended to preserve our status as a real estate investment trust for federal and/or state income tax purposes and except as described below under "Special Optional Redemption." On and after February 15, 2017, we may, at our option, redeem the Class F preferred stock, in whole or from time to time in part, for cash at a redemption price equal to \$25.00 per share, plus, subject to exceptions, any accrued and unpaid dividends to the date fixed for redemption. See "Description of Class F Preferred Stock Redemption Optional Redemption."

S-2

Table of Contents

Special Optional Redemption

Conversion Rights

Upon the occurrence of a Change of Control (as defined), we may, at our option, redeem the Class F preferred stock, in whole or in part, within 120 days after the first date on which such Change of Control occurred, for cash at a redemption price of \$25.00 per share, plus, subject to exceptions, any accrued and unpaid dividends to the date fixed for redemption. If, prior to the Change of Control Conversion Date (as defined), we have provided or provide notice of our election to redeem some or all of the shares of Class F preferred stock (whether pursuant to our optional redemption right described above or this special optional redemption right), the holders of Class F preferred stock will not have the conversion right described below under " Conversion Rights" with respect to the shares of Class F preferred stock called for redemption. See "Description of Preferred Stock Redemption Special Optional Redemption." Upon the occurrence of a Change of Control, each holder of Class F preferred stock will have the right (unless, prior to the Change of Control Conversion Date, we have provided or provide notice of our election to redeem some or all of the shares of Class F preferred stock held by such holder as described above under " Optional Redemption" or " Special Optional Redemption," in which case such holder will have the right only with respect to shares of Class F preferred stock that are not called for redemption) to convert some or all of the Class F preferred stock held by such holder on the Change of Control Conversion Date into a number of shares of our common stock per share of Class F preferred stock equal to the lesser of:

the quotient obtained by dividing (i) the sum of the \$25.00 liquidation preference per share of Class F preferred stock plus the amount of any accrued and unpaid dividends thereon to the Change of Control Conversion Date (unless the Change of Control Conversion Date is after a record date for a Class F preferred stock dividend payment and prior to the corresponding dividend payment date for the Class F preferred stock, in which case no additional amount for such accrued and unpaid dividends will be included in this sum) by (ii) the Common Stock Price (as defined); and

1.3759 (the "Share Cap"), subject to adjustments to the Share Cap for any splits, subdivisions or combinations of our common stock;

subject, in each case, to provisions for the receipt of alternative consideration under specified circumstances as described in this prospectus supplement.

Table of Contents

As a result of the Share Cap, subject to the immediately succeeding sentence, the aggregate number of shares of our common stock (or corresponding alternative consideration, as applicable) issuable or deliverable, as applicable, upon conversion of Class F preferred stock in connection with a Change of Control will not exceed 22,495,965 shares of common stock (or corresponding alternative consideration, as applicable) (the "Exchange Cap") in total for the 16,350,000 shares of Class F preferred stock that will be outstanding upon completion of this offering. The Exchange Cap is subject to pro rata adjustments for any splits, subdivisions or combinations of our common stock on the same basis as the corresponding adjustment to the Share Cap, and shall be increased on a pro rata basis with respect to any additional shares of Class F Preferred Stock designated and authorized for issuance pursuant to any subsequent articles supplementary.

If, prior to the Change of Control Conversion Date, we have provided or provide notice of our election to redeem some or all of the shares of Class F preferred stock, whether pursuant to our special optional redemption right or our optional redemption right described above, holders of Class F preferred stock will not have the right to convert the shares of Class F preferred stock called for redemption and any shares of Class F preferred stock called for redemption that have been tendered for conversion will be redeemed on the applicable redemption date instead of converted on the Change of Control Conversion Date.

For definitions of "Change of Control," "Change of Control Conversion Date" and "Common Stock Price", for a description of certain adjustments and provisions for the receipt of alternative consideration that may be applicable to the conversion of Class F preferred stock in the event of a Change of Control, and for other important information, see "Risk Factors The Change of Control conversion feature may not adequately compensate you and may make it more difficult for a party to take over our company or discourage a party from taking over our company" and "Description of Class F Preferred Stock Conversion Rights."

Except as provided above in connection with a Change of Control, the Class F preferred stock is not convertible into or exchangeable for any other securities or property.

If we liquidate, dissolve or wind up, holders of the Class F preferred stock will have the right to receive \$25.00 per share, plus any accrued and unpaid dividends to the date of payment, before any payment is made to the holders of our common stock. See "Description of Class F Preferred Stock Liquidation Preference."

The Class F preferred stock ranks senior to our common stock and on a parity with our outstanding Class E preferred stock with respect to the payment of dividends and the distribution of assets in the event of our liquidation, dissolution or winding up. See "Description of Class F Preferred Stock Rank."

Liquidation Preference

Rank

Table of Contents

Voting Rights

Listing

Restrictions on Ownership and Transfer

Use of proceeds

Holders of Class F preferred stock generally have no voting rights. However, if we do not pay dividends on the Class F preferred stock for 18 or more monthly dividend periods (whether or not consecutive), the holders of the Class F preferred stock (voting separately as a class with the holders of all other classes or series of our preferred stock, which may include the Class E preferred stock, upon which like voting rights have been conferred and are exercisable and which are entitled to vote as a class with the Class F preferred stock in the election referred to below) will be entitled to vote for the election of two additional directors to serve on our board of directors until we pay, or declare and set aside funds for the payment of, all dividends which we owe on the Class F preferred stock. In addition, the affirmative vote of the holders of at least two-thirds of the outstanding shares of Class F preferred stock is required for us to authorize or issue any class or series of stock ranking prior to the Class F preferred stock with respect to the payment of dividends or the distribution of assets on liquidation, dissolution or winding up, to amend any provision of our charter so as to materially and adversely affect any rights of the Class F preferred stock or to take certain other actions. See "Description of Class F Preferred Stock Voting Rights."

The outstanding Class F preferred stock is listed on the New York Stock Exchange, or NYSE, under the symbol "OprF." We plan to apply to list the shares of Class F preferred stock offered hereby on the NYSE.

The Class F preferred stock is subject to certain restrictions on ownership and transfer intended to assist us in maintaining our status as a REIT for United States federal income tax purposes. For example, the terms of the Class F preferred stock restrict any person from acquiring actual or constructive ownership of more than 9.8% (by number of shares or value, whichever is more restrictive) of the outstanding Class F preferred stock. See "Description of Class F Preferred Stock Restrictions on Ownership and Transfer."

We intend to use the net proceeds of this offering to repay a portion of the borrowings outstanding under our \$425 million acquisition credit facility. On April 11, 2012, we had approximately \$39.8 million of outstanding borrowings under our acquisition credit facility, which were generally used to acquire properties. To the extent not used for the foregoing purpose, any remaining net proceeds will be used for general corporate purposes and working capital, which may include acquisitions.

Table of Contents

Risk Factors

An investment in the Class F preferred stock involves various risks and prospective investors should carefully consider the matters discussed under "Risk Factors" in this prospectus supplement, as well as the other risks described in this prospectus supplement, the accompanying prospectus and the documents incorporated and deemed to be incorporated by reference herein and therein, before making a decision to invest in the Class F preferred stock.

S-6

RISK FACTORS

In evaluating an investment in our Class F preferred stock, you should carefully consider the following risk factors and the risk factors described under the caption "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2011, which is incorporated by reference in the accompanying prospectus, in addition to the other risks and uncertainties described in this prospectus supplement, the accompanying prospectus, the documents incorporated by reference therein and, if applicable, any free writing prospectus we may provide you in connection with this offering. As used under the captions "Risk Factors" in this prospectus supplement and in our Annual Report on Form 10-K for the year ended December 31, 2011, references to our capital stock include both our common stock and any class or series of our preferred stock, including the Class F preferred stock, and references to our stockholders include holders of our common stock and any class or series of our preferred stock, including the Class F preferred stock, in each case unless otherwise expressly stated or the context otherwise requires.

Increases in market interest rates may adversely affect the market price of our Class F preferred stock.

One of the factors that will influence the market price of our Class F preferred stock in public trading markets is the annual yield from distributions on our Class F preferred stock as compared to yields on other financial instruments. An increase in market interest rates generally will result in higher yields on other financial instruments, which could adversely affect the market price of our Class F preferred stock. Likewise, since listing our common stock on the NYSE in 1994, we have established a history of periodically increasing distributions per share on our common stock. The market price of the Class F preferred stock may also be adversely affected to the extent that the distributions per share on our common stock increase.

Our business operations may not generate the cash needed to make distributions on our capital stock or to service our indebtedness.

Our ability to make distributions on our common stock and preferred stock, including the Class F preferred stock, and payments on our indebtedness and to fund planned acquisitions and capital expenditures will depend on our ability to generate cash in the future. We cannot assure you that our business will generate sufficient cash flow from operations or that future borrowings will be available to us in an amount sufficient to enable us to make distributions on our common stock and preferred stock, including the Class F preferred stock, to pay our indebtedness, or to fund our other liquidity needs.

The Change of Control conversion feature may not adequately compensate you and may make it more difficult for a party to take over our company or discourage a party from taking over our company.

Upon the occurrence of a Change of Control, each holder of the Class F preferred stock will have the right (unless, prior to the Change of Control Conversion Date, we have provided or provide notice of our election to redeem some or all of the shares of Class F preferred stock held by such holder as described under "Description of Class F Preferred Stock Redemption Optional Redemption" or "Description of Class F Preferred Stock Redemption Special Optional Redemption," in which case such holder will have the right only with respect to shares of Class F preferred stock that are not called for redemption) to convert some or all of their Class F preferred stock into shares of our common stock (or under specified circumstances certain alternative consideration). See "Description of Class F Preferred Stock Conversion Rights." Upon such a conversion, the holders will be limited to a maximum number of shares of our common stock (or, if applicable, specified alternative consideration) equal to the Share Cap (as defined) multiplied by the number of shares of Class F preferred stock converted. If the Common Stock Price (as defined) is less than \$18.17 (which is approximately 48% of the per share closing sale price of our common stock reported on the NYSE on April 11, 2012), subject to possible adjustment, the holders will receive a maximum of 1.3759 shares of our common stock per

Table of Contents

share of Class F preferred stock, which may result in a holder receiving shares of common stock (or alternative consideration, as applicable) with a value that is less than the liquidation preference of the Class F preferred stock plus any accrued and unpaid dividends. In addition, the Change of Control conversion feature of the Class F preferred stock may have the effect of discouraging a third party from making an acquisition proposal for our company or of delaying, deferring or preventing certain Change of Control transactions of our company under circumstances that otherwise could provide the holders of our common stock and Class F preferred stock with the opportunity to realize a premium over the then-current market price or that stockholders may otherwise believe is in their best interests.

We are subject to risks associated with debt and capital stock financing.

We intend to incur additional indebtedness in the future, including borrowings under our \$425 million acquisition credit facility. At April 11, 2012, we had approximately \$39.8 million of outstanding borrowings under our acquisition credit facility, a total of \$1.75 billion of outstanding unsecured senior debt securities and \$56.8 million of outstanding mortgage debt. To the extent that new indebtedness is added to our current debt levels, the related risks that we now face would increase. As a result, we are and will be subject to risks associated with debt financing, including the risk that our cash flow could be insufficient to meet required payments on our debt. We also face variable interest rate risk as the interest rate on our acquisition credit facility is variable and could therefore increase over time. We also face the risk that we may be unable to refinance or repay our debt as it comes due. Given past disruptions in the financial markets and the ongoing financial crisis in Europe (which relates primarily to concerns that certain European countries may be unable to repay their national debt), we also face the risk that one or more of the participants in our credit facility may not be able to lend us money.

In addition, our acquisition credit facility contains provisions that could limit or, in certain cases, prohibit the payment of distributions on our common stock and preferred stock, including the Class F preferred stock or the conversion of Class F preferred stock into common stock (or alternative consideration, as applicable) upon the occurrence of a Change of Control as described under "Description of Class F Preferred Stock Conversion Rights." In particular, our acquisition credit facility provides that, if an event of default (as defined in the credit facility) exists, neither we nor any of our subsidiaries may make any distributions on (except distributions payable in shares of a given class of our stock to the shareholders of that class), or repurchase, redeem or convert, among other things, any shares of our common stock or preferred stock, including the Class F preferred stock, during any period of four consecutive fiscal quarters in an aggregate amount in excess of the greater of:

the sum of (a) 95% of our adjusted funds from operations (as defined in the credit facility) for that period plus (b) the aggregate amount of cash distributions on our preferred stock for that period, and

the minimum amount of cash distributions required to be made to our shareholders in order to maintain our status as a REIT for federal income tax purposes,

except that we may repurchase or redeem our preferred stock, including the Class F preferred stock, with the net proceeds from the issuance of our common stock or preferred stock. The acquisition credit facility further provides that, in the event of a failure to pay principal, interest or any other amounts payable thereunder when due or upon the occurrence of certain events of bankruptcy, insolvency or reorganization with respect to us or with respect to any of our subsidiaries that has guaranteed amounts payable under the credit facility or that meets a significance test set forth in the credit facility, we and our subsidiaries may not pay any distributions on (except distributions payable in shares of a given class of our stock to the shareholders of that class), or repurchase, redeem or convert, among other things, any shares of our common stock or preferred stock, including the Class F preferred stock. If any event of default under our acquisition credit facility were to occur, it would likely have a

Table of Contents

material adverse effect on the market price of our outstanding common and preferred stock, including the Class F preferred stock, and on the market value of our debt securities, could limit the amount of distributions payable on our common stock and preferred stock, including the Class F preferred stock, or prevent us from paying those distributions altogether, could limit or prohibit us from delivering common stock (or alternative consideration, as applicable) upon conversion of Class F preferred stock following a Change of Control as described below under "Description of Class F Preferred Stock Conversion Rights," and may adversely affect our ability to qualify, or prevent us from qualifying, as a REIT.

Our indebtedness could also have other important consequences to holders of our Class F preferred stock, including:

Increasing our vulnerability to general adverse economic and industry conditions;

Limiting our ability to obtain additional financing to fund future working capital, capital expenditures and other general corporate requirements;

Requiring the use of a substantial portion of our cash flow from operations for the payment of principal and interest on our indebtedness, thereby reducing our ability to use our cash flow to fund working capital, acquisitions, capital expenditures and general corporate requirements;

Limiting our flexibility in planning for, or reacting to, changes in our business and our industry; and

Putting us at a disadvantage compared to our competitors with less indebtedness.

In addition, immediately after the closing of this offering, we will have 8,800,000 shares of Class E preferred stock and 16,350,000 shares of Class F preferred stock outstanding, the holders of which will be entitled to receive monthly dividends, when, as and if authorized by our board of directors, at the rates of \$1.6875 per annum per share and \$1.65625 per annum per share, respectively. As a result, we are subject to risks associated with preferred stock financing, including the risk that our cash flow will be insufficient to pay dividends on our preferred stock, including the Class F preferred stock.

The market price of our Class F preferred stock could be substantially affected by various factors.

The market price of our Class F preferred stock depends on many factors, which may change from time to time, including:

Prevailing interest rates, increases in which may have an adverse effect on the market price of our Class F preferred stock;

The market for similar securities issued by other REITs;

General economic and financial market conditions;

The financial condition, performance and prospects of us, our tenants and our competitors;

Changes in financial estimates or recommendations by securities analysts with respect to us, our competitors or our industry;

Changes in our credit ratings; and

Actual or anticipated variations in quarterly operating results of us and our competitors.

In addition, over the last several years, prices of equity securities in the U.S. trading markets have been experiencing extreme price fluctuations, and the market prices of our common stock and Class E preferred stock have also fluctuated significantly during this period. As a result of these and other factors, investors who purchase our Class F preferred stock in this offering may experience a decrease,

S-9

Table of Contents

which could be substantial and rapid, in the market price of our Class F preferred stock, including decreases unrelated to our operating performance or prospects.

Negative market conditions or adverse events affecting our existing or potential tenants, or the industries in which they operate, could have an adverse impact on our ability to attract new tenants, re-lease space, collect rent or renew leases, which could adversely affect our cash flow from operations and inhibit growth.

Cash flow from operations depends in part on the ability to lease space to tenants on economically favorable terms. We could be adversely affected by various facts and events over which we have limited or no control, such as:

Lack of demand in areas where our properties are located;

Inability to retain existing tenants and attract new tenants;

Oversupply of space and changes in market rental rates;

Declines in our tenants' creditworthiness and ability to pay rent, which may be affected by their operations, the current economic situation and competition within their industries from other operators;

Defaults by and bankruptcies of tenants, failure of tenants to pay rent on a timely basis, or failure of tenants to comply with their contractual obligations;

Economic or physical decline of the areas where the properties are located; and

Deterioration of physical condition of our properties.

At any time, any tenant may experience a downturn in its business that may weaken its operating results or overall financial condition. As a result, a tenant may delay lease commencement, fail to make rental payments when due, decline to extend a lease upon its expiration, become insolvent or declare bankruptcy. Any tenant bankruptcy or insolvency, leasing delay or failure to make rental payments when due could result in the termination of the tenant's lease and material losses to us.

If tenants do not renew their leases as they expire, we may not be able to rent or sell the properties. Furthermore, leases that are renewed, and some new leases for properties that are re-leased, may have terms that are less economically favorable than expiring lease terms, or may require us to incur significant costs, such as renovations, tenant improvements or lease transaction costs. Negative market conditions may cause us to sell vacant properties for less than their carrying value, which could result in impairments. Any of these events could adversely affect cash flow from operations and our ability to make distributions to shareholders and service indebtedness. A significant portion of the costs of owning property, such as real estate taxes, insurance and maintenance, is not necessarily reduced when circumstances cause a decrease in rental revenue from the properties. In a weakened financial condition, tenants may not be able to pay these costs of ownership and we may be unable to recover these operating expenses from them.

Further, the occurrence of a tenant bankruptcy or insolvency could diminish the income we receive from the tenant's lease or leases. In addition, a bankruptcy court might authorize the tenant to terminate its leases with us. If that happens, our claim against the bankrupt tenant for unpaid future rent would be subject to statutory limitations that most likely would result in rent payments that would be substantially less than the remaining rent we are owed under the leases or we may elect not to pursue claims against the tenant for terminated leases. In addition, any claim we have for unpaid past rent, if any, may not be paid in full, or at all. Moreover, in the case of a tenant's leases that are not terminated as the result of its bankruptcy, we may be required or elect to reduce the rent payable under those leases or provide other concessions, reducing amounts we receive under those leases. As a result, tenant bankruptcies, including those described in our Annual Report on Form 10-K for the year

Table of Contents

ended December 31, 2011 under the caption "Item 1: Business Recent Developments Portfolio Discussion Matters Pertaining to Certain Tenants," may have a material adverse effect on our results of operations. Any of these events could adversely affect cash flow from operations and our ability to make distributions to stockholders, including holders of our Class F preferred stock, and service indebtedness.

Eighty-seven of our properties were available for lease or sale at December 31, 2011, all but one of which were single-tenant properties. At December 31, 2011, 33 of our properties under lease were unoccupied and available for sublease by the tenants, all of which were current with their rent and other obligations. During 2011, each of our tenants accounted for less than 10% of our rental revenue.

For the fourth quarter of 2011, our tenants in the "convenience stores" industry accounted for approximately 17.2% of our rental revenue. A downturn in this industry, whether nationwide or limited to specific sectors of the United States, could adversely affect tenants in this industry, which in turn could have a material adverse effect on our financial position, results of operations and our ability to pay the principal of and interest on our debt securities and other indebtedness and to make distributions on our common stock and preferred stock, including the Class F preferred stock. In addition, we believe that the ongoing economic recession has had an adverse effect on many casual dining restaurants, such as our tenants Friendly Ice Cream Corporation and Buffets Holdings, Inc., both of which filed for reorganization under Chapter 11 of the U.S. Bankruptcy Code as described in our Annual Report on Form 10-K for the year ended December 31, 2011 under the caption "Item 1: Business Recent Developments Portfolio Discussion Matters Pertaining to Certain Tenants." In addition, we have identified other tenants that we believe might file for bankruptcy protection during 2012 as described in our Annual Report on Form 10-K for the year ended December 31, 2011 under the caption "Item 1: Business Recent Developments Portfolio Discussion Matters Pertaining to Certain Tenants," and the impact of bankruptcy filings by Friendly Ice Cream Corporation, Buffets Holdings, Inc. or any other tenants, whether in the casual dining or other industries, could materially adversely affect us. With the exception of "convenience stores", each of the industries in our property portfolio individually accounted for less than 10% of our rental revenue for the fourth quarter of 2011. Nevertheless, downturns in these other industries could also adversely affect our tenants, which in turn could also have a material adverse effect on our financial position, results of operations and our ability to pay the principal of and interest on our debt securities and other indebtedness and to make distributions on our common and preferred stock, including the Class F preferred stock. In addition, we may in the future make additional investments in the "convenience stores" industry, which would increase this industry's percentage of our rental revenues, thereby increasing the effect that such a downturn in this industry would have on us.

In addition, a substantial number of our properties are leased to middle-market retail and other commercial enterprises that generally have more limited financial and other resources than certain upper-market retail and other commercial enterprises, and, therefore, they are more likely to be adversely affected by a downturn in their respective businesses or in the regional, national or international economy.

Furthermore, we have made and may continue to make selected acquisitions of properties that fall outside our historical focus on freestanding, single-tenant, net-lease retail locations in the United States. We may be exposed to a variety of new risks by expanding into new property types and/or new jurisdictions outside the United States and properties leased to tenants engaged in non-retail businesses. For example, our acquisitions in 2011 included distribution properties, office properties, and manufacturing properties leased to tenants in a range of non-retail businesses. These risks may include a limited knowledge and understanding of the industry in which the tenant operates, limited experience in managing certain types of new properties, new types of real estate locations and lease structures, and the laws and culture of any non-U.S. jurisdiction.

Table of Contents

The Articles Supplementary establishing the terms of our Class F Preferred Stock contain restrictions upon ownership and transfer of our Class F Preferred Stock.

The Articles Supplementary establishing the terms of our Class F preferred stock contain restrictions on ownership and transfer of our Class F preferred stock intended to assist us in maintaining our status as a REIT for United States federal and/or state income tax purposes. For example, the terms of the Class F preferred stock restrict any person from acquiring actual or constructive ownership of more than 9.8% (in value or number of shares, whichever is more restrictive) of our outstanding Class F preferred stock. See "Description of Class F Preferred Stock Restrictions on Ownership and Transfers of Stock" in this prospectus supplement. These restrictions could have anti-takeover effects and could reduce the possibility that a third party will attempt to acquire control of Realty Income, which could adversely affect the market price of our Class F preferred stock.

Disruptions in the financial markets could affect our ability to obtain financing on reasonable terms and have other adverse effects on us and the market price of our Class F preferred stock.

Over the last several years, the United States stock and credit markets have experienced significant price volatility, dislocations and liquidity disruptions, which have caused market prices of many stocks and debt securities to fluctuate substantially and the spreads on prospective debt financings to widen considerably. More recently, the financial crisis in Europe (which relates primarily to concerns that certain European countries may be unable to pay their national debt) has had a similar, although less pronounced, effect. These circumstances have materially impacted liquidity in the financial markets, making terms for certain financings less attractive, and in certain cases have resulted in the unavailability of certain types of financing. Unrest in certain Middle Eastern countries and the resultant increase in petroleum prices have added to the uncertainty in the capital markets. Continued uncertainty in the stock and credit markets may negatively impact our ability to access additional financing at reasonable terms, which may negatively affect our ability to make acquisitions. A prolonged downturn in the stock or credit markets may cause us to seek alternative sources of potentially less attractive financing, and may require us to adjust our business plan accordingly. In addition, these factors may make it more difficult for us to sell properties or may adversely affect the price we receive for properties that we do sell, as prospective buyers may experience increased costs of financing or difficulties in obtaining financing. These events in the stock and credit markets may make it more difficult or costly for us to raise capital through the issuance of our common stock or preferred stock or debt securities. These disruptions in the financial markets may have a material adverse effect on the market value of our common stock, preferred stock, including the Class F preferred stock offered hereby, and debt securities, the income we receive from our properties and the lease rates we charge for our properties

Because until recently there has never been a market for our Class F preferred stock, your ability to resell your shares may be limited.

Until recently, there has been no public market for our Class F preferred stock. Although the outstanding Class F preferred stock is listed on the NYSE, an active and liquid trading market for our Class F preferred stock may not exist or be sustained or provide you with adequate liquidity. Moreover, the price at which our Class F preferred stock trades depends on many factors, including prevailing interest rates, our financial condition and the market for similar securities. You may not be able to resell your shares of our Class F preferred stock at or above the initial price to the public, if at all.

If our common stock is delisted, your ability to transfer or sell your shares of the Class F preferred stock may be limited and the market value of the Class F preferred stock will likely be materially adversely affected.

Other than in connection with a Change of Control, the Class F preferred stock does not contain provisions that are intended to protect you if our common stock is delisted from the NYSE. Since the

Table of Contents

Class F preferred stock has no stated maturity date, you may be forced to hold your shares of the Class F preferred stock and receive stated dividends on the stock when, as and if authorized by our board of directors and paid by us with no assurance as to ever receiving the liquidation value. In addition, if our common stock is delisted, it is likely that the Class F preferred stock will be delisted as well. Accordingly, if our common stock is delisted, your ability to transfer or sell your shares of the Class F preferred stock may be limited and the market value of the Class F preferred stock will likely be materially adversely affected.

S-13

RATIOS OF EARNINGS FROM CONTINUING OPERATIONS TO FIXED CHARGES AND COMBINED FIXED CHARGES AND PREFERRED STOCK DIVIDENDS

The following table sets forth the ratios of earnings from continuing operations to fixed charges and the ratios of earnings from continuing operations to combined fixed charges and preferred stock dividends for the periods shown. The ratios of earnings from continuing operations to fixed charges were computed by dividing our earnings from continuing operations by our fixed charges. For this purpose, earnings from continuing operations consist of income from continuing operations before interest expense. Fixed charges consist of interest costs (including capitalized interest) and the amortization of debt issuance costs. In computing the ratios of earnings from continuing operations to combined fixed charges and preferred stock dividends, preferred stock dividends consist of dividends on our Class D preferred stock (all of which was redeemed on March 1, 2012) and Class E preferred stock, as applicable. On May 27, 2004 and October 19, 2004, we issued 4,000,000 shares and 1,100,000 shares, respectively, of our Class D preferred stock. On December 7, 2006, we issued 8,800,000 shares of our Class E preferred stock. The ratios set forth below do not reflect the issuance of 14,950,000 shares of our Class F preferred stock on February 7, 2012.

	Year Ended December 31,				
	2011	2010	2009	2008	2007
Ratio of Earnings from Continuing Operations to Fixed Charges	2.4x	2.3x	2.4x	2.1x	2.8x
Ratio of Earnings from Continuing Operations to Combined Fixed Charges and					
Preferred Stock Dividends	2.0x	1.8x	1.9x	1.7x	2.1x

USE OF PROCEEDS

We estimate the net proceeds from the sale of Class F preferred stock offered by this prospectus supplement will be approximately million after deducting the underwriting discount and estimated expenses payable by us, plus accrued dividends of \$25,760 for the period from and including April 15, 2012 to but excluding April 19, 2012.

We intend to use the net proceeds of this offering to repay a portion of the borrowings outstanding under our \$425 million acquisition credit facility. At April 11, 2012, we had approximately \$39.8 million of outstanding borrowings under our acquisition credit facility, which were generally used to acquire properties. To the extent not used for the foregoing purpose, any remaining net proceeds will be used for general corporate purposes and working capital, which may include acquisitions.

Pending application of the net proceeds for the purposes described above, we intend to temporarily invest the net proceeds in short-term government securities, short-term money market funds or bank certificates of deposit.

DESCRIPTION OF CLASS F PREFERRED STOCK

This description of the particular terms of the Class F preferred stock supplements, and to the extent inconsistent therewith replaces, the description of the general terms and provisions of our preferred stock set forth in the accompanying prospectus, to which description reference is hereby made. As used under this caption "Description of Class F Preferred Stock," references to "Realty Income," "us," "our" and "we" mean Realty Income Corporation excluding its subsidiaries, unless otherwise expressly stated or the context otherwise requires; and the term "Articles Supplementary" means, collectively, the articles supplementary, creating and establishing the terms of the Class F preferred stock that we have filed and will file with the State Department of Assessments and Taxation of Maryland.

General

Pursuant to our charter, we are currently authorized to issue up to 34,950,000 shares of preferred stock, \$0.01 par value per share, in one or more classes or series, with such designations, preferences, conversion or other rights, voting powers, restrictions, limitations as to transferability, dividends or other distributions, qualifications and terms and conditions of redemption as our board of directors may determine, without any vote or action by our stockholders. As of the date of this prospectus supplement, 8,800,000 shares of Class E preferred stock are outstanding and 14,950,000 shares of Class F preferred stock are outstanding. In connection with this offering, our board of directors or a committee of the board will, as permitted by our charter, provide for the issuance of the shares of Class F preferred stock to be sold in this offering by reclassifying authorized but unissued shares of our preferred stock into an equal number of authorized shares of our Class F preferred stock. In addition, in our March 30, 2012 proxy statement, we have requested that our stockholders approve a proposal to amend our charter to increase the authorized number of shares of our common stock from 185,050,000 shares to 1,000,000,000 shares and the number of authorized shares of our preferred stock from 34,950,000 shares to 100,000,000 shares. If approved by our stockholders at our annual meeting to be held on May 8, 2012, we intend to amend our charter shortly thereafter to provide for such increase in the number of authorized shares of our common stock and preferred stock.

The outstanding shares of Class E preferred stock have a liquidation preference of \$25.00 per share, plus accrued and unpaid dividends, and are entitled to monthly dividends at a rate of \$1.6875 per share per annum. See "General Description of Preferred Stock" in the accompanying prospectus, as well as the descriptions of our Class E preferred stock that we have filed with the Securities and Exchange Commission, or SEC, on Form 8-A as described under "Incorporation by Reference" in the accompanying prospectus.

We have authorized the issuance of 1,400,000 additional shares of the Class F preferred stock. Upon completion of this offering, there will be 16,350,000 shares of Class F preferred stock outstanding, all of which will constitute a single class of preferred stock under our charter. The following summary of some of the terms and provisions of the Class F preferred stock does not purport to be complete and is qualified in its entirety by reference to the pertinent sections of the Articles Supplementary creating the Class F preferred stock, our charter and our bylaws, all of which we will make available to you upon request as described under "Incorporation by Reference" in the accompanying prospectus, and applicable law.

The registrar, transfer agent and dividend and redemption price disbursement agent in respect of the Class F preferred stock is Wells Fargo Bank, N.A. The Articles Supplementary fixing the terms of the Class F preferred stock provides that we will maintain an office or agency where shares of Class F preferred stock may be surrendered for payment (including redemption), registration of transfer or exchange.

Table of Contents

The certificates representing the Class F preferred stock may initially be issued in the form of temporary certificates. In that event, holders of temporary certificates will be entitled to exchange them for definitive certificates as soon as they are available, which we anticipate will be within 150 days after February 7, 2012.

Maturity

The shares of Class F preferred stock have no stated maturity and are not subject to any sinking fund or mandatory redemption, and will remain outstanding indefinitely unless we redeem or otherwise repurchase them or they become convertible and are converted as described below under " Conversion Rights."

Rank

The Class F preferred stock ranks, with respect to rights to the payment of dividends and the distribution of assets upon our liquidation, dissolution or winding up:

(1) Senior to all classes or series of our common stock and to all other equity securities issued by us other than equity securities referred to in clauses (2) and (3) below;