

**The Impact of Changes in the
Washington and Lee University
Residence Policy on the
Housing Market of Lexington/Rockbridge**

**Kevin B. Stokes
EconImpact LLC
Scottsburg, IN
502-645-7767**

KevinStokes@EconImpact.Com

www.EconImpact.Com

August 30, 2013

EXECUTIVE SUMMARY

This report contains preliminary results of the impact of a proposal to place Washington and Lee junior students on the W&L campus in the year 2015. The report examines the impacts on the finances of Lexington City and Rockbridge County governments

IMPACT ON LEXINGTON CITY GOVERNMENT

Cost of Public Safety – Annual cost of protection for W&L students is reduced by about \$127,000 from 2015 forward because more students are on campus. (Exhibit 2)

Benefit of Property Tax Revenue – 2015 City property tax revenue is \$110,000 less than in 2014. (Exhibit 1) This gradually improves so that 2020 revenue is \$75,000 less than in 2014. (Exhibit 2)

Other Revenues and Expenditures – Minor changes (Exhibits 1 and 2)

Bottom line – The W&L contribution to Lexington City government increases by approximately \$32,000 per year for 2015-2020. This is because public safety savings outweigh property tax revenue reduction. (Exhibit 2)

IMPACT ON ROCKBRIDGE COUNTY GOVERNMENT

Cost of Public Safety – Annual cost of protection for W&L students is reduced by about \$12,000 from 2015 forward because more students are on campus. (Exhibit 4)

Benefit of Property Tax Revenue – 2015 County property tax revenue is about \$161,000 less than in 2014. (Exhibit 3) This improves slightly so that 2020 revenue is about \$137,000 less than in 2014. (Exhibit 4)

Education – The cost of educating children of W&L community families is about \$1.7 million annually – a significant amount. This figure does not change much. (Exhibit 4)

Other Revenues and Expenditures – The W&L community contributes about \$480,000 a year in other local taxes such as sales, utility and meal taxes. (Exhibit 3) This total will drop slightly during the years 2015-2020. (Exhibit 4)

Bottom line – The W&L contribution to Rockbridge County government will decline by an average of approximately \$142,000 per year for 2015-2020. (Exhibit 4)

EXHIBIT 1
W&L IMPACT ON LEXINGTON CITY GOVERNMENT BEFORE AND
AFTER RESIDENTIAL POLICY CHANGE

| Lexington Revenue and Expenses | FY 14 Before Change | FY 15 Year of Change | Difference 2014-2015 | Explanation |
|-----------------------------------------------|----------------------------|-----------------------------|-----------------------------|--------------------------------------------------------------------------------------------|
| Revenue from Rockbridge County | \$74,108 | \$74,108 | \$0 | No significant change |
| Fire | (\$123,893) | (\$81,933) | \$41,960 | Reduced involvement of Lexington Fire with W&L students in the City |
| Police | (\$260,640) | (\$175,447) | \$85,193 | Reduced involvement of Lexington Police with W&L students in the City |
| Building permit, health and other | \$48,372 | \$48,372 | \$0 | No significant change |
| Payment in Lieu of Taxes | \$234,796 | \$234,796 | \$0 | No significant change |
| Property Tax Revenue from Lexington Residents | \$1,239,423 | \$1,129,712 | (\$109,711) | Impact on entire real-estate market calculated. Market value of rental properties declines |
| Property Tax Exemption | (\$936,056) | (\$936,056) | \$0 | Based on 20% of the City occupied by W&L. This will not change. |
| Property Tax Non Exempt Properties | \$68,228 | \$68,228 | \$0 | No significant change |
| Local sales and use taxes | \$225,768 | \$227,019 | \$1,252 | Slight rise as more students are closer to downtown Lexington |
| Consumers' Utility taxes | \$57,497 | \$51,232 | (\$6,265) | Fewer rented apartments |
| Business License taxes | \$99,021 | \$99,021 | \$0 | No significant change |
| Restaurant Food taxes | \$109,152 | \$110,718 | \$1,566 | Slight rise as more students are closer to downtown Lexington |
| Hotel and motel room taxes | \$32,884 | \$32,884 | \$0 | No significant change |
| Other local taxes | \$26,142 | \$26,142 | \$0 | No significant change |
| Payment to County School System | (\$527,158) | (\$527,158) | \$0 | No significant change |
| Streets | (\$38,296) | (\$38,296) | \$0 | No significant change |
| TOTAL | \$329,349 | \$343,343 | \$13,995 | |

EXHIBIT 2
IMPACT OF RESIDENTIAL POLICY CHANGE
ON LEXINGTON CITY GOVERNMENT 2015-2020

| Lexington Revenue and Expenses | FY 2014 Before Change | FY 2015 | FY 2016 | FY 2017 | FY 2018 | FY 2019 | FY 2020 | Total 2015-2020 |
|---------------------------------------|------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------------|
| Revenue from Rockbridge County | \$74,108 | \$74,108 | \$74,108 | \$74,108 | \$74,108 | \$74,108 | \$74,108 | \$444,650 |
| Fire | (\$123,893) | (\$81,933) | (\$81,933) | (\$81,933) | (\$81,933) | (\$81,933) | (\$81,933) | (\$491,595) |
| Police | (\$260,640) | (\$175,447) | (\$175,447) | (\$175,447) | (\$175,447) | (\$175,447) | (\$175,447) | (\$1,052,682) |
| Building permit, health and other | \$48,372 | \$48,372 | \$48,372 | \$48,372 | \$48,372 | \$48,372 | \$48,372 | \$290,234 |
| Payment in Lieu of Taxes | \$234,796 | \$234,796 | \$234,796 | \$234,796 | \$234,796 | \$234,796 | \$234,796 | \$1,408,776 |
| Property Tax Revenue | \$1,239,423 | \$1,129,712 | \$1,129,712 | \$1,149,335 | \$1,149,335 | \$1,164,498 | \$1,164,498 | \$6,887,091 |
| Property Tax Exemption | (\$936,056) | (\$936,056) | (\$936,056) | (\$936,056) | (\$936,056) | (\$936,056) | (\$936,056) | (\$5,616,334) |
| Property Tax Non Exempt Properties | \$68,228 | \$68,228 | \$68,228 | \$68,228 | \$68,228 | \$68,228 | \$68,228 | \$409,370 |
| Local sales and use taxes | \$225,768 | \$227,019 | \$227,019 | \$227,019 | \$227,019 | \$227,019 | \$227,019 | \$1,362,115 |
| Consumers' Utility taxes | \$57,497 | \$51,232 | \$51,232 | \$51,232 | \$51,232 | \$51,232 | \$51,232 | \$307,390 |
| Business License taxes | \$99,021 | \$99,021 | \$99,021 | \$99,021 | \$99,021 | \$99,021 | \$99,021 | \$594,127 |
| Restaurant Food taxes | \$109,152 | \$110,718 | \$110,718 | \$110,718 | \$110,718 | \$110,718 | \$110,718 | \$664,306 |
| Hotel and motel room taxes | \$32,884 | \$32,884 | \$32,884 | \$32,884 | \$32,884 | \$32,884 | \$32,884 | \$197,306 |
| Other local taxes | \$26,142 | \$26,142 | \$26,142 | \$26,142 | \$26,142 | \$26,142 | \$26,142 | \$156,853 |
| Payment to County School System | (\$527,158) | (\$527,158) | (\$527,158) | (\$527,158) | (\$527,158) | (\$527,158) | (\$527,158) | (\$3,162,951) |
| Streets | (\$38,296) | (\$38,296) | (\$38,296) | (\$38,296) | (\$38,296) | (\$38,296) | (\$38,296) | (\$229,778) |
| TOTAL | \$329,349 | \$343,343 | \$343,343 | \$362,966 | \$362,966 | \$378,130 | \$378,130 | \$2,168,879 |

AVERAGE ANNUAL IMPACT 2015-2020

\$361,480

IMPACT IN 2014 BEFORE CHANGE

\$329,349

NET ANNUAL GAIN

\$32,131

EXHIBIT 3
W&L IMPACT ON ROCKBRIDGE COUNTY GOVERNMENT BEFORE
AND AFTER RESIDENTIAL POLICY CHANGE

| Rockbridge Revenue and Expenses | FY 14 Before Change | FY 15 Year of Change | Difference 2014-2015 | Explanation |
|------------------------------------------------|---------------------|----------------------|----------------------|-----------------------------------------------------------------------------------|
| Police and Fire | (\$158,117) | (\$145,935) | (\$12,182) | Reduced involvement of Rockbridge Police and Fire with W&L students in the County |
| Property Tax Revenue from Rockbridge Residents | \$1,831,481 | \$1,670,169 | \$161,312 | Market value of rental properties declines |
| Property Tax Non Exempt Properties | \$7,096 | \$7,096 | \$0 | No significant change |
| Local sales tax | \$164,757 | \$162,609 | \$2,148 | Slight drop as more students are closer to downtown Lexington |
| Consumers' Utility taxes | \$43,863 | \$43,188 | \$675 | Fewer rented apartments |
| Business License taxes | \$60,755 | \$60,755 | \$0 | No significant change |
| Meal taxes | \$89,320 | \$88,155 | \$1,164 | Slight drop as more students are closer to downtown Lexington |
| Lodging taxes | \$85,965 | \$85,965 | \$0 | No significant change |
| Other local taxes | \$36,076 | \$35,901 | \$174 | Slight drop as more students are closer to downtown Lexington |
| Education | (\$1,699,531) | (\$1,699,531) | \$0 | No significant change |
| TOTAL | \$461,664 | \$308,372 | \$153,292 | |

EXHIBIT 4
WASHINGTON AND LEE IMPACT ON ROCKBRIDGE COUNTY
GOVERNMENT 2015-2020

| Rockbridge Revenue and Expenses | FY 2014 Before Change | FY 2015 | FY 2016 | FY 2017 | FY 2018 | FY 2019 | FY 2020 | Total 2015-2020 |
|----------------------------------------|------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------------|
| Police and Fire | (\$158,117) | (\$145,935) | (\$145,935) | (\$145,935) | (\$145,935) | (\$145,935) | (\$145,935) | (\$875,611) |
| Property Tax Revenue | \$1,831,481 | \$1,670,169 | \$1,670,169 | \$1,680,747 | \$1,680,747 | \$1,693,969 | \$1,693,969 | \$10,089,770 |
| Property Tax W&L Payment | \$7,096 | \$7,096 | \$7,096 | \$7,096 | \$7,096 | \$7,096 | \$7,096 | \$42,576 |
| Local sales tax | \$164,757 | \$162,609 | \$162,609 | \$162,609 | \$162,609 | \$162,609 | \$162,609 | \$975,653 |
| Consumers' Utility taxes | \$43,863 | \$43,188 | \$43,188 | \$43,188 | \$43,188 | \$43,188 | \$43,188 | \$259,127 |
| Business License taxes | \$60,755 | \$60,755 | \$60,755 | \$60,755 | \$60,755 | \$60,755 | \$60,755 | \$364,529 |
| Meal taxes | \$89,320 | \$88,155 | \$88,155 | \$88,155 | \$88,155 | \$88,155 | \$88,155 | \$528,931 |
| Lodging taxes | \$85,965 | \$85,965 | \$85,965 | \$85,965 | \$85,965 | \$85,965 | \$85,965 | \$515,789 |
| Other local taxes | \$36,076 | \$35,901 | \$35,901 | \$35,901 | \$35,901 | \$35,901 | \$35,901 | \$215,408 |
| Education | (\$1,699,531) | (\$1,699,531) | (\$1,699,531) | (\$1,699,531) | (\$1,699,531) | (\$1,699,531) | (\$1,699,531) | (\$10,197,187) |
| TOTAL | \$461,664 | \$308,372 | \$308,372 | \$318,949 | \$318,949 | \$332,172 | \$332,172 | \$1,918,986 |

AVERAGE ANNUAL IMPACT 2015-2020

\$319,831

IMPACT IN 2014 BEFORE CHANGE

\$461,664

AVERAGE ANNUAL REVENUE DECLINE

(\$141,833)

EXHIBIT 5
IMPACT OF W&L RESIDENTIAL POLICY CHANGE ON
REGIONAL APARTMENT VACANCY RATES 2013-2020

| YEAR | LEXINGTON | ROCKBRIDGE COUNTY |
|-------------|------------------|--------------------------|
| 2013 | 3.5% | 8.0% |
| 2014 | 3.5% | 8.0% |
| 2015 | 10.0% | 14.4% |
| 2016 | 7.0% | 10.6% |
| 2017 | 5.0% | 9.4% |
| 2018 | 4.5% | 8.8% |
| 2019 | 4.0% | 8.4% |
| 2020 | 3.5% | 8.0% |

Exhibit 6 Lexington Apartment Vacancy Rate 2013-2020

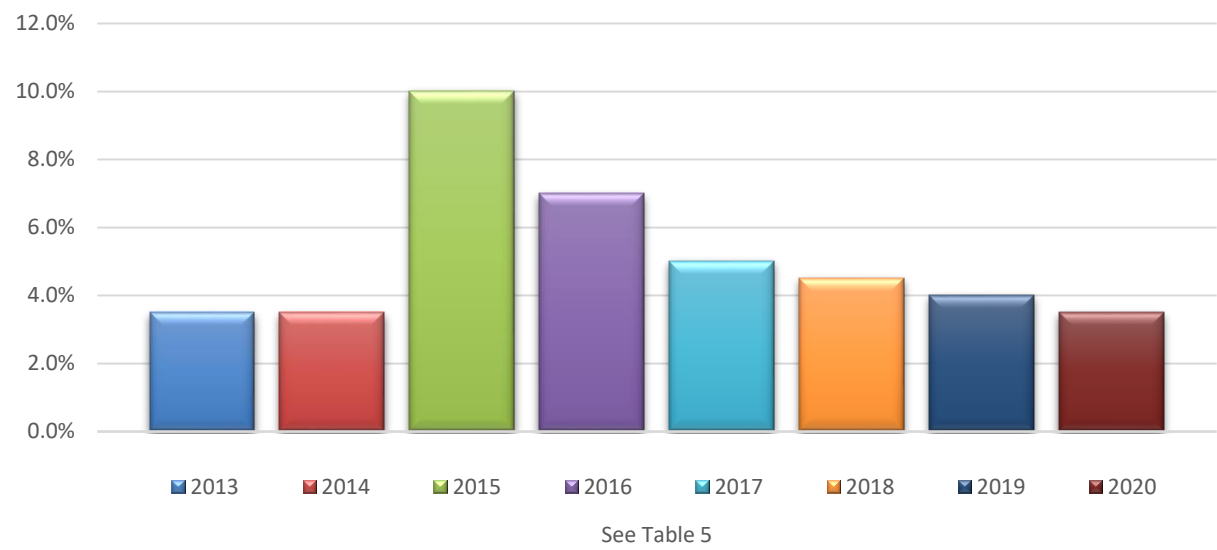


Exhibit 7 Rockbridge County Apartment Vacancy Rate 2013-2020

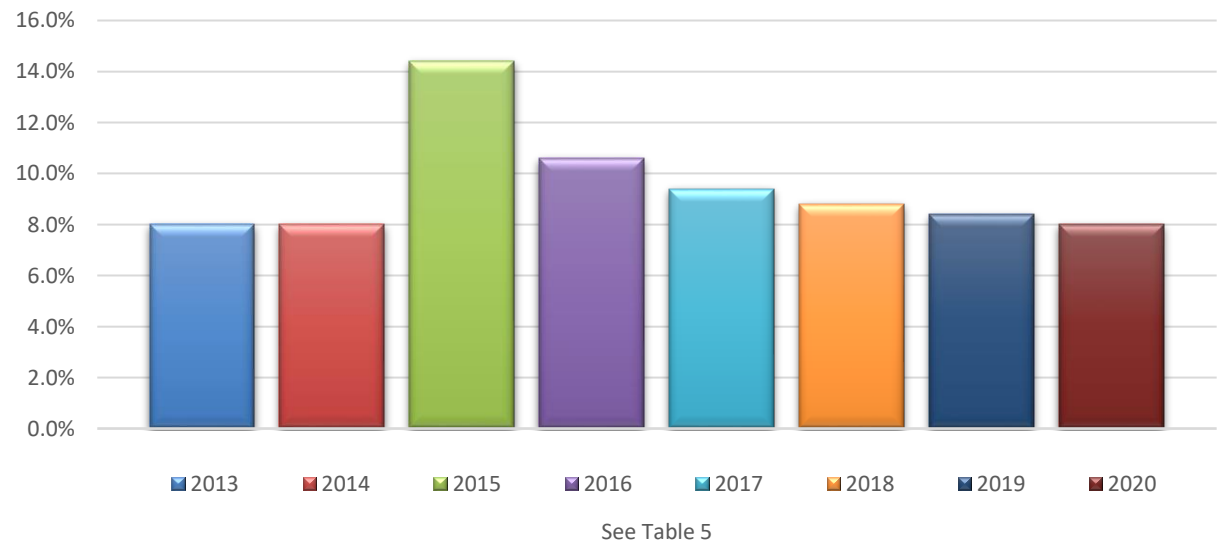


Exhibit 6 Lexington Apartment Vacancy Rate 2013-2020

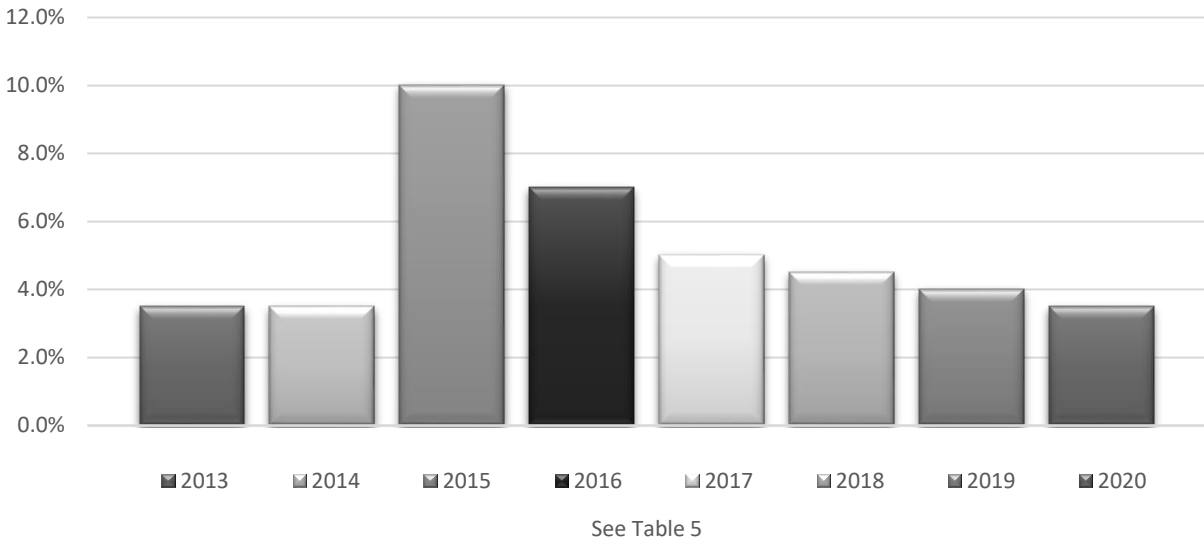
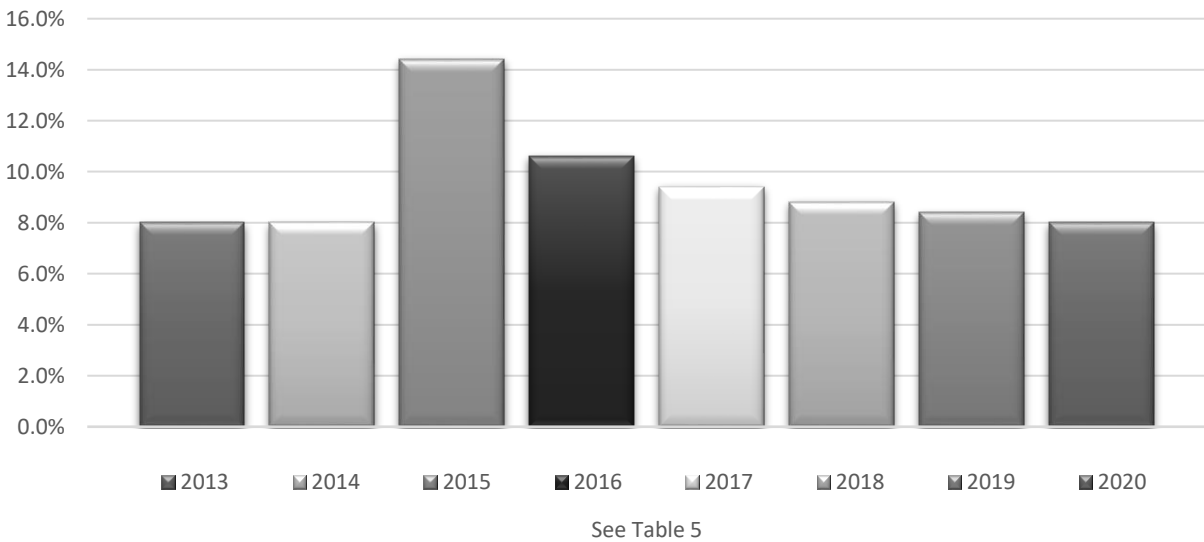


Exhibit 7 Rockbridge County Apartment Vacancy Rate 2013-2020



ASSUMPTIONS BEHIND THE ANALYSIS

- No major changes in the national and Virginia economies
- No major changes in the W&L financial situation
- There is no inflation. Prices are in 2013 dollars.
- Based on information for FY 2009-2010 for Lexington and FY 2010-2011 for W&L. Basic financial ratios and relationships have not changed significantly.
- Based on information for FY 2011-2012 for Rockbridge County and FY 2010-2011 for W&L. Basic financial ratios and relationships have not changed significantly.
- In 2015 there will be 350 fewer W&L juniors involved in the local apartment rental market.
- Apartment average monthly rent rates drop significantly in 2015.
- Apartment vacancy rates recover to 2014 levels by 2020. (See Exhibits 5, 6 and 7)
- City of Lexington and Rockbridge County property reassessments go into effect in 2016, 2018 and 2020

SOURCES OF DATA ANALYSIS

- 1) **LEXINGTON/ROCKBRIDGE/BUENA VISTA APARTMENT RENTAL MARKET –**
Axiometrics of Dallas, Texas forecasted effects of the policy change on Apartment supply, demand and rental rates. Axiometrics Power Point is included in a separate file
- 2) **ANALYSIS OF RENTAL MARKET CHANGES ON APARTMENT VALUES –**
Dr. Steven Bourassa, KHC Real Estate Research Professor, Department of Urban and Public Affairs, University of Louisville, Louisville, Kentucky. A summary of his work is included in this document.
- 3) **EFFECT OF RENTAL MARKET CHANGES ON LOCAL GOVERNMENT FINANCES –**
Kevin Stokes of EconIMPACT, Scottsburg, Indiana.

Summary of Valuation of Apartment Stock for Lexington, VA, Market
Steven C. Bourassa, Ph.D.
KHC Real Estate Research Professor
Department of Urban and Public Affairs
University of Louisville
426 W. Bloom Street
Louisville, KY 40208

The accompanying spreadsheet presents two scenarios for valuing the stock of 1,931 apartment units in place in 2014. The valuations are as of January 1, 2014. The first scenario assumes a drop in demand of 123 in 2015 and a corresponding decline in rental rates. Subsequently demand recovers in a manner consistent with the forecasts by Axiometrics until 2017, after which rents increase at a 2% rate per year (the growth rate forecast for 2017) and the vacancy and credit loss rate returns to the percentage forecast for 2014 (6.4% plus an assumed 1% for credit losses). The second scenario does not assume a drop in demand in 2015. Instead, rents for 2014 are as forecast by Axiometrics and are assumed to increase by 2% per year. Vacancy and credit loss rates remain constant at the 2014 forecast rate (6.4% plus 1%).

For each scenario, annual cash flows are calculated for 2014 through 2021. The cash flows assume no mortgage debt in order to simplify the analysis. It is also assumed that the cash flows on average occur at the midpoint of each year (July 1), except for the final cash flow, which occurs January 1, 2021. This final cash flow represents the proceeds from sale of the property on that date. The sale value of the property is estimated based on projected net operating income for 2021 divided by a going out or reversion capitalization (“cap”) rate. The going out cap rate is a national average for multi-family properties as reported in *IRR Viewpoint 2013*. The cash flows for 2014 through 2020 are based on the difference between rental income and operating expenses, which is referred to as net operating income. Also, an estimate of typical capital expenditures is deducted from net operating income to yield an estimate of cash flow from operations. The present value of all of the cash flows (including the proceeds from the terminal sale) is calculated to determine the value of the property as of January 1, 2014. The present value is calculated using a national average discount rate for multi-family properties as reported in *IRR Viewpoint 2013*.

The estimated value of the apartment stock as of the beginning of 2014, assuming a decrease in demand in 2015 (Scenario 1), is \$139.6 million. The estimated value of the apartment stock as of the beginning of 2014, assuming no decrease in demand in 2015 (Scenario 2), is \$158.7 million. This implies that the expected reduction in demand in 2015 would reduce the value of the apartment stock as of January 1, 2014, by about 13.7%.

The estimated value of the apartment stock as of the beginning of 2021, assuming a decrease in demand in 2015 (Scenario 1), is \$158.1 million. The estimated value of the apartment stock as of the beginning of 2021, assuming no decrease in demand in 2015 (Scenario 2), is \$180.0 million. This implies that the expected reduction in demand in 2015 would reduce the value of the apartment stock as of January 1, 2021, by about 13.9%, or about the same percentage as in 2014.