GMU APARTMENT SUMMIT

SCALE OF DISRUPTION – THE SHARING ECONOMY’S EFFECT ON COMMERCIAL REAL ESTATE

Newmark Grubb Knight Frank

APRIL 4, 2017
PAYROLL JOB GROWTH – LARGEST METRO AREAS
12 MONTHS ENDING FEBRUARY 2017

Source: U.S. Bureau of Labor Statistics, NGKF Research; April 2017
PROFESSIONAL / BUSINESS SERVICES DRIVING JOB GROWTH

PAYROLL JOB CHANGE
WASHINGTON METRO AREA: 2014 VS. 2015 VS. 2016 ANNUAL AVERAGES

Other Economic Factors:

• Leisure/Hospitality, Professional/Business Services, and Education/Health are the three fastest-growing sectors

• Professional/Business Services is the largest sector

• Overall job growth rate of 1.8% exceeds U.S. rate of 1.6%

Projected Overall Job Growth:
2017 = 1.8%
2018 = 1.6%

Source: U.S. Bureau of Labor Statistics, Moody’s, NGKF Research; April 2017
STURDY JOB GROWTH PROJECTED TO CONTINUE
PAYROLL JOB CHANGE

Source: U.S. Bureau of Labor Statistics, Dr. Stephen Fuller, NGKF Research; April 2017
JOB GROWTH LEADS TO MULTIHOUSING DEMAND
FIVE-YEAR PROJECTED PAYROLL JOB CHANGE
WASHINGTON METRO AREA | 2017 – 2021

Source: U.S. Bureau of Labor Statistics, Dr. Stephen Fuller, NGKF Research; April 2017
THE WASHINGTON AREA MULTIHOUSING MARKET
THE WASHINGTON AREA MULTIHOUSING MARKET

WASHINGTON OCCUPANCY ON PAR WITH PEER MARKETS

MULTIHOUSING OCCUPANCY RATE IN MAJOR METRO AREAS | 4Q 2016

Source: Axiometrics, NGKF Research; April 2017
THE WASHINGTON AREA MULTIHOUSING MARKET

ANNUAL MULTIHOUSING ABSORPTION, ALL CLASSES

WASHINGTON METRO AREA | 2007 - 2019

Source: Axiometrics, NGKF Research; April 2017

3-Year Average = 12,358
Projected Average = 9,475

Multihousing Units (All Classes)

-4,000 -2,000 0 2,000 4,000 6,000 8,000 10,000 12,000 14,000 16,000


10-Year Average = 7,778
THE WASHINGTON AREA MULTIHOUSING MARKET
DEMAND AND DELIVERY PROJECTIONS
WASHINGTON METRO AREA | 1Q 2017 – 4Q 2019

Net Absorption: 9,475 units/year = 28,426 units

Demand

Deliveries

Planned and may deliver by 12/19: 8,690 units
Under construction: 31,733 units
Total = 40,423 units

Source: Axiometrics, NGKF Research; April 2017
THE WASHINGTON AREA MULTIHOUSING MARKET
ANNUAL EFFECTIVE RENT GROWTH
WASHINGTON METRO AREA | 2002 - 2019

Source: Axiometrics, NGKF Research; April 2017
THE WASHINGTON AREA MULTIHOUSING MARKET
ANNUAL MULTIHOUSING ABSORPTION, ALL CLASSES
NORTHERN VIRGINIA | 2007 - 2019

Source: Axiometrics, NGKF Research; April 2017

10-Year Average = 5,675
3-Year Average = 6,080
Projected Average = 3,032

M U L T I H O U S I N G  U N I T S  (A L L  C L A S S E S )

0 2,000 4,000 6,000 8,000 10,000 12,000
THE WASHINGTON AREA MULTIHOUSING MARKET
DEMAND AND DELIVERY PROJECTIONS
NORTHERN VIRGINIA | 1Q 2017 – 4Q 2019

Net Absorption:
3,032 units/year = 9,096 units

Deliveries
- Planned and may deliver by 12/19: 2,464 units
- Under construction: 10,937 units
Total = 13,401 units

Source: Axiometrics, NGKF Research; April 2017
ANNUAL EFFECTIVE RENT GROWTH (ALL CLASSES)

10-Year Average = 2.1%

3-Year Projected Average = 1.5%

Source: Axiometrics, NGKF Research; April 2017
THE WASHINGTON AREA MULTIHOUSING MARKET
MULTIHOUSING INVESTMENT SALES VOLUME AND PRICE PER UNIT BY JURISDICTION
WASHINGTON METRO AREA | 2016

Source: Real Capital Analytics, NGKF Research; April 2017
TRENDS DRIVING THE SHARING ECONOMY
PENT-UP DEMAND
YOUNG ADULTS LIVING WITH PARENTS
UNITED STATES | 1880 - 2014

Source: U.S. Census Bureau, Pew Research Center, NGKF Research; November 2016
DECLINE IN SINGLE-PERSON HOUSEHOLDS
PERCENT OF HOUSEHOLDS WITH HOUSEHOLDER LIVING ALONE
WASHINGTON METRO AREA VS. UNITED STATES | 2009 – 2015

Source: U.S. Census Bureau, NGKF Research; April 2017
WASHINGTON WAGE GROWTH TRAILING NATIONAL AVERAGE

PERCENT CHANGE IN AVERAGE ANNUAL PAY
WASHINGTON METRO AREA VS. UNITED STATES | 2006 - 2015

Source: U.S. Bureau of Labor Statistics, NGKF Research; April 2017
WASHINGTON STILL HAS HIGHEST INCOME IN THE U.S.

AVERAGE HOUSEHOLD INCOME
LARGEST U.S. METROPOLITAN AREAS | 2016 AND PROJECTIONS FOR 2021

Source: Esri, NGKF Research; April 2017
HIGH CONCENTRATION OF MILLENNIALS
SHARE OF POPULATION 25 - 34 YEARS OLD
MAJOR U.S. METROS | 2015

Source: U.S. Census Bureau, NGKF Research; April 2017
ACCESS TO TRANSIT SUPPORTS MULTIHOUSING
PERCENT OF POPULATION LIVING NEAR RAPID TRANSIT
MAJOR U.S. METROS | 2016

Note: As of October 2016
Source: Institute for Transportation and Policy Development, NGKF Research; April 2017
NEW APARTMENTS GETTING SMALLER
AVERAGE UNIT SIZE BY YEAR BUILT
WASHINGTON METRO VS. MAJOR METROS | 2016

*By population
Source: Axiometrics, RCLCO, NGKF Research; April 2017
THE SHARING ECONOMY’S EFFECT ON COMMERCIAL REAL ESTATE
SPACE IS MORPHING
BLURRING THE LINES BETWEEN PROPERTY TYPES

Source: Slide - photo by Richard Burger in Houston Chronicle, Desk- decoist.com, Tapas- Mulebone on facebook.com, Fulfillment center- thebillfold.com; April 2017
REAL ESTATE SHARING ECONOMY STARTUPS
EQUITY FUNDING FOR SPACE-SHARING COMPANIES
AS OF MARCH 2017

Hotels: Airbnb
Founded 2008
Total Equity Funding: $3.4B in 10 rounds from 41 investors

Retail: Storefront
Founded 2012
Total Equity Funding: $8.9 million in 2 rounds from 16 investors

Multihousing:
Common
Founded 2015
Total Equity Funding: $23.4 million in 2 rounds from 15 investors

Industrial:
Flexe
Founded 2013
Total Equity Funding: $20.8 million in 5 rounds from 7 investors

Office:
WeWork
Founded 2010
Total Equity Funding: $3.7B in 10 rounds from 14 investors

WeWork funding 6 months ago: $1.4B

Note: Size of each bubble represent approximate scale of funding amount
Source: CrunchBase, NGKF Research; April 2017
## THE SHARING ECONOMY THEN AND NOW

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>COMPANY</th>
<th>THEN</th>
<th>NOW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation</td>
<td>Uber, Lyft</td>
<td>Launch Uber and Lyft are launched in 2012</td>
<td>Over 117,000 drivers Over 117,000 Uber and Lyft drivers registered with the VA DMV between mid 2015 and mid 2016</td>
</tr>
<tr>
<td>Office</td>
<td>WeWork</td>
<td>1 location WeWork is founded in 2010 and opens its first location in New York City</td>
<td>155 locations WeWork now has 155 locations worldwide, 8 in the Washington metro area</td>
</tr>
<tr>
<td>Hotels</td>
<td>Airbnb</td>
<td>1 million bookings Airbnb celebrates its 1 millionth booking in February 2011</td>
<td>90 million bookings Airbnb has over 90 million unique reservations as of 2017</td>
</tr>
<tr>
<td>Multihousing</td>
<td>Common</td>
<td>N/A</td>
<td>8 locations Common has 8 locations in NY and SF and 1 coming soon to DC</td>
</tr>
</tbody>
</table>

Source: New York Times, Uber, Common, WeWork, Washington Post, SF Gate, Airdna NGKF Research; April 2017
MILLENNIALS MORE ENGAGED WITH THE SHARING ECONOMY
COMPARISON OF SHARING ECONOMY USAGE BY GENERATION

Note: Based on a 2015 survey of 1,080 travelers
Source: CWT Travel Management Institute, NGKF Research; April 2017
RETAIL SERVICES SHARING ECONOMY
SURVEY RESPONDENTS WHO HAVE USED A SHARING ECONOMY SERVICE FOR...

Note: Based on survey of 850 consumers in the U.K. and the U.S.; as of May 2016
Source: Veridu, The People Who Share, NGKF Research; April 2017
OFFICE SHARING ECONOMY
COWORKING SPACE ABSORPTION AS A SHARE OF OVERALL OFFICE SPACE ABSORPTION
WASHINGTON METRO AREA | 2016

WeWork alone leased over 200,000 SF in the Washington metro area in 2016.

Coworking Leases = 223,360 SF or 15%

All Other Office Leases = 1.3 MSF or 85%

Overall Office Net Absorption 1.5 MSF

Source: CoStar, NGKF Research; April 2017
HOTEL SHARING ECONOMY
AIRBNB IS WORTH MORE ON PAPER THAN MOST MAJOR HOTEL COMPANIES

Note: Data as of March 10, 2017
Source: Yahoo Finance, CNBC, qz.com, NGKF Research; April 2017
MULTIHOUSING SHARING ECONOMY
WILL IT FIND SUCCESS?

6 locations in NY, DC and Boston at its peak. Closed all locations in 2015.

30 locations in NY and SF at its peak. Closed all locations in 2015.

Closed Brooklyn location in 2016. Working on developing other locations.

8 locations in NY and SF, 1 coming soon to DC.

5 U.S. locations in Philly, SF, and NY, 9 locations worldwide.

2 locations in NY and DC.

Source: Boston Globe, Purehouse, Common, Sfist.com, WeLive, Embassy Network, NGKF Research; April 2017
MULTIHOUSING AMENITIES EMBRACING THE SHARING ECONOMY

Valor Development’s new apartment building, The Vintage on 16th, does not offer parking but instead has an Uber waiting room for tenants.

28 local property management companies partner with Zipcar to provide discounts to residents.

JBG’s Fort Totten Square apartments have a Capital Bikeshare station on-site as well as Zipcar and Car2Go spaces.
MORE APARTMENT RENTERS USE NON-CAR TRANSPORTATION PRIMARY TRANSPORTATION TO WORK UNITED STATES | 2015

Source: National Multifamily Housing Council. NGKF Research; April 2017
PARKING REQUIREMENTS DECREASING AS SHARING ECONOMY GROWS

Jurisdictions that recently reduced or are considering reducing parking requirements for new multihousing development include:

Source: Urban Turf, Arlington Transportation Partners, Greater Greater Washington, Connection Newspapers, NGKF Research; April 2017
Innovative Business Model

Lightly Regulated

Optimal Competitive / Innovative Balance

Established Business Model

Heavily Regulated

Source: Sunil Johal, Mowat Centre, NGKF Research; April 2017
Airbnb introduced its Friendly Buildings Program in late 2016. Approximately 33% of executives from major apartment firms would be open to participating.

Arlington County passed a law regulating home sharing with services like Airbnb; the District has proposed a similar law.

Lawmakers have faced backlash from residents who use these services.

Source: NMHC, Airbnb, NGKF Research, April 2017
DOWNLOAD OUR SCALE OF DISRUPTION WHITE PAPER AT: NGKF.COM