

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549**

FORM 10-K

- ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2019

OR

- TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

Commission File Number: 001-36853

ZILLOW GROUP, INC.

(Exact name of registrant as specified in its charter)

Washington

(State or other jurisdiction of incorporation or organization)

47-1645716

(I.R.S. Employer Identification No.)

**1301 Second Avenue, Floor 31,
Seattle, Washington 98101**

(Address of principal executive offices) (Zip Code)

(206) 470-7000

@ZillowGroup

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Class A Common Stock, par value \$0.0001 per share	ZG	The Nasdaq Global Select Market
Class C Capital Stock, par value \$0.0001 per share	Z	The Nasdaq Global Select Market

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company,” and “emerging growth company” in Rule 12b-2 of the Exchange Act.

<input checked="" type="checkbox"/>	Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
<input type="checkbox"/>	Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
			Emerging growth company	<input type="checkbox"/>

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

As of June 30, 2019, the last business day of the Registrant’s most recently completed second fiscal quarter, the aggregate market value of the Registrant’s Class A common stock and Class C capital stock held by non-affiliates based upon the closing price of such shares on The Nasdaq Global Select Market on such date was \$8,254,728,878.

As of February 12, 2020, 58,747,256 shares of Class A common stock, 6,217,447 shares of Class B common stock, and 144,308,568 shares of Class C capital stock were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

The information required by Part III of this Report, to the extent not set forth herein, is incorporated in this Report by reference to the Registrant’s definitive proxy statement relating to the 2020 annual meeting of shareholders. The definitive proxy statement will be filed with the Securities and Exchange Commission within 120 days after the end of the 2019 fiscal year.

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ZILLOW GROUP, INC.
Annual Report on Form 10-K
for the Fiscal Year Ended December 31, 2019

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As used in this Annual Report on Form 10-K, the terms “Zillow Group,” “the Company,” “we,” “us” and “our” refer to Zillow Group, Inc., unless the context indicates otherwise.

NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K, including the sections entitled “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” “Risk Factors” and “Business,” contains forward-looking statements based on our management’s beliefs and assumptions and on information currently available to our management. Forward-looking statements include all statements that are not historical facts and generally may be identified by terms such as “believe,” “may,” “will,” “estimate,” “continue,” “anticipate,” “intend,” “could,” “would,” “project,” “plan,” “expect” or the negative or plural of these words or similar expressions.

These forward-looking statements are subject to a number of risks, uncertainties and assumptions, including those risks, uncertainties and assumptions described in Part I, Item 1A (Risk Factors) of this report, including, but not limited to:

- actual or anticipated fluctuations in our financial condition and results of operations;
- changes in projected operational and financial results;
- addition or loss of significant customers;
- actual or anticipated changes in our growth rate relative to that of our competitors;
- acquisitions, strategic partnerships, joint ventures, capital-raising activities, or other corporate transactions or commitments by us or our competitors;
- actual or anticipated changes in technology, products, markets or services by us or our competitors;
- changes in laws or regulations applicable to our business, employees, products or services;
- ability to obtain or maintain licenses and permits to support our current and future businesses;
- actual or anticipated changes to our products and services;
- the current and future health and stability of the residential housing market;
- ability to maintain or establish relationships with listings and data providers;
- fluctuations in the valuation of companies perceived by investors to be comparable to us; and
- issuance of new or updated research or reports by securities analysts.

Moreover, we operate in a very competitive and rapidly changing environment. New risks emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the effect of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this report may not occur and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements.

You should not rely on forward-looking statements as predictions of future events. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee that the future results, levels of activity, performance or events and circumstances reflected in the forward-looking statements will be achieved or occur. Moreover, except as required by law, neither we nor any other person assumes responsibility for the accuracy and completeness of the forward-looking statements, and we undertake no obligation to update publicly any forward-looking statements for any reason after the date of this report to conform these statements to actual results or to changes in our expectations.

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Our mission is to give people the power to unlock life's next chapter. Since our founding in 2004, we have been focused on making it easier for our customers to buy, sell, rent and finance residential real estate in the United States. Our customers begin their journey with us by visiting one of our real estate mobile applications or websites. Traffic to our services reached more than 200 million unique users in July 2019, with more than eight billion visits to our mobile applications and websites in 2019, most notably to Zillow, Trulia and StreetEasy.

At the core of Zillow is our inimitable, living database of more than 110 million U.S. homes and our differentiated content, most notably the Zestimate, our patented proprietary automated valuation model through which we provide real-time home value estimates. With the launch of the Zestimate in 2006, we introduced important transparency to real estate in order to empower consumers to make better decisions. In 2019, we released a new, more accurate Zestimate, which has a median absolute percent error of 1.9% for homes listed for sale and 7.7% for off-market homes. Our data and content has helped the Zillow brand become synonymous with real estate. Today, more people now search for "Zillow" than "real estate," according to a 2019 Google Trends report, and Zillow is the most trusted brand in the industry.

We are in the midst of a significant, multi-year business model expansion, building on the strong foundation of our established real estate marketplaces and advertising-based revenue model to move into facilitating real estate transactions and offering related adjacent services. Through our mobile applications and websites, we are focused on helping customers transact and move directly through our growing portfolio of Zillow-branded and affiliated transaction-related services and/or through referrals to trusted Zillow Premier Agent or Premier Broker partners.

This strategic expansion has dramatically increased our total addressable market from \$19 billion in real-estate related advertising according to a 2019 Borrell Associates report to \$1.9 trillion in annual U.S. real estate transactions, which represents the estimated transaction value of existing and new homes sold in 2019, according to the US Census Bureau and National Association of REALTORS®.

Our expansion into transaction-related services also allows us to build closer relationships with our customers to help them find and move into the places they call home throughout their lives, which is at the core of our mission.

We have organized our business into three segments, Homes, Internet, Media & Technology ("IMT") and Mortgages. These segments reflect the way we evaluate business performance and manage our operations. The Homes segment includes the financial results from our purchase and sale of homes directly. The IMT segment includes the financial results for the Premier Agent, Rentals and new construction marketplaces, dotloop, and display, as well as revenue from the sale of various other marketing and business products and services to real estate professionals. The Mortgages segment includes financial results for advertising sold to mortgage lenders and other mortgage professionals, mortgage originations through Zillow Home Loans and the sale of mortgages on the secondary market, as well as Mortech mortgage software solutions. Refer to Note 24 of our Notes to Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K for revenue by segment.

Customer Offerings

To deliver on our mission, our long-term vision is to deliver a seamless, integrated transaction experience for movers through Zillow, our affiliated brands, or our network of trusted partners to ultimately save our customers substantial time, money and hassle. We do this through a range of services designed to help our customers in whatever stage(s) of home they may be in. This typically includes the need for multiple services simultaneously. According to the Zillow Group Consumer Housing Trends Report in 2019, nearly two-thirds of sellers are also buying at the same time and nearly half of those looking to buy also consider renting.

Our services are primarily designed for the following:

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For Sellers - We launched Zillow Offers in April 2018 to provide homeowners the ability to receive cash offers from Zillow Offers to purchase their home, giving sellers peace of mind, control and convenience in one of the most stressful transactions of their lives. We have the potential to connect sellers who do not qualify for or accept an offer from Zillow with a trusted local Premier Agent partner. When we buy a home from a seller, we perform light, make-ready repairs to list the home on the open market as soon as possible. As of December 31, 2019, Zillow Offers was available in 22 markets and accounted for nearly \$1.4 billion of revenue for the year, up from \$52.4 million in revenue for the year ended December 31, 2018. This reflects less than 0.1% of the estimated annual U.S. real estate transaction value. For the year ended December 31, 2019, we purchased 6,511 homes from sellers.

For Buyers - When a buyer is ready to meet with a local real estate professional after searching for a home on our mobile applications and websites, we typically connect them with a Premier Agent partner. For customers who are focused on buying new construction homes, we connect them with our home builder partners. And, since May 2018, home buyers have also been able to purchase homes that are listed for resale through Zillow Offers. For the year ended December 31, 2019, home buyers purchased 4,313 homes through Zillow Offers.

For Renters - Nearly twice as many leases are executed each year (10.6 million, according to the 2018 American Community Survey conducted by the US Census Bureau) than homes sold (5.3 million, according to the 2019 US Census Bureau and National Association of REALTORS®) in the United States, and we connect prospective renters with our property management and landlord partners in the Zillow Rental Network, which provides renters access to the largest collection of rental properties in the United States, according to a 2019 Comscore Media Metrix® report. We also provide renters with the ability to easily submit applications, sign leases and make rental payments through our platform.

For Borrowers - According to the 2018 Zillow Group Consumer Housing Trends Report, approximately 77% of homes purchased in the United States are financed with mortgage debt. We provide our customers with multiple ways to pursue mortgage financing for their transaction. Zillow Home Loans, which we rebranded in 2019 following the October 2018 acquisition of Mortgage Lenders of America, originates mortgage loans and then sells the loans on the secondary market and is available in 44 states. We provide customers the option to finance directly with Zillow Home Loans or to connect with our mortgage partners through our mortgage marketplace for both purchase and refinance opportunities.

Competitive Advantages

We believe we have the following competitive advantages:

- *Large and trusted brand.* The Zillow Group portfolio attracted more than 200 million unique users in July 2019 and more than eight billion visits in 2019. Our master brand “Zillow” is searched more often than “real estate,” according to a 2019 Google Trends report, and has become the most trusted brand in the industry. Our large and engaged audience and brand trust keeps our customer acquisition costs low.
- *Inimitable living database of homes and superior data science and technology advantages.* Our living database of more than 110 million U.S. homes is the result of more than 14 years of substantial investment, sophisticated economic and statistical analysis and complex data aggregation of multiple sources of property, transaction and listing data, including user updates to more than 32 million property records. This data is the foundation of our proprietary Zestimate, Rent Zestimate, Zestimate Forecast and Zillow Home Value Index. In 2019, we released a new, more accurate Zestimate, incorporating key learnings from the two-year, global Zillow Prize competition. The new Zestimate has a median absolute percent error of 1.9% for homes listed for sale and 7.7% for off-market homes. These data and models also undergird our pricing algorithms for Zillow Offers, although substantially more home-specific information is incorporated to further refine the valuation for this application.
- *Superior industry partnerships.* Zillow Group partners with thousands of the most productive names in real estate, maintaining strong partnerships with leading real estate agents, brokers, mortgage professionals, property managers, landlords, home builders as well as regional multiple listing services and more. As we move down funnel into transaction-related services, we work to partner with high-performing and service-focused industry partners who share our interests in providing the best-possible services to our shared customers.

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- *Experienced, Proven Management Team.* We have a highly experienced management team who have successfully built Zillow and other brands into category leaders. In the past two years, we have added executive talent with deep experience in building transaction-focused real estate, mortgage and e-commerce businesses as well as sophisticated capital market financing. The skills and experiences of our management team provide strategic insights and abilities to deliver a seamless real estate transaction experience for our customers.
- *Strong Culture of Innovation and Inclusion.* Zillow Group has built an award-winning culture of collaboration and innovation that is committed to employee equity and creating an environment where employees feel valued, supported and that they belong. Recent workplace awards include being named on the Human Rights Campaigns' Corporate Equality Index and Best Place to Work for LGBTQ Equality and Bloomberg's 2020 Gender Equality Index as well as Fortune's Best Places to Work 2019 and Fortune Best Workplaces for Technology, Millennials, Women and Parents.
- *Strong Financial Position.* Zillow has a strong balance sheet and a large and growing IMT business that generates substantial cash flow to help finance the expansion of our new businesses. We also have access to multiple sources of capital to fund our investments.

Total Addressable Market

We participate in large addressable markets of buying, selling, renting, and financing housing in the U.S. As we move into transaction-related services, our Total Addressable Market (“TAM”) has expanded from \$19 billion in U.S. real estate related advertising according to a 2019 Borrell Association report to \$1.9 trillion of annual home sales (according to the 2019 US Census Bureau and National Association of REALTORS®) in the largest asset class in the country in which we participate directly through buying and selling homes through Zillow Offers as well as through Zillow-referred transactions, facilitated by our Premier Agent partners. In addition, Zillow is in the early stages of offering essential adjacent services for Zillow Offers transactions, including mortgages through Zillow Home Loans and title and escrow closing services through Zillow Closing Services in select markets. According to a 2019 Macquarie Research report, U.S. mortgage origination represents a \$44 billion annual opportunity while title and escrow represents another \$35 billion annual opportunity according to IBISWorld in 2019.

With nearly half of all people looking to buy also considering renting, as reported in the fourth annual Zillow Group Report on Consumer Housing Trends, our strategically complementary rentals marketplace also participates in a nearly \$45 billion annual property management services industry (according to IBISWorld in 2019) by assisting our partners with listings, advertising, and leasing services in a market of 43 million rental units in the U.S. according to the 2019 US Census’ Current Population Survey.

We also may explore additional adjacent opportunities in the future, including but not limited to, home insurance (\$99 billion TAM according to a 2019 National Association of Insurance Commissioners Market Share Report), home warranties (\$2.5 billion TAM according to IBISWorld in 2019), home renovation services (\$354 billion TAM according to a 2019 housing study conducted by Harvard University) and moving services (nearly \$18 billion TAM according to IBISWorld in 2019).

Seasonality

Portions of our business may be affected by seasonal fluctuations in the residential real estate market, advertising spending, and other factors. Traffic to our mobile applications and websites has historically peaked during the spring and summer months, consistent with peak residential real estate activity. For further discussion on seasonality, see our Quarterly Results of Operations in Part II, Item 7 of this Annual Report on Form 10-K.

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Competition

Our business depends on our ability to successfully attract, retain and provide customers with products and services that make real estate transactions faster, easier, and less stressful.

The residential real estate landscape is highly fragmented and competitive from the beginning of the search process through the closing of a transaction, typically with single point service providers, with new entrants joining at a rapid pace. According to the 2019 US Census Bureau and National Association of REALTORS®, six million existing and new homes were sold in the United States, with over 86 thousand real estate brokerages and over 45 thousand mortgage lenders (according to the 2019 Nationwide Mortgage Licensing System Industry Report) providing their services across the 645 different Multiple Listing Services that span the country (according to the Real Estate Standards Organization in 2019). To date, Zillow Offers makes up less than 0.1% of the housing transactions in the United States and Zillow Home Loans makes up less than 0.1% of the mortgages originated in the United States.

We compete for customers with companies that provide technology, products, and services for real estate focused customers. Factors that may influence customer decisions include the quality of the experience, value and utility of the services offered, the breadth, depth and accuracy of information available, and brand awareness and reputation. For example, our Zillow Offers business competes for customers based on price, convenience and level of service provided with companies and individuals whose primary service is buying and selling homes. For customers shopping for a mortgage, Zillow Home Loans competes with other mortgage originators based on a combination of interest rates, origination fees, product selection and the level of service we provide.

In addition, our business depends on our ability to attract and retain leading industry partners to advertise and provide services to our customer base. We compete for real estate partners based on the perceived transaction readiness of customers, return on investment, price and product offerings, and the effectiveness and relevance of our products and services. Based on these and other factors, real estate partners could select other companies dedicated to providing real estate, rental, new construction, and mortgage information and services to real estate professionals, local brokerage sites and major internet portals, general search engines, e-commerce, and social media sites. We also compete for a share of our partners' overall marketing budgets with traditional media as well as word-of-mouth referrals and leads from yard signs and other marketing.

Intellectual Property

We regard our intellectual property as a key differentiator that is critical to our success and rely on a combination of intellectual property laws, trade-secret protection, and contractual agreements to protect our proprietary technology and data.

Our Zestimate, which we consider to be a significant competitive advantage with respect to customer engagement, leverages patented, proprietary, automated valuation models to provide real-time home value estimates. As of December 31, 2019, we have 92 patents of varying lengths issued and patent applications pending in the United States and internationally. These patents cover a variety of proprietary techniques relevant to our products and services, including determining a current value for real estate property and the collection, storage and display of home attribute values.

In addition, awareness and loyalty to our brand enables us to effectively attract and retain our customers. To support our brand, we have registered, or applied for the registration of, trademarks, service marks and copyrights in the United States and several other jurisdictions, including "Zillow," "Zestimate," and the Z in a house logo. We are also the registered holder of a variety of domestic and international domain names. We have licensed in the past, and expect that we may license in the future, certain of our proprietary rights to third parties.

To further protect our proprietary rights, we enter into confidentiality and proprietary rights agreements with our employees, consultants, contractors and business partners. Our employees and contractors are also subject to invention assignment provisions. We control the use of our proprietary technology, data and intellectual property through provisions in both our general and product-specific terms of use and other restrictions on our mobile applications and websites.

Government Regulation

We operate in an increasingly complex legal and regulatory environment. Our business and the products and services that we offer are affected by a continually expanding and evolving range of local, state, federal, and international laws and regulations. For additional information on government regulation refer to Part I, Item 1A (Risk Factors) of this Annual Report on Form 10-K.

Employees

As of December 31, 2019, we had 5,249 full-time employees.

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Zillow, Inc. was incorporated as a Washington corporation in December 2004, and we launched the initial version of our website, Zillow.com, in February 2006. We completed our initial public offering in July 2011. Zillow Group, Inc. was incorporated as a Washington corporation in July 2014 in connection with our acquisition of Trulia, Inc. Upon the closing of the acquisition in February 2015, each of Zillow, Inc. and Trulia, Inc. became wholly owned subsidiaries of Zillow Group.

Our filings with the Securities and Exchange Commission, or SEC, including our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports, are available on the “Investors” section of our website at www.zillowgroup.com, free of charge, as soon as reasonably practicable after the electronic filing of these reports with the SEC. The information contained on our website is not a part of this Annual Report on Form 10-K or any other document we file with the SEC.

Investors and others should note that Zillow Group announces material financial information to its investors using its press releases, SEC filings and public conference calls and webcasts. Zillow Group intends to also use the following channels as a means of disclosing information about Zillow Group, its services and other matters and for complying with its disclosure obligations under Regulation FD:

- Zillow Group Investor Relations Webpage (<http://investors.zillowgroup.com>)
- Zillow Group Investor Relations Blog (<http://www.zillowgroup.com/ir-blog>)
- Zillow Group Twitter Account (<https://twitter.com/zillowgroup>)

The information Zillow Group posts through these channels may be deemed material. Accordingly, investors should monitor these channels, in addition to following Zillow Group’s press releases, SEC filings and public conference calls and webcasts. This list may be updated from time to time. The information we post through these channels is not a part of this Annual Report on Form 10-K or any other document we file with the SEC, and the inclusion of our website addresses and Twitter account are as inactive textual references only.

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Our business is subject to numerous risks. You should carefully consider the following risk factors, as any of these risks could harm our business, results of operations, and future financial performance. Recovery pursuant to our insurance policies may not be available due to policy definitions of covered losses or other factors, and available insurance may be insufficient to compensate for damages, expenses, fines, penalties, and other losses we may incur as a result of these and other risks. In addition, risks and uncertainties not currently known to us or that we currently deem to be immaterial may materially and adversely affect our business, financial condition and operating results. If any of these risks occur, the trading price of our common and capital stock could decline, and you could lose all or part of your investment.

Risks Related to Our Business and Industry***If Real Estate, Rental and Mortgage Professionals, Home Builders or Other Real Estate Partners Reduce or End Their Advertising Spending With Us or if We Are Unable to Effectively Manage Advertising Inventory or Pricing, Our Business Could Be Harmed.***

Our current financial model depends in part on revenue generated primarily through sales of advertising products and services to real estate agents and brokerages, rental professionals, mortgage professionals, home builders, and other real estate partners in categories relevant to real estate. Our ability to attract and retain real estate partners, and ultimately to generate advertising revenue, depends on a number of factors, including how successfully we can:

- increase the number of customers who use our products and services to effectuate transactions and the frequency of their use, provide them with tools to promote engagement between real estate market participants, and enhance their user experience so we can retain them;
- offer an attractive return on investment to our real estate partners for their advertising spending with us;
- continue to develop our advertising products and services to increase adoption by and engagement with our real estate partners;
- keep pace with and anticipate changes in technology to provide industry-leading products and services to real estate partners and customers; and
- compete effectively for advertising dollars with other options.

Premier Agent revenue accounted for 34% of total revenue for the year ended December 31, 2019. This level of revenue concentration suggests that even modest decreases in individual spending across the real estate partner population, caused by actual or perceived decreases to return on investment, preference for a competitive service, or other factors, could have a significant negative impact on our results of operations and ability to invest in our emerging businesses. We do not have long-term contracts with most of our real estate partners. Our real estate partners could choose to modify or discontinue their relationships with us with little or no advance notice. For example, our auction-based account interface for Premier Agent partners allows agent partners to independently control the duration of their advertising commitments and our Premier Agent Flex program only requires Premier Agents to pay when a lead converts to a closed transaction. We may not succeed in retaining existing real estate partners' spending or capturing a greater share of such spending if we are unable to convince real estate partners of the effectiveness or superiority of our products as compared to alternatives, including traditional offline advertising media such as television and newspapers. In addition, we continually evaluate and utilize various pricing and value delivery strategies in order to better align our revenue opportunities with the growth in usage of our mobile and web platforms. In 2016, for example, we implemented an auction-based pricing method for our Premier Agent products, and in the second quarter of 2018 we began testing a new form of lead validation and distribution related to our auction-based pricing model that, combined with other market factors, led to an increase in cost-per-lead and a decrease in leads delivered to certain real estate partners, which resulted in higher than expected real estate partner churn, or reduction in spend or exit from the platform, in the third and fourth quarters of 2018. We made adjustments to the Premier Agent and Premier Broker programs to help address this churn in 2019, but we can provide no assurances regarding the success of these programs or future real estate partner churn. In October 2018, we began testing a new Flex pricing model for Premier Agent and Premier Broker advertising services in limited markets. With the Flex model, Premier Agents and Premier Brokers are provided with impressions and connections and no upfront cost and they pay a performance advertising fee only when a real estate transaction is closed with one of those leads. During this testing phase, we recognize revenue when we receive payment for a real estate transaction closed with a Flex lead, which delay in revenue recognition may negatively impact Premier Agent revenue in the short-term. In addition, performance advertising fees under the Flex model may be disputed and we may not recognize the revenue we expect from each closed transaction. If the Flex pricing model is broadly implemented, it may not be successful and may result in a harmful decrease in advertising spend from our real estate partners. Future

changes to our pricing or lead delivery methodologies for advertising services or product offerings may cause real estate partners to reduce or end their advertising with us or negatively impact our

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ability to manage revenue opportunities. If real estate partners reduce or end their advertising spending with us, or if we are unable to effectively manage inventory and pricing, our advertising revenue and business, results of operations and financial condition could be harmed.

Zillow Offers Could Fail to Achieve Expected Results and Cause Harm to Our Financial Results, Operations, and Reputation.

Through Zillow Offers, we purchase homes, make certain repairs and updates and sell homes back into the market. Zillow Offers has grown rapidly since we started offering the service in April 2018 and it may expose us to a variety of financial, legal, and reputational risks. The success of Zillow Offers depends in part on our ability to efficiently acquire, renovate and sell properties. In determining whether to purchase a property, we may make assumptions, including the estimated time from purchase to sale, the cost of updating a home, market conditions and potential resale proceeds, closing costs and holding costs. These assumptions may be inaccurate. Our estimates of what homes are worth may not be accurate, and we may pay more for homes than the price at which we are able to resell them. In addition, we may not discover latent home construction defects or environmental hazards or other issues in a timely manner, or at all, which may decrease the value of properties we own. As a result, we may be required to write down the inventory value of those homes and may not be able to resell them for the price we anticipated or at all. Further, homes we purchase may suffer decreases in value due to natural disasters, catastrophic events or other forces outside of our control and such loss or damage may not be insured.

We may compete with other purchasers for the acquisition of properties, including institutional investors, smaller scale investors and private home buyers, and some of those competitors may have a higher risk tolerance, different risk assessments, different underwriting requirements or may not be subject to the same operating constraints we are, and may be willing to pay more for homes than we are or have greater financial or other resources than we do. Competition for the purchase of homes may result in our purchase of fewer properties, higher purchase prices and lower margins - or losses - realized on the sale of our homes.

The supply of and demand for homes, and the amounts prospective home buyers are willing to pay for properties, are impacted by the strength of the overall economy, employment levels, availability of credit, tax or other governmental incentives that encourage homeownership and regulation of mortgage interest rates, among other factors. Changes to these factors may negatively impact our ability to purchase a sufficient number of properties to realize benefits of scale and sell properties at the amounts we anticipated, if at all.

The actual or perceived quality of the homes we sell may be poor due to factors both within and beyond our control, such as our decision to make certain upgrades but not others and latent defects in properties of which we are not aware or which are mistakenly not disclosed to the purchaser. Properties may experience unsafe conditions while we own them or soon after we resell them, which may cause harm to person or property. We may be subject to new legal, regulatory, and other requirements and local ordinances, as well as disputes with customers, service providers, and others arising from our purchase, renovation, or resale of properties. These and other factors may reduce customer confidence in our services and negatively impact our business reputation.

We use local and national third-party general contractors, vendors and service providers to make upgrades to and perform maintenance on homes, and we can provide no assurances regarding the quality of their work, that we will have uninterrupted or unlimited access to their services or that we will be able to effectively control the timing and costs of their projects. If we do not select and maintain appropriate third parties to provide these services, our reputation and financial results may suffer.

Homes we purchase may suffer decreases in value due to natural disasters, catastrophic events, or other forces outside of our control. We attempt to ensure that our properties are adequately insured to cover casualty losses while we hold them. However, there are certain losses, including losses from floods, fires, earthquakes, wind, pollution, certain environmental hazards, security breaches, and others for which we may not be insured because it may not be deemed economically feasible or prudent to do so, among other reasons. Any losses resulting from lack of insurance coverage could cause our financial results to suffer.

Our Business and Operating Results May Be Significantly Impacted by the Health of the U.S. Residential Real Estate Industry and May Be Negatively Affected by Downturns in This Industry and General Economic Conditions.

The success of our business depends, directly and indirectly, on the health of the U.S. residential real estate market. The health of the U.S. residential real estate market is affected, in part, by general economic conditions beyond our control. A number of factors could have a negative effect on the industry and harm our business, including the following:

- downturns in the U.S. residential real estate market – both seasonal and cyclical – which may be due to one or more factors, whether included in this list or not;
- changes in international, national, regional, or local economic, demographic, or real estate market conditions;

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- slow economic growth or recessionary conditions;
- increased levels of unemployment and/or slowly growing or declining wages;
- low levels of consumer confidence in the economy and/or the U.S. residential real estate industry;
- inflationary conditions;
- low home inventory levels or lack of affordably priced homes;
- increased mortgage rates or down payment requirements and/or restrictions on mortgage financing availability;
- federal, state, or local legislative or regulatory changes that would negatively impact rental properties or the residential real estate industry, such as the Tax Cuts and Jobs Act of 2017, which limited deductions of certain mortgage interest expenses and property taxes;
- volatility and general declines in the stock market; and/or
- natural disasters, such as hurricanes, earthquakes, wildfires, and other events that disrupt local, regional, or national real estate markets.

We May Not Be Able to Maintain or Establish Relationships With Real Estate Brokerages, Real Estate Listing Aggregators, Multiple Listing Services, Property Management Companies, Home Builders and Other Third-Party Listing Providers, Which Could Limit the Information We Have to Power Our Products and Services.

Our ability to attract customers to our mobile applications, websites and other tools depends to some degree on providing timely access to comprehensive and accurate real estate listings and information. To provide these listings and this information, we maintain relationships with real estate brokerages, real estate listing aggregators, multiple listing services (“MLSs”), property management companies, home builders, other third-party listing providers and homeowners and their real estate agents to include listing data in our services. Many of our agreements with real estate listing providers are short-term agreements that may be terminated with limited notice or cause. Many of our competitors and other real estate websites have similar access to MLSs and listing data, and may be able to source real estate information faster or more efficiently than we can. Another industry participant or group could create a new listings data service, which could impact the relative quality or quantity of information of our listing providers. The loss of existing relationships with MLSs and other listing providers, whether due to termination of agreements or otherwise, changes to our rights to use or timely access listing data or an inability to continue to add new listing providers or changes to the way real estate information is shared, may negatively impact our listing data quality. This could markedly decrease the quantity and quality of the sale and rental data we provide, reduce consumer confidence in our products and services and cause customers to go elsewhere for real estate listings and information, which could severely harm our business, results of operations and financial condition.

We May Not Be Able to Maintain or Establish Relationships With Data Providers, Which Could Limit the Information We Are Able to Provide to Our Customers and Impair Our Ability to Attract or Retain Customers.

We obtain real estate data, such as transaction history, property descriptions, tax-assessed value and property taxes paid, under licenses from third-party data providers. We use this data to enable the development, maintenance and improvement of our marketplace and information services, including Zestimates, Rent Zestimates and our living database of homes and to power the pricing algorithms that we use for our Zillow Offers business. We have invested significant time and resources to develop proprietary algorithms, valuation models, software and practices to use and improve on this specific data. We may be unable to renew our licenses with these data providers or enter into new data license agreements, or we may be able to do so only on terms that are less favorable to us, which could harm our ability to continue to develop, maintain and improve these information services and could harm our business, results of operations and financial condition.

If We Do Not Innovate or Provide High-Quality Products and Services That Deliver Efficient and Integrated Transaction Experiences to Our Customers and Real Estate Partners, Our Business Could Be Harmed.

Our success depends on our continued innovation to provide new, and improve upon existing, products and services that make real estate transactions faster, easier and less stressful for our customers and provide value to real estate, rental and mortgage professionals, home buyers and our other real estate partners. As a result, we must continually invest significant resources in research and development to improve the attractiveness and comprehensiveness of our products and services, enable smoother and more efficient real estate transactions, adapt to changes in technology and support new devices and operating systems. If we are unable to provide products and services that our customers want to use, on the devices they prefer, then those customers may become dissatisfied and use competitors’ mobile applications, websites, products and services. If our customers begin to access more real estate information

and services through other media and we fail to innovate, our business may be negatively impacted. If we are unable to continue offering high-quality, innovative products and services, we may be

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unable to attract additional customers and real estate partners or retain our current customers and real estate partners, which could harm our business, results of operations and financial condition.

We Face Competition for Customers in the Real Estate Category, Which Could Impair Our Ability to Attract Users of Our Mobile Applications, Websites and Other Products and Services, Which Could Harm Our Business, Results of Operations and Financial Condition.

Our business model depends on our ability to continue to attract customers to our mobile applications, websites, real estate services and other services and enhance their engagement with our products and services in a cost-effective manner. New entrants continue to join our market categories at a rapid pace. Our existing and potential competitors include companies that operate, or could develop, national and local real estate, rental, new construction and mortgage businesses. Such competitors range from companies offering traditional offline advertising media, like newspapers, to new mobile- or web-only technology companies and from real estate investors, like institutional investors and iBuyers, to mortgage lenders and title and settlement service providers. These companies could devote greater financial, technical and other resources than we have available to real estate services, sales, advertising or research and development, have a more accelerated time frame for deployment or leverage their existing customer bases and proprietary technologies to provide products and services that customers might view as superior to our offerings. Any of our future or existing competitors may introduce different services or solutions that attract customers or provide services or solutions similar to our own but with better branding or marketing resources. If we are not able to continue to attract customers to our mobile applications, websites, real estate services and other services, our business, results of operations and financial condition could be harmed.

We May Not Be Able to Compete Successfully Against Our Existing or Future Competitors in Attracting Customers for Our Products and Services or Real Estate Partners, Which Could Harm Our Business, Results of Operations and Financial Condition.

We face intense competition in each of our lines of business. We compete with a variety of real estate transaction service providers to attract customers engaging in real estate transactions and we also compete with traditional and online or mobile media sources to attract real estate partners. Please see "Competition" under Part 1, Item 1 of this Annual Report on Form 10-K for a general discussion of the competitive conditions in each of our businesses.

Competitors for our real estate transaction services include real estate investors, mortgage lenders and title and settlement service providers. Many of these competitors may have considerable competitive advantages, including longer operating histories, more extensive financial resources, stronger brand equity, more industry experience and greater knowledge and expertise in the markets we serve. As a result, these competitors may have an advantage in attracting customers, recruiting highly skilled personnel, and growing or maintaining their businesses. They may also provide real estate transaction customers with services and experiences superior to or more cost-effective than ours.

We compete against mobile applications and websites dedicated to providing real estate, rental, new construction and mortgage information and services to real estate professionals and customers, major internet portals, general search engines, e-commerce and social media sites as well as other technology and media companies. We also compete for a share of our real estate partners' overall marketing budgets with traditional media such as television, magazines, newspapers and home/apartment guide publications, particularly with respect to advertising dollars spent at the local level by real estate professionals to advertise their qualifications and listings. Large companies with significant brand recognition have large numbers of direct sales personnel and substantial proprietary advertising inventory and mobile application and website traffic, which may provide a competitive advantage. To compete successfully for real estate transaction partners against future and existing competitors, we must continue to invest resources in developing our advertising platform and proving the effectiveness and relevance of our advertising products and services. Pressure from competitors seeking to acquire a greater share of our real estate partners' overall marketing budget could adversely affect our pricing and margins, lower our revenue and increase our research and development and marketing expenses.

If we are unable to compete successfully against our existing or future competitors, we could lose or fail to gain market share and our business, results of operations or financial condition would be harmed.

We Compete in a Dynamic Industry, and We May Invest Significant Resources to Pursue Strategies and Develop New Products and Services That Do Not Prove Effective.

The industry for residential real estate transaction services, technology, information marketplaces and advertising is dynamic, and the expectations and behaviors of customers and professionals shift constantly and rapidly. We continue to learn a great deal about the behaviors and objectives of residential real estate market participants as the industry evolves and are investing significant resources to develop, test and launch products and services to address the needs of the market and improve the home buying, selling, financing, building and renting experience. Changes or additions to our products and services may not

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attract or engage our customers, and may reduce confidence in our products and services, negatively impact the quality of our brands, upset other industry participants, expose us to increased market or legal risks, subject us to new laws and regulations or otherwise harm our business. For example, Zillow Offers, which provides a way to buy and sell homes directly through Zillow Offers, may not continue to engage home sellers and home buyers as we think it will. Further, if we do not realize the benefits we expect from the strategic relationships we enter into, including for example, the generation of additional advertising revenue opportunities, our business could be harmed. Customers may prefer other service providers because they offer different or superior services or those services are easier to use, faster or more cost effective than our services. We may not successfully anticipate or keep pace with industry changes, and we may invest considerable financial, personnel and other resources to pursue strategies that do not ultimately prove effective such that our results of operations and financial condition may be harmed.

Our Mortgage Lending Business Could Fail to Achieve Expected Results and Could Cause Harm to Our Financial Results, Operations, and Reputation.

In October 2018, we acquired Zillow Home Loans, LLC (“Zillow Home Loans”), formerly Mortgage Lenders of America, L.L.C. (“MLOA”), a licensed mortgage lender. This acquisition and our operation of a mortgage lending business may expose us to a variety of financial, legal and reputational risks.

Zillow Home Loans funds a portion of its lending operations using warehouse and repurchase facilities, intending to sell all loans and corresponding servicing rights to third-party financial institutions after a holding period. If Zillow Home Loans is not able to maintain debt financing with sufficient capacity or flexibility, it may be limited in the type or quantity of loans it can fund, its customers may choose other mortgage lenders and its business may suffer. If Zillow Home Loans is unable to form or retain relationships with these third-party financial institutions to purchase its loans or to comply with any covenants in its agreements with these institutions, it may be unable to sell its loans on favorable terms or at all. If Zillow Home Loans is unable to sell its loans or is required to repurchase the loans from third parties, it may be required to hold the loans for investment or sell them at a discount.

Zillow Home Loans currently offers a limited number of mortgage products to customers under conventional and government guaranteed loan programs. If these programs do not meet the financing needs of our customers, and we do not adapt to market changes and customer preferences, customers may opt to obtain financing from other lenders who offer different or more competitive rates or loan products. Similarly, if any of the government sponsored entities amend the terms of an existing loan program, cease offering the program, limit our ability to use the program in connection with our Zillow Offers business or revoke the authority of Zillow Home Loans to offer such programs, we may have to make changes to or discontinue the mortgage products that we offer, which may negatively affect our business.

We use derivatives and other instruments to reduce our exposure to adverse changes in interest rates. Hedging interest rate risk is a complex process, requiring sophisticated models and constant monitoring. Our hedging activity may fail to provide adequate coverage for interest rate exposure due to market volatility, hedging instruments that do not directly correlate with the interest rate risk exposure being hedged or counterparty defaults on obligations. There may be periods we elect not to hedge some or all of our interest rate risk.

For residential mortgage loans that we originate, Zillow Home Loans is subject to complex mortgage regulations, laws and third-party guidelines. Borrowers may allege, as an affirmative defense to payment or in an action seeking damages, that the loans were not originated in accordance with applicable laws or regulations and if we are not successful in demonstrating that they were, we could become subject to monetary damages and other civil penalties. Similarly, the third-party financial institutions to whom we sell the loans may claim that the origination of the loans did not comply with the terms of our agreements or applicable guidelines, laws or regulations due to factors such as underwriting deficiencies, borrower fraud, or documentation defects and may require Zillow Home Loans to repurchase loans upon discovery of a breach or indemnify such third-party financial institution for any losses from borrower defaults. In addition, the government agencies that insure some of the loans that Zillow Home Loans originates may allege that the loans do not comply with the terms of their programs or applicable guidelines, laws or regulations, and may require Zillow Home Loans to indemnify them for losses incurred in connection with such loans.

Natural Disasters and Catastrophic Events May Disrupt Real Estate Markets, Damage or Destroy Our Properties, or Otherwise Harm Our Business.

The occurrence of a significant natural disaster or other catastrophic event, such as earthquake, hurricane, fire, flood, terrorist attack or other similar event, may damage or destroy our properties, including those purchased through Zillow Offers, disrupt our operations, local and regional real estate markets or economies and negatively impact our business, results of operations and financial condition.

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Zillow buys and sells homes in 22 metropolitan areas through Zillow Offers as of December 31, 2019, with expansion to more metropolitan areas expected in 2020. In addition, through Zillow Home Loans, we originate loans in over 44 states. The occurrence of a natural disaster or other catastrophic event in any of these localities could have a significant negative impact on those real estate markets and the success of our Zillow Offers and mortgage origination businesses in the affected regions.

Our largest offices are located in Seattle, Washington; New York, New York; Atlanta, Georgia; San Francisco, California; Irvine, California and Denver, Colorado, a significant portion of our Zillow Offers operations is located in Phoenix, Arizona, and our mortgage origination business is primarily located in Overland Park, Kansas; an earthquake or other natural disaster in any of these cities could disrupt our engineering, sales, operations and/or mortgage origination teams and equipment critical to the operation of our business. Similarly, a significant natural disaster or other catastrophic event in any major U.S. city could negatively impact a large number of our real estate partners and customers, and cause a decrease in our revenue or traffic. For example, in connection with the hurricanes and wildfires that occurred during the second half of 2017, we worked closely with our Premier Agents and other real estate partners in affected areas to help manage their advertising budgets, and we provided relief initiatives, which included billing credits and other forms of real estate partner assistance. We also experienced a temporary decline in traffic to our mobile applications and websites from customers in impacted areas during September 2017. Though our relief initiatives and the temporary decline in traffic did not have a material impact on our results of operations and financial condition for 2017, our results of operations and financial condition may be negatively affected by natural disasters in the future.

If Our Data Integrity Suffers Real or Perceived Harm, Customers and Real Estate Partners May Decrease Use or Cease Using Our Products and Services, and We May Be Subject to Legal Liability.

Because homes represent significant investments, and many customer decisions regarding homes are data-driven, our ability to attract and retain customers and real estate partners to our products and services is dependent upon our ability to publish, and reputation for publishing, accurate and complete residential real estate information through our mobile applications and websites. As discussed above, a significant amount of the data we publish on our mobile applications and websites are licensed from third parties, and we have limited ability to control the quality of the information we receive from them. We also publish a significant amount of customer-generated content, and our tools and processes designed to ensure the accuracy, quality and legality of such content may not always be effective. Data we generate independently are subject to error, unauthorized modification by way of third-party viruses and other factors. As the volume of data we publish increases, and potential threats to data quality become more complex, the risk of harm to our data integrity also increases. If our data integrity suffers real or perceived harm, we may be subject to legal liability, and customers and real estate partners may decrease their use or cease using our products and services, which would harm our results of operations and financial condition.

Our Dedication to Making Decisions Based Primarily on the Best Interests of Customers May Cause Us to Forgo Short-Term Gains.

Our guiding principle is to build our business by making decisions based primarily on the best interests of our customers, which we believe has been essential to our success in increasing our customer growth rate and engagement and has served the long-term interests of our company and our shareholders. In the past, we have forgone, and we will in the future forgo, certain expansion or short-term revenue opportunities that we do not believe are in the best interests of customers, even if such decisions negatively impact our short-term results of operations. In addition, our philosophy of putting customers first may negatively impact our relationships with our existing or prospective real estate partners. This could result in a loss of real estate partners, which could harm our revenue and results of operations. For example, we require our Premier Agent partners to maintain a minimum customer experience score and if they fail to do so after a probation period, we have cancelled advertising from those partners on our platforms. While forgoing this advertising revenue could harm our short-term financial results, we believe it is in the best interest of our customers to connect them with the real estate partners most likely to lead them to a positive experience. Our customer focus may also negatively impact our relationships with real estate brokerages, MLSs, and other industry participants on whom we rely for listings information. Zillow Offers and Zillow Home Loans, for example, may be perceived as impinging upon the business models of real estate agents, brokerages and lenders, which may cause them to terminate their listings agreements with us or, with respect to brokerages and lenders, cease advertising with us. Such risks could have a materially negative impact on our results of operations. Our principle of making decisions based primarily on the best interests of customers may not result in the long-term benefits that we expect, in which case our user traffic and engagement, business and results of operations could be harmed.

We Are Subject to Disputes Regarding the Accuracy or Display of Our Zestimates and Rent Zestimates.

We provide our customers with Zestimate and Rent Zestimate home and rental valuations. Zestimates are our estimated current market values of a home based on our proprietary automated valuation models that apply advanced algorithms to analyze our data; they are not appraisals. A Rent Zestimate is our estimated current monthly rental price of a home, using

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similar automated valuation models that we have designed to address the unique attributes of rental homes. We are, from time to time, involved in disputes with property owners and others who disagree with the accuracy or display of a Zestimate or Rent Zestimate, and such disputes may result in costly litigation in the future. Further, revisions to our automated valuation models, or the algorithms that underlie them, poor data quality, or other factors may cause certain Zestimates or Rent Zestimates to vary from expectations for those Zestimates or Rent Zestimates. Any such dispute or variation in Zestimates or Rent Zestimates could result in distraction from our business or potentially harm our reputation and financial condition.

We Rely on the Performance of Highly Skilled Personnel, and if We Are Unable to Attract, Retain and Motivate Well-Qualified Employees, Our Business Could Be Harmed.

We believe our success has depended, and continues to depend, on the efforts and talents of our management and our highly skilled team of employees, including our software engineers, operations personnel, loan officers, statisticians, marketing professionals and advertising sales staff. Our future success depends on our continuing ability to attract, develop, motivate and retain highly qualified and skilled employees. The loss of any of our senior management or key employees could materially adversely affect our ability to build on the efforts they have undertaken and to execute our business plan, and we may not be able to find adequate replacements. The market for highly skilled personnel is very competitive. We cannot ensure that we will be able to retain the services of any members of our senior management or other key employees. If we do not succeed in attracting well-qualified employees or retaining and motivating existing employees in a cost-effective manner, our business could be harmed.

We May Make Acquisitions and Investments, Which Could Result in Operating Difficulties, Dilution and Other Harmful Consequences.

We continue to evaluate a wide array of potential strategic opportunities, including acquisitions and investments. For example, we acquired Zillow Home Loans in October 2018. Any transactions that we enter into could be material to our financial condition and results of operations. The acquisitions may not result in the intended benefits to our business, and we may not successfully evaluate or utilize the acquired products, technology, or personnel, or accurately forecast the financial impact of an acquisition transaction. The process of integrating an acquired company, business or technology could create unforeseen operating difficulties and expenditures. The areas where we face risks include: diversion of management time and focus from operating our business to acquisition integration challenges; customer and industry acceptance of products and services offered by the acquired company; implementation or remediation of controls, procedures and policies at the acquired company; coordination of product, engineering and sales and marketing functions; retention of employees from the acquired company; liability for activities of the acquired company before the acquisition; litigation or other claims arising in connection with the acquired company; and impairment charges associated with goodwill and other acquired intangible assets.

For example, during the year ended December 31, 2018, we recognized a non-cash impairment charge of \$10.0 million related to a June 2017 equity investment and a non-cash impairment for \$69.0 million related to the indefinite-lived Trulia trade names and trademarks intangible asset.

Our failure to address these risks or other problems encountered in connection with our past or future acquisitions and investments could cause us to fail to realize the anticipated benefits of such acquisitions or investments, incur unanticipated liabilities, and harm our business, results of operations and financial condition.

Our Fraud Detection Processes and Information Security Systems May Not Successfully Detect All Fraudulent Activity by Third Parties Aimed at Our Employees or Customers, Which Could Adversely Affect Our Reputation and Business Results.

Third-party actors have attempted in the past, and may attempt in the future, to conduct fraudulent activity by engaging with our customers by, for example, posting fake real estate listings on our sites and attempting to solicit personal information or money from customers, and by engaging with our employees by, for example, making fake requests for transfer of funds or sensitive information. We make a large number of wire transfers in connection with loan and real estate closings and process sensitive personal data in connection with these transactions. Though we have sophisticated fraud detection processes and have taken other measures to identify fraudulent activity on our mobile applications, websites and internal systems, we may not be able to detect and prevent all such activity. Similarly, the third parties we use to effectuate these transactions may fail to maintain adequate controls or systems to detect and prevent fraudulent activity. Persistent or pervasive fraudulent activity may cause customers and real estate partners to lose trust in us and decrease or terminate their usage of our products and services, or could result in financial loss, thereby harming our business and results of operations.

We Are Subject to Multiple Risks Related to the Credit Card and Debit Card Payments We Accept.

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We accept payments through credit and debit card transactions. For credit and debit card payments, we pay interchange and other fees, which may increase over time. An increase in those fees may require us to increase the prices we charge and would increase our operating expenses, either of which could harm our business, financial condition and results of operations.

We depend on processing vendors to complete credit and debit card transactions, both for payments owed to Zillow Group directly and for payments to other third-parties, such as payments made by renters to landlords in our rental payments product. If we or our processing vendors fail to maintain adequate systems for the authorization and processing of credit card transactions, it could cause one or more of the major credit card companies to disallow our continued use of their payment products. In addition, if these systems fail to work properly and, as a result, we do not charge our customers' credit cards on a timely basis or at all, our business, revenue, results of operations and financial condition could be harmed.

The payment methods that we offer also subject us to potential fraud and theft by criminals, who are becoming increasingly sophisticated, seeking to obtain unauthorized access to or exploit weaknesses that may exist in the payment systems. If we fail to comply with applicable rules or requirements for the payment methods we accept, or if payment-related data are compromised due to a breach of data, we may be liable for significant costs incurred by payment card issuing banks and other third parties or subject to fines and higher transaction fees, or our ability to accept or facilitate certain types of payments may be impaired. In addition, our customers could lose confidence in certain payment types, which may result in a shift to other payment types or potential changes to our payment systems that may result in higher costs. If we fail to adequately control fraudulent credit card transactions, we may face civil liability, diminished public perception of our security measures, and significantly higher credit card-related costs, each of which could harm our business, results of operations and financial condition.

We are also subject to payment card association operating rules, certification requirements and rules governing electronic funds transfers, which could change or be reinterpreted to make it more difficult for us to comply. We are required to comply with payment card industry security standards. Failing to comply with those standards may violate payment card association operating rules, federal and state laws and regulations, and the terms of our contracts with payment processors. Any failure to comply fully also may subject us to fines, penalties, damages and civil liability, and may result in the loss or impairment of our ability to accept credit and debit card payments. Further, there is no guarantee that such compliance will prevent illegal or improper use of our payment systems or the theft, loss, or misuse of data pertaining to credit and debit cards, card holders and transactions.

If we are unable to maintain our chargeback rate or refund rates at acceptable levels, our processing vendors may increase our transaction fees or terminate their relationships with us. Any increases in our credit and debit card fees could harm our results of operations, particularly if we elect not to raise our rates for our service to offset the increase. The termination of our ability to process payments on any major credit or debit card could significantly impair our ability to operate our business.

Risks Related to Our Intellectual Property and Technology

If Our Security Measures or Technology Systems Are Compromised, We May Be Subject to Legal Claims and Suffer Significant Losses, and Customers May Curtail Use of Our Products and Services and Our Real Estate Partners May Reduce or Eliminate Their Advertising on Our Mobile Applications and Websites.

Our products and services involve the transmission, processing, and/or storage of users' information, some of which may be private or include personally identifiable information such as social security numbers, financial account information, and credit card information. For example, our dotloop real estate transaction management software stores sensitive personal and financial information, our Mortech mortgage product and pricing software for mortgage professionals processes social security numbers, our rental applications product allows customers to obtain credit and background checks containing sensitive personal and financial information, and Zillow Home Loans, our mortgage origination business, receives, handles and transmits highly sensitive personal and financial information about its borrowers. Security breaches and administrative or technical failures could expose us to a risk of data loss or exposure, including both customer and real estate partner data as well as intellectual property and other confidential business information, which could result in potential significant liability and litigation. Like all mobile application and website providers, our mobile applications and websites are vulnerable to computer viruses, break-ins, phishing attacks, or other attacks, any of which could lead to loss of critical data or the unauthorized disclosure or use of personal or other confidential information. Further, outside parties may attempt to fraudulently induce employees, officers, directors, customers or real estate partners to disclose sensitive information in order to gain access to our information or our customers' or real estate partners' information, and our information technology and infrastructure may be vulnerable to attacks by hackers or breached due to user error, malfeasance or other disruptions. If we experience compromises to our security that result in the loss or unauthorized disclosure of confidential information, our customers and real estate partners may lose trust in us, customers may decrease the use of our mobile applications or websites or stop using our mobile applications, websites, or services in their entirety, real estate partners may decrease or stop advertising on our mobile applications or websites, and we may be subject to legal claims, government investigation and additional state and federal legal requirements.

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We engage a variety of vendors to process and store certain customer information, some of which may be private or include personally identifiable information. We also depend on vendors to host many of the systems and infrastructure used to provide our products and services. If our data storage vendors fail to maintain adequate information security systems and our systems or our customers' information is compromised, our business, results of operations and financial condition could be harmed. A security breach at our vendor could be perceived by customers or our real estate partners as a breach of our systems and could result in damage to our reputation and expose us to other losses.

Further, because the techniques used to obtain unauthorized access, disable or degrade service, or sabotage systems change frequently, often are not recognized until launched against a target, and may originate from less regulated and remote areas around the world, we may be unable to proactively address all these techniques or to implement adequate preventative measures. Any or all of these issues could negatively impact our ability to attract new customers and increase engagement by existing customers, cause existing customers to curtail or stop use of our products or services or close their accounts, cause existing real estate partners to cancel their contracts, cause us to incur significant costs to notify affected individuals and upgrade our technology, or subject us to third-party lawsuits, regulatory fines or other action or liability, thereby harming our business, results of operations and financial condition.

Any Significant Disruption in Service on Our Mobile Applications or Websites or in Our Network Could Damage Our Reputation and Brands, and Result in a Loss of Customers of Our Products and Services and of Our Real Estate Partners, Which Could Harm Our Business, Results of Operations and Financial Condition.

Our brand, reputation and ability to attract customers and real estate partners and deliver quality products and services depend on the reliable performance of our network infrastructure and content delivery processes. Our mobile applications and websites are exposed to attempts to overload our servers with denial-of-service attacks or similar disruptions from unauthorized use of our computer systems. We have experienced minor interruptions in these systems in the past, including server failures that temporarily slowed the performance of our mobile applications and websites, and we may experience interruptions in the future. Interruptions in these systems, whether due to system failures, computer viruses, software errors or physical or electronic break-ins, could affect the security or availability of our products and services on our mobile applications and websites and prevent or inhibit the ability of customers to access or effect transactions using our services. Since our customers may rely on our products and services, including our real estate transaction services and customer relationship management tools, for important aspects of their personal lives and businesses, problems with the reliability, availability or security of our systems could damage our customers' businesses, harm our reputation, delay or inhibit a customer from completing a real estate transaction, result in a loss of customers of our products and services and of real estate partners and result in additional costs, any of which could harm our business, results of operations and financial condition.

To deliver web and mobile Zillow Group brand content while ensuring scalability and redundancy, we utilize both third-party web services for cloud computing and storage and shared data centers in Seattle, Washington and Santa Clara, California.

We do not own or control the operation of certain of these facilities. Our systems and operations are vulnerable to damage or interruption from fire, flood, power loss, telecommunications failure, terrorist attacks, acts of war, electronic and physical break-ins, computer viruses, earthquakes and similar events. The occurrence of any of the foregoing events could result in damage to our systems and hardware or could cause them to fail completely, and our insurance may not cover such events or may be insufficient to compensate us for losses that may occur.

A failure of our systems at one site could result in reduced functionality for our customers, and a total failure of our systems could cause our mobile applications or websites to be inaccessible. Problems faced by our third-party web-hosting providers with the telecommunications network providers with which they contract or with the systems by which they allocate capacity among their customers, including us, could adversely affect the experience of our customers. Our third-party web-hosting providers could decide to close their facilities without adequate notice. Any financial difficulties, such as bankruptcy reorganization, faced by our third-party web-hosting providers or any of the service providers with whom they contract may have negative effects on our business, the nature and extent of which are difficult to predict. If our third-party web-hosting providers are unable to keep up with our growing needs for capacity, our customers, real estate partners and business could be harmed. In addition, if distribution channels for our mobile applications experience disruptions, such disruptions could adversely affect the ability of users and potential users to access or update our mobile applications, which could harm our business.

We do not carry business interruption insurance sufficient to compensate us for the potentially significant losses, including the potential harm to the future growth of our business, which may result from interruptions in our service as a result of system failures. Any errors, defects, disruptions or other performance problems with our services could harm our reputation, business, results of operations and financial condition.

[Table of Contents](#)***We Rely Upon Certain Third-Party Services to Support Critical Functions of Our Business and Any Disruption of or Interference with our Use of those Third -Party Services Could Adversely Impact Our Operations and Our Business.***

A limited number of third-party services support essential functions of our business, including Amazon Web Services (“AWS”) and certain other Software-as-a-Service technologies hosted by third parties (“SaaS Services”). AWS provides us with a distributed computing infrastructure platform for business operations, which is commonly referred to as a “cloud” computing service. Certain of our computer systems utilize data processing, storage capabilities and other services provided by AWS, and we currently run the vast majority of computing to power our mobile applications, websites, and other technology products and services on AWS. In addition, we use SaaS Services to support important functions of our business, including enterprise resource planning, revenue recognition, real estate transaction services, and customer relationship management. We store a significant amount of information about our customers, real estate partners, employees, and business on AWS and in the SaaS Services, and we rely on these third-party service providers to provide services on a timely and effective basis. Their failure to perform as expected or as required by contract could result in significant disruptions and costs to our operations. In light of our reliance on AWS and SaaS Services, coupled with the complexity of obtaining replacement services, any disruption of or interference with our use of these third-party services could adversely impact our operations and business.

We May Be Unable to Adequately Protect Our Intellectual Property, Which Could Harm the Value of Our Brands and Our Business.

We regard our intellectual property as critical to our success, and we rely on trademark, copyright and patent law, trade secret protection and contracts to protect our proprietary rights. If we are not successful in protecting our intellectual property, the value of our brands and our business, results of operations and financial condition could be harmed.

While we believe that our issued patents and pending patent applications help to protect our business, we cannot ensure that our operations do not, or will not, infringe valid, enforceable patents of third parties or that competitors will not devise new methods of competing with us that are not covered by our patents or patent applications. We cannot ensure that our patent applications will be approved, that any patents issued will adequately protect our intellectual property, that such patents will not be challenged by third parties or found to be invalid or unenforceable, or that our patents will be effective in preventing third parties from utilizing a “copycat” business model to offer the same products or services. Our Zestimate home valuation, for example, which we consider to be a key competitive advantage with respect to customer engagement, is currently protected by a patent, the loss of which could benefit comparable services provided by our competitors and result in decreased user traffic and engagement with our mobile applications and websites, thereby harming our results of operations and financial condition.

Effective trademark, service mark, copyright and trade secret protection may not be available in every country in which our products and services may be provided. The laws of certain countries do not protect proprietary rights to the same extent as the laws of the United States and, therefore, in certain jurisdictions, we may be unable to protect intellectual property and our proprietary technology adequately against unauthorized third-party copying or use, which could harm our competitive position. We have licensed in the past, and expect to license in the future, certain of our proprietary rights, such as trademarks or copyrighted material, to third parties. These licensees may take actions that might diminish the value of our proprietary rights or harm our reputation, even if we have agreements prohibiting such activity. Though certain of these third parties are obligated to indemnify us for breaches of our intellectual property rights, they may be unable to meet these obligations. In addition, we rely on intellectual property and technology developed or licensed by third parties, and we may not be able to obtain licenses and technologies from these third parties on reasonable terms or at all. Any of these events could harm our business, results of operations or financial condition.

In addition, we may actively pursue entities that infringe our intellectual property, including through legal action. Taking such action may be costly, and we cannot ensure that such actions will be successful. Any increase in the unauthorized use of our intellectual property could make it more expensive for us to do business and harm our results of operations or financial condition.

Intellectual Property Disputes Are Costly to Defend and Could Harm Our Business, Results of Operations, Financial Condition and Reputation.

From time to time, we face allegations that we have infringed the trademarks, copyrights, patents and other intellectual property rights of third parties. We are currently subject to intellectual property infringement claims. These claims allege, among other things, that aspects of our technology infringe upon the plaintiffs’ intellectual property. If we are not successful in defending ourselves against these claims, we may be required to pay damages and may be subject to injunctions, each of which could harm our business, results of operations, financial condition and reputation. As we grow our business and expand our operations, we expect that we will continue to be subject to intellectual property claims and allegations. Patent and other intellectual property disputes or litigation may be protracted and expensive, and the results are difficult to predict and may require us to stop offering certain products, services or features, purchase licenses that may be expensive to procure, or modify

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our products or services. In addition, patent or other intellectual property disputes or litigation may result in significant settlement costs. Any of these events could harm our business, results of operations, financial condition and reputation.

In addition, we use open source software in our services and will continue to use open source software in the future. From time to time, we may be subject to claims brought against companies that incorporate open source software into their products or services, claiming ownership of, or demanding release of, the source code, the open source software and/or derivative works that were developed using such software, or otherwise seeking to enforce the terms of the applicable open source license. These claims could also result in litigation, and we may be required to purchase a costly license or remove open source software, devote additional research and development resources to changing our products or services, make generally available the source code for our proprietary technology, or waive certain of our intellectual property rights, any of which would have a negative effect on our business and results of operations.

Even if these matters do not result in litigation or are resolved in our favor or without significant cash settlements, the time and resources necessary to resolve them could harm our business, results of operations, financial condition and reputation.

We May Be Unable to Continue to Use the Domain Names That We Use in Our Business, or Prevent Third Parties From Acquiring and Using Domain Names That Infringe on, Are Similar to, or Otherwise Decrease the Value of Our Brand or Our Trademarks or Service Marks.

We have registered domain names for our websites that we use in our business. If we lose the ability to use a domain name, we may incur significant expenses to market our products and services under a new domain name, which could harm our business. In addition, our competitors could attempt to capitalize on our brand recognition by using domain names similar to ours. Domain names similar to ours have been registered in the United States and elsewhere. We may be unable to prevent third parties from acquiring and using domain names that infringe on, are similar to, or otherwise decrease the value of our brand or our trademarks or service marks. Protecting and enforcing our rights in our domain names and determining the rights of others may require litigation, which could result in substantial costs and diversion of management's attention.

Confidentiality Agreements With Employees and Others May Not Adequately Prevent Disclosure of Trade Secrets and Other Proprietary Information.

In order to protect our technologies and strategic business and operations information, we rely in part on confidentiality agreements with our employees, independent contractors, vendors, licensees, and other third parties. These agreements may not effectively prevent disclosure of confidential information, including trade secrets, and may not provide an adequate remedy in the event of unauthorized disclosure of confidential information. The loss of trade secret protection could make it easier for third parties to compete with our products by copying functionality. Others may independently discover our trade secrets and proprietary information, and in such cases, we could not assert any trade secret rights against such parties. Further, if our employees, contractors or other third parties with whom we do business use intellectual property owned by others in their work for us, disputes may arise as to the rights in related or resulting know-how and inventions. Any changes in, or unfavorable interpretations of, intellectual property laws may compromise our ability to enforce our trade secret and intellectual property rights. Costly and time-consuming litigation could be necessary to enforce and determine the scope of our proprietary rights, and failure to obtain or maintain protection of our trade secrets or other proprietary information could harm our business, results of operations, reputation and competitive position.

We May Not Be Able to Halt the Operations of Websites That Aggregate or Misappropriate Our Data.

From time to time, third parties have misappropriated our data through website scraping, robots or other means, and aggregated this data on their websites with data from other companies. In addition, copycat websites have misappropriated data on our network and attempted to imitate our brand or the functionality of our websites. When we have become aware of such websites, we have employed technological or legal measures in an attempt to halt their operations. We may not be able, however, to detect all such websites in a timely manner and, even if we could, technological and legal measures may be insufficient to halt their operations. In some cases, particularly in the case of websites operating outside of the United States, our available remedies may not be adequate to protect us against the impact of the operation of such websites. In addition, if such activity creates confusion among customers or real estate partners, our brands and business could be harmed. Regardless of whether we can successfully enforce our rights against the operators of these websites, any measures that we may take could require us to expend significant financial or other resources, which could harm our business, results of operations or financial condition.

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Risks Related to Regulatory Compliance and Legal Matters

Failure to Comply with Federal, State and Local Laws, Rules and Regulations or to Obtain and Maintain Required Licenses, Could Materially and Adversely Affect our Business, Financial Condition and Results of Operations.

We provide products and services to customers and real estate partners in heavily regulated industries through a number of different channels across the United States and to some extent, in Canada. As a result, we are currently subject to a variety of, and may in the future become subject to additional, international, federal, state and local laws and regulations in various jurisdictions, which are subject to change at any time, including laws regarding the real estate, rental and mortgage industries, mobile and internet based businesses and other businesses that rely on advertising, as well as privacy and consumer protection laws, and employment laws. These laws are complex and can be costly to comply with, require significant management time and effort, and subject us to claims, government enforcement actions, civil and criminal liability or other remedies, including suspension of business operations. These laws may conflict with each other, and if we comply with the laws of one jurisdiction, we may find that we are violating laws of another jurisdiction.

For example, certain of the advertising and transactional services that we provide to customers and real estate professionals in the residential real estate, rental, mortgage and new construction industries, are subject to laws and regulations relating to the collection, use, and disclosure of data collected from our users, including those promulgated and enforced by the U.S. Federal Trade Commission and certain states, such as the Telephone Consumer Protection Act (“TCPA”), the Telemarketing Sales Rule, the CAN-SPAM Act, the Fair Credit Reporting Act, the Canadian Anti-Spam Law, the Personal Information Protection and Electronic Documents Act, and the California Consumer Privacy Act (“CCPA”). The CCPA, which took effect on January 1, 2020, imposes obligations and restrictions on companies regarding their collection, use, and sharing of personal information. Implementing regulations from the California Attorney General have not been finalized but are expected to impose additional obligations and restrictions, and additional amendments to the CCPA may be introduced in 2020. Several other states are actively considering privacy laws, which may impose substantial penalties for violations, impose significant costs for investigations and compliance, allow private class-action litigation and carry significant potential liability for our business.

Additionally, laws, regulations, and standards covering marketing and advertising activities conducted by telephone, email, mobile devices, and the internet, may be applicable to our business, such as the TCPA, the Telemarketing Sales Rule, the CAN-SPAM Act, and similar state consumer protection laws. We also assist with the processing of customer credit card transactions and consumer credit report requests, originate mortgage loans, buy and sell homes, and provide other product offerings, which results in us receiving or facilitating transmission of personally identifiable information. This information is increasingly subject to legislation and regulation in the United States. These laws and regulations are generally intended to protect the privacy and security of personal information, including credit card information that is collected, processed and transmitted. We could be adversely affected if government regulations require us to significantly change our business practices with respect to this type of information or if the third-parties that we engage with to provide processing and screening services violate applicable laws and regulations.

In addition, by providing a medium through which users can post content and communicate with one another, we may also be subject to laws governing intellectual property ownership, obscenity, libel, and privacy, among other issues. The real estate agents, mortgage professionals, banks, property managers, rental agents and certain of our other customers and advertisers are subject to various state and federal laws and regulations, including, but not limited to those relating to real estate, rentals and mortgages, which may impact their use of our mobile applications and websites. We cannot ensure that these entities will comply with applicable laws and regulations at all times. We endeavor to ensure that any content created by Zillow Group is consistent with such laws and regulations by obtaining assurances of compliance from our advertisers and consumers for their activities through, and the content they provide on, our mobile applications and websites.

In connection with the real estate transaction products and services that we provide, we maintain real estate brokerage, title and escrow, mortgage broker, and mortgage lender licenses in certain states in which we operate. Certain of our mortgage marketing products are operated by our wholly owned subsidiary, Zillow Group Marketplace, Inc., a licensed mortgage broker, and we originate residential mortgages through Zillow Home Loans, LLC, which we acquired in October 2018. Zillow Group Marketplace, Inc. and Zillow Home Loans, LLC are subject to stringent state and federal laws and regulations and to the scrutiny of state and federal government agencies as a licensed mortgage broker and licensed mortgage lender, respectively. Mortgage products are regulated at the state level by licensing authorities and administrative agencies, with additional oversight from the Consumer Financial Protection Bureau and other federal agencies. These laws generally regulate the manner in which lending and lending-related activities are marketed or made available, including advertising and other consumer disclosures, payments for services and record keeping requirements; these laws include the Real Estate Settlement Procedures Act, the Fair Credit Reporting Act, the Truth in Lending Act, the Equal Credit Opportunity Act, the Fair Housing Act and various state laws. State laws may restrict the amount and nature of interest

and fees that may be charged by a lender or mortgage broker, or otherwise regulate the manner in which lenders or mortgage brokers operate or advertise.

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As a buyer and seller of residential real estate through our Zillow Offers business, we hold real estate brokerage licenses in multiple states and may apply for additional real estate brokerage licenses as our business grows. To maintain these licenses, we must comply with the requirements governing the licensing and conduct of real estate brokerage and brokerage-related businesses in the markets where we operate. We may be subject to additional local, state and federal laws and regulations governing residential real estate transactions, including those administered by the Department of Housing and Urban Development, and the states and municipalities in which we transact. Further, due to the geographic scope of our operations and the nature of the services we provide, certain of our other subsidiaries maintain real estate brokerage and title and escrow licenses in certain states in which we operate, including in connection with Zillow Offers and Zillow Closing Services.

For certain licenses, we are required to designate individual licensed brokers of record, qualified individuals and control persons. We cannot assure you that we, or our licensed personnel, are and will remain at all times, in full compliance with state and federal real estate, title and escrow, and mortgage licensing and consumer protection laws and regulations and we may be subject to fines or penalties in the event of any non-compliance. If we apply for new licenses, we may become subject to additional licensing requirements, which we may not be in compliance with at all times. If in the future a state agency were to determine that we are required to obtain additional licenses in that state in order to operate our business, or if we lose or do not renew an existing license or are otherwise found to be in violation of a law or regulation, we may be subject to fines or legal penalties, lawsuits, enforcement actions, void contracts, or our business operations in that state may be suspended or prohibited. Compliance with these laws and regulations is complicated and costly and may inhibit our ability to innovate or grow.

If we are unable to comply with these laws or regulations in a cost-effective manner, we may modify impacted products and services, which could require a substantial investment and loss of revenue, or cease providing the impacted product or service altogether. If we are found to have violated laws or regulations, we may be subject to significant fines, penalties, and other losses.

We are From Time to Time Involved In, or May In the Future be Subject to, Claims, Suits, Government Investigations, and Other Proceedings That May Result In Adverse Outcomes.

We are from time to time involved in, or may in the future be subject to, claims, suits, government investigations, and proceedings arising from our business, including actions with respect to intellectual property, privacy, consumer protection, information security, mortgage lending, real estate, environmental, data protection or law enforcement matters, tax matters, labor and employment, and commercial claims, as well as actions involving content generated by our customers, shareholder derivative actions, purported class action lawsuits, and other matters, including those matters described in Part II, Item 8 in Note 20 under the subsection titled “Legal Proceedings” in our Notes to Consolidated Financial Statements in this Annual Report on Form 10-K. Such claims, suits, government investigations, and proceedings are inherently uncertain, and their results cannot be predicted with certainty. Regardless of the outcome, any such legal proceedings can have an adverse impact on us because of legal costs, diversion of management and other personnel, and other factors. In addition, it is possible that a resolution of one or more such proceedings could result in reputational harm, liability, penalties, or sanctions, as well as judgments, consent decrees, or orders preventing us from offering certain features, functionalities, products, or services, or requiring a change in our business practices, products or technologies, which could in the future materially and adversely affect our business, operating results and financial condition.

In some instances, third parties may have an obligation to indemnify us for liabilities related to litigation or governmental investigations, and they may be unable to, or fail to, fulfill such obligations. If such third parties failed to indemnify us, we would be financially responsible, which could adversely affect our financial condition and cash flow. For example, on October 31, 2018, we acquired MLOA by way of purchase of the then-outstanding equity of MLOA. Prior to the acquisition, on February 2, 2018, a former MLOA employee, Beau Charbonneau, filed a complaint against MLOA in United States District Court for the District of Kansas. The complaint alleges, among other things, that MLOA improperly classified its team leader roles as exempt from the overtime provisions of the Fair Labor Standards Act and that it failed to pay its loan officers for all hours worked in excess of 40 hours in any work week. The complaint also asserts wage-related claims under the Kansas Wage Payment Act and under Kansas common law. On December 6, 2018, the court issued an order conditionally certifying the case as a collective action under the Fair Labor Standards Act and authorized the plaintiff’s attorneys to send notice of the case to impacted team leaders and loan officers advising them of the case and their opportunity to join as a plaintiff. The court has not made any determinations regarding the merits of the claims asserted in the complaint, nor has it found that the matter should be tried as a collective or class action. Zillow Group and its affiliates are indemnified for losses incurred in connection with this matter by certain of the prior stockholders of MLOA. Additionally, in accordance with the equity purchase agreement governing the acquisition of MLOA, any costs incurred related to this matter will be paid directly by those same certain prior stockholders of MLOA. Although we do not believe a loss to Zillow Group is probable, should the sellers of MLOA fail to indemnify us for losses related to this matter, our financial condition may be negatively impacted.

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Risks Related to Our Financial Statements

We Incurred Significant Operating Losses in the Past and We May Not Be Able to Generate Sufficient Revenue to Be Profitable Over the Long Term.

We have incurred significant net operating losses in the past and, as of December 31, 2019, we had an accumulated deficit of \$977.1 million. Although we have experienced significant growth in revenue, our revenue growth rate may decline in the future as the result of a variety of factors, including the maturation of our business. At the same time, we also expect our costs to increase in future periods as we continue to expend substantial financial resources to develop and expand our business, including with respect to:

- expansion of Zillow Offers;
- expansion of our mortgage origination business;
- product development;
- sales and marketing;
- technology infrastructure;
- strategic opportunities, including commercial relationships and acquisitions; and
- general and administrative expenses, including legal and accounting expenses related to being a public company.

These investments may not result in increased revenue or growth in our business. If we fail to continue to grow our revenue and overall business and to manage our expenses, we may incur significant losses in the future and not be able to achieve or maintain profitability.

Servicing Our Debt Requires a Significant Amount of Cash, and We May Not Have Sufficient Cash Flow From Our Business to Pay Our Substantial Debt, Settle Conversions of Our Senior Convertible Notes, or Repurchase Our Convertible Senior Notes upon a Fundamental Change.

We utilize several forms of debt to provide capital for the continued growth and operation of our business, including several tranches of convertible senior notes, bi-lateral credit facilities for Zillow Offers, and warehouse and repurchase facilities for Zillow Home Loans. Our ability to make payments of the principal of, to pay interest on or to refinance our indebtedness, including the remaining outstanding \$9.6 million aggregate principal under Trulia's Convertible Senior Notes due in 2020 (the "2020 Notes"), the \$460.0 million aggregate principal under our Convertible Senior Notes due in 2021 (the "2021 Notes"), the \$373.8 million aggregate principal amount under our Convertible Senior Notes due in 2023 (the "2023 Notes"), the \$673.0 million aggregate principal amount under our Convertible Senior Notes due in 2024 (the "2024 Notes"), the \$500.0 million aggregate principal amount under our Convertible Senior Notes due in 2026 (the "2026 Notes"), and all amounts outstanding under our credit facilities for Zillow Offers (current maximum borrowing capacity of \$1.5 billion) and mortgage debt facilities (current maximum borrowing capacity of \$125 million) depends on our future performance and, if applicable, the value of collateral, which is subject to economic, industry, competitive and other factors beyond our control. Our business may not continue to generate cash flow from operations in the future sufficient to service our debt and make necessary capital expenditures. If we are unable to generate such cash flow, we may be required to adopt one or more alternatives, such as selling assets, restructuring debt or obtaining additional equity capital on terms that may be onerous or highly dilutive. Our ability to extend or refinance our indebtedness will depend on the capital markets and our financial condition at such time. We may not be able to engage in any of these activities or engage in these activities on desirable terms, which could result in a default on our debt obligations, including our convertible senior notes, credit facilities, or otherwise.

Holders of our convertible senior notes have the right to require us to repurchase their notes upon the occurrence of a fundamental change at a repurchase price equal to 100% of the principal amount of the notes to be repurchased, plus accrued and unpaid interest. Upon conversion of our convertible senior notes, unless we elect to deliver solely shares of our Class C capital stock (for the 2021 Notes, 2023 Notes, 2024 Notes, and 2026 Notes) or solely shares of our Class A common stock (for the 2020 Notes) to settle such conversion (other than paying cash in lieu of delivering any fractional share), we will be required to make cash payments in respect of the notes being converted. We may not have enough available cash or be able to obtain financing at the time we are required to make repurchases of the notes surrendered therefor or at the time the notes are being converted. Our failure to repurchase our convertible senior notes at a time when the repurchase is required by the indenture or to pay any cash payable on future conversions of the notes would constitute an event of default. If the repayment of any indebtedness were to be accelerated because of such event of default (whether under the notes or otherwise), we may not have sufficient funds to repay the indebtedness and repurchase the notes or make cash payments upon conversions thereof. An event of default under the indenture may lead to an acceleration of our convertible senior notes. Any such acceleration could result in

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our bankruptcy. In a bankruptcy, the holders of our convertible senior notes would have a claim to our assets that is senior to the claims of our equity holders.

In addition, our significant indebtedness, combined with our other financial obligations and contractual commitments, could have other important consequences. For example, it could:

- make us more vulnerable to adverse changes in general U.S. and worldwide economic, industry and competitive conditions and adverse changes in government regulation;
- limit our flexibility in planning for, or reacting to, changes in our business and our industry;
- place us at a disadvantage compared to our competitors who have less debt; and
- limit our ability to borrow additional amounts for working capital and other general corporate purposes, including to fund possible acquisitions of, or investments in, complementary businesses, products, services and technologies.

Any of these factors could materially and adversely affect our business, financial condition and results of operations. In addition, if we incur additional indebtedness, the risks related to our business and our ability to service or repay our indebtedness would increase.

The Credit and Debt Facilities that Provide Capital for Zillow Offers and Zillow Home Loans Include Covenants that May Restrict Our Operating Activities and Expose Us to the Possibility of Foreclosure on Our Ownership Interests. They Also Incorporate Variable Interest Rates that May Subject Us to Interest Rate Risk, Which Could Cause Our Debt Service Obligations to Increase Significantly.

We have entered into debt agreements to provide capital for the growth and operation of our businesses, including bi-lateral credit facilities to support Zillow Offers and warehouse and repurchase facilities to support Zillow Home Loans. The terms of these debt agreements and related financing documents require Zillow Group and certain of its subsidiaries, as applicable, to comply with a number of customary financial and other covenants, such as maintaining certain levels of liquidity, tangible net worth, leverage ratios, adequate insurance coverage and market capitalization. These covenants may limit our operational flexibility and may restrict our ability to engage in transactions that we believe would otherwise be in the best interests of our shareholders. Additionally, undrawn amounts are not committed, meaning the applicable lender is not obligated to advance loan funds in excess of outstanding borrowings. Further, borrowing base requirements associated with these debt agreements may prevent us from drawing upon our total maximum capacity under these financing arrangements if sufficient eligible collateral, in accordance with these debt agreements, is not available. Refer to Note 15 of our Notes to Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K for additional information on our Zillow Offers credit facilities and Zillow Home Loans mortgage facilities. Upon the occurrence of any event of default under these debt agreements, the lenders will not be required to lend any additional amounts to us and could elect to declare all borrowings outstanding, together with accrued and unpaid interest and fees, to be immediately due and payable, even in the absence of a payment default. A default under one of our debt agreements could result in a cross-default under other debt agreements and our lenders could elect to declare outstanding amounts due and payable or terminate their commitments. If we fail to repay the amounts due under our credit facilities, the lenders of such debt may require the posting of additional collateral and/or proceed against the collateral granted to secure the credit facilities. We have pledged the majority of the homes owned by our Zillow Offers business and loans originated by Zillow Home Loans as collateral to secure such indebtedness. As a result, a default under applicable debt covenants could have an adverse effect on our financial condition or results of operations.

At December 31, 2019, \$722.0 million of our borrowings under our debt agreements was at variable rates of interest thereby exposing us to interest rate risk. If interest rates continue to increase, our debt service obligations on the variable rate indebtedness would increase even if the amount borrowed remained the same, and our net loss would increase. In addition, our variable rate indebtedness may use LIBOR as a benchmark for establishing the rate. LIBOR is the subject of recent national, international and other regulatory guidance and proposals for reform. These reforms and other pressures may cause LIBOR to disappear entirely or to perform differently than in the past. The consequences of these developments cannot be entirely predicted, but could include an increase in the cost of our variable rate indebtedness.

We May Need to Raise Additional Capital to Grow Our Business and We May Not Be Able to Raise Additional Capital on Terms Acceptable to Us, or At All.

Growing and operating our business, including through the development of new and enhanced products and services, may require significant cash outlays, liquidity reserves and capital expenditures. If cash on hand, cash generated from operations and cash equivalents and investment balances are not sufficient to meet our cash and liquidity needs, we may need to seek additional capital and we may not be able to raise the necessary cash on terms acceptable to us, or at all. For example, Zillow Offers requires significant cash to acquire, update and sell homes. We currently utilize three credit facilities we entered into in

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July 2018, January 2019, and October 2019 to provide capital for Zillow Offers, and may seek to enter into similar credit facilities in the future. In addition, to provide capital for mortgage home loan originations for Zillow Home Loans, we utilize warehouse and repurchase facilities. Refer to Note 15 of our Notes to Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K for additional information on our revolving credit facilities and mortgage facilities. Financing arrangements we pursue or assume may require us to grant certain rights, take certain actions, or agree to certain restrictions, that could negatively impact our business. If additional capital is not available to us on terms acceptable to us or at all, we may need to modify our business plans, which would harm our ability to grow our operations.

We Rely on Assumptions, Estimates, and Business Data to Calculate our Key Performance Indicators and Other Business Metrics, and Real or Perceived Inaccuracies in These Metrics May Harm our Reputation and Negatively Affect our Business.

Certain of our performance metrics are calculated using third party applications or internal company data that have not been independently verified. While these numbers are based on what we believe to be reasonable calculations for the applicable period of measurement, there are inherent challenges in measuring such information. For example, our measurement of visits and unique users may be affected by applications that automatically contact our servers to access our mobile applications and websites with no user action involved, and this activity can cause our system to count the user associated with such a device as a unique user or as a visit on the day such contact occurs.

We regularly review and may adjust our processes for calculating our performance metrics to improve accuracy. Our measure of certain metrics may differ from estimates published by third parties or from similarly-titled metrics of our competitors due to differences in methodology. If real estate professionals, our real estate partners or investors do not perceive our visits or unique users to be an accurate representation of our user engagement, or if we discover material inaccuracies in our visits or unique users, our reputation may be harmed, and real estate professionals and advertisers may be less willing to allocate their resources to our products and services, which could negatively affect our business and operating results.

We Expect Our Results of Operations to Fluctuate on a Quarterly and Annual Basis.

Our revenue and results of operations could vary significantly from period to period and may fail to match expectations as a result of a variety of factors, some of which are outside our control. The other risk factors discussed in this “Risk Factors” section may contribute to the variability of our quarterly and annual results. In addition, our results may fluctuate as a result of seasonal variances of home sales, which historically peak in the spring and summer seasons, fluctuations in the quantity of, and the price at which we are able to sell, our remnant advertising, and the size and seasonal variability of our real estate partners’ marketing budgets. The seasonal variance and cyclical nature of home sales may contribute to the variability of our revenue and results of operations for our Homes and Mortgages segments, in particular, which seasonality may be masked as those segments are growing. As a result of the potential variations in our revenue and results of operations, period-to-period comparisons may not be meaningful and the results of any one period should not be relied on as an indication of future performance. In addition, our results of operations may not meet the expectations of investors or public market analysts who follow us, which may adversely affect our stock price.

We Could Be Subject to Additional Income Tax Liabilities and Our Ability to Use Our Net Operating Loss Carryforwards and Certain Other Tax Attributes May Be Limited.

We are subject to federal and state income taxes in the United States and in Canada. Tax laws, regulations, and administrative practices in various jurisdictions may be subject to significant change, with or without notice, due to economic, political, and other conditions, and significant judgment is required in evaluating and estimating these taxes. Our effective tax rates could be affected by numerous factors, such as entry into new businesses and geographies, changes to our existing business and operations, acquisitions and investments and how they are financed, changes in our stock price, changes in our deferred tax assets and liabilities and their valuation, and changes in the relevant tax, accounting, and other laws, regulations, administrative practices, principles, and interpretations. For example, On December 22, 2017, the U.S. government enacted comprehensive tax legislation under the Tax Cuts and Jobs Act (the “Tax Act”). The Tax Act makes broad and complex changes to the U.S. tax code, including but not limited to: (1) reducing the U.S. federal corporate tax rate from 35 percent to 21 percent; (2) requiring companies to pay a one-time transition tax on certain untaxed earnings of foreign subsidiaries; (3) generally eliminating U.S. federal income taxes on dividends from foreign subsidiaries; (4) eliminating the corporate alternative minimum tax (“AMT”) and how AMT credits are utilized; and (5) the additional limitations on deducting executive compensation under IRC section 162(m); and (6) changing rules related to uses and limitations of net operating loss carryforwards created in tax years beginning after December 31, 2017.

The Tax Act significantly changes how the U.S. taxes corporations. The Tax Act requires complex computations to be performed that were not previously required in U.S. tax law, significant judgments to be made in interpretation of the provisions of the Tax Act and significant estimates in calculations, and the preparation and analysis of information not previously relevant

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or regularly produced. The U.S. Treasury Department, the IRS, and other standard-setting bodies have not implemented all relevant regulations or issued substantive guidance to-date and could interpret or issue guidance on how provisions of the Tax Act will be applied or otherwise administered that is different from our current interpretation.

As of December 31, 2019, we had federal net operating loss carryforwards of approximately \$1,137.6 million, state net operating loss carryforwards of approximately \$34.3 million (tax effected), and net tax credit carryforwards of approximately \$71.0 million. Under Sections 382 and 383 of the Internal Revenue Code, if a corporation undergoes an ownership change, the corporation's ability to use its pre-change net operating loss carryforwards and other pre-change tax attributes, such as research tax credits, to offset its post-change income or income tax liability may be limited. In connection with our August 2013 public offering of our Class A Common stock, we experienced an ownership change that triggered Sections 382 and 383, which may limit our ability to utilize net operating loss and tax credit carryforwards. In connection with our February 2015 acquisition of Trulia, Inc., Trulia, Inc. experienced an ownership change that triggered Section 382 and 383, which may limit Zillow Group's ability to utilize Trulia, Inc.'s net operating loss and tax credit carryforwards.

Risks Related to Ownership of Our Common and Capital Stock and Debt Instruments

Our Class A Common Stock and Class C Capital Stock Prices May Be Volatile, and the Value of an Investment in Our Class A Common Stock and Class C Capital Stock May Decline.

An active, liquid and orderly market for our Class A common stock and Class C capital stock may not be sustained, which could depress the trading price of our Class A common stock and Class C capital stock. The trading price of our Class A common stock and Class C capital stock has at times experienced price volatility and may continue to be volatile. For example, since shares of our Class A common stock began trading in February 2015, the closing price of our Class A common stock has ranged from \$17.06 per share to \$65.21 per share (adjusted for the August 2015 stock split effected in the form of a dividend) through December 31, 2019. Since shares of our Class C capital stock began trading in August 2015, the closing price of our Class C capital stock has ranged from \$16.01 per share to \$65.57 per share through December 31, 2019. The market price of our Class A common stock and Class C capital stock could be subject to wide fluctuations in response to many of the risk factors discussed in this Annual Report on Form 10-K and others beyond our control, including:

- actual or anticipated fluctuations in our financial condition and results of operations;
- changes in projected operational and financial results;
- addition or loss of significant customers;
- actual or anticipated changes in our growth rate relative to that of our competitors;
- announcements by us or our competitors of significant acquisitions, strategic partnerships, joint ventures or capital-raising activities or commitments;
- announcements of technological innovations or new offerings by us or our competitors;
- additions or departures of key personnel;
- changes in laws or regulations applicable to our services;
- fluctuations in the valuation of companies perceived by investors to be comparable to us;
- the inclusion, exclusion, or deletion of our Class A common stock and Class C capital stock from any trading indices, such as the S&P 500 Index;
- issuance of new or updated research or reports by securities analysts;
- sales of our Class A common stock and Class C capital stock by us or our shareholders;
- issuances of our Class A common stock upon conversion of the 2020 Notes and issuances of our Class C capital stock upon conversion of our 2021 Notes, 2023 Notes, 2024 Notes or 2026 Notes;
- stock price and volume fluctuations attributable to inconsistent trading volume levels of our shares; and
- general economic and market conditions.

Furthermore, the stock markets in recent years have experienced extreme price and volume fluctuations that have affected and continue to affect the market prices of the equity securities of many companies. These fluctuations often have been unrelated or disproportionate to the operating performance of those companies. These broad market and industry fluctuations, as well as general economic, political and market conditions such as recessions, interest rate changes or international currency fluctuations, may negatively impact the market price of our Class A common stock and Class C capital stock. In the past, companies that have experienced volatility in the market price of their stock have been subject to securities class action litigation. We have in the past been

and are currently the target of this type of litigation, and we may continue to be the target of this type of litigation in the future. Past, current, and future securities litigation against us could result in substantial costs and

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divert management's attention from other business concerns, which could harm our business, results of operations or financial condition.

The Structure of Our Capital Stock as Contained in Our Charter Documents Has the Effect of Concentrating Voting Control With Our Founders, and Limits Your Ability to Influence Corporate Matters.

Since Zillow Group's inception, our capital structure has included authorized Class A common stock and authorized Class B common stock. Our Class A common stock entitles its holder to one vote per share, and our Class B common stock entitles its holder to 10 votes per share. All shares of Class B common stock have been and are held or controlled by our founders, Richard Barton and Lloyd Frink. As of December 31, 2019, Mr. Barton's holdings and Mr. Frink's holdings represented approximately 31.3% and 20.4%, respectively, of the voting power of our outstanding capital stock.

For the foreseeable future, Mr. Barton and Mr. Frink will therefore have significant control over our management and affairs and will be able to control most matters requiring shareholder approval, including the election or removal (with or without cause) of directors and the approval of any significant corporate transaction, such as a merger or other sale of us or our assets. In addition, because our Class C capital stock carries no voting rights (except as required by applicable law or as expressly provided in our amended and restated articles of incorporation), the issuance of Class C capital stock (instead of Class A common stock) could prolong the duration of Mr. Barton's and Mr. Frink's relative ownership of our voting power. This concentrated control could delay, defer or prevent a change of control, merger, consolidation, takeover, or other business combination involving us that you, as a shareholder, may otherwise support. This concentrated control could also discourage a potential investor from acquiring our Class A common stock or Class C capital stock due to the limited voting power of such stock relative to the Class B common stock and might harm the market price of our Class A common stock and Class C capital stock.

Future Sales of Our Stock in the Public Market Could Cause Our Stock Price to Decline.

Our Class A common stock began trading on The Nasdaq Global Select Market on February 18, 2015, and our Class C capital stock began trading on The Nasdaq Global Select Market on August 17, 2015. We cannot predict the effect, if any, that market sales of shares or the availability of shares for sale will have on the prevailing trading price of our Class A common stock and Class C capital stock from time to time. There is currently no contractual restriction on our ability to issue additional shares, and all of our outstanding shares are generally freely tradable, except for shares held by our "affiliates" as defined in Rule 144 under the Securities Act, which may be sold in compliance with the volume restrictions of Rule 144. Sales of a substantial number of shares of our Class A common stock and Class C capital stock could cause our stock price to decline. In addition, we may in the future issue shares of Class C capital stock for financings, acquisitions or equity incentives. If we issue shares of Class C capital stock in the future, such issuances would have a dilutive effect on the economic interest of our Class A common stock.

If Securities or Industry Analysts Do Not Publish Research or Publish Inaccurate or Unfavorable Research About Our Business, Our Class A Common Stock and Class C Capital Stock Price and Trading Volume Could Decline.

The trading market for our Class A common stock and Class C capital stock depends in part on the research and reports that securities or industry analysts publish about our company. If few or no securities or industry analysts cover our company, the market price of our publicly-traded stock could be negatively impacted. If securities or industry analysts cover us and if one or more of such analysts downgrade our stock or publish inaccurate or unfavorable research about our business, our stock price would likely decline. If one or more of the analysts covering us fail to publish reports on us regularly, demand for our stock could decline, which could cause our stock price and trading volume to decline.

If We Issue Additional Equity Securities or Issue Additional Convertible Debt to Raise Capital, It May Have a Dilutive Effect on Shareholders' Investment.

If we raise additional capital through further issuances of equity or convertible debt securities, our existing shareholders could suffer significant dilution in their percentage ownership of us. Moreover, any new equity securities we issue could have rights, preferences and privileges senior to those of holders of our common stock.

The Capped Call Transactions May Affect the Value of Our 2021 Notes, 2023 Notes, 2024 Notes, 2026 Notes and Our Class C Capital Stock.

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In connection with the pricing of each of the 2021 Notes, 2023 Notes, 2024 Notes and 2026 Notes, we entered into capped call transactions with certain financial institutions (the “option counterparties”). The capped call transactions are expected generally to reduce the potential dilution upon conversion of the 2021 Notes, 2023 Notes, 2024 Notes, or 2026 Notes and/or offset any cash payments we are required to make in excess of the principal amount of converted notes, as the case may be.

The option counterparties or their respective affiliates may modify their hedge positions by entering into or unwinding various derivative transactions with respect to our Class C capital stock and/or purchasing or selling our Class C capital stock or other securities of ours in secondary market transactions prior to the maturity of each of the 2021 Notes, 2023 Notes, 2024 Note, and 2026 Notes (and are likely to do so during any observation period related to a conversion of 2021 Notes, 2023 Notes, 2024 Notes, or 2026 Notes or in connection with any repurchase of 2021 Notes, 2023 Notes, 2024 Notes or 2026 Notes by us). This activity could cause or avoid an increase or a decrease in the market price of our Class C capital stock, the 2021 Notes, the 2023 Notes, the 2024 Notes, or the 2026 Notes.

Anti-Takeover Provisions in Our Charter Documents and Under Washington Law Could Make an Acquisition of Us More Difficult, Limit Attempts by Shareholders to Replace or Remove Our Management and Affect the Market Price of Our Stock.

Provisions in our articles of incorporation and bylaws, as amended and restated, may have the effect of delaying or preventing a change of control or changes in our management. Our amended and restated articles of incorporation or amended and restated bylaws include provisions, some of which will become effective only after the date, which we refer to as the threshold date, on which the Class B common stock controlled by our founders represents less than 7% of the aggregate number of shares of our outstanding Class A common stock and Class B common stock, that:

- set forth the structure of our capital stock, which concentrates voting control of matters submitted to a vote of our shareholders with the holders of our Class B common stock, which is held or controlled by our founders;
- authorize our board of directors to issue, without further action by our shareholders, up to 30,000,000 shares of undesignated preferred stock, subject, prior to the threshold date, to the approval rights of the holders of our Class B common stock;
- establish that our board of directors will be divided into three classes, Class I, Class II and Class III, with each class serving three-year staggered terms;
- prohibit cumulative voting in the election of directors;
- provide that, after the threshold date, our directors may be removed only for cause;
- provide that, after the threshold date, vacancies on our board of directors may be filled only by the affirmative vote of a majority of directors then in office or by the sole remaining director;
- provide that only our board of directors may change the board’s size;
- specify that special meetings of our shareholders can be called only by the chair of our board of directors, our board of directors, our chief executive officer, our president or, prior to the threshold date, holders of at least 25% of all the votes entitled to be cast on any issue proposed to be considered at any such special meeting;
- establish an advance notice procedure for shareholder proposals to be brought before a meeting of shareholders, including proposed nominations of persons for election to our board of directors;
- require the approval of our board of directors or the holders of at least two-thirds of all the votes entitled to be cast by shareholders generally in the election of directors, voting together as a single group, to amend or repeal our bylaws; and
- require the approval of not less than two-thirds of all the votes entitled to be cast on a proposed amendment, voting together as a single group, to amend certain provisions of our articles of incorporation.

Prior to the threshold date, our directors can be removed with or without cause by holders of our Class A common stock and Class B common stock, voting together as a single group, and vacancies on the board of directors may be filled by such shareholders, voting together as a single group. Given the structure of our capital stock, our founders, Richard Barton and Lloyd Frink, who hold or control our Class B common stock, will have the ability for the foreseeable future to control these shareholder actions. See the risk factor above titled “The Structure of Our Capital Stock as Contained in Our Charter Documents Has the Effect of Concentrating Voting Control With our Founders, and Limits Your Ability to Influence Corporate Matters.”

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The provisions described above, after the threshold date, may frustrate or prevent any attempts by our shareholders to replace or remove our current management by making it more difficult for shareholders to replace members of our board of directors, which board is responsible for appointing our management. In addition, because we are incorporated in the State of Washington, we are governed by the provisions of Chapter 23B.19 of the Washington Business Corporation Act, which prohibits certain business combinations between us and certain significant shareholders unless specified conditions are met. These provisions may also have the effect of delaying or preventing a change of control of our company, even if this change of control would benefit our shareholders.

Item 1B. Unresolved Staff Comments.

Not applicable.

Item 2. Properties.

We have various operating leases for office space, which are summarized as of December 31, 2019 in the table below, by reportable segment. Beginning January 1, 2019, Zillow Group has three segments: Homes, Internet, Media & Technology (“IMT”) and Mortgages. We believe that our facilities are adequate for our current needs.

<u>Location</u>	<u>Purpose</u>	<u>Primary Reportable Segment(s)</u>	<u>Approximate Square Feet</u>	<u>Principal Lease Expiration Dates</u>
Seattle, Washington	Corporate headquarters for Zillow Group	All segments	386,275	2024
New York, New York	General office space	IMT	201,562	2030
Atlanta, Georgia	General office space	All segments	108,213	2025
San Francisco, California	General office space	All segments	105,897	2023
Irvine, California	General office space	All segments	80,312	2027
Denver, Colorado	General office space	All segments	73,781	2021
Overland Park, Kansas	General office space	Mortgages	70,373	2024

In addition, we lease office space in several other U.S. locations and in Vancouver, British Columbia. See Note 14 and Note 20 of Part II, Item 8 of this Annual Report on Form 10-K for more information about our lease commitments.

Item 3. Legal Proceedings.

For information regarding legal proceedings in which we are involved, see Note 20 under the subsection titled “Legal Proceedings” in our Notes to Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K.

Item 4. Mine Safety Disclosures.

Not applicable.

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Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

Market Information and Holders

Our Class A common stock has traded on The Nasdaq Global Select Market under the symbol “ZG” since August 17, 2015 and under the symbol “Z” from July 20, 2011 through August 14, 2015.

Our Class B common stock is not listed and there is no established public trading market.

Our Class C capital stock has traded on The Nasdaq Global Select Market under the symbol “Z” since August 17, 2015. Prior to that time, there was no public market for our Class C capital stock.

Holders of Record

As of February 12, 2020, there were 81, three, and 132 holders of record of our Class A common stock, our Class B common stock, and our Class C capital stock, respectively.

Dividends

We have never declared or paid a cash dividend on our common or capital stock and we intend to retain all available funds and any future earnings to fund the development and growth of our business. We therefore do not anticipate paying any cash dividends on our common or capital stock in the foreseeable future. Any future determinations to pay dividends on our common or capital stock would depend on our results of operations, our financial condition and liquidity requirements, restrictions that may be imposed by applicable law or our contracts and any other factors that our board of directors may consider relevant.

Recent Sales of Unregistered Securities and Use of Proceeds from Registered Securities

Recent Sales of Unregistered Securities

Except as previously reported on a current report on Form 8-K, we had no unregistered sales of equity securities during the year ended December 31, 2019.

Purchases of Equity Securities by the Issuer

None.

Performance Graph

The following graph compares our cumulative total shareholder return on Zillow Group’s common and capital stock with the Nasdaq Composite Index and the RDG Internet Composite Index.

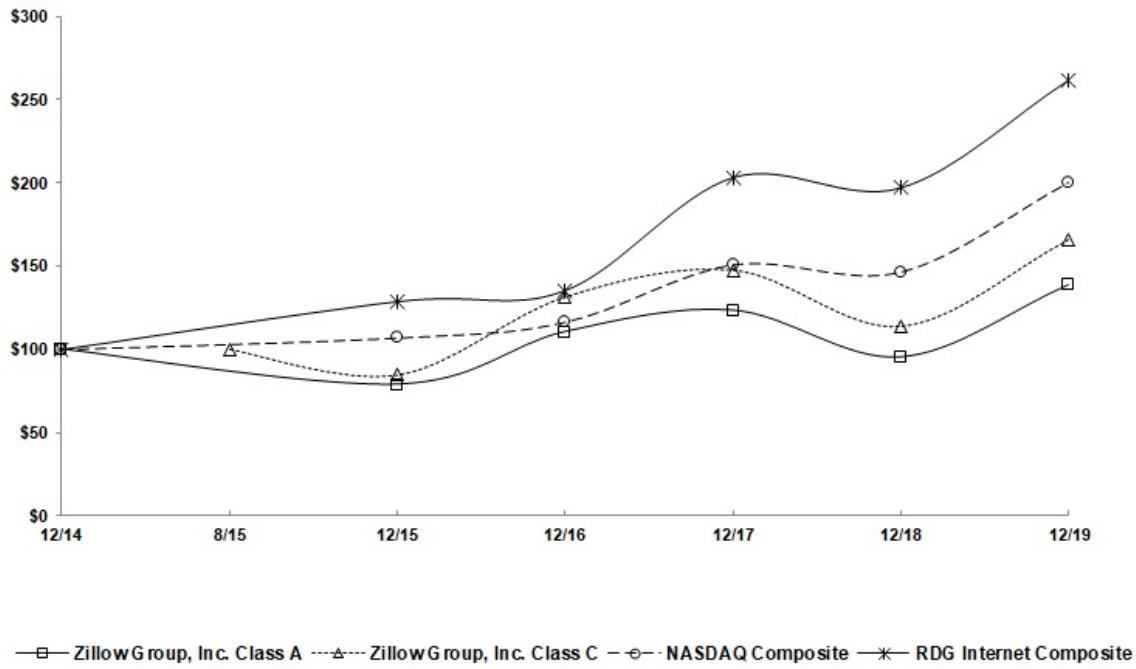
For our Class A common stock, this graph covers the period from December 31, 2014 through December 31, 2019. This graph assumes that the value of the investment in Zillow Group’s Class A common stock and each index (including reinvestment of dividends) was \$100 on December 31, 2014.

For our Class C capital stock, this graph covers the period from August 3, 2015, using the closing price for the first day of trading during the when-issued trading period prior to the August 2015 stock split effected in the form of a dividend through December 31, 2019. This graph assumes that the value of the investment in Zillow Group’s Class C capital stock (including reinvestment of dividends) was \$100 on August 3, 2015.

The information contained in the graph is based on historical data and is not intended to forecast possible future performance.

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Among Zillow Group, Inc., the NASDAQ Composite Index
and the RDG Internet Composite Index



*\$100 invested on 12/31/14 in stock or index, including reinvestment of dividends, except Class C capital stock, which date is August 3, 2015.
Fiscal year ending December 31.

[Table of Contents](#)**PART II****Item 6. Selected Financial Data.**

The selected financial data set forth below should be read in conjunction with the information under “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and our consolidated financial statements and related notes included elsewhere in this Annual Report on Form 10-K and our previously audited financial statements that are not included herein. We have included Trulia, Inc. in Zillow Group’s results of operations prospectively after February 17, 2015, the date of acquisition. We have given retroactive effect to prior period share and per share amounts in our consolidated statements of operations for the August 2015 stock split effected in the form of a dividend so that prior periods are comparable to current period presentation. Prior periods have been recast to align with Zillow Group’s segment change effective January 1, 2019. In 2018, our business model evolved significantly with the launch of Zillow Offers in April and the acquisition of Zillow Home Loans in October. Zillow Offers, for example, is a cash- and inventory-intensive business with a high cost of revenue as compared with other parts of our operations; the cost of revenue includes the amount we pay to purchase homes and costs incurred to renovate the homes prior to sale. Revenue for the Homes segment includes the sale prices of homes less resale concessions and credits to the buyer, and does not reflect real estate agent commissions, closing or other associated costs. As a result of this evolution of our business model, financial performance for prior year periods may not be indicative of future performance. Amounts are in thousands, except per share data.

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	Year Ended December 31,				
	2019	2018	2017	2016	2015
Statement of Operations Data:					
Revenue:					
Homes	\$ 1,365,250	\$ 52,365	\$ —	\$ —	\$ —
IMT	1,276,896	1,201,143	996,203	775,456	600,414
Mortgages	100,691	80,046	80,591	71,133	44,263
Total revenue	<u>2,742,837</u>	<u>1,333,554</u>	<u>1,076,794</u>	<u>846,589</u>	<u>644,677</u>
Cost of revenue (exclusive of amortization) (1)(2):					
Homes	1,315,345	49,392	—	—	—
IMT	98,522	96,693	80,310	64,446	55,946
Mortgages	18,154	7,505	4,893	4,816	4,181
Total cost of revenue	<u>1,432,021</u>	<u>153,590</u>	<u>85,203</u>	<u>69,262</u>	<u>60,127</u>
Sales and marketing (1)	714,128	552,621	448,201	382,419	308,125
Technology and development (1)	477,347	410,818	319,985	255,583	184,477
General and administrative (1)	366,176	262,153	210,816	332,007	184,984
Impairment and restructuring costs (1)	—	79,000	174,000	—	35,551
Acquisition-related costs	—	2,332	463	1,423	16,576
Integration costs	650	2,015	—	—	—
Loss (gain) on divestiture of businesses	—	—	—	(1,251)	4,368
Total costs and expenses	<u>2,990,322</u>	<u>1,462,529</u>	<u>1,238,668</u>	<u>1,039,443</u>	<u>794,208</u>
Loss from operations	<u>(247,485)</u>	<u>(128,975)</u>	<u>(161,874)</u>	<u>(192,854)</u>	<u>(149,531)</u>
Loss on debt extinguishment	—	—	—	(22,757)	—
Other income	39,658	19,270	5,385	2,711	1,501
Interest expense	(101,792)	(41,255)	(27,517)	(7,408)	(5,489)
Loss before income taxes	<u>(309,619)</u>	<u>(150,960)</u>	<u>(184,006)</u>	<u>(220,308)</u>	<u>(153,519)</u>
Income tax benefit (expense)	4,258	31,102	89,586	(130)	4,645
Net loss	<u>\$ (305,361)</u>	<u>\$ (119,858)</u>	<u>\$ (94,420)</u>	<u>\$ (220,438)</u>	<u>\$ (148,874)</u>
Net loss per share—basic and diluted	<u>\$ (1.48)</u>	<u>\$ (0.61)</u>	<u>\$ (0.51)</u>	<u>\$ (1.22)</u>	<u>\$ (0.88)</u>
Weighted average shares outstanding—basic and diluted	206,380	197,944	186,453	180,149	169,767
(1) Includes share-based compensation as follows:					
Cost of revenue	\$ 3,978	\$ 4,127	\$ 3,884	\$ 3,550	\$ 2,384
Sales and marketing	25,126	22,942	22,735	23,320	25,391
Technology and development	69,921	56,673	39,938	31,466	26,849
General and administrative	99,877	65,342	47,014	48,582	50,590
Impairment and restructuring costs	—	—	—	—	14,859
Total	<u>\$ 198,902</u>	<u>\$ 149,084</u>	<u>\$ 113,571</u>	<u>\$ 106,918</u>	<u>\$ 120,073</u>
(2) Amortization of website development costs and intangible assets included in technology and development	\$ 61,937	\$ 79,309	\$ 94,349	\$ 87,060	\$ 63,189

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	At December 31,				
	2019	2018	2017	2016	2015
Balance Sheet Data:					
Cash, cash equivalents and investments	\$ 2,422,252	\$ 1,554,925	\$ 762,539	\$ 507,515	\$ 520,289
Working capital	2,589,637	1,605,200	723,138	485,617	493,672
Property and equipment, net	170,489	135,172	112,271	98,288	85,523
Total assets	6,131,973	4,291,116	3,230,517	3,149,677	3,135,700
Long-term debt	1,543,402	699,020	385,416	367,404	230,000
Other long-term liabilities	232,633	37,419	65,890	151,444	146,225
Total shareholders' equity	3,435,421	3,267,179	2,660,823	2,533,587	2,679,053

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Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

The following discussion of our financial condition and results of operations should be read in conjunction with our audited consolidated financial statements and the related notes included elsewhere in this Annual Report on Form 10-K. The following discussion focuses on 2019 and 2018 financial condition and results of operations and year-to-year comparisons between 2019 and 2018. Similar discussion of our 2017 financial condition and results and year-to-year comparisons between 2018 and 2017 can be found in “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in Part II, Item 7 of the Company’s Annual Report on Form 10-K for the year ended December 31, 2018.

In addition to historical financial information, the following discussion contains forward-looking statements that reflect our plans, estimates and beliefs. Our actual results may differ materially from those described in or implied by any forward-looking statements. Factors that could cause or contribute to these differences include those discussed below and elsewhere in this Annual Report on Form 10-K, particularly in the section titled “Risk Factors”.

Overview of our Business

Zillow Group, Inc. houses one of the largest portfolios of real estate brands on mobile and the web. Zillow Group is committed to leveraging its proprietary data, technology and innovations to make home buying, selling, financing and renting a seamless, on-demand experience for customers. As its flagship brand, Zillow now offers a fully integrated home shopping experience that includes access to for sale and rental listings, Zillow Offers, which provides a hassle-free way to buy and sell eligible homes directly through Zillow, and Zillow Home Loans, Zillow’s affiliated lender that provides an easy way to receive mortgage pre-approvals and financing. Other consumer brands include Trulia, StreetEasy, HotPads, Naked Apartments and Out East. In addition, Zillow Group provides a comprehensive suite of marketing software and technology solutions to help real estate partners maximize business opportunities and connect with millions of customers. Zillow Group business brands for real estate, rental and mortgage professionals, include Mortech, dotloop, Bridge Interactive and New Home Feed.

Reportable Segments and Revenue Overview

As of January 1, 2019, Zillow Group has three reportable segments: the Homes segment, the Internet, Media & Technology (“IMT”) segment and the Mortgages segment. The Homes segment includes the financial results from Zillow Group’s purchase and sale of homes directly through the Zillow Offers service. The IMT segment includes the financial results for the Premier Agent, Rentals and new construction marketplaces, as well as dotloop, display and other advertising and business software solutions. The Mortgages segment includes the financial results for advertising sold to mortgage lenders and other mortgage professionals, mortgage originations through Zillow Home Loans and our Mortech mortgage software solutions.

In our Homes segment, we generate revenue from the resale of homes on the open market through our Zillow Offers service. We began buying homes through the Zillow Offers service in April 2018, and we began selling homes in July 2018.

Premier Agent revenue is generated by the sale of advertising services, as well as marketing and technology products and services, to help real estate agents and brokers grow and manage their businesses. We offer these products and services through our Premier Agent and Premier Broker programs. Premier Agent and Premier Broker advertising products, which include the delivery of impressions and validated consumer connections, or leads, are primarily sold on a share of voice basis. Impressions and leads are distributed to Premier Agents and Premier Brokers in proportion to their share of voice, or an agent advertiser’s share of total advertising purchased in a particular zip code. Impressions are delivered when an advertisement of a Premier Agent or Premier Broker appears on pages viewed by users of our mobile applications and websites and connections are delivered when consumer contact information is provided to Premier Agents and Premier Brokers. Connections and impressions are each provided as part of our advertising services for Premier Agent and Premier Brokers; we do not charge a separate fee for these consumer leads.

In October 2018, we began testing a new Flex pricing model for Premier Agent and Premier Broker advertising services in limited markets. We may continue to extend the testing of this pricing model to additional regions in the future. With the Flex model, Premier Agents and Premier Brokers are provided with impressions and connections at no upfront cost, and they pay a performance advertising fee only when a real estate transaction is closed with one of those leads.

Rentals revenue primarily includes advertising sold to property managers, landlords and other rental professionals on a cost per lead, cost per click, cost per lease or cost per listing basis. Rentals revenue also includes revenue generated through our rental applications product, whereby potential renters can submit applications to multiple properties for a flat service fee.

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Other revenue primarily includes revenue generated by new construction and display advertising, as well as revenue from the sale of various other advertising and business technology solutions for real estate professionals, including dotloop. New construction revenue primarily includes advertising services sold to home builders on a cost per residential community or cost per impression basis. Display revenue primarily consists of graphical mobile and web advertising sold to advertisers promoting their brands on our mobile applications and websites.

In our Mortgages segment, we generate revenue from advertising sold to mortgage lenders and other mortgage professionals on a cost per lead or subscription basis, including our Connect and Custom Quote services, and from Morteck, which provides subscription-based mortgage software solutions, including a product and pricing engine and lead management platform. We also generate revenue through mortgage originations and the related sale of mortgages on the secondary market through Zillow Home Loans.

Financial Highlights

For the years ended December 31, 2019 and 2018, we generated revenue of \$2,742.8 million and \$1,333.6 million, respectively, representing year-over-year growth of 106%. The increase in total revenue was primarily attributable to the following:

- Our Zillow Offers business began selling homes in July of 2018. Homes revenue grew to \$1,365.3 million for the year ended December 31, 2019 due to the sale of 4,313 homes at an average selling price of \$316.5 thousand per home. For the year ended December 31, 2018, Homes revenue was \$52.4 million due to the sale of 177 homes at an average selling price of \$295.8 thousand per home. As of December 31, 2019, Zillow Offers was operating in 22 metropolitan areas.
- Premier Agent revenue increased by \$25.5 million to \$923.9 million for the year ended December 31, 2019 compared to \$898.3 million for the year ended December 31, 2018.
- Rentals revenue increased by \$29.6 million to \$164.2 million for the year ended December 31, 2019 compared to \$134.6 million for the year ended December 31, 2018.
- Mortgages revenue increased by \$20.6 million to \$100.7 million for the year ended December 31, 2019 compared to \$80.0 million for the year ended December 31, 2018, driven by our mortgage originations business, which we acquired in the fourth quarter of 2018.
- Visits for the years ended December 31, 2019 and 2018 were 8,065.5 million and 7,182.1 million, respectively, representing year-over-year growth of 12%. The increase in visits increased the number of events we monetized across our revenue categories.
- The average number of monthly unique users for the three months ended December 31, 2019 and 2018 were 172.6 million and 157.2 million, respectively, representing year-over-year growth of 10%.

Key Metrics

Management has identified visits and unique users as relevant to investors' and others' assessment of our financial condition and results of operations.

Visits

The number of visits is an important metric because it is an indicator of consumers' level of engagement with our mobile applications, websites and other services. We believe highly engaged consumers are more likely to participate in our Zillow Offers program or use Zillow Homes Loans or more likely to be transaction-ready real estate market participants and therefore more sought-after by our real estate partners.

We define a visit as a group of interactions by users with the Zillow, Trulia and StreetEasy mobile applications and websites, as we monetize our Premier Agent and Premier Broker products on these mobile applications and websites. A single visit can contain multiple page views and actions, and a single user can open multiple visits across domains, web browsers, desktop or mobile devices. Visits can occur on the same day, or over several days, weeks or months.

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Zillow and StreetEasy measure visits with Google Analytics, and Trulia measures visits with Adobe Analytics. Visits to Trulia end after thirty minutes of user inactivity. Visits to Zillow and StreetEasy end either: (i) after thirty minutes of user inactivity or at midnight; or (ii) through a campaign change. A visit ends through a campaign change if a visitor arrives via one campaign or source (for example, via a search engine or referring link on a third-party website), leaves the mobile application or website, and then returns via another campaign or source.

The following table presents the number of visits to our mobile applications and websites for the periods presented (in millions):

	Year Ended December 31,			2018 to 2019 % Change	2017 to 2018 % Change
	2019	2018	2017		
Visits	8,065.5	7,182.1	6,314.4	12 %	14 %

Unique Users

Measuring unique users is important to us because much of our revenue depends in part on our ability to enable real estate, rental and mortgage professionals to connect with our customers - home buyers and sellers, renters and individuals with or looking for a mortgage. Growth in consumer traffic to our mobile applications and websites increases the number of impressions, clicks, connections, leads and other events we can monetize to generate revenue. For example, our Homes segment revenue depends in part on users accessing our mobile applications and websites to engage in the sale and purchase of homes with Zillow Group, and Premier Agent revenue and display revenue depend on advertisements being served to users of our mobile applications and websites.

We count a unique user the first time an individual accesses one of our mobile applications using a mobile device during a calendar month and the first time an individual accesses one of our websites using a web browser during a calendar month. If an individual accesses our mobile applications using different mobile devices within a given month, the first instance of access by each such mobile device is counted as a separate unique user. If an individual accesses more than one of our mobile applications within a given month, the first access to each mobile application is counted as a separate unique user. If an individual accesses our websites using different web browsers within a given month, the first access by each such web browser is counted as a separate unique user. If an individual accesses more than one of our websites in a single month, the first access to each website is counted as a separate unique user since unique users are tracked separately for each domain. Zillow, StreetEasy, HotPads and Naked Apartments measure unique users with Google Analytics, and Trulia measures unique users with Adobe Analytics.

The following table presents our average monthly unique users for the periods presented (in millions):

	Three Months Ended December 31,			2018 to 2019 % Change	2017 to 2018 % Change
	2019	2018	2017		
Average Monthly Unique Users	172.6	157.2	151.6	10 %	4 %

Basis of Presentation

Revenue

We recognize revenue when or as we satisfy our performance obligations by transferring control of promised products or services to our customers in an amount that reflects the consideration to which we expect to be entitled in exchange for those products or services.

In our Homes segment, we generate revenue from the resale of homes on the open market through our Zillow Offers program.

In our IMT segment, we generate revenue from the sale of advertising services and our suite of marketing software and technology solutions to residential real estate businesses, professionals and consumers. These professionals include real estate, rental and new construction brand advertisers, professionals and consumers. Our three primary revenue categories within our IMT segment are Premier Agent, Rentals and Other.

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In our Mortgages segment, we generate revenue from the sale of advertising services to mortgage lenders and other mortgage professionals, mortgage originations and the related sale of mortgages on the secondary market through Zillow Home Loans, as well as Mortech mortgage software solutions.

Homes Revenue. Homes revenue is derived from the resale of homes on the open market through our Zillow Offers program. Homes revenue is recognized at the time of the closing of the home sale when title to and possession of the property are transferred to the buyer. The amount of revenue recognized for each home sale is equal to the sale price of the home net of resale concessions and credits to the buyer and does not reflect real estate agent commissions, closing or other costs associated with the transaction.

Premier Agent Revenue. Premier Agent revenue is derived from our Premier Agent and Premier Broker programs. Our Premier Agent and Premier Broker programs offer a suite of marketing and business technology products and services to help real estate agents and brokers achieve their advertising goals, while growing and managing their businesses and brands. All Premier Agents and Premier Brokers receive access to a dashboard portal on our mobile application and website that provides individualized program performance analytics, our customer relationship management, or CRM, tool that captures detailed information about each contact made with a Premier Agent or Premier Broker through our mobile and web platforms, and our account management tools. The marketing and business technology products and services promised to Premier Agents and Premier Brokers are delivered over time, as the customer simultaneously receives and consumes the benefit of the performance obligations.

Premier Agent and Premier Broker advertising products, which include the delivery of impressions and validated consumer connections, or leads, are primarily offered on a share of voice basis. Payment is received prior to the delivery of impressions and connections. Impressions are delivered when an advertisement appears on pages viewed by users of our mobile applications and websites and connections are delivered when consumer contact information is provided to Premier Agents and Premier Brokers. We do not promise any minimum or maximum number of impressions or connections to customers, but instead control when and how many impressions and connections to deliver based on a customer's share of voice. We determine the number of impressions and connections to deliver to Premier Agents and Premier Brokers in each zip code using a market-based pricing method in consideration of the total amount spent by Premier Agents and Premier Brokers to purchase impressions and connections in the zip code during the month. This results in the delivery of impressions and connections over time in proportion to each Premier Agent's and Premier Broker's share of voice. A Premier Agent's or Premier Broker's share of voice in a zip code is determined by their proportional monthly prepaid spend in that zip code as a percentage of the total monthly prepaid spend of all Premier Agents and Premier Brokers in that zip code, and includes both the share of impressions delivered as advertisements appearing on pages viewed by users of our mobile applications and websites as well as the proportion of consumer connections a Premier Agent or Premier Broker receives. The number of impressions and connections delivered for a given spend level is dynamic - as demand for advertising in a zip code increases or decreases, the number of impressions and connections delivered to a Premier Agent or Premier Broker in that zip code decreases or increases accordingly.

We primarily recognize revenue related to the Premier Agent and Premier Broker products and services based on the monthly prepaid spend recognized on a straight-line basis during the monthly billing period over which the products and services are provided. This methodology best depicts how we satisfy our performance obligations to customers, as we continuously transfer control of the performance obligations to the customer over time. Given a Premier Agent or Premier Broker typically prepays their monthly spend and the monthly spend is refunded on a pro-rata basis upon cancellation of the contract by a customer at any point in time, we have determined that Premier Agent and Premier Broker contracts are effectively daily contracts, and each performance obligation is satisfied over time as each day lapses. We have not allocated the transaction price to each performance obligation within our Premier Agent and Premier Broker arrangements, as the amounts recognized would be the same irrespective of any allocation.

In October 2018, we began testing a new pricing model, Flex, for Premier Agent and Premier Broker advertising services in limited markets. With the Flex model, Premier Agents and Premier Brokers are provided with validated leads at no upfront cost and pay a performance advertising fee only when a real estate transaction is closed with one of the leads. With this pricing model, the transaction price represents variable consideration, as the amount to which we expect to be entitled varies based on the number of validated leads that convert into real estate transactions and the value of those transactions. During this testing phase, we recognize revenue when we receive payment for a real estate transaction closed with a Flex lead. We will continuously reevaluate this determination and the point at which we may begin to estimate variable consideration and record revenue as performance obligations are transferred.

Rentals Revenue. Rentals revenue includes the sale of advertising and a suite of tools to rental professionals, landlords and other market participants. Rentals revenue primarily includes revenue generated by advertising sold to property managers,

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landlords and other rental professionals on a cost per lead, cost per click, cost per lease, cost per listing or cost per impression basis. We recognize revenue as leads, clicks and impressions are provided to rental professionals, or as rental listings are published on our mobile applications and websites, which is the amount for which we have the right to invoice. The number of leases generated through our rentals pay per lease product during the period is accounted for as variable consideration, and we estimate the amount of variable consideration based on the expected number of qualified leases secured during the period. We do not believe that a significant reversal in the amount of cumulative revenue recognized will occur once the uncertainty related to the number of leases secured is subsequently resolved.

Rentals revenue also includes revenue generated from our rental applications product through which potential renters can submit applications to multiple rental properties over a 30-day period for a flat service fee. We recognize revenue for the rental applications product on a straight-line basis during the contractual period over which the customer has the right to access and submit the rental application.

Other Revenue. Other revenue primarily includes revenue generated by new construction and display, as well as revenue from the sale of various other marketing and business products and services to real estate professionals. Our new construction marketing solutions allow home builders to showcase their available inventory to home shoppers. New construction revenue primarily includes revenue generated by advertising sold to builders on a cost per residential community basis, and revenue is recognized on a straight-line basis during the contractual period over which the communities are advertised on our mobile applications and websites. New construction revenue also includes revenue generated on a cost per impression basis whereby we recognize revenue as impressions are delivered to users interacting with our mobile applications and websites, which is the amount for which we have the right to invoice. Consideration for new construction products is billed in arrears. Display revenue primarily consists of graphical mobile and web advertising sold on a cost per thousand impressions or cost per click basis to advertisers promoting their brands on our mobile applications and websites. We recognize display revenue as clicks occur or as impressions are delivered to users interacting with our mobile applications or websites, which is the amount for which we have the right to invoice.

Mortgages Revenue. Mortgages revenue includes marketing products sold to mortgage professionals on a cost per lead basis, including our Custom Quote and a portion of our Connect services, and on a subscription basis, including a portion of our Connect service. Zillow Group operates Custom Quote and Connect through its wholly owned subsidiary, Zillow Group Marketplace, Inc., a licensed mortgage broker. For our Connect and Custom Quote cost per lead marketing products, participating qualified mortgage professionals typically make a prepayment to gain access to consumers interested in connecting with mortgage professionals. Mortgage professionals who exhaust their initial prepayment prepay additional funds to continue to participate in the marketplace. For our Connect subscription mortgage marketing product, participating qualified mortgage professionals prepay a monthly subscription fee, which they then allocate to desired geographic counties. In Zillow Group's Connect platform, consumers answer a series of questions to find a local lender, and mortgage professionals receive consumer contact information, or leads, when the consumer chooses to share their information with a lender. Consumers who request rates for mortgage loans in Custom Quotes are presented with customized quotes from participating mortgage professionals.

For our cost per lead mortgages products, we recognize revenue when a user contacts a mortgage professional through our mortgages platform, which is the amount for which we have the right to invoice. For our subscription product, the opportunity to receive a consumer contact is based on the mortgage professional's relative share of voice in a geographic county. When a consumer submits a contact, we contact a group of subscription mortgage professionals via text message, and the first mortgage professional to respond receives the consumer contact information. We recognize revenue based on the contractual spend on a straight-line basis during the contractual period over which the service is provided. This methodology best depicts how we satisfy our performance obligation to subscription customers, as we continuously transfer control of the performance obligation to the customer throughout the contractual period.

Beginning in the fourth quarter of 2018, mortgages revenue also includes revenue generated by Zillow Home Loans, Zillow's affiliated mortgage lender. Mortgage origination revenue recorded within our Mortgages segment reflects both origination fees and the corresponding sale, or expected future sale, of a loan. When an interest rate lock commitment is made to a customer, we record the expected gain on sale of the mortgage, plus the estimated earnings from the expected sale of the associated servicing rights, adjusted for a pull-through percentage (which is defined as the likelihood that an interest rate lock commitment will be originated), as revenue. Revenue from loan origination fees is recognized at the time the related real estate transactions are completed, usually upon the close of escrow and when we fund mortgage loans. Once funded, mortgage loans held for sale are recorded at fair value based on either sale commitments or current market quotes and are adjusted for subsequent changes in fair value until the loan is sold. Net origination costs associated with mortgage loans are recognized as incurred. We sell substantially all of the mortgages we originate and the related servicing rights to third-party purchasers.

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Mortgages revenue also includes revenue generated by Mortech, which provides subscription-based mortgage software solutions, including a product and pricing engine and lead management platform, for which we recognize revenue on a straight-line basis during the contractual period over which the services are provided.

Costs and Expenses

Cost of Revenue. Our cost of revenue consists of expenses related to operating our mobile applications and websites, including associated headcount expenses, such as salaries, benefits, bonuses and share-based compensation expense, as well as revenue-sharing costs related to our commercial business relationships, depreciation expense and costs associated with hosting our mobile applications and websites. For our Homes segment, our cost of revenue also consists of the consideration paid to acquire and make certain repairs and updates to each home, including associated overhead costs, as well as inventory valuation adjustments. For our IMT and Mortgages segments, cost of revenue also includes credit card fees and ad serving costs paid to third parties. For our Mortgages segment, our cost of revenue also consists of direct costs to originate loans, including underwriting and processing costs.

Sales and Marketing. Sales and marketing expenses consist of advertising costs and other sales expenses related to promotional and marketing activities, headcount expenses, including salaries, commissions, benefits, bonuses and share-based compensation expense for sales, sales support, customer support, marketing and public relations employees and depreciation expense. For our Homes segment, sales and marketing expenses also consist of selling costs, such as real estate agent commissions, escrow and title fees, and staging costs, as well as holding costs incurred during the period that homes are listed for sale, including utilities, taxes and maintenance. For our Mortgages segment, sales and marketing expenses include headcount expenses for loan officers and specialists supporting Zillow Home Loans.

Technology and Development. Technology and development expenses consist of headcount expenses, including salaries, benefits, bonuses and share-based compensation expense for individuals engaged in the design, development and testing of our products, mobile applications and websites and the tools and applications that support our products. Technology and development expenses also include amortization costs related to capitalized website and development activities, amortization of software, amortization of certain intangibles and other data agreement costs related to the purchase of data used to populate our mobile applications and websites, amortization of intangible assets recorded in connection with acquisitions, including developed technology and customer relationships, amongst others, equipment and maintenance costs and depreciation expense.

General and Administrative. General and administrative expenses consist of headcount expenses, including salaries, benefits, bonuses and share-based compensation expense for executive, finance, accounting, legal, human resources, recruiting, corporate information technology costs and other administrative support. General and administrative expenses also include legal settlement costs and estimated legal liabilities, legal, accounting and other third-party professional service fees, rent expense, depreciation expense and bad debt expense.

Impairment Costs. There were no impairment costs for the year ended December 31, 2019. Impairment costs for the year ended December 31, 2018 consist of a \$10.0 million non-cash impairment related to our June 2017 equity investment and a \$69.0 million non-cash impairment related to the indefinite-lived Trulia trade names and trademarks intangible asset. For additional information about the impairments, see Note 9 and Note 11 of our Notes to Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K.

Acquisition-related Costs. Acquisition-related costs consist of investment banking, legal, accounting, tax and regulatory filing fees associated with effecting acquisitions.

Integration Costs. Integration costs consist of expenses incurred to incorporate operations, systems, technology and rights and responsibilities of acquired companies, during both pre-closing and post-closing periods, into Zillow Group's business. For the years ended December 31, 2019 and 2018, integration costs primarily include consulting-related expenses incurred in connection with the integration of Zillow Home Loans.

Other Income

Other income consists primarily of interest income earned on our cash, cash equivalents and short-term investments. For our Mortgages segment, Other income includes interest income earned on mortgage loans held for sale.

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Interest Expense

Our corporate interest expense consists of interest on Trulia's Convertible Senior Notes due in 2020 (the "2020 Notes") we guaranteed in connection with our February 2015 acquisition of Trulia, interest on the Convertible Senior Notes due in 2021 (the "2021 Notes") we issued in December 2016, interest on the Convertible Senior Notes due in 2023 (the "2023 Notes") we issued in July 2018, interest on the Convertible Senior Notes due in 2024 and in 2026 (the "Initial 2024 Notes" and the "2026 Notes", respectively) we issued in September 2019, and interest on the additional Convertible Senior Notes due in 2024 (together with the Initial 2024 Notes, the "2024 Notes") we issued in October 2019. Our corporate interest expense also includes the amortization of the debt discount and deferred issuance costs for the 2021 Notes, 2023 Notes, 2024 Notes and 2026 Notes over the term of the notes. Refer to Note 15 of our Notes to Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K for stated interest rates and interest payment dates for each of our convertible senior notes.

For our Homes segment, interest expense includes interest on borrowings, funding fees and other fees, including the amortization of deferred issuance costs, on our revolving credit facilities related to our Zillow Offers business. Borrowings on our revolving credit facilities bear interest at the one-month LIBOR plus an applicable margin, as defined in the credit agreements.

For our Mortgages segment, interest expense includes interest on the warehouse lines of credit and beginning in the fourth quarter of 2019, interest on the master repurchase agreement, related to our Zillow Home Loans business. Borrowings on the warehouse lines of credit and master repurchase agreement bear interest at the one-month LIBOR plus an applicable margin, as defined in the agreements.

Income Taxes

We are subject to federal and state income taxes in the United States and federal and provincial income taxes in Canada. As of December 31, 2019 and December 31, 2018, we have recorded a valuation allowance against our net deferred tax assets which we believe, based on the weight of available evidence, are not more likely than not to be realized. Therefore, no material current tax liability or expense has been recorded in the consolidated financial statements. We have accumulated federal tax losses of approximately \$1,137.6 million as of December 31, 2019, which are available to reduce future taxable income. We have accumulated state tax losses of approximately \$34.3 million (tax effected) as of December 31, 2019.

We recorded an income tax benefit of \$4.3 million for the year ended December 31, 2019. The majority of the income tax benefit is a result of federal and state interest expense limitation carryforwards that are indefinite-lived deferred tax assets that can offset our indefinite-lived deferred tax liabilities. Net operating losses generated after December 31, 2017 can also be offset against the indefinite-lived deferred tax liabilities. Both of these items contributed to a release of the valuation allowance and the recognition of an income tax benefit.

We recorded an income tax benefit of \$31.1 million for the year ended December 31, 2018. Approximately \$15.4 million of the income tax benefit relates to a \$69.0 million non-cash impairment we recorded during the year ended December 31, 2018 related to the indefinite-lived Trulia trade names and trademarks intangible asset. The remaining portion of our income tax benefit is primarily the result of net operating losses generated after December 31, 2017 with an indefinite carryforward period due to the Tax Cuts and Jobs Act of 2017 ("the Tax Act"). Current year net operating losses can now be offset against the indefinite-lived deferred tax liabilities which resulted in a release of the valuation allowance and the recognition of an income tax benefit.

During the year ended December 31, 2018, we completed our accounting for the income tax effects related to the deduction limitations on compensation under the Tax Act. The Internal Revenue Service provided further guidance in applying the written binding contracts requirement under the Tax Act, and we believe certain of our executive compensation previously eligible to be deducted for tax purposes under Section 162(m) of the Internal Revenue Code will be considered grandfathered and, therefore, will continue to be deductible. Based on the clarification of these rules, the accounting related to the Section 162(m) limitation of the Internal Revenue Code is considered complete and as a result, we recorded a \$5.9 million tax benefit for the year ended December 31, 2018.

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In 2018, our business model evolved significantly with the launch of Zillow Offers in April and the acquisition of Zillow Home Loans in October. Zillow Offers, for example, is a cash- and inventory-intensive business with a high cost of revenue as compared with other parts of our operations; the cost of revenue includes the amount we pay to purchase homes. Revenue for the Homes segment includes the sale prices of homes less resale concessions and credits to the buyer, and does not reflect real estate agent commissions, closing or other associated costs. As a result of this evolution of our business model, financial performance for prior year periods may not be indicative of future performance.

The following tables present our results of operations for the periods indicated and as a percentage of total revenue (in thousands, except per share and percentage data):

	Year Ended December 31,		
	2019	2018	2017
Statements of Operations Data:			
Revenue:			
Homes	\$ 1,365,250	\$ 52,365	\$ —
IMT	1,276,896	1,201,143	996,203
Mortgages	100,691	80,046	80,591
Total revenue	<u>2,742,837</u>	<u>1,333,554</u>	<u>1,076,794</u>
Cost of revenue (exclusive of amortization) (1)(2):			
Homes	1,315,345	49,392	—
IMT	98,522	96,693	80,310
Mortgages	18,154	7,505	4,893
Total cost of revenue	<u>1,432,021</u>	<u>153,590</u>	<u>85,203</u>
Sales and marketing (1)	714,128	552,621	448,201
Technology and development (1)	477,347	410,818	319,985
General and administrative (1)	366,176	262,153	210,816
Impairment costs	—	79,000	174,000
Acquisition-related costs	—	2,332	463
Integration costs	650	2,015	—
Total costs and expenses	<u>2,990,322</u>	<u>1,462,529</u>	<u>1,238,668</u>
Loss from operations	(247,485)	(128,975)	(161,874)
Other income	39,658	19,270	5,385
Interest expense	(101,792)	(41,255)	(27,517)
Loss before income taxes	(309,619)	(150,960)	(184,006)
Income tax benefit	4,258	31,102	89,586
Net loss	<u>\$ (305,361)</u>	<u>\$ (119,858)</u>	<u>\$ (94,420)</u>
Net loss per share — basic and diluted	\$ (1.48)	\$ (0.61)	\$ (0.51)
Weighted-average shares outstanding — basic and diluted	206,380	197,944	186,453
Other Financial Data:			
Segment income (loss) before income taxes:			
Homes segment	\$ (312,120)	\$ (59,691)	\$ —
IMT segment	\$ 80,060	\$ (57,638)	\$ (151,747)
Mortgages segment	\$ (44,962)	\$ (13,711)	\$ (10,127)
Adjusted EBITDA (3):			
Homes segment	\$ (241,326)	\$ (48,460)	\$ —
IMT segment	303,863	240,025	219,648
Mortgages segment	(23,653)	9,267	16,667
Total Adjusted EBITDA	<u>\$ 38,884</u>	<u>\$ 200,832</u>	<u>\$ 236,315</u>

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	Year Ended December 31,		
	2019	2018	2017
(1) Includes share-based compensation as follows:			
Cost of revenue	\$ 3,978	\$ 4,127	\$ 3,884
Sales and marketing	25,126	22,942	22,735
Technology and development	69,921	56,673	39,938
General and administrative	99,877	65,342	47,014
Total	<u>\$ 198,902</u>	<u>\$ 149,084</u>	<u>\$ 113,571</u>
(2) Amortization of website development costs and intangible assets included in technology and development	\$ 61,937	\$ 79,309	\$ 94,349
(3) See "Adjusted EBITDA" below for more information and for a reconciliation of Adjusted EBITDA to the most directly comparable financial measure calculated and presented in accordance with U.S. generally accepted accounting principles, or GAAP, which is net loss on a consolidated basis and income (loss) before income taxes for each segment.			

	Year Ended December 31,		
	2019	2018	2017
Percentage of Revenue:			
Revenue:			
Homes	50 %	4 %	0 %
IMT	47	90	93
Mortgages	4	6	7
Total revenue	<u>100</u>	<u>100</u>	<u>100</u>
Cost of revenue (exclusive of amortization):			
Homes	48	4	0
IMT	4	7	7
Mortgages	1	1	—
Total cost of revenue	<u>52</u>	<u>12</u>	<u>8</u>
Sales and marketing	26	41	42
Technology and development	17	31	30
General and administrative	13	20	20
Impairment costs	0	6	16
Acquisition-related costs	0	—	—
Integration costs	—	—	0
Total costs and expenses	<u>109</u>	<u>110</u>	<u>115</u>
Loss from operations	(9)	(10)	(15)
Other income	1	1	1
Interest expense	(4)	(3)	(3)
Loss before income taxes	(11)	(11)	(17)
Income tax benefit	—	2	8
Net loss	<u>(11)%</u>	<u>(9)%</u>	<u>(9)%</u>

Adjusted EBITDA

To provide investors with additional information regarding our financial results, we have disclosed Adjusted EBITDA in total and for each segment, each a non-GAAP financial measure, within this Annual Report on Form 10-K. We have provided a reconciliation below of Adjusted EBITDA in total to net loss and Adjusted EBITDA by segment to income (loss) before income taxes for each segment, the most directly comparable GAAP financial measures.

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We have included Adjusted EBITDA in total and for each segment in this Annual Report on Form 10-K as they are key metrics used by our management and board of directors to measure operating performance and trends and to prepare and approve our annual budget. In particular, the exclusion of certain expenses in calculating Adjusted EBITDA facilitates operating performance comparisons on a period-to-period basis.

Our use of Adjusted EBITDA in total and for each segment has limitations as an analytical tool, and you should not consider these measures in isolation or as a substitute for analysis of our results as reported under GAAP. Some of these limitations are:

- Adjusted EBITDA does not reflect our cash expenditures or future requirements for capital expenditures or contractual commitments;
- Adjusted EBITDA does not reflect changes in, or cash requirements for, our working capital needs;
- Adjusted EBITDA does not consider the potentially dilutive impact of share-based compensation;
- Although depreciation and amortization are non-cash charges, the assets being depreciated and amortized may have to be replaced in the future, and Adjusted EBITDA does not reflect cash capital expenditure requirements for such replacements or for new capital expenditure requirements;
- Adjusted EBITDA does not reflect impairment costs;
- Adjusted EBITDA does not reflect acquisition-related costs;
- Adjusted EBITDA does not reflect interest expense or other income;
- Adjusted EBITDA does not reflect income taxes; and
- Other companies, including companies in our own industry, may calculate Adjusted EBITDA differently than we do, limiting its usefulness as a comparative measure.

Because of these limitations, you should consider Adjusted EBITDA in total and for each segment alongside other financial performance measures, including various cash flow metrics, net loss, income (loss) before income taxes for each segment and our other GAAP results.

The following tables present a reconciliation of Adjusted EBITDA to the most directly comparable GAAP financial measure, which is net loss on a consolidated basis and income (loss) before income taxes for each segment, for each of the periods presented (in thousands):

	Year Ended December 31, 2019				
	Homes	IMT	Mortgages	Corporate Items (2)	Consolidated
Reconciliation of Adjusted EBITDA to Net Loss and Income (Loss) Before Income Taxes:					
Net loss (1)	N/A	N/A	N/A	N/A	\$ (305,361)
Income tax benefit	N/A	N/A	N/A	N/A	(4,258)
Income (loss) before income taxes	\$ (312,120)	\$ 80,060	\$ (44,962)	\$ (32,597)	\$ (309,619)
Other income	—	—	(1,409)	(38,249)	(39,658)
Depreciation and amortization expense	8,414	73,369	5,684	—	87,467
Share-based compensation expense	32,390	150,434	16,078	—	198,902
Interest expense	29,990	—	956	70,846	101,792
Adjusted EBITDA	\$ (241,326)	\$ 303,863	\$ (23,653)	\$ —	\$ 38,884

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	Homes	IMT	Mortgages	Corporate Items (2)	Consolidated
Reconciliation of Adjusted EBITDA to Net Loss and Loss Before Income Taxes:					
Net loss (1)	N/A	N/A	N/A	N/A	\$ (119,858)
Income tax benefit	N/A	N/A	N/A	N/A	(31,102)
Loss before income taxes	\$ (59,691)	\$ (57,638)	\$ (13,711)	\$ (19,920)	\$ (150,960)
Other income	—	—	(244)	(19,026)	(19,270)
Depreciation and amortization expense	1,323	91,232	6,836	—	99,391
Share-based compensation expense	7,731	131,404	9,949	—	149,084
Impairment costs	—	75,000	4,000	—	79,000
Acquisition-related costs	—	27	2,305	—	2,332
Interest expense	2,177	—	132	38,946	41,255
Adjusted EBITDA	\$ (48,460)	\$ 240,025	\$ 9,267	\$ —	\$ 200,832

Year Ended December 31, 2017

	Homes	IMT	Mortgages	Corporate Items (2)	Consolidated
Reconciliation of Adjusted EBITDA to Net Loss and Loss Before Income Taxes:					
Net loss (1)	N/A	N/A	N/A	N/A	\$ (94,420)
Income tax benefit	N/A	N/A	N/A	N/A	(89,586)
Loss before income taxes	\$ —	\$ (151,747)	\$ (10,127)	\$ (22,132)	\$ (184,006)
Other income	—	—	—	(5,385)	(5,385)
Depreciation and amortization expense	—	103,648	6,507	—	110,155
Share-based compensation expense	—	105,434	8,137	—	113,571
Impairment costs	—	161,850	12,150	—	174,000
Acquisition-related costs	—	463	—	—	463
Interest expense	—	—	—	27,517	27,517
Adjusted EBITDA	\$ —	\$ 219,648	\$ 16,667	\$ —	\$ 236,315

(1) We use income (loss) before income taxes as our profitability measure in making operating decisions and assessing the performance of our segments, therefore, net loss and income tax benefit are calculated and presented only on a consolidated basis within our financial statements.

(2) Certain corporate items are not directly attributable to any of our segments, including interest income earned on our short-term investments included in Other income and interest costs on our convertible senior notes included in Interest expense.

[Table of Contents](#)**Year Ended December 31, 2019 Compared to Year Ended December 31, 2018*****Revenue***

The following table presents Zillow Group's revenue by category and by segment for the periods presented (in thousands):

	Year Ended December 31,		2018 to 2019 % Change
	2019	2018	
Homes	\$ 1,365,250	\$ 52,365	2,507 %
IMT Revenue:			
Premier Agent	923,876	898,332	3 %
Rentals	164,173	134,587	22 %
Other	188,847	168,224	12 %
Total IMT revenue	1,276,896	1,201,143	6 %
Mortgages	100,691	80,046	26 %
Total revenue	\$ 2,742,837	\$ 1,333,554	106 %

The following table presents Zillow Group's revenue by category and by segment as percentages of total revenue for the periods presented:

	Year Ended December 31,	
	2019	2018
Percentage of Total Revenue:		
Homes	50 %	4 %
IMT Revenue:		
Premier Agent	34	67
Rentals	6	10
Other	7	13
Total IMT revenue	47	90
Mortgages	4	6
Total revenue	100 %	100 %

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Total revenue increased by \$1,409.3 million, or 106%, for the year ended December 31, 2019 compared to the year ended December 31, 2018. The increase in total revenue was primarily attributable to our Zillow Offers business, which began selling homes in July of 2018. Homes revenue grew to \$1,365.3 million for the year ended December 31, 2019 from \$52.4 million for the year ended December 31, 2018, an increase of \$1,312.9 million. Visits increased 12% to 8,065.5 million for the year ended December 31, 2019 from 7,182.1 million for the year ended December 31, 2018. There were approximately 172.6 million average monthly unique users of our mobile applications and websites for the three months ended December 31, 2019 compared to 157.2 million average monthly unique users for the three months ended December 31, 2018, representing year-over-year growth of 10%. The increases in visits and unique users increased the number of impressions, leads, clicks and other events we monetized across our revenue categories.

Homes Segment

Homes revenue was \$1,365.3 million for the year ended December 31, 2019 due to the sale of 4,313 homes at an average selling price of \$316.5 thousand per home. For the year ended December 31, 2018, Homes revenue was \$52.4 million as a result of the sale of 177 homes at an average selling price of \$295.8 thousand per home. The increase in Homes revenue was due to an increase in the number of homes sold in the period as customer adoption of Zillow Offers increases in geographic areas in which it is currently operating and as Zillow Offers expands into new geographic markets. As of December 31, 2019, Zillow Offers was operating in 22 metropolitan areas.

IMT Segment

Premier Agent Revenue. Premier Agent revenue grew to \$923.9 million for the year ended December 31, 2019 from \$898.3 million for the year ended December 31, 2018, an increase of \$25.5 million, or 3%. Premier Agent revenue was positively impacted by an increase in visits. As discussed above, visits increased 12% to 8,065.5 million for the year ended December 31, 2019 from 7,182.1 million for the year ended December 31, 2018. The increase in visits increased the number of impressions and leads we could monetize in our Premier Agent marketplace. Advertiser churn, or exit from our advertising platform, normalized throughout 2019, which contributed to the increase in Premier Agent revenue during the year ended December 31, 2019.

Premier Agent revenue per visit decreased by 8% to \$0.115 for the year ended December 31, 2019 from \$0.125 for the year ended December 31, 2018. We calculate Premier Agent revenue per visit by dividing the revenue generated by our Premier Agent and Premier Broker programs in the period by the number of visits in the period. We believe the decrease in Premier Agent revenue per visit was primarily a result of changes we made to our Premier Agent and Premier Broker programs in 2018. For example, in April 2018, we began testing a new method of consumer lead validation and distribution to our Premier Agent and Premier Broker advertisers. A validated consumer connection is made when a consumer who is interested in connecting with a real estate professional does not select a specific Premier Agent or Premier Broker with whom they want to connect through one of our mobile applications or websites; applying the new model, these validated consumer leads are distributed to Premier Agents and Premier Brokers in proportion to their share of voice, or an agent advertiser's share of total advertising purchased in a particular zip code. This transition to the new lead validation and distribution process resulted in a decrease in the total number of leads received by some advertisers and increased advertiser churn in the third and fourth quarters of 2018 as current and prospective Premier Agents and Premier Brokers evaluated the value of these higher-quality leads and market-based pricing continued to take effect. We believe we made appropriate adjustments to the Premier Agent and Premier Broker programs to help address this advertiser churn, by, for example, decreasing the number of screening questions posed to consumers during the consumer lead validation process, in an effort to return to prior lead volumes, and setting price caps on the cost per impression and cost per lead paid by Premier Agents and Premier Brokers to help stabilize auction-based pricing dynamics in certain markets, as advertiser churn normalized throughout 2019.

Premier Agent revenue for the year ended December 31, 2019 also included an insignificant amount of revenue generated from our initial testing of a new pricing model for Premier Agent and Premier Broker advertisers, Flex, in limited markets. With the Flex model, Premier Agents and Premiers Brokers are provided with validated leads at no upfront cost, and they pay a performance advertising fee only when a real estate transaction is closed with one of the leads. We may continue to extend the testing of this pricing model to additional regions in the future.

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Rentals Revenue. Rentals revenue was \$164.2 million for the year ended December 31, 2019 compared to \$134.6 million for the year ended December 31, 2018, an increase of \$29.6 million, or 22%. The increase in Rentals revenue was positively impacted by an increase in quarterly revenue per average monthly rental listing, which increased 18% to approximately \$1,021 for the year ended December 31, 2019 from approximately \$867 for the year ended December 31, 2018. We calculate quarterly revenue per average monthly rental listing by dividing total Rentals revenue for the period by the average monthly monetized deduplicated rental listings for the period and then dividing by the number of quarters in the period. The increase in quarterly revenue per average monthly rental listing was primarily driven by an increase in revenue from our Rentals application product and revenue from our Rentals cost per impression product. The increase in Rentals revenue was also attributable to an increase in the number of average monthly rental listings on our mobile applications and websites, which increased to 40,211 average monthly rental listings for the year ended December 31, 2019 from 38,816 average monthly rental listings for the year ended December 31, 2018, an increase of 4%. Average monthly rental listings include the average monthly monetized deduplicated rental listings for the period, which are displayed across all of our mobile applications and websites. An increase in rental listings on our mobile applications and websites increases the likelihood that a consumer will contact a rental professional, which in turn increases the likelihood of a lead, click, impression, lease or listing that we monetize. Finally, the increase in Rentals revenue was also driven in part by the 12% increase in visits to 8,065.5 million for the year ended December 31, 2019, which increases the likelihood a consumer will contact a rental professional and, in turn, increases the likelihood of a lead, click, impression, lease or listing that we monetize.

Other Revenue. Other revenue was \$188.8 million for the year ended December 31, 2019 compared to \$168.2 million for the year ended December 31, 2018, an increase of \$20.6 million, or 12%. The increase in Other revenue was primarily the result of a 23% increase in revenue generated by our new construction marketing solutions. Growth in new construction revenue was primarily attributable to higher spend for our cost per impression product, driven by a greater volume of impressions that we monetized, and increases in adoption by and advertising sales to new home builders through our new construction platform.

Mortgages Segment

Mortgages revenue was \$100.7 million for the year ended December 31, 2019 compared to \$80.0 million for the year ended December 31, 2018, an increase of \$20.6 million, or 26%. The increase in mortgages revenue was primarily a result of the addition of revenue generated by Zillow Home Loans, Zillow's affiliated mortgage lender, which we acquired in the fourth quarter of 2018.

Year Ended December 31, 2019 Compared to Year Ended December 31, 2018

Segment Results of Operations

The following table presents Zillow Group's segment results for the periods presented (in thousands):

	Year Ended December 31, 2019			Year Ended December 31, 2018		
	Homes	IMT	Mortgages	Homes	IMT	Mortgages
Revenue	\$ 1,365,250	\$ 1,276,896	\$ 100,691	\$ 52,365	\$ 1,201,143	\$ 80,046
Costs and expenses:						
Cost of revenue	1,315,345	98,522	18,154	49,392	96,693	7,505
Sales and marketing	171,634	488,909	53,585	17,134	502,785	32,702
Technology and development	78,994	365,769	32,584	21,351	363,712	25,755
General and administrative	81,407	243,636	41,133	22,002	220,564	19,587
Impairment costs	—	—	—	—	75,000	4,000
Acquisition-related costs	—	—	—	—	27	2,305
Integration costs	—	—	650	—	—	2,015
Total costs and expenses	1,647,380	1,196,836	146,106	109,879	1,258,781	93,869
Income (loss) from operations	(282,130)	80,060	(45,415)	(57,514)	(57,638)	(13,823)
Other income	—	—	1,409	—	—	244
Interest expense	(29,990)	—	(956)	(2,177)	—	(132)
Income (loss) before income taxes (1)	<u>\$ (312,120)</u>	<u>\$ 80,060</u>	<u>\$ (44,962)</u>	<u>\$ (59,691)</u>	<u>\$ (57,638)</u>	<u>\$ (13,711)</u>

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(1) The following table presents the reconciliation of total segment loss before income taxes to consolidated loss before income taxes for the periods presented (in thousands):

	Year Ended December 31,	
	2019	2018
Total segment loss before income taxes	\$ (277,022)	\$ (131,040)
Corporate interest expense	(70,846)	(38,946)
Corporate other income	38,249	19,026
Consolidated loss before income taxes	\$ (309,619)	\$ (150,960)

Homes Segment

Cost of Revenue. Cost of revenue was \$1,315.3 million for the year ended December 31, 2019 compared to \$49.4 million for the year ended December 31, 2018, an increase of \$1,266.0 million. The increase in cost of revenue was primarily attributable to home acquisition and renovation costs related to the 4,313 homes that we sold during the period compared to the sale of 177 homes during the year ended December 31, 2018. We expect cost of revenue to increase in absolute dollars in future years as we continue to incur more expenses that are associated with growth in revenue and expansion of Zillow Offers into new markets.

Sales and Marketing. Sales and marketing expenses were \$171.6 million for the year ended December 31, 2019 compared to \$17.1 million for the year ended December 31, 2018, an increase of \$154.5 million. The increase in sales and marketing expenses was primarily attributable to a \$56.9 million increase in selling expenses directly attributable to the resale of homes, a \$44.2 million increase in headcount-related expenses, including share-based compensation expense, a \$20.7 million increase in holding costs, a \$20.0 million increase in marketing and advertising expenses, a \$3.3 million increase in travel expenses, a \$3.1 million increase in professional services fees, a \$2.2 million increase in depreciation and amortization expense and a \$4.1 million increase in miscellaneous expenses.

Sales and marketing expenses include \$22.6 million in holding costs for the year ended December 31, 2019 and \$1.9 million in holding costs for the year ended December 31, 2018.

We expect our sales and marketing expenses to increase in absolute dollars in future periods as we continue to expand the Homes segment.

Technology and Development. Technology and development expenses, which include research and development costs, were \$79.0 million for the year ended December 31, 2019 compared to \$21.4 million for the year ended December 31, 2018, an increase of \$57.6 million. The increase in technology and development expenses was primarily due to a \$45.2 million increase in headcount-related expenses, including share-based compensation expense, as we continue to grow our teams to support the Homes segment, a \$4.6 million increase in data acquisition costs, a \$3.8 million increase in depreciation and amortization expense, a \$2.0 million increase in professional services fees and a \$2.0 million increase in miscellaneous expenses. We expect our technology and development expenses to increase in absolute dollars in future periods as we continue to build new website functionality and other technologies that will facilitate the purchasing and sales processes related to our Homes segment.

General and Administrative. General and administrative expenses were \$81.4 million for the year ended December 31, 2019 compared to \$22.0 million for the year ended December 31, 2018, an increase of \$59.4 million. The increase in general and administrative expenses was primarily due to a \$36.5 million increase in headcount-related expenses, including share-based compensation expense, as we continue to grow our teams to support the Homes segment. In addition, there was an \$8.3 million increase in building lease-related expenses including rent, utilities and insurance, a \$4.2 million increase in professional services fees, a \$3.5 million increase in software and hardware costs, a \$2.1 million increase in travel expense and a \$4.8 million increase in miscellaneous expenses. We expect general and administrative expenses to increase in absolute dollars in future periods as we continue to expand our Homes segment.

Interest Expense. Interest expense was \$30.0 million for the year ended December 31, 2019 compared to \$2.2 million for the year ended December 31, 2018, an increase of \$27.8 million. The increase in interest expense was attributable to borrowings, funding fees and other fees, including the amortization of deferred issuance costs, on our credit facilities supporting Zillow Offers. We expect interest expense to increase in absolute dollars in future periods as we continue to expand our Homes segment.

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IMT Segment

Cost of Revenue. Cost of revenue was \$98.5 million for the year ended December 31, 2019 compared to \$96.7 million for the year ended December 31, 2018, an increase of \$1.8 million, or 2%. The increase in cost of revenue was primarily attributable to a \$4.9 million increase in data center and connectivity costs and a \$3.5 million increase in other direct product costs, partially offset by a \$3.4 million decrease in headcount-related expenses, including share-based compensation expense, a \$1.4 million decrease in software and hardware costs, a \$1.2 million decrease in revenue share costs and a \$0.6 million decrease in miscellaneous expenses.

Sales and Marketing. Sales and marketing expenses were \$488.9 million for the year ended December 31, 2019 compared to \$502.8 million for the year ended December 31, 2018, a decrease of \$13.9 million, or 3%. The decrease in sales and marketing expenses was primarily attributable to a \$29.1 million decrease in marketing and advertising expenses, a \$1.5 million decrease in travel expenses and a \$1.3 million decrease in miscellaneous expenses, partially offset by a \$12.2 million increase in professional services fees and a \$5.8 million increase in headcount-related expenses, including share-based compensation expense.

Technology and Development. Technology and development expenses, which include research and development costs, were \$365.8 million for the year ended December 31, 2019 compared to \$363.7 million for the year ended December 31, 2018, an increase of \$2.1 million, or 1%. Approximately \$10.3 million of the increase related to growth in headcount-related expenses, including share-based compensation expense, as we continue to grow our engineering teams to support current and future product initiatives. In addition, there was a \$4.4 million increase in software and hardware costs, a \$3.5 million increase in other non-capitalizable data content expenses and a \$1.7 million increase in miscellaneous expenses. These increases were partially offset by a \$17.2 million decrease in depreciation and amortization expense and a \$0.6 million decrease in professional services fees.

General and Administrative. General and administrative expenses were \$243.6 million for the year ended December 31, 2019 compared to \$220.6 million for the year ended December 31, 2018, an increase of \$23.1 million, or 10%. The increase in general and administrative expenses was primarily due to a \$17.4 million increase in headcount-related expenses driven by the recognition of a total of \$23.3 million of share-based compensation expense in the IMT segment during the year ended December 31, 2019 in connection with the modification of certain outstanding equity awards related to the departure of Spencer Rascoff, who served as Zillow Group's Chief Executive Officer beginning in 2010 and who remains a member of Zillow Group's board of directors. For additional information regarding the equity modification, see Note 18 in our Notes to Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K. In addition, there was an \$8.3 million increase in building lease-related expenses including rent, utilities and insurance, partially offset by a \$1.9 million decrease in professional services fees.

Impairment Costs. There were no impairment costs for the year ended December 31, 2019. Impairment costs recorded to the IMT segment for the year ended December 31, 2018 consist of a \$10.0 million non-cash impairment related to our June 2017 equity investment and \$65.0 million of the total \$69.0 million impairment related to the indefinite-lived Trulia trade names and trademarks intangible asset. For additional information about these impairments, see Note 9 and Note 11 in our Notes to Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K.

Mortgages Segment

Cost of Revenue. Cost of revenue was \$18.2 million for the year ended December 31, 2019 compared to \$7.5 million for the year ended December 31, 2018, an increase of \$10.6 million. The increase in cost of revenue was primarily attributable to our October 2018 acquisition of Zillow Home Loans, and includes a \$7.2 million increase in headcount-related expenses, including share-based compensation expense, a \$1.7 million increase in mortgage loan processing costs and a \$1.7 million increase in miscellaneous expenses. We expect cost of revenue to increase in absolute dollars in future years as we continue to incur expenses associated with growth in revenue and expansion of Zillow Home Loans.

Sales and Marketing. Sales and marketing expenses were \$53.6 million for the year ended December 31, 2019 compared to \$32.7 million for the year ended December 31, 2018, an increase of \$20.9 million, or 64%. The increase in sales and marketing expenses was primarily attributable to a \$16.4 million increase in headcount-related expenses, including share-based compensation expense, primarily related to our October 2018 acquisition of Zillow Home Loans, a \$1.9 million increase in marketing and advertising expenses and a \$2.6 million increase in miscellaneous expenses. We expect our sales and marketing expenses to increase in absolute dollars in future periods as we continue to expand the Mortgages segment.

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Technology and Development. Technology and development expenses, which include research and development costs, were \$32.6 million for the year ended December 31, 2019 compared to \$25.8 million for the year ended December 31, 2018, an increase of \$6.8 million, or 27%. The increase in technology and development expenses was primarily a result of a \$6.6 million increase in headcount-related expenses, including share-based compensation expense, related to our October 2018 acquisition of Zillow Home Loans. We expect our technology and development expenses to increase in absolute dollars in future periods as we continue to build new website functionality and other technologies that will facilitate the origination of mortgages in Zillow Home Loans.

General and Administrative. General and administrative expenses were \$41.1 million for the year ended December 31, 2019 compared to \$19.6 million for the year ended December 31, 2018, an increase of \$21.5 million. The increase in general and administrative expenses was primarily due to a \$15.6 million increase in headcount-related expenses, including share-based compensation expense, primarily related to our October 2018 acquisition of Zillow Home Loans. In addition, there was a \$2.2 million increase in building lease-related expenses including rent, utilities and insurance, a \$1.3 million increase in professional services fees, a \$1.1 million increase in software and hardware costs and a \$1.3 million increase in miscellaneous expenses. We expect general and administrative expenses to increase over time in absolute dollars as we continue to expand our mortgage business.

Acquisition-Related Costs. There were no acquisition-related costs for the year ended December 31, 2019. Acquisition-related costs were \$2.3 million for the year ended December 31, 2018 and related to our acquisition of Zillow Home Loans.

Impairment Costs. There were no impairment costs for the year ended December 31, 2019. Impairment costs for the Mortgages Segment for the year ended December 31, 2018 consist of \$4.0 million of the total \$69.0 million impairment related to the indefinite-lived Trulia trade names and trademarks intangible asset. For additional information about the impairment, see Note 11 in our Notes to Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K.

Corporate Items

Certain corporate items are not directly attributable to any of our segments, including interest income earned on our short-term investments included in Other income and interest costs on our convertible senior notes included in Interest expense.

Interest Expense. Interest expense was \$70.8 million for the year ended December 31, 2019 compared to \$38.9 million for the year ended December 31, 2018, an increase of \$31.9 million, or 82%. This increase was primarily due to the July 2018 issuance of the 2023 Notes, the September 2019 issuance of the 2026 Notes and the September 2019 and October 2019 issuances of the 2024 Notes. For additional information regarding the convertible senior notes, see Note 15 in our Notes to Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K.

Other Income. Other income not directly attributable to any of our segments was \$38.2 million for the year ended December 31, 2019 compared to \$19.0 million for the year ended December 31, 2018, an increase of \$19.2 million. This increase is primarily due to an increase in the balance of our short-term investment portfolio generating an increase in interest income.

Quarterly Results of Operations

The following tables set forth our unaudited quarterly statements of operations data for each of the periods presented below. In the opinion of management, the data has been prepared on the same basis as the audited consolidated financial statements included in this Annual Report on Form 10-K, and reflects all necessary adjustments, consisting only of normal recurring adjustments, necessary for a fair presentation of the data. The results of historical periods are not necessarily indicative of the results of operations of any future period. You should read the data together with our consolidated financial statements and the related notes included elsewhere in this Annual Report on Form 10-K. Amounts are in thousands, except per share data, unaudited.

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	Three Months Ended							
	December 31, 2019	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	September 30, 2018	June 30, 2018	March 31, 2018
Statement of Operations Data:								
Revenue:								
Homes	\$ 603,228	\$ 384,626	\$ 248,924	\$ 128,472	\$ 41,347	\$ 11,018	\$ —	\$ —
IMT	319,665	335,290	323,669	298,272	300,708	313,638	305,941	280,856
Mortgages	21,054	25,292	26,985	27,360	23,280	18,438	19,305	19,023
Total revenue	<u>943,947</u>	<u>745,208</u>	<u>599,578</u>	<u>454,104</u>	<u>365,335</u>	<u>343,094</u>	<u>325,246</u>	<u>299,879</u>
Cost of revenue (exclusive of amortization) (1)(2):								
Homes	581,398	370,796	240,732	122,419	39,080	10,226	—	86
IMT	23,894	24,318	26,059	24,251	24,623	25,186	24,290	22,594
Mortgages	4,325	4,721	4,430	4,678	3,769	1,260	1,237	1,239
Total cost of revenue	<u>609,617</u>	<u>399,835</u>	<u>271,221</u>	<u>151,348</u>	<u>67,472</u>	<u>36,672</u>	<u>25,527</u>	<u>23,919</u>
Sales and marketing (1)	183,761	181,347	187,433	161,587	138,869	128,734	147,727	137,291
Technology and development (1)	125,273	123,974	120,330	107,770	111,195	105,314	100,376	93,933
General and administrative (1)	99,070	88,493	82,839	95,774	74,758	70,743	60,579	56,073
Impairment costs	—	—	—	—	69,000	10,000	—	—
Acquisition-related costs	—	—	—	—	268	1,405	632	27
Integration costs	—	5	293	352	1,492	523	—	—
Total costs and expenses	<u>1,017,721</u>	<u>793,654</u>	<u>662,116</u>	<u>516,831</u>	<u>463,054</u>	<u>353,391</u>	<u>334,841</u>	<u>311,243</u>
Loss from operations	(73,774)	(48,446)	(62,538)	(62,727)	(97,719)	(10,297)	(9,595)	(11,364)
Other income	12,033	8,999	9,458	9,168	5,962	7,773	3,089	2,446
Interest expense	(39,927)	(26,502)	(18,897)	(16,466)	(14,327)	(12,668)	(7,187)	(7,073)
Loss before income taxes	(101,668)	(65,949)	(71,977)	(70,025)	(106,084)	(15,192)	(13,693)	(15,991)
Income tax benefit (expense)	458	1,300	—	2,500	8,402	14,700	10,600	(2,600)
Net loss	<u>\$ (101,210)</u>	<u>\$ (64,649)</u>	<u>\$ (71,977)</u>	<u>\$ (67,525)</u>	<u>\$ (97,682)</u>	<u>\$ (492)</u>	<u>\$ (3,093)</u>	<u>\$ (18,591)</u>
Net loss per share—basic and diluted	\$ (0.49)	\$ (0.31)	\$ (0.35)	\$ (0.33)	\$ (0.48)	\$ —	\$ (0.02)	\$ (0.10)
Weighted-average shares outstanding—basic and diluted	208,204	207,002	205,754	204,514	203,561	202,416	194,155	191,464
Other Financial Data:								
Segment income (loss) before income taxes:								
Homes segment	\$ (107,923)	\$ (87,870)	\$ (71,122)	\$ (45,205)	\$ (28,812)	\$ (16,428)	\$ (10,061)	\$ (4,390)
IMT segment	\$ 36,221	\$ 42,053	\$ 13,238	\$ (11,452)	\$ (57,454)	\$ 6,322	\$ 110	\$ (6,616)
Mortgages segment	\$ (12,654)	\$ (12,254)	\$ (10,438)	\$ (9,616)	\$ (13,086)	\$ (623)	\$ 356	\$ (358)
Adjusted EBITDA (3):								
Homes segment	\$ (82,525)	\$ (67,825)	\$ (56,452)	\$ (34,524)	\$ (23,186)	\$ (13,409)	\$ (8,352)	\$ (3,513)
IMT segment	87,659	91,102	64,055	61,047	58,261	75,363	59,718	46,683
Mortgages segment	(8,311)	(7,435)	(5,306)	(2,601)	(2,718)	4,211	4,634	3,140
Total Adjusted EBITDA	<u>\$ (3,177)</u>	<u>\$ 15,842</u>	<u>\$ 2,297</u>	<u>\$ 23,922</u>	<u>\$ 32,357</u>	<u>\$ 66,165</u>	<u>\$ 56,000</u>	<u>\$ 46,310</u>

	Three Months Ended							
	December 31, 2019	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	September 30, 2018	June 30, 2018	March 31, 2018
(1) Includes share-based compensation as follows:								
Cost of revenue								
	\$ 1,099	\$ 1,062	\$ 936	\$ 881	\$ 947	\$ 969	\$ 1,256	\$ 955
Sales and marketing	6,087	6,588	6,801	5,650	5,529	5,911	6,340	5,162
Technology and development	17,980	18,034	18,399	15,508	15,753	15,031	14,347	11,542
General and administrative	21,852	16,444	17,496	44,085	15,489	19,771	17,000	13,082
Total	<u>\$ 47,018</u>	<u>\$ 42,128</u>	<u>\$ 43,632</u>	<u>\$ 66,124</u>	<u>\$ 37,718</u>	<u>\$ 41,682</u>	<u>\$ 38,943</u>	<u>\$ 30,741</u>
(2) Amortization of website development costs and intangible assets included in technology and development								
	\$ 17,046	\$ 15,835	\$ 14,656	\$ 14,400	\$ 17,575	\$ 18,165	\$ 21,020	\$ 22,549
(3) See "Adjusted EBITDA" below for more information and for a reconciliation of Adjusted EBITDA to the most directly comparable financial measure calculated and presented in accordance with GAAP, which is net loss on a consolidated basis and income (loss) before income taxes for each segment.								

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The following tables present our revenue by type and as a percentage of total revenue for the periods presented (in thousands, unaudited):

	Three Months Ended							
	December 31, 2019	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	September 30, 2018	June 30, 2018	March 31, 2018
Revenue:								
Homes	\$ 603,228	\$ 384,626	\$ 248,924	\$ 128,472	\$ 41,347	\$ 11,018	\$ —	\$ —
IMT Revenue:								
Premier Agent	233,482	240,698	231,961	217,735	221,012	232,703	230,885	213,732
Rentals	39,235	44,430	42,670	37,838	34,917	37,319	33,288	29,063
Other	46,948	50,162	49,038	42,699	44,779	43,616	41,768	38,061
Total IMT Revenue	319,665	335,290	323,669	298,272	300,708	313,638	305,941	280,856
Mortgages	21,054	25,292	26,985	27,360	23,280	18,438	19,305	19,023
Total Revenue	<u>\$ 943,947</u>	<u>\$ 745,208</u>	<u>\$ 599,578</u>	<u>\$ 454,104</u>	<u>\$ 365,335</u>	<u>\$ 343,094</u>	<u>\$ 325,246</u>	<u>\$ 299,879</u>

	Three Months Ended							
	December 31, 2019	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	September 30, 2018	June 30, 2018	March 31, 2018
Percentage of Revenue:								
Homes	64 %	52 %	42 %	28 %	11 %	3 %	0 %	0 %
IMT Revenue:								
Premier Agent	25	32	39	48	60	68	71	71
Rentals	4	6	7	8	10	11	10	10
Other	5	7	8	9	12	13	13	13
Total IMT Revenue	34	45	54	66	82	91	94	94
Mortgages	2	3	5	6	6	5	6	6
Total Revenue	<u>100 %</u>	<u>100 %</u>	<u>100 %</u>	<u>100 %</u>	<u>100 %</u>	<u>100 %</u>	<u>100 %</u>	<u>100 %</u>

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Total revenue increased sequentially in all quarters presented, primarily due to our Homes business that launched in April 2018. Additionally, the increase in customer adoption of our mobile applications and websites in the years ended December 31, 2019 and December 31, 2018 was reflected in the growth in visits and unique users, which increase the likelihood of a lead, click, impression, connection or other event that we could monetize across our business segments.

Homes Segment

The sequential increases in Homes revenue were primarily attributable to an increase in the number of homes sold in each period as customer adoption of Zillow Offers increases in geographic areas in which it is currently operating and as Zillow Offers expands into new geographic markets.

IMT Segment

Premier Agent Revenue. Premier Agent revenue increased sequentially in all quarters presented with the exception of the three months ended December 31, 2018 and 2019 and the three months ended March 31, 2019. We believe the decreases in revenue for these periods were driven by certain changes we made to the Premier Agent and Premier Broker programs in the second half of 2018 as discussed in the “Results of Operations” section above in this Item 7. Additionally, we believe seasonality contributed to the decreases in the three months ended December 31, 2018 and 2019 related to the normal cycles of the residential real estate market. For all other quarters, Premier Agent revenue increased, supported by consistent increases in the number of visits and unique users to our mobile applications and websites.

Rentals Revenue. Rentals revenue increased sequentially in all quarters presented with the exception of the three months ended December 31, 2018 and 2019. The quarter over quarter rentals revenue trends are primarily attributable to the corresponding fluctuation in rentals listings, which increase the likelihood of a lead, lease, click or other event we monetize. Additionally, rentals revenue increased quarter over quarter as a result of the launch of our rental applications product in 2018 which allows prospective renters to submit rental applications online through Zillow.com for a flat service fee. We believe the sequential quarterly decreases in rentals revenue for the three months ended December 31, 2018 and 2019 were primarily driven by seasonality related to the residential real estate market.

Other Revenue. Other revenue increased sequentially in all quarters presented with the exception of the three months ended March 31, 2019 and the three months ended December 31, 2019. The decreases in revenue for these periods was driven by a decrease in display advertising sales and aligns to the seasonality of the residential real estate market. For all other quarters, other revenue increased, supported by increased advertising sales to new home builders through our new construction platform.

Mortgages Segment

We reported year-over-year quarterly growth in mortgages revenue in 2019 for all quarters, with the exception of the three months ended December 31, 2019. The year-over-year quarterly growth was primarily a result of the addition of revenue generated by Zillow Home Loans, Zillow’s affiliated mortgage lender, which we acquired in the fourth quarter of 2018. We believe the decrease in mortgages revenue for the three months ended December 31, 2019 compared to the three months ended December 31, 2018 is due to our focus on investing in systems and operations to seamlessly integrate the Zillow Home Loans platform into our offerings to enhance the customer experience.

Seasonality

Portions of our business may be affected by seasonal fluctuations in the residential real estate market, advertising spending, and other factors. With respect to our Homes segment, the rate of revenue growth as we expand into new geographic markets may mask seasonality in revenue; we may, for example, be able to more quickly sell homes during the spring and summer high seasons. Similarly, the rate of growth as we expand into new markets for Zillow Home Loans may mask seasonality in revenue within the Mortgages segment, as we may be able to originate more mortgages during the spring and summer high seasons. As our revenue growth rate related to our IMT segment slows, we expect seasonal variances may continue to become more pronounced, causing our operating results to fluctuate. For example, we have begun to observe Premier Agent and Rentals revenue peaking in the three months ended June 30th or September 30th, in line with peak residential real estate activity in the spring and summer seasons. In addition, the average numbers of visits and unique users have historically peaked during the three months ended June 30th or September 30th, consistent with peak residential real estate activity in the spring and summer months. Because the number of visits and unique users impacts impression inventory, leads and connections to real estate professionals, clicks and other events we monetize, we believe this trend in the average number of visits and unique users has resulted in seasonal fluctuations in revenue in corresponding periods.

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Adjusted EBITDA

The following table sets forth a reconciliation of Adjusted EBITDA to net loss for each of the periods presented below. See “Adjusted EBITDA” under “Results of Operations” above in this Item 7 for additional information about why we have included Adjusted EBITDA in this Annual Report on Form 10-K and how management uses Adjusted EBITDA. Amounts are in thousands, unaudited.

	Three Months Ended							
	December 31, 2019	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	September 30, 2018	June 30, 2018	March 31, 2018
Reconciliation of Adjusted EBITDA to Net Loss								
Net loss	\$ (101,210)	\$ (64,649)	\$ (71,977)	\$ (67,525)	\$ (97,682)	\$ (492)	\$ (3,093)	\$ (18,591)
Other income	(12,033)	(8,999)	(9,458)	(9,168)	(5,962)	(7,773)	(3,089)	(2,446)
Depreciation and amortization expense	23,579	22,160	21,203	20,525	23,090	23,375	26,020	26,906
Share-based compensation expense	47,018	42,128	43,632	66,124	37,718	41,682	38,943	30,741
Impairment costs	—	—	—	—	69,000	10,000	—	—
Acquisition-related costs	—	—	—	—	268	1,405	632	27
Interest expense	39,927	26,502	18,897	16,466	14,327	12,668	7,187	7,073
Income tax (benefit) expense	(458)	(1,300)	—	(2,500)	(8,402)	(14,700)	(10,600)	2,600
Adjusted EBITDA	\$ (3,177)	\$ 15,842	\$ 2,297	\$ 23,922	\$ 32,357	\$ 66,165	\$ 56,000	\$ 46,310

Visits

Refer to “Visits” above in this Item 7 for information about how we measure visits. The number of visits has historically peaked during the three months ended June 30 or September 30, consistent with seasonal variances of home sales which generally peak in the spring and summer months. The following table presents the number of visits for the periods presented (in millions, unaudited):

	Three Months Ended							
	December 31, 2019	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	September 30, 2018	June 30, 2018	March 31, 2018
Visits	1,759.5	2,104.9	2,181.4	2,019.8	1,607.8	1,888.9	1,920.6	1,764.8

Unique Users

Refer to “Unique Users” above in this Item 7 for information about how we measure unique users. The average number of unique users has historically peaked during the three months ended June 30 or September 30, consistent with seasonal variances of home sales which generally peak in the spring and summer months. The following table presents the average number of unique users for the periods presented (in millions, unaudited):

	Average for the Three Months Ended							
	December 31, 2019	September 30, 2019	June 30, 2019	March 31, 2019	December 31, 2018	September 30, 2018	June 30, 2018	March 31, 2018
Unique Users	172.6	195.6	194.3	181.1	157.2	186.6	186.1	175.5

Liquidity and Capital Resources

As of December 31, 2019 and December 31, 2018, we had cash and cash equivalents, investments and restricted cash of \$2,511.9 million and \$1,567.3 million, respectively. Cash and cash equivalents balances consist of operating cash on deposit with financial institutions, money market funds, U.S. government agency securities, commercial paper, treasury bills, corporate notes and bonds and certificates of deposit. Investments consist of fixed income securities, which include U.S. government agency securities, corporate notes and bonds, commercial paper, municipal securities, certificates of deposit and treasury bills. Restricted cash consists of amounts funded to the reserve and collection accounts related to our credit facilities and amounts held in escrow related to funding home purchases in our mortgage origination business. Amounts on deposit with third-party financial institutions exceed the Federal Deposit Insurance Corporation and the Securities Investor Protection Corporation

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insurance limits, as applicable. As of December 31, 2019, Zillow Group and its subsidiaries were in compliance with all debt covenants specified in the facilities described below.

We continue to invest in the development and expansion of our operations. Ongoing investments include but are not limited to improvements in infrastructure, networking equipment and software, release improvements to our software code as well as investments in sales and marketing. To finance these investments as well as ongoing operations in the event that we require additional funding to support strategic business opportunities, we have issued convertible senior notes. The following table summarizes our convertible senior notes as of the periods presented (in thousands, except interest rates):

Maturity Date	Aggregate Principal Amount	Stated Interest Rate	December 31, 2019		December 31, 2018	
			Carrying Value	Fair Value	Carrying Value	Fair Value
September 1, 2026	\$ 500,000	1.375 %	\$ 327,187	\$ 597,380	\$ —	\$ —
September 1, 2024	673,000	0.75 %	490,538	730,500	—	—
July 1, 2023	373,750	1.50 %	310,175	356,464	294,738	321,855
December 1, 2021	460,000	2.00 %	415,502	514,312	394,645	446,200
December 15, 2020	9,637	2.75 %	9,637	16,842	9,637	16,744
Total	<u>\$ 2,016,387</u>		<u>\$ 1,553,039</u>	<u>\$ 2,215,498</u>	<u>\$ 699,020</u>	<u>\$ 784,799</u>

Refer to Note 15 of our Notes to Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K for additional information on Zillow Group's convertible senior notes, including conversion rates, conversion and redemption dates and the related capped call transactions.

Homes

The expansion of Zillow Group's purchase of homes through the Zillow Offers program and sale of homes on the open market continues to have a significant impact on our liquidity and capital resources as a cash and inventory intensive business. We primarily use debt financing through credit facilities to fund a portion of the purchase price of homes and certain related costs. The following table summarizes our credit facilities as of the periods presented (in thousands, except interest rates):

Lender	Final Maturity Date	Maximum Borrowing Capacity	Outstanding Borrowings at December 31, 2019	Outstanding Borrowings at December 31, 2018	Weighted Average Interest Rate
				2018	
Goldman Sachs					
Bank USA	April 20, 2022	\$ 500,000	\$ 39,244	\$ —	4.41 %
Citibank, N.A.	January 31, 2022	500,000	296,369	—	5.54 %
Credit Suisse AG, Cayman Islands	July 31, 2021	500,000	355,911	116,700	5.63 %
Total		<u>\$ 1,500,000</u>	<u>\$ 691,524</u>	<u>\$ —</u>	

Refer to Note 15 of our Notes to Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K for additional information on Zillow Group's credit facilities.

IMT

Our principal sources of liquidity for the IMT segment are cash flows from operations within the segment.

Mortgages

The October 31, 2018 acquisition of Zillow Home Loans continues to impact our liquidity and capital resources as a cash intensive business that funds mortgage loans originated for resale in the secondary market. We primarily use debt financing to fund the mortgage loan originations. The following table summarizes our warehouse lines of credit and master repurchase agreement as of the periods presented (in thousands, except interest rates):

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Lender	Maturity Date	Maximum Borrowing Capacity	Outstanding Borrowings at December 31, 2019	Outstanding Borrowings at December 31, 2018	Weighted Average Interest Rate
Citibank, N.A.	October 27, 2020	\$ 75,000	\$ 394	\$ —	3.29 %
Comerica Bank	June 27, 2020	50,000	30,033	18,892	4.22 %
People's United Bank, N.A.	October 15, 2019	50,000	—	14,125	4.89 %
	Total		\$ 30,427	\$ 33,017	

Refer to Note 15 of our Notes to Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K for additional information on Zillow Group's mortgage facilities.

We believe that cash from operations and cash and cash equivalents and investment balances will be sufficient to meet our ongoing operating activities, working capital, capital expenditures and other capital requirements for at least the next 12 months.

The following table presents selected cash flow data for the periods presented (in thousands):

	Year Ended December 31,	
	2019	2018
Cash Flow Data:		
Net cash provided by (used in) operating activities	\$ (612,174)	\$ 3,850
Net cash used in investing activities	(456,054)	(622,639)
Net cash provided by financing activities	1,635,694	930,137

Cash Flows Provided By (Used In) Operating Activities

Our operating cash flows result primarily from cash received from real estate professionals, rental professionals, mortgage professionals and brand advertisers, as well as cash received from customers for sales of homes through Zillow Offers and sales of mortgages originated by Zillow Home Loans. Our primary uses of cash from operating activities include payments for homes purchased through Zillow Offers, marketing and advertising activities, mortgages funded through Zillow Home Loans and employee compensation and benefits. Additionally, uses of cash from operating activities include costs associated with operating our mobile applications and websites and other general corporate expenditures.

For the year ended December 31, 2019, net cash used in operating activities was \$612.2 million. This was primarily driven by a net loss of \$305.4 million, adjusted by share-based compensation expense of \$198.9 million, depreciation and amortization expense of \$87.5 million, amortization of the discount and issuance costs on the 2021 Notes, 2023 Notes, 2024 Notes and 2026 Notes of \$52.1 million, amortization of contract cost assets of \$35.3 million, amortization of right of use assets of \$23.1 million, a loss on disposal of property and equipment of \$7.2 million, accretion of bond discount of \$6.3 million and a \$4.3 million change in deferred income taxes. Changes in operating assets and liabilities increased cash used in operating activities by \$703.1 million. The changes in operating assets and liabilities are primarily due to a \$673.8 million increase in inventory due to the purchase of homes through Zillow Offers, a \$34.7 million increase in contract cost assets due primarily to the capitalization of sales commissions and an \$18.9 million decrease in lease liabilities due to scheduled lease payments, partially offset by a \$19.6 million increase in accrued expenses and other current liabilities driven primarily by the timing of payments, a \$6.4 million increase in accrued compensation and benefits and a \$5.7 million increase in deferred revenue driven primarily by a corresponding increase in sales volumes.

For the year ended December 31, 2018, net cash provided by operating activities was \$3.9 million. This was primarily driven by a net loss of \$119.9 million, adjusted by share-based compensation expense of \$149.1 million, depreciation and amortization expense of \$99.4 million, non-cash impairment charges totaling \$79.0 million, amortization of contract cost assets of \$36.0 million, a non-cash change in our deferred income taxes of \$31.1 million, amortization of the discount and issuance costs on the 2023 Notes and 2021 Notes of \$26.7 million, accretion of bond discount of \$4.3 million, a loss on disposal of property and equipment of \$3.6 million and a change in deferred rent of \$2.0 million. Changes in operating assets and liabilities decreased cash provided by operating activities by \$233.5 million. The changes in operating assets and liabilities are primarily due to a \$162.8 million increase in inventory due to the purchase of homes through Zillow Offers, a \$41.5 million increase in contract cost assets due primarily to the capitalization of sales commissions, a \$34.1 million increase in prepaid expenses and other assets driven primarily by the timing of payments, a \$12.6 million increase in accounts receivable due primarily to an

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increase in revenue and a \$11.3 million increase in accrued compensation and benefits driven primarily by the timing of payments.

Cash Flows Used In Investing Activities

Our primary investing activities include the purchase and sale or maturity of investments, the purchase of property and equipment and intangible assets and cash paid in connection with acquisitions.

For the year ended December 31, 2019, net cash used in investing activities was \$456.1 million. This was primarily the result of \$369.4 million of net purchases of investments in connection with investment of a portion of the net proceeds from our issuance of the 2024 Notes and 2026 Notes and \$86.6 million of purchases for property and equipment and intangible assets.

For the year ended December 31, 2018, net cash used in investing activities was \$622.6 million. This was primarily the result of \$489.0 million of net purchases of investments in connection with investment of a portion of the net proceeds from our July 2018 public offerings of Class C capital stock and 2023 Notes, \$78.5 million of purchases for property and equipment and intangible assets and \$55.1 million of net cash paid for acquisitions, related to the October 2018 acquisition of Zillow Home Loans.

Cash Flows Provided By Financing Activities

Net cash provided by financing activities has primarily resulted from the exercise of employee option awards and equity awards withheld for tax liabilities, net proceeds from the issuance of convertible notes, net proceeds from equity offerings, proceeds from borrowings on our credit facilities related to Zillow Offers and proceeds from borrowings on warehouse lines of credit and the master repurchase agreement related to Zillow Home Loans.

For the year ended December 31, 2019, cash provided by financing activities was \$1,635.7 million, which primarily resulted from the net proceeds from the issuance of the 2024 Notes and 2026 Notes of \$1,157.7 million, partially offset by \$159.7 million paid in premiums for the related capped call confirmations. Cash provided by financing activities also included \$574.8 million of net proceeds from borrowings on our credit facilities related to Zillow Offers and \$65.5 million of proceeds from the exercise of option awards, partially offset by \$2.6 million of net repayments on our warehouse lines of credit related to Zillow Home Loans.

For the year ended December 31, 2018, cash flows provided by financing activities includes \$364.0 million of net proceeds from the issuance of the 2023 Notes and \$360.3 million of net proceeds from our Class C capital stock public offering, partially offset by \$29.4 million of premiums paid for the related capped call confirmations. It also includes \$120.1 million in proceeds from the exercise of option awards, \$116.7 million of proceeds from borrowing on the credit facility related to Zillow Offers and \$0.5 million of proceeds from borrowing on the warehouse lines of credit associated with our October 2018 acquisition of Zillow Home Loans, partially offset by \$2.0 million of contingent consideration related to a prior period acquisition.

Off-Balance Sheet Arrangements

We did not have any off-balance sheet arrangements other than outstanding surety bonds issued for our benefit of approximately \$10.2 million and \$8.9 million, respectively, as of December 31, 2019 and 2018. We do not believe that the surety bonds will have a material effect on our liquidity, capital resources, market risk support or credit risk support. For additional information regarding the surety bonds, see Note 20 to our Notes to Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K under the subsection titled “Surety Bonds”.

[Table of Contents](#)**Contractual Obligations and Other Commitments**

The following table provides a summary of our contractual obligations as of December 31, 2019 (in thousands):

	Payments Due By Period				
	Total	Less Than 1 Year	1-3 Years	3-5 Years	More Than 5 Years
Convertible senior notes (1)	\$ 2,016,387	\$ 9,637	\$ 460,000	\$ 1,046,750	\$ 500,000
Interest on convertible senior notes (2)	106,909	26,994	43,491	24,966	11,458
Homes segment credit facilities (3)	703,991	703,991	—	—	—
Operating lease obligations (4)	342,918	38,914	83,833	77,031	143,140
Homes under contract (5)	163,405	163,405	—	—	—
Purchase obligations (6)	98,896	65,375	33,014	507	—
Mortgages segment credit facilities (7)	30,427	30,427	—	—	—
Total contractual obligations	<u>\$ 3,462,933</u>	<u>\$ 1,038,743</u>	<u>\$ 620,338</u>	<u>\$ 1,149,254</u>	<u>\$ 654,598</u>

(1) Includes the aggregate principal amount of the convertible senior notes. Refer to Note 15 of our Notes to Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K for maturity dates, stated interest rates and additional information on our convertible senior notes.

(2) Includes the coupon interest on the convertible senior notes. Refer to Note 15 of our Notes to Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K for maturity dates, stated interest rates and additional information on our convertible senior notes.

(3) Includes principal amounts due for amounts borrowed under the credit facilities used to provide capital for our Zillow Offers business. Amounts include \$12.5 million of estimated interest payments.

(4) For additional information regarding our operating leases, see Note 14 to our Notes to Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K.

(5) We have obligations to purchase homes under contract through our Zillow Offers business.

(6) We have noncancellable purchase obligations for content related to our mobile applications and websites and certain cloud computing costs. For additional information regarding our purchase obligations, see Note 20 to our Notes to Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K.

(7) Includes principal amounts due for amounts borrowed under the warehouse line of credit and master repurchase agreement to finance mortgages originated through Zillow Home Loans. Amounts exclude an immaterial amount of estimated interest payments.

As of December 31, 2019 and 2018, we had outstanding letters of credit of approximately \$16.9 million which secure our lease obligations in connection with certain of the operating leases of our office spaces.

In the course of business, we are required to provide financial commitments in the form of surety bonds to third parties as a guarantee of our performance on and our compliance with certain obligations. If we were to fail to perform or comply with these obligations, any draws upon surety bonds issued on our behalf would then trigger our payment obligation to the surety bond issuer. We have outstanding surety bonds issued for our benefit of approximately \$10.2 million and \$8.9 million, respectively, as of December 31, 2019 and 2018.

Critical Accounting Policies and Estimates

Our consolidated financial statements are prepared in accordance with GAAP. The preparation of these consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue, expenses and related disclosures. We evaluate our estimates and assumptions on an ongoing basis. Our estimates are based on historical experience and various other assumptions that we believe to be reasonable under the circumstances. Our actual results could differ from these estimates.

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We believe that the assumptions and estimates associated with revenue recognition, the net realizable value of inventory, amortization period and recoverability of contract cost assets, website and software development costs, recoverability of long-lived assets and intangible assets with definite lives, share-based compensation, and the recoverability of goodwill and indefinite-lived intangible assets, have the greatest potential impact on our consolidated financial statements. Therefore, we consider these to be our critical accounting policies and estimates.

Revenue Recognition

We recognize revenue when or as we satisfy our performance obligations by transferring control of the promised products or services to our customers in an amount that reflects the consideration to which we expect to be entitled in exchange for those products or services.

As a practical expedient, we do not adjust the promised amount of consideration for the effects of a significant financing component as the period between our transfer of a promised product or service to a customer and when the customer pays for that product or service is one year or less.

We do not disclose the transaction price related to remaining performance obligations for (i) contracts with an original expected duration of one year or less and (ii) contracts for which we recognize revenue at the amount to which we have the right to invoice for performance completed to date. The remaining duration of our performance obligations is generally less than one year.

In our Homes segment, we generate revenue from the resale of homes on the open market through our Zillow Offers program.

In our IMT segment, we generate revenue from the sale of advertising services and our suite of marketing software and technology solutions to businesses and professionals primarily associated with the residential real estate and rental industries. These professionals include real estate and rental professionals and brand advertisers. Our three primary revenue categories within our IMT segment are Premier Agent, Rentals and Other.

In our Mortgages segment, we generate revenue from the sale of advertising services to mortgage lenders and other mortgage professionals, mortgage originations and the related sale of mortgages on the secondary market through Zillow Home Loans, as well as Mortech mortgage software solutions.

Homes Revenue. Homes revenue is derived from the resale of homes on the open market through our Zillow Offers program. Homes revenue is recognized at the time of the closing of the home sale when title to and possession of the property are transferred to the buyer. The amount of revenue recognized for each home sale is equal to the sale price of the home net of resale concessions and credits to the buyer and does not reflect real estate agent commissions, closing or other costs associated with the transaction.

Premier Agent Revenue. Premier Agent revenue is derived from our Premier Agent and Premier Broker programs. Our Premier Agent and Premier Broker programs offer a suite of marketing and business technology products and services to help real estate agents and brokers achieve their advertising goals, while growing and managing their businesses and brands. All Premier Agents and Premier Brokers receive access to a dashboard portal on our mobile application and website that provides individualized program performance analytics, our customer relationship management, or CRM, tool that captures detailed information about each contact made with a Premier Agent or Premier Broker through our mobile and web platforms and our account management tools. The marketing and business technology products and services promised to Premier Agents and Premier Brokers are delivered over time, as the customer simultaneously receives and consumes the benefit of the performance obligations.

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Premier Agent and Premier Broker advertising products, which include the delivery of impressions and validated consumer connections, or leads, are primarily offered on a share of voice basis. Payment is received prior to the delivery of impressions and connections. Impressions are delivered when an advertisement appears on pages viewed by users of our mobile applications and websites and connections are delivered when consumer contact information is provided to Premier Agents and Premier Brokers. We do not promise any minimum or maximum number of impressions or connections to customers, but instead control when and how many impressions to deliver based on a customer's share of voice. We determine the number of impressions and connections to deliver to Premier Agents and Premier Brokers in each zip code using a market-based pricing method in consideration of the total amount spent by Premier Agents and Premier Brokers to purchase impressions and connections in the zip code during the month. This results in the delivery of impressions and connections over time in proportion to each Premier Agent's and Premier Broker's share of voice. A Premier Agent's or Premier Broker's share of voice in a zip code is determined by their proportional monthly prepaid spend in that zip code as a percentage of the total monthly prepaid spend of all Premier Agents and Premier Brokers in that zip code, and includes both the share of impressions delivered as advertisements appearing on pages viewed by users of our mobile applications and websites, as well as the proportion of consumer connections a Premier Agent or Premier Broker receives. The number of impressions and connections delivered for a given spend level is dynamic - as demand for advertising in a zip code increases or decreases, the number of impressions and connections delivered to a Premier Agent or Premier Broker in that zip code decreases or increases accordingly.

We primarily recognize revenue related to the Premier Agent and Premier Broker products and services based on the monthly prepaid spend recognized on a straight-line basis during the monthly billing period over which the products and services are provided. This methodology best depicts how we satisfy our performance obligations to customers, as we continuously transfer control of the performance obligations to the customer over time. Given a Premier Agent or Premier Broker typically prepays their monthly spend and the monthly spend is refunded on a pro-rata basis upon cancellation of the contract by a customer at any point in time, we have determined that Premier Agent and Premier Broker contracts are effectively daily contracts, and each performance obligation is satisfied over time as each day lapses. We have not allocated the transaction price to each performance obligation within our Premier Agent and Premier Broker arrangements, as the amounts recognized would be the same irrespective of any allocation.

In October 2018, we began testing a new pricing model, Flex, for Premier Broker and Premier Agent advertising services in limited markets. With the Flex model, Premier Brokers and Premier Agents are provided with validated leads at no upfront cost, and they pay a performance advertising fee only when a real estate transaction is closed with one of their leads. With this pricing model, the transaction price represents variable consideration as the amount to which we expect to be entitled varies based on the number of validated leads that convert into real estate transactions and the value of those transactions. During this testing phase, we recognize revenue when we receive payment for a real estate transaction closed with a Flex lead. We will continuously reevaluate this determination and the point at which we may begin to estimate variable consideration and record revenue as performance obligations are transferred. Once we reach the point at which we may begin to estimate variable consideration associated with Flex, we will estimate the transaction price based on the consideration to which we expect to be entitled in exchange for transferring the validated Flex leads. This will include estimates associated with the probability that Flex leads provided will result in closed real estate transactions and the expected value of those transactions.

Rentals Revenue. Rentals revenue includes the sale of advertising and a suite of tools to rental professionals, landlords and other market participants. Rentals revenue primarily includes revenue generated by advertising sold to property managers, landlords and other rental professionals on a cost per lead, cost per click, cost per lease, cost per listing or cost per impression basis. We recognize revenue as leads, clicks and impressions are provided to rental professionals, or as rental listings are published on our mobile applications and websites, which is the amount for which we have the right to invoice. The number of leases generated through our rentals pay per lease product during the period is accounted for as variable consideration, and we estimate the amount of variable consideration based on the expected number of qualified leases secured during the period. We do not believe that a significant reversal in the amount of cumulative revenue recognized will occur once the uncertainty related to the number of leases secured is subsequently resolved.

Rentals revenue also includes revenue generated from our rental applications product through which potential renters can submit applications to multiple rental properties over a 30-day period for a flat service fee. We recognize revenue for the rental applications product on a straight-line basis during the contractual period over which the customer has the right to access and submit the rental application.

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Other Revenue. Other revenue primarily includes revenue generated by new construction and display, as well as revenue from the sale of various other marketing and business products and services to real estate professionals. Our new construction marketing solutions allow home builders to showcase their available inventory to home shoppers. New construction revenue primarily includes revenue generated by advertising sold to builders on a cost per residential community basis, and revenue is recognized on a straight-line basis during the contractual period over which the communities are advertised on our mobile applications and websites. New construction revenue also includes revenue generated on a cost per impression basis whereby revenue is recognized on a straight-line basis during the contractual period over which the advertising impressions are delivered. Consideration for new construction products is billed in arrears. Display revenue primarily consists of graphical mobile and web advertising sold on a cost per thousand impressions or cost per click basis to advertisers promoting their brands on our mobile applications and websites. We recognize display revenue as clicks occur or as impressions are delivered to users interacting with our mobile applications or websites, which is the amount for which we have the right to invoice.

Mortgages Revenue. Mortgages revenue includes marketing products sold to mortgage professionals on a cost per lead basis, including our Custom Quote and a portion of our Connect services, and on a subscription basis, including a portion of our Connect service, and beginning in the fourth quarter of 2018, also includes revenue generated by Zillow Home Loans, our affiliated mortgage lender, and revenue generated by Mortechn.

For our Connect and Custom Quote cost per lead marketing products, participating qualified mortgage professionals typically make a prepayment to gain access to consumers interested in connecting with mortgage professionals. Mortgage professionals who exhaust their initial prepayment prepay additional funds to continue to participate in the marketplace. For our Connect subscription mortgage marketing product, participating qualified mortgage professionals generally prepay a monthly subscription fee, which they then allocate to desired geographic counties. In Zillow Group's Connect platform, consumers answer a series of questions to find a local lender, and mortgage professionals receive consumer contact information, or leads, when the consumer chooses to share their information with a lender. Consumers who request rates for mortgage loans in Custom Quotes are presented with customized quotes from participating mortgage professionals.

For our cost per lead mortgages products, we recognize revenue when a user contacts a mortgage professional through our mortgages platform, which is the amount for which we have the right to invoice. For our subscription product, the opportunity to receive a consumer contact is based on the mortgage professional's relative share of voice in a geographic county. When a consumer submits a contact, we contact a group of subscription mortgage professionals via text message, and the first mortgage professional to respond receives the consumer contact information. We recognize revenue based on the contractual spend recognized on a straight-line basis during the contractual period over which the service is provided. This methodology best depicts how we satisfy our performance obligation to subscription customers, as we continuously transfer control of the performance obligation to the customer throughout the contractual period.

Mortgage origination revenue reflects (1) origination fees and (2) the corresponding sale, or expected future sale, of a loan. When an interest rate lock commitment is made to a customer, we record the expected gain on sale of the mortgage, plus the estimated earnings from the expected sale of the associated servicing rights, adjusted for a pull-through percentage (which is defined as the likelihood that an interest rate lock commitment will be originated), as revenue. Revenue from loan origination fees is recognized at the time the related real estate transactions are completed, usually upon the close of escrow and when we fund mortgage loans. Once funded, mortgage loans held for sale are recorded at fair value based on either sale commitments or current market quotes and are adjusted for subsequent changes in fair value until the loan is sold. Net origination costs and fees associated with mortgage loans are recognized as incurred. We sell substantially all of the mortgages we originate and the related servicing rights to third-party purchasers.

Mortgage loans are sold with limited recourse provisions, which can result in repurchases of loans previously sold to investors or payments to reimburse investors for loan losses. Based on historical experience, discussions with our mortgage purchasers, analysis of the volume of mortgages we originated and current housing and credit market conditions, we estimate and record a loss reserve for mortgage loans held in our portfolio and mortgage loans held for sale, as well as known and projected mortgage loan repurchase requests. These have historically not been significant to our financial statements, but could vary in future periods.

Mortgages revenue also includes revenue generated by Mortechn, which provides subscription-based mortgage software solutions, including a product and pricing engine and lead management platform, for which we recognize revenue on a straight-line basis during the contractual period over which the services are provided.

Inventory

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Inventory is comprised of homes acquired through our Zillow Offers program and is stated at the lower of cost or net realizable value. Homes are removed from inventory on a specific identification basis when they are resold. Stated cost includes consideration paid to acquire and update each home including associated allocated overhead costs. Work-in-progress inventory includes homes undergoing updates and finished goods inventory includes homes ready for resale. Unallocated overhead costs are expensed as incurred and included in cost of revenue. Selling costs include real estate commissions, escrow and title fees, and staging costs, as well as holding costs incurred during the period that homes are listed for sale, including utilities, taxes and maintenance.

Each quarter we review the value of homes held in inventory for indicators that net realizable value is lower than cost. The calculation of net realizable value is based on several estimates which may ultimately vary materially from actual results. Given the significant assumptions required and the possibility that actual conditions will differ, we consider the valuation of inventory a critical accounting estimate. When evidence exists that the net realizable value of inventory is lower than its cost, the difference is recognized in cost of revenue. We estimate that a 1% decrease in the lower of cost or net realizable value of our inventory balances as of December 31, 2019 and 2018 would increase our inventory valuation adjustment by \$8.4 million and \$1.6 million, respectively.

Contract Cost Assets

We capitalize certain incremental costs of obtaining contracts with customers that we expect to recover. These costs relate to commissions paid to sales personnel, primarily for our Premier Agent and Premier Broker programs. As a practical expedient, we recognize the incremental costs of obtaining a contract as an expense when incurred if the amortization period of the asset that we otherwise would have recognized is one year or less. Capitalized commission costs are recorded as contract cost assets in our consolidated balance sheets. Contract cost assets are amortized to expense on a straight-line basis over a period that is consistent with the transfer to the customer of the products or services to which the asset relates, generally the estimated life of the customer relationship. Amortization expense related to contract cost assets is included in sales and marketing expenses in our consolidated statements of operations. Our determination of the estimated life of the customer relationship involves significant judgment. In determining the estimated life of our customer relationships, we consider quantitative and qualitative data, including, but not limited to, historical customer data, recent changes or expected changes in product or service offerings, and changes in how we monetize our products and services. The amortization period for our Premier Agent and Premier Broker programs ranges from two to three years.

We monitor our contract cost assets for impairment and recognize an impairment loss in the statement of operations to the extent the carrying amount of the asset recognized exceeds the amount of consideration we expect to receive in the future and that we have received but have not recognized in revenue less the costs that relate directly to providing those goods or services that have not yet been recognized as expenses.

Website and Software Development Costs

The costs incurred in the preliminary stages of website and software development are expensed as incurred. Once an application has reached the development stage, internal and external costs, if direct and incremental and deemed by management to be significant, are capitalized in property and equipment and amortized on a straight-line basis over their estimated useful lives. Maintenance and enhancement costs, including those costs in the post-implementation stages, are typically expensed as incurred, unless such costs relate to substantial upgrades and enhancements to the website or software that result in added functionality, in which case the costs are capitalized and amortized on a straight-line basis over the estimated useful lives. Amortization expense related to capitalized website and software development costs is included in technology and development expense.

Capitalized development activities placed in service are amortized over the expected useful lives of those releases, currently estimated at one to five years. The estimated useful lives of website and software development activities are reviewed frequently and adjusted as appropriate to reflect upcoming development activities that may include significant upgrades and/or enhancements to the existing functionality.

We exercise judgment in determining the point at which various projects may be capitalized, in assessing the ongoing value of the capitalized costs and in determining the estimated useful lives over which the costs are amortized. To the extent that we change the manner in which we develop and test new features and functionalities related to our mobile applications and websites, assess the ongoing value of capitalized assets, or determine the estimated useful lives over which the costs are amortized, the amount of website and software development costs we capitalize and amortize could change in future periods.

Recoverability of Intangible Assets with Definite Lives and Other Long-Lived Assets

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We evaluate intangible assets and other long-lived assets for impairment whenever events or circumstances indicate that they may not be recoverable. Recoverability is measured by comparing the carrying amount of an asset group to future undiscounted net cash flows expected to be generated. We group assets for purposes of such review at the lowest level for which identifiable cash flows of the asset group are largely independent of the cash flows of the other groups of assets and liabilities. If this comparison indicates impairment, the amount of impairment to be recognized is calculated as the difference between the carrying value and the fair value of the asset group.

Unforeseen events, changes in circumstances and market conditions and material differences in estimates of future cash flows could adversely affect the fair value of our assets and could result in an impairment charge. Fair value can be estimated utilizing a number of techniques including quoted market prices, prices for comparable assets, or other valuation processes involving estimates of cash flows, multiples of earnings or revenues, and we may make various assumptions and estimates when performing our impairment assessments, particularly as it relates to cash flow projections. Cash flow estimates are by their nature subjective and include assumptions regarding factors such as recent and forecasted operating performance, revenue trends and operating margins. These estimates could also be adversely impacted by changes in federal, state, or local regulations, economic downturns or developments, or other market conditions affecting our industry.

Share-Based Compensation

We measure compensation expense for all share-based awards at fair value on the date of grant and recognize compensation expense over the service period for awards expected to vest. We use the Black-Scholes-Merton option-pricing model to determine the fair value for option awards and recognize compensation expense on a straight-line basis over the option awards' vesting period. For restricted stock units and restricted units, we use the market value of our Class A common stock and Class C capital stock, as applicable, on the date of grant to determine the fair value of the award, and we recognize compensation expense on a straight-line basis over the awards' vesting period.

Determining the fair value of option awards at the grant date requires judgment. If any of the assumptions used in the Black-Scholes-Merton model changes significantly, share-based compensation expense for future option awards may differ materially compared with the awards granted previously. In valuing our option awards, we make assumptions about risk-free interest rates, dividend yields, volatility, and weighted-average expected lives.

Risk-free interest rate. Risk-free interest rates are derived from U.S. Treasury securities as of the option award's grant date.

Expected dividend yields. Expected dividend yields are based on our historical dividend payments, which have been zero to date.

Volatility. The expected volatility for our Class A common stock and Class C capital stock is estimated using our historical volatility.

Expected term. The weighted-average expected life of the option awards is estimated based on our historical exercise data.

We will continue to use judgment in evaluating the expected volatility and expected terms utilized for our share-based compensation expense calculations on a prospective basis. Actual results, and future changes in estimates, may differ substantially from management's current estimates. As we continue to accumulate additional data related to our Class A common stock and Class C capital stock, we may have refinements to the estimates of our expected volatility and expected terms, which could materially impact our future share-based compensation expense. In future periods, we expect our share-based compensation expense to increase as a result of our existing, unrecognized share-based compensation that will be recognized as the awards vest, and as we grant additional share-based awards to attract and retain employees.

Recoverability of Goodwill and Indefinite-Lived Intangible Assets

Goodwill represents the excess of the cost of an acquired business over the fair value of the assets acquired at the date of acquisition, and is not amortized. We assess the impairment of goodwill on an annual basis, in our fourth quarter, or whenever events or changes in circumstances indicate that goodwill may be impaired. In our evaluation of goodwill, we typically first perform a qualitative assessment to determine whether the carrying value of each reporting unit is greater than its fair value. If it is more likely than not that the carrying value of a reporting unit is greater than its fair value, we perform a quantitative assessment and an impairment charge is recorded in our statements of operations for the excess of carrying value of the reporting unit over its fair value.

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Our indefinite-lived intangible asset is not amortized, and we assess the asset for impairment on an annual basis, in our fourth quarter, or whenever events or changes in circumstances indicate that the asset may be impaired. On an interim basis, we consider if there are any events and circumstances that could affect the significant inputs used to determine the fair value of the indefinite-lived intangible asset, including, but not limited to, costs that could have a negative effect on future expected earnings and cash flows, changes in certain key performance metrics, and changes in management, key personnel, strategy or customers. In our evaluation of our trade names and trademarks indefinite-lived intangible asset, we typically first perform a qualitative assessment to determine whether the fair value of the indefinite-lived intangible asset is more likely than not impaired. If so, we perform a quantitative assessment and an impairment charge is recorded in our statements of operations for the excess of the carrying value of the indefinite-lived intangible assets over their fair value.

During the year ended December 31, 2019, we first performed a qualitative assessment to determine whether the carrying value of the indefinite-lived intangible asset was greater than the fair value. In doing so, we determined that it is not more likely than not that the indefinite-lived intangible asset is impaired and therefore did not perform a quantitative assessment. In connection with this impairment analysis, we evaluated our planned future use of the Trulia trade names and trademarks intangible asset and concluded that it remains appropriate to consider this asset to have an indefinite life. While we used our best estimates and assumptions for the analysis, our estimates are inherently uncertain and require judgment. To the extent there is a shortfall in actual revenue attributable to the Trulia brand as compared to our estimates and assumptions additional impairment could be recorded in future periods.

During the year ended December 31, 2018, we recognized a non-cash impairment charge of \$69.0 million related to our indefinite-lived Trulia trade names and trademarks intangible asset. The impairment charge is included in Impairment costs within our IMT and Mortgages segments for \$65.0 million and \$4.0 million, respectively. In connection with our annual budgeting process that was substantially completed during the three months ended December 31, 2018, we identified factors that led us to conclude it was more likely than not that the \$177.0 million carrying value of the asset exceeded its fair value. The most significant of such factors was a shortfall in projected revenue related to the Trulia brand compared to projections at the time the intangible asset was remeasured as of October 1, 2017. Accordingly, with the assistance of a third-party valuation specialist, we performed a quantitative analysis to determine the fair value of the intangible asset and concluded that our best estimate of its fair value was \$108.0 million. The valuation was prepared using an income approach based on the relief-from-royalty method and relied on inputs with unobservable market prices including the assumed revenue growth rates, royalty rate, discount rate, and estimated tax rate, and therefore is considered a Level 3 measurement under the fair value hierarchy. Fair value can be estimated utilizing a number of techniques including quoted market prices, prices for comparable assets, or other valuation processes involving estimates of cash flows, multiples of earnings or revenues, and we may make various assumptions and estimates when performing our impairment assessments, particularly as it relates to cash flow projections. Cash flow estimates are by their nature subjective and include assumptions regarding factors such as recent and forecasted operating performance, revenue trends and operating margins. These estimates could also be adversely impacted by changes in federal, state or local regulations, economic downturns or developments or other market conditions affecting our industry. Changes in these estimates could result in future material impairment losses related to the Trulia trade names and trademarks intangible asset.

Recently Adopted Accounting Standards and Recently Issued Accounting Standards Not Yet Adopted

For information about our recently adopted accounting standards and recently issued accounting standards not yet adopted, see Note 2 of the accompanying Notes to Consolidated Financial Statements in Part II, Item 8 of this Annual Report on Form 10-K.

[Table of Contents](#)**Item 7A. Quantitative and Qualitative Disclosures About Market Risk.**

We are exposed to market risks in the ordinary course of our business. These risks primarily consist of fluctuations in interest rates.

Interest Rate Risk

Under our current investment policy, we invest our excess cash in money market funds, certificates of deposit, U.S. government agency securities, treasury bills, commercial paper, foreign government securities, municipal securities and corporate notes and bonds. Our current investment policy seeks first to preserve principal, second to provide liquidity for our operating and capital needs and third to maximize yield without putting our principal at risk.

Our investments are exposed to market risk due to the fluctuation of prevailing interest rates that may reduce the yield on our investments or their fair value. As our investment portfolio is short-term in nature, we do not believe an immediate 10% increase in interest rates would have a material effect on the fair market value of our portfolio.

Our convertible senior notes bear interest at fixed rates. Thus, we have no related direct financial statement risk associated with changes in interest rates. However, the fair values of the convertible senior notes change primarily when the market price of our stock fluctuates or interest rates change. The following table summarizes our outstanding convertible senior notes as of December 31, 2019 (in thousands, except interest rates):

Maturity Date	Aggregate Principal Amount	Stated Interest Rate
September 1, 2026	\$ 500,000	1.375 %
September 1, 2024	673,000	0.75 %
July 1, 2023	373,750	1.50 %
December 1, 2021	460,000	2.00 %
December 15, 2020	9,637	2.75 %
	<hr/> \$ 2,016,387	

We are subject to market risk by way of changes in interest rates on borrowings under our credit facilities that provide capital for Zillow Offers. As of December 31, 2019 and December 31, 2018, we had outstanding \$691.5 million and \$116.7 million, respectively, of borrowings on these credit facilities which bear interest at a floating rate based on the one-month London Interbank Offered Rate (“LIBOR”) plus an applicable margin, which increase was primarily driven by the growth of our Zillow Offers business and the addition of two credit facilities in 2019. Accordingly, fluctuations in market interest rates may increase or decrease our interest expense. Assuming no change in the outstanding borrowings on our revolving credit facilities, we estimate that a one percentage point increase in LIBOR would increase our annual interest expense by approximately \$6.9 million for the year ended December 31, 2019 compared to an increase of \$1.2 million for the year ended December 31, 2018.

We are also subject to market risk by way of changes in interest rates on borrowings under our warehouse line of credit and master repurchase agreement that provide capital for Zillow Home Loans. As of December 31, 2019 and December 31, 2018, we had outstanding \$30.4 million and \$33.0 million, respectively, of borrowings on our warehouse line of credit and master repurchase agreement which bear interest at a floating rate based on LIBOR plus an applicable margin. We manage the interest rate risk associated with our mortgage loan origination services through the use of forward sales of mortgage-backed securities. Assuming no change in the outstanding borrowings on the warehouse line of credit and master repurchase agreement, we estimate that a one percentage point increase in LIBOR would increase our annual interest expense associated with the warehouse line of credit and master repurchase agreement by an insignificant amount for the years ended December 31, 2019 and 2018.

Inflation Risk

We do not believe that inflation has had a material effect on our business, results of operations or financial condition. If our costs were to become subject to significant inflationary pressures, we may not be able to fully offset such higher costs through price increases. Our inability or failure to do so could harm our business, results of operations and financial condition.

[Table of Contents](#)***Foreign Currency Exchange Risk***

We do not believe that foreign currency exchange risk has had a material effect on our business, results of operations or financial condition. As we do not maintain a significant balance of foreign currency, we do not believe an immediate 10% increase or decrease in foreign currency exchange rates relative to the U.S. dollar would have a material effect on our business, results of operations or financial condition.

[Table of Contents](#)**Item 8. Financial Statements and Supplementary Data.****Index to Consolidated Financial Statements**

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The supplementary financial information required by this Item 8 is included in Item 7 under the caption “Quarterly Results of Operations” in this Annual Report on Form 10-K.

[Table of Contents](#)**REPORT OF DELOITTE & TOUCHE LLP, INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

The Board of Directors and Shareholders of Zillow Group, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Zillow Group, Inc. (the “Company”) as of December 31, 2019 and 2018, the related consolidated statements of operations, comprehensive loss, shareholders’ equity, and cash flows for each of the three years in the period ended December 31, 2019, and the related notes (collectively referred to as the “financial statements”). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company’s internal control over financial reporting as of December 31, 2019, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated February 19, 2020 expressed an unqualified opinion on the Company’s internal control over financial reporting.

Change in Accounting Principle

As discussed in Note 2 to the financial statements, the Company changed its method of accounting for leases as of January 1, 2019 due to the adoption of Accounting Standards Codification (ASC) 842, *Leases*.

Basis for Opinion

These financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Debt - Convertible Senior Notes — Refer to Note 15 in the Notes to Consolidated Financial Statements***Critical Audit Matter Description***

On September 9, 2019, the Company issued \$600.0 million aggregate principal amount of Convertible Senior Notes due 2024 (the “Initial 2024 Notes”) and \$500.0 million aggregate principal amount of Convertible Senior Notes due 2026 (the “2026 Notes”) in a private offering to qualified institutional buyers. The net proceeds from the issuance of the Initial 2024 Notes and 2026 Notes were approximately \$592.2 million and \$493.5 million, respectively, in each case after deducting fees and expenses payable by the Company. The Company used approximately \$75.2 million and \$75.4 million, respectively, of the net proceeds from the issuance of the Initial 2024 Notes and the 2026 Notes to pay the cost of the capped call transactions entered into in connection with the issuances. On October 9, 2019, the Company issued \$73.0 million aggregate principal amount of

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0.75% Convertible Senior Notes due 2024 (the “Additional Notes” and, together with the Initial 2024 Notes, the “2024 Notes”). The Additional Notes were sold pursuant to the initial purchasers’ partial exercise of their option to purchase such notes, granted in connection with the offering of the Initial 2024 Notes. The Additional Notes have the same terms, and were issued under the same indenture, as the Initial 2024 Notes. The net proceeds from the offering of the Additional Notes were approximately \$72.0 million, after deducting fees and expenses payable by the Company. The Company used approximately \$9.1 million of the net proceeds from the issuance of the Additional Notes to pay the cost of the capped call transactions entered into in connection with the issuance of the Additional Notes. The 2024 Notes and 2026 Notes are convertible into cash, shares of Class C capital stock or a combination thereof, at the Company’s election. In accounting for the issuance of the 2024 Notes and 2026 Notes, the Company separated proceeds into liability and equity components. The carrying amount of the liability component for each of the 2024 Notes and 2026 Notes was calculated by measuring the fair value of a similar liability that does not have an associated convertible feature. The carrying amount of the equity component, representing the conversion option, was determined by deducting the fair value of the liability component from the par value of the 2024 Notes and 2026 Notes, respectively.

Given the complexity in accounting for convertible debt issuances and the related capped call transactions, the required involvement of professionals with specialized expertise, as well as the degree of judgment required in evaluating the significant assumptions related to volatility, implied yield, and synthetic credit rating in determining the fair value of the liability, we considered the audit of such conclusions to be a critical audit matter.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the accounting for the 2024 Notes and 2026 Notes and the related capped call transactions, including management’s judgments and calculations related to the determination of the fair value of the liability component of the 2024 Notes and 2026 Notes, involved the following procedures, among others:

- We tested the design and operating effectiveness of the Company’s internal controls over the accounting for the 2024 Notes and 2026 Notes and related capped call transactions, and over the determination of the fair value of the liability component of the 2024 Notes and 2026 Notes, including the significant assumptions related to volatility, implied yield, and synthetic credit rating.
- We evaluated the reasonableness of management’s business and accounting assumptions used in the fair value measurement by:
 - Assessing the reasonableness of the expected dividend yield by evaluating the Company’s history and future plans;
 - Validating the amount of outstanding 2024 Notes and 2026 Notes as of the estimate date;
 - Validating the senior unsecured nature of the 2024 Notes and 2026 Notes; and
 - Considering the impact of events and transactions that have occurred after December 31, 2019 but before the completion of the audit on the conclusions reached.
- With the assistance of our fair value specialists, we audited the valuation methodology and key assumptions used to determine the fair value of the liability component of the 2024 Notes and 2026 Notes by:
 - Evaluating the appropriateness of the valuation model and techniques used in determining the fair value; and
 - Assessing whether valuation assumption inputs, including synthetic credit rating, volatility and implied yield are consistent with those that would be used by market participants through the testing of source information, checking the mathematical accuracy of the calculation, and developing a range of independent estimates and comparing to those selected by management, where applicable.
- We evaluated management’s conclusions regarding the accounting applied to the 2024 Notes and 2026 Notes and the related capped call transactions through consideration of possible alternatives under accounting principles generally accepted in the United States of America.

Revenue – Highly Automated Revenue Systems in the Internet, Media and Technology Segment — Refer to Note 2 and Note 24 in the Notes to Consolidated Financial Statements

Critical Audit Matter Description

The Company’s Internet, Media & Technology (IMT) segment, which includes the Premier Agent, Rentals, and new construction marketplaces, as well as dotloop, display, and revenue from the sale of various other marketing and business products and services to real estate professionals, derives substantially all of its revenue from the sale of advertising services and a suite of marketing software and technology solutions to businesses and professionals primarily associated with the residential real estate, rental and residential construction industries. The total revenue for the IMT segment for the year ended

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December 31, 2019 was \$1.3 billion. The Company operates multiple mobile applications and websites to deliver each of its products to end users, and the revenue for each product consists of a significant volume of transactions utilizing multiple systems.

The process to calculate, aggregate, and record revenue across the IMT segment product offerings is highly automated, relies on multiple internally developed tools and systems, and involves interfacing significant volumes of data across the systems. Given the complexity of the information technology (IT) environment, the required involvement of professionals with expertise in IT to identify, test, and evaluate the revenue data flows, systems, and automated controls, we considered the audit of the Company's revenue generating transactions within the IMT segment to be a critical audit matter.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the Company's revenue transactions within the IMT segment included the following, among others:

- With the assistance of our IT specialists, we:
 - Identified the relevant systems used to calculate and record revenue transactions;
 - Tested the general IT controls over each of these systems, including testing of user access controls, change management controls, and IT operations controls; and
 - Performed testing of system interface controls and automated controls within the relevant revenue streams.
- We tested business process controls to reconcile the various systems to the Company's general ledgers.

We performed detail transaction testing by agreeing the amounts recognized to source documents and testing the mathematical accuracy of the recorded revenue.

/s/ DELOITTE & TOUCHE LLP

Seattle, Washington

February 19, 2020

We have served as the Company's auditor since 2016.

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ZILLOW GROUP, INC.
CONSOLIDATED BALANCE SHEETS
(in thousands, except share data)

	December 31,	
	2019	2018
Assets		
Current assets:		
Cash and cash equivalents	\$ 1,141,263	\$ 651,058
Short-term investments	1,280,989	903,867
Accounts receivable, net of allowance for doubtful accounts of \$4,522 and \$4,838 at December 31, 2019 and 2018, respectively	67,005	66,083
Mortgage loans held for sale	36,507	35,409
Inventory	836,627	162,829
Prepaid expenses and other current assets	58,117	61,067
Restricted cash	89,646	12,385
Total current assets	3,510,154	1,892,698
Contract cost assets	45,209	45,819
Property and equipment, net	170,489	135,172
Right of use assets	212,153	—
Goodwill	1,984,907	1,984,907
Intangible assets, net	190,567	215,904
Other assets	18,494	16,616
Total assets	\$ 6,131,973	\$ 4,291,116
Liabilities and shareholders' equity		
Current liabilities:		
Accounts payable	\$ 8,343	\$ 7,471
Accrued expenses and other current liabilities	85,442	63,101
Accrued compensation and benefits	37,805	31,388
Borrowings under credit facilities	721,951	149,718
Deferred revenue	39,747	34,080
Deferred rent, current portion	—	1,740
Lease liabilities, current portion	17,592	—
Convertible senior notes, current portion	9,637	—
Total current liabilities	920,517	287,498
Deferred rent, net of current portion	—	19,945
Lease liabilities, net of current portion	220,445	—
Long-term debt	1,543,402	699,020
Deferred tax liabilities and other long-term liabilities	12,188	17,474
Total liabilities	2,696,552	1,023,937
Commitments and contingencies (Note 20)		
Shareholders' equity:		
Preferred stock, \$0.0001 par value; 30,000,000 shares authorized; no shares issued and outstanding	—	—
Class A common stock, \$0.0001 par value; 1,245,000,000 shares authorized; 58,739,989 and 58,051,448 shares issued and outstanding as of December 31, 2019 and 2018, respectively	6	6
Class B common stock, \$0.0001 par value; 15,000,000 shares authorized; 6,217,447 shares issued and outstanding as of December 31, 2019 and 2018	1	1
Class C capital stock, \$0.0001 par value; 600,000,000 shares authorized; 144,109,419 and 139,635,370 shares issued and outstanding as of December 31, 2019 and 2018.		

respectively	14	14
Additional paid-in capital	4,412,200	3,939,842
Accumulated other comprehensive income (loss)	340	(905)
Accumulated deficit	(977,140)	(671,779)
Total shareholders' equity	<u>3,435,421</u>	<u>3,267,179</u>
Total liabilities and shareholders' equity	<u>\$ 6,131,973</u>	<u>\$ 4,291,116</u>

See accompanying notes to consolidated financial statements.

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ZILLOW GROUP, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except per share data)

	Year Ended December 31,		
	2019	2018	2017
Revenue:			
Homes	\$ 1,365,250	\$ 52,365	\$ —
IMT	1,276,896	1,201,143	996,203
Mortgages	100,691	80,046	80,591
Total revenue	<u>2,742,837</u>	<u>1,333,554</u>	<u>1,076,794</u>
Cost of revenue (exclusive of amortization) (1):			
Homes	1,315,345	49,392	—
IMT	98,522	96,693	80,310
Mortgages	18,154	7,505	4,893
Total cost of revenue	<u>1,432,021</u>	<u>153,590</u>	<u>85,203</u>
Sales and marketing	714,128	552,621	448,201
Technology and development	477,347	410,818	319,985
General and administrative	366,176	262,153	210,816
Impairment costs	—	79,000	174,000
Acquisition-related costs	—	2,332	463
Integration costs	650	2,015	—
Total costs and expenses	<u>2,990,322</u>	<u>1,462,529</u>	<u>1,238,668</u>
Loss from operations	(247,485)	(128,975)	(161,874)
Other income	39,658	19,270	5,385
Interest expense	(101,792)	(41,255)	(27,517)
Loss before income taxes	(309,619)	(150,960)	(184,006)
Income tax benefit	4,258	31,102	89,586
Net loss	<u>\$ (305,361)</u>	<u>\$ (119,858)</u>	<u>\$ (94,420)</u>
Net loss per share — basic and diluted	\$ (1.48)	\$ (0.61)	\$ (0.51)
Weighted-average shares outstanding — basic and diluted	206,380	197,944	186,453
(1) Amortization of website development costs and intangible assets included in technology and development	\$ 61,937	\$ 79,309	\$ 94,349

See accompanying notes to consolidated financial statements.

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ZILLOW GROUP, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(in thousands)

	Year Ended December 31,		
	2019	2018	2017
Net loss	\$ (305,361)	\$ (119,858)	\$ (94,420)
Other comprehensive income (loss):			
Unrealized gains (losses) on investments	1,377	144	(858)
Currency translation adjustments	(132)	51	—
Total other comprehensive income (loss)	1,245	195	(858)
Comprehensive loss	\$ (304,116)	\$ (119,663)	\$ (95,278)

See accompanying notes to consolidated financial statements.

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ZILLOW GROUP, INC.
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY
(in thousands, except share data)

	Class A Common Stock, Class B Common Stock and Class C Capital Stock		Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Income (Loss)	Total Shareholders' Equity
	Shares	Amount				
Balance at December 31, 2016	182,458,718	\$ 18	\$ 3,030,854	\$ (497,043)	\$ (242)	\$ 2,533,587
Cumulative-effect adjustment from adoption of guidance on accounting for share-based payment transactions	—	—	780	(780)	—	—
Issuance of common and capital stock upon exercise of stock options	6,202,421	2	98,070	—	—	98,072
Vesting of restricted stock units	1,463,825	—	—	—	—	—
Shares and value of restricted stock units withheld for tax liability	(9,816)	—	(365)	—	—	(365)
Share-based compensation expense	—	—	124,807	—	—	124,807
Net loss	—	—	—	(94,420)	—	(94,420)
Other comprehensive loss	—	—	—	—	(858)	(858)
Balance at December 31, 2017	190,115,148	20	3,254,146	(592,243)	(1,100)	2,660,823
Cumulative-effect adjustment from adoption of guidance on revenue from contracts with customers	—	—	—	40,322	—	40,322
Issuance of common and capital stock upon exercise of stock options	5,472,728	—	120,074	—	—	120,074
Vesting of restricted stock units	1,740,134	—	—	—	—	—
Shares and value of restricted stock units withheld for tax liability	(1,489)	—	(70)	—	—	(70)
Share-based compensation expense	—	—	157,674	—	—	157,674
Portion of conversion recorded in additional paid-in-capital in connection with partial conversion of convertible senior notes maturing in 2020	20,727	—	500	—	—	500
Issuance of Class C capital stock in connection with equity offering, net of issuance costs of \$13,425	6,557,017	1	360,345	—	—	360,346
Premiums paid for capped call confirmations	—	—	(29,414)	—	—	(29,414)
Equity component of issuance of 2023 Notes, net of issuance costs of \$2,047	—	—	76,587	—	—	76,587
Net loss	—	—	—	(119,858)	—	(119,858)
Other comprehensive income	—	—	—	—	195	195
Balance at December 31, 2018	203,904,265	21	3,939,842	(671,779)	(905)	3,267,179
Issuance of common and capital stock upon exercise of stock options	2,918,053	—	65,465	—	—	65,465
Vesting of restricted stock units	2,244,631	—	—	—	—	—
Shares and value of restricted stock units withheld for tax liability	(94)	—	(3)	—	—	(3)
Share-based compensation expense	—	—	210,849	—	—	210,849
Premiums paid for capped call confirmations	—	—	(159,677)	—	—	(159,677)
Equity component of issuance of 2024 Notes and 2026 Notes, net of issuance costs of \$4,725	—	—	355,724	—	—	355,724
Net loss	—	—	—	(305,361)	—	(305,361)
Other comprehensive income	—	—	—	—	1,245	1,245
Balance at December 31, 2019	209,066,855	\$ 21	\$ 4,412,200	\$ (977,140)	\$ 340	\$ 3,435,421

See accompanying notes to the consolidated financial statements.

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ZILLOW GROUP, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	Year Ended December 31,		
	2019	2018	2017
Operating activities			
Net loss	\$ (305,361)	\$ (119,858)	\$ (94,420)
Adjustments to reconcile net loss to net cash provided by (used in) operating activities:			
Depreciation and amortization	87,467	99,391	110,155
Share-based compensation expense	198,902	149,084	113,571
Amortization of right of use assets	23,142	—	—
Amortization of contract cost assets	35,323	36,013	—
Amortization of discount and issuance costs on 2021 Notes, 2023 Notes, 2024 Notes and 2026 Notes	52,097	26,672	18,012
Impairment costs	—	79,000	174,000
Deferred income taxes	(4,258)	(31,102)	(89,586)
Loss on disposal of property and equipment and other assets	7,174	3,617	5,678
Bad debt expense	2,772	869	7,349
Deferred rent	—	(2,045)	7,085
Amortization (accretion) of bond premium (discount)	(6,344)	(4,313)	431
Changes in operating assets and liabilities:			
Accounts receivable	(3,694)	(12,556)	(21,203)
Mortgage loans held for sale	(1,098)	(1,161)	—
Inventory	(673,798)	(162,829)	—
Prepaid expenses and other assets	(978)	(34,068)	10,807
Lease liabilities	(18,940)	—	—
Contract cost assets	(34,713)	(41,510)	—
Accounts payable	(496)	1,311	(373)
Accrued expenses and other current liabilities	19,573	1,920	19,000
Accrued compensation and benefits	6,417	11,291	(4,948)
Deferred revenue	5,667	2,162	2,633
Other long-term liabilities	(1,028)	1,962	—
Net cash provided by (used in) operating activities	<u>(612,174)</u>	<u>3,850</u>	<u>258,191</u>
Investing activities			
Proceeds from maturities of investments	1,126,058	399,228	259,227
Purchases of investments	(1,495,477)	(901,761)	(407,032)
Proceeds from sales of investments	—	13,567	—
Purchases of property and equipment	(67,044)	(66,054)	(66,728)
Purchases of intangible assets	(19,591)	(12,481)	(11,907)
Purchases of equity investments	—	—	(10,000)
Proceeds from divestiture of business	—	—	579
Cash paid for acquisitions, net	—	(55,138)	(11,533)
Net cash used in investing activities	<u>(456,054)</u>	<u>(622,639)</u>	<u>(247,394)</u>
Financing activities			
Proceeds from issuance of convertible notes, net of issuance costs	1,157,675	364,020	—
Premiums paid for capped call confirmations	(159,677)	(29,414)	—

Proceeds from issuance of Class C capital stock, net of issuance costs	—	360,345	—
Proceeds from borrowings on credit facilities	688,489	116,700	—
Repayments of borrowings on credit facilities	(113,665)	—	—
Net borrowings (repayments) on warehouse lines of credit and Repurchase Agreement	(2,590)	482	—
Proceeds from exercise of stock options	65,465	120,074	98,071
Value of equity awards withheld for tax liability	(3)	(70)	(365)
Contingent merger consideration	—	(2,000)	—
Net cash provided by financing activities	1,635,694	930,137	97,706
Net increase in cash, cash equivalents and restricted cash during period	567,466	311,348	108,503
Cash, cash equivalents and restricted cash at beginning of period	663,443	352,095	243,592
Cash, cash equivalents and restricted cash at end of period	\$ 1,230,909	\$ 663,443	\$ 352,095

Supplemental disclosures of cash flow information

Cash paid for interest	\$ 42,156	\$ 15,473	\$ 9,198
Noncash transactions:			
Capitalized share-based compensation	\$ 11,947	\$ 8,590	\$ 11,236
Write-off of fully depreciated property and equipment	\$ 36,159	\$ 22,364	\$ 15,004
Write-off of fully amortized intangible assets	\$ 9,999	\$ 12,999	\$ 5,473
Property and equipment purchased on account	\$ 8,775	\$ 3,844	\$ 4,268

See accompanying notes to consolidated financial statements.

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ZILLOW GROUP, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 1. Organization and Description of Business

Zillow Group, Inc. houses one of the largest portfolios of real estate brands on mobile and the web. Zillow Group is committed to leveraging its proprietary data, technology and innovations to make home buying, selling, financing and renting a seamless, on-demand experience for customers. As its flagship brand, Zillow now offers a fully integrated home shopping experience that includes access to for sale and rental listings, Zillow Offers, which provides a hassle-free way to buy and sell eligible homes directly through Zillow, and beginning in October 2018, Zillow Home Loans (formerly Mortgage Lenders of America, L.L.C.), Zillow's affiliated lender that provides an easy way to receive mortgage pre-approvals and financing. Other consumer brands include Trulia, StreetEasy, HotPads, Naked Apartments and Out East. In addition, Zillow Group provides a comprehensive suite of marketing software and technology solutions to help real estate partners maximize business opportunities and connect with millions of customers. Zillow Group business brands for real estate, rental and mortgage professionals, include Mortech, dotloop, Bridge Interactive and New Home Feed. Zillow, Inc. was incorporated as a Washington corporation in December 2004, and we launched the initial version of our website, Zillow.com, in February 2006. Zillow Group, Inc. was incorporated as a Washington corporation in July 2014 in connection with our acquisition of Trulia, Inc. ("Trulia"). Upon the closing of the Trulia acquisition in February 2015, each of Zillow, Inc. and Trulia became wholly owned subsidiaries of Zillow Group.

Certain Significant Risks and Uncertainties

We operate in a dynamic industry and, accordingly, can be affected by a variety of factors. For example, we believe that changes in any of the following areas could have a significant negative effect on us in terms of our future financial position, results of operations or cash flows: rates of revenue growth; our ability to manage advertising inventory or pricing; engagement and usage of our products; our investment of resources to pursue strategies that may not prove effective; competition in our market; the stability of the residential real estate market and the impact of interest rate changes; changes in technology, products, markets or services by us or our competitors; addition or loss of significant customers; our ability to maintain or establish relationships with listings and data providers; our ability to obtain or maintain licenses and permits to support our current and future businesses; actual or anticipated changes to our products and services; changes in government regulation affecting our business; outcomes of legal proceedings; natural disasters and catastrophic events; scaling and adaptation of existing technology and network infrastructure; management of our growth; our ability to attract and retain qualified employees and key personnel; our ability to successfully integrate and realize the benefits of our past or future strategic acquisitions or investments; protection of customers' information and other privacy concerns; protection of our brand and intellectual property; and intellectual property infringement and other claims, among other things.

Note 2. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying consolidated financial statements include Zillow Group, Inc. and its wholly-owned subsidiaries. All intercompany balances and transactions have been eliminated in consolidation. These consolidated financial statements have been prepared in conformity with U.S. generally accepted accounting principles ("GAAP").

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make certain estimates, judgments and assumptions that affect the reported amounts of assets and liabilities and the related disclosures at the date of the financial statements, as well as the reported amounts of revenue and expenses during the periods presented. On an ongoing basis, we evaluate our estimates, including those related to the net realizable value of inventory, amortization period and recoverability of contract cost assets, website and software development costs, recoverability of long-lived assets and intangible assets with definite lives, share-based compensation, income taxes, business combinations and the recoverability of goodwill and indefinite-lived intangible assets, among others. To the extent there are material differences between these estimates, judgments or assumptions and actual results, our financial statements will be affected.

Concentrations of Credit Risk

Financial instruments, which potentially subject us to concentrations of credit risk, consist primarily of cash and cash equivalents, investments, accounts receivable and mortgage loans held for sale. We place cash and cash equivalents and investments with major financial institutions, which management assesses to be of high credit quality, in order to limit exposure of our investments.

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Credit risk with respect to accounts receivable is dispersed due to the large number of customers. There were no customers that comprised 10% or more of our total accounts receivable as of December 31, 2019 and 2018. Further, our credit risk on accounts receivable is mitigated by the relatively short payment terms that we offer. Collateral is not required for accounts receivable. We maintain an allowance for doubtful accounts such that receivables are stated at net realizable value.

Similarly, our credit risk on mortgage loans held for sale is dispersed due to a large number of customers. Further, our credit risk on mortgage loans held for sale is mitigated by the fact that we typically sell mortgages on the secondary market within a relatively short period of time after the loan is originated.

Cash and Cash Equivalents

Cash includes demand deposits with banks or financial institutions. Cash equivalents include short-term, highly liquid investments that are both readily convertible to known amounts of cash, and so near their maturity that they present minimal risk of changes in value because of changes in interest rates. Our cash equivalents include only investments with original maturities of three months or less. We regularly maintain cash in excess of federally insured limits at financial institutions.

Short-term Investments

Our investments consist of fixed income securities, which include U.S. government agency securities, corporate notes and bonds, commercial paper, treasury bills, municipal securities and certificates of deposit, and are classified as available-for-sale securities. As the investments are available to support current operations, our available-for-sale securities are classified as short-term investments. Available-for-sale securities are carried at fair value with unrealized gains and losses reported as a component of accumulated other comprehensive income (loss) in shareholders' equity, while realized gains and losses and other-than-temporary impairments are reported as a component of net loss based on specific identification. An impairment charge is recorded in the consolidated statements of operations for declines in fair value below the cost of an individual investment that are deemed to be other than temporary. We assess whether a decline in value is temporary based on the length of time that the fair market value has been below cost, the severity of the decline and the intent and ability to hold or sell the investment. We did not identify any investments as other-than-temporarily impaired as of December 31, 2019 or 2018.

Restricted Cash

Restricted cash consists of amounts funded to the reserve and collection accounts related to our credit facilities (see Note 15) and amounts held in escrow related to funding home purchases in our mortgage originations business.

Accounts Receivable and Allowance for Doubtful Accounts

Accounts receivable represent our unconditional right to consideration. Accounts receivable are generally due within 30 days and are recorded net of the allowance for doubtful accounts. We consider accounts outstanding longer than the contractual terms past due. We review accounts receivable on a regular basis and estimate an amount of losses for uncollectible accounts based on our historical collections experience, age of the receivable, knowledge of the customer and the condition of the general economy and industry as a whole. We record changes in our estimate to the allowance for doubtful accounts through bad debt expense and relieve the allowance when accounts are ultimately determined to be uncollectible. Bad debt expense is included in general and administrative expenses.

Mortgage Loans Held for Sale

Mortgage loans held for sale include residential mortgages originated for sale in the secondary market in connection with our October 2018 acquisition of Zillow Home Loans. We have elected the fair value option for all mortgage loans held for sale as election of this option allows for a better offset of the changes in fair values of the loans and the derivative instruments used to economically hedge them without having to apply complex hedge accounting provisions. Mortgage loans held for sale are initially recorded at fair value based on either sale commitments or current market quotes and are adjusted for subsequent changes in fair value until the loans are sold. Net origination costs and fees associated with mortgage loans are recognized as incurred. We sell substantially all of the mortgages we originate and the related servicing rights to third-party purchasers. Interest income is earned from the date a mortgage loan is originated until the loan is sold and is classified within Other income in the consolidated statements of operations.

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Substantially all of the mortgage loans originated are sold within a short period of time in the secondary mortgage market on a servicing released, nonrecourse basis, which limits exposure to nonperformance by loan buyer counterparties although we remain liable for certain limited representations and warranties related to loan sales, such as non-compliance with defined loan origination or documentation standards, including misstatement in the loan documents, early payoff or default on early payments. Mortgage investors could seek to have us buy back loans or compensate them for losses incurred on mortgages we have sold based on claims that we breached our limited representations and warranties. We have established reserves for probable losses.

Loan Commitments and Related Derivatives

We are party to interest rate lock commitments (“IRLCs”), which are extended to borrowers who have applied for loan funding and meet defined credit and underwriting criteria in connection with our October 2018 acquisition of Zillow Home Loans. IRLCs are accounted for as derivative instruments recorded at fair value with gains and losses recognized in revenue in the consolidated statements of operations. We manage our interest rate risk related to IRLCs and mortgage loans held for sale through the use of derivative instruments, generally forward contracts on mortgage-backed securities (“MBS”), which are commitments to either purchase or sell a specified financial instrument at a specified future date for a specified price, and mandatory loan commitments, which are an obligation by an investor to buy loans at a specified price within a specified time period. We do not enter into or hold derivatives for trading or speculative purposes and our derivatives are not designated as hedging instruments. Changes in the fair value of our derivative financial instruments are recognized in revenue in our consolidated statements of operations, and the fair values are reflected in other assets or other liabilities, as applicable. The net change in fair value was not significant for the years ended December 31, 2019 and 2018.

There are no credit-risk-related contingent features within our derivative agreements, and counterparty risk is considered minimal. Gains and losses on IRLCs are substantially offset by corresponding gains or losses on forward contracts on mortgage-backed securities and mandatory loan commitments. We are generally not exposed to variability in cash flows of derivative instruments for more than approximately 90 days.

Inventory

Inventory is comprised of homes acquired through our Zillow Offers program and is stated at the lower of cost or net realizable value. Homes are removed from inventory on a specific identification basis when they are resold. Stated cost includes consideration paid to acquire and update each home including associated allocated overhead costs. Work-in-progress inventory includes homes undergoing updates and finished goods inventory includes homes ready for resale. Unallocated overhead costs are expensed as incurred and included in cost of revenue. For our Homes segment, selling costs, such as real estate agent commissions, escrow and title fees, and staging costs, as well as holding costs incurred during the period that homes are listed for sale, including utilities, taxes and maintenance are expensed as incurred and classified within sales and marketing expenses in the consolidated statements of operations. We recorded \$22.6 million and \$1.9 million in holding costs for the years ended December 31, 2019 and 2018, respectively.

Each quarter we review the value of homes held in inventory for indicators that net realizable value is lower than cost. When evidence exists that the net realizable value of inventory is lower than its cost, the difference is recognized in cost of revenue and the value of the corresponding asset is reduced.

Contract Cost Assets

We capitalize certain incremental costs of obtaining contracts with customers which we expect to recover. These costs relate to commissions paid to sales personnel, primarily for our Premier Agent and Premier Broker programs. As a practical expedient, we recognize the incremental costs of obtaining a contract as an expense when incurred if the amortization period of the asset that we otherwise would have recognized is one year or less. Capitalized commission costs are recorded as contract cost assets in our consolidated balance sheets. Contract cost assets are amortized to expense on a straight-line basis over a period that is consistent with the transfer to the customer of the products or services to which the asset relates, generally the estimated life of the customer relationship. Amortization expense related to contract cost assets is included in sales and marketing expenses in our consolidated statements of operations. In determining the estimated life of our customer relationships, we consider quantitative and qualitative data, including, but not limited to, historical customer data, recent changes or expected changes in product or service offerings, and changes in how we monetize our products and services. The amortization period for capitalized contract costs related to our Premier Agent and Premier Broker programs ranges from two to three years.

We monitor our contract cost assets for impairment and recognize an impairment loss in the consolidated statements of operations to the extent the carrying amount of the asset recognized exceeds the amount of consideration that we expect to

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receive in the future and that we have received but have not recognized in revenue less the costs that relate directly to providing those goods or services that have not yet been recognized as expenses. Write-offs of contract cost assets were not material for the years ended December 31, 2019 and December 31, 2018. Refer to Note 7 for more information regarding contract cost assets.

Property and Equipment

Property and equipment is recorded at cost and depreciated using the straight-line method over the estimated useful lives of the related assets. The useful lives are as follows:

Computer equipment	2 to 3 years
Office equipment, furniture and fixtures	5 to 7 years
Leasehold improvements	Shorter of expected useful life or lease term

Maintenance and repair costs are charged to expense as incurred. Major improvements, which extend the useful life of the related asset, are capitalized. Upon disposal of a fixed asset, we record a gain or loss based on the difference between the proceeds received and the net book value of the disposed asset.

Website and Software Development Costs

The costs incurred in the preliminary stages of website and software development are expensed as incurred. Once an application has reached the development stage, internal and external costs, if direct and incremental and deemed by management to be significant, are capitalized in property and equipment and amortized on a straight-line basis over their estimated useful lives. Maintenance and enhancement costs, including those costs in the post-implementation stages, are typically expensed as incurred, unless such costs relate to substantial upgrades and enhancements to the website or software that result in added functionality, in which case the costs are capitalized and amortized on a straight-line basis over the estimated useful lives. Amortization expense related to capitalized website and software development costs is included in technology and development expense.

Capitalized development activities placed in service are amortized over the expected useful lives of those releases, currently estimated at one to five years. The estimated useful lives of website and software development activities are reviewed frequently and adjusted as appropriate to reflect upcoming development activities that may include significant upgrades and/or enhancements to the existing functionality.

Construction-in-progress primarily consists of website development costs that are capitalizable, but for which the associated applications had not been placed in service.

Recoverability of Goodwill and Indefinite-Lived Intangible Assets

Goodwill represents the excess of the cost of an acquired business over the fair value of the assets acquired at the date of acquisition, and is not amortized. We assess the impairment of goodwill on an annual basis, in our fourth quarter, or whenever events or changes in circumstances indicate that goodwill may be impaired. In our evaluation of goodwill, we typically first perform a qualitative assessment to determine whether the carrying value of each reporting unit is greater than its fair value. If it is more likely than not that the carrying value of a reporting unit is greater than its fair value, we perform a quantitative assessment and an impairment charge is recorded in our statements of operations for the excess of carrying value of the reporting unit over its fair value.

During the years ended December 31, 2019, 2018, and 2017 we did not record any impairments related to goodwill. Refer to Note 10 for additional information related to goodwill.

Our trade names and trademarks indefinite-lived intangible asset is not amortized, and we assess the asset for impairment on an annual basis, in our fourth quarter, or whenever events or changes in circumstances indicate that the asset may be impaired. On an interim basis we consider if there are any events and circumstances that could affect the significant inputs used to determine the fair value of the indefinite-lived intangible asset, including, but not limited to, costs that could have a negative effect on future expected earnings and cash flows, changes in certain key performance metrics, and changes in management, key personnel, strategy or customers. In our evaluation of our trade names and trademarks indefinite-lived intangible asset, we typically first perform a qualitative assessment to determine whether the fair value of the indefinite-lived intangible asset is more likely than not impaired. If so, we perform a quantitative assessment and an impairment charge is recorded in our statements of operations for the excess of the carrying value of the indefinite-lived intangible asset over its fair value.

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We did not record any non-cash impairments related to the indefinite-lived Trulia trade names and trademarks intangible asset during the year ended December 31, 2019. During the years ended December 31, 2018 and 2017, we recorded non-cash impairments for \$69.0 million and \$174.0 million, respectively, related to the indefinite-lived Trulia trade names and trademarks intangible asset. For additional information about the non-cash impairments, see Note 11 to our consolidated financial statements.

Intangible Assets

We purchase and license data content from multiple data providers. This data content consists of U.S. county data about home details (e.g., the number of bedrooms, bathrooms, square footage) and other information relating to the purchase price of homes, both current and historical, as well as imagery, mapping and parcel data that is displayed on our mobile applications and websites. Our home details data not only provides information about a home and its related transactions which is displayed on our mobile applications and websites, but is also used in our proprietary valuation algorithms to produce Zestimates, Rent Zestimates and Zillow Home Value Indexes. License agreement terms vary by vendor. In some instances, we retain perpetual rights to this information after the contract ends; in other instances, the information and data are licensed only during the fixed term of the agreement. Additionally, certain data license agreements provide for uneven payment amounts throughout the contract term.

We capitalize payments made to third parties for data licenses that we expect to recover through generation of revenue and margins. For data license contracts that include uneven payment amounts, we capitalize the payments as they are made as an intangible asset and the total contract value is typically amortized on a straight-line basis over the term of the contract, which is equivalent to the estimated useful life of the asset. We evaluate data content contracts for potential capitalization at the inception of the arrangement as well as each time periodic payments to third parties are made.

The amortization period for the capitalized purchased content is based on our best estimate of the useful life of the asset, which is approximately five years. The determination of the useful life includes consideration of a variety of factors including, but not limited to, our assessment of the expected use of the asset and contractual provisions that may limit the useful life, as well as an assessment of when the data is expected to become obsolete based on our estimates of the diminishing value of the data over time. We evaluate the useful life of the capitalized purchased data content each reporting period to determine whether events and circumstances warrant a revision to the remaining useful life. If we determine the estimate of the asset's useful life requires modification, the carrying amount of the asset is amortized prospectively over the revised useful life. The capitalized purchased data content is amortized on a straight-line basis as the pattern of delivery of the economic benefits of the data cannot reliably be determined because we do not have the ability to reliably predict future traffic to our mobile applications and websites.

Under certain other data agreements, the underlying data is obtained on a subscription basis with consistent monthly or quarterly recurring payment terms over the contractual period. Upon the expiration of such arrangements, we no longer have the right to access the related data, and therefore, the costs incurred under such contracts are not capitalized and are expensed as payments are made. We would immediately lose rights to data under these arrangements if we were to cancel the subscription and/or cease making payments under the subscription arrangements.

We also capitalize costs related to the license of certain internal-use software from third parties, including certain licenses of software in cloud computing arrangements. Additionally, we capitalize costs incurred during the application development stage related to the development of internal-use software and enterprise cloud computing services. We expense costs as incurred related to the planning and post-implementation phases of development. Capitalized internal-use software costs are amortized on a straight-line basis over the estimated useful life of the asset, which is currently one to five years.

Intangibles-in-progress consist of purchased content and software that are capitalizable but have not been placed in service.

We also have intangible assets for developed technology, customer relationships, trade names and trademarks and advertising relationships which we recorded in connection with acquisitions. Purchased intangible assets with a determinable economic life are carried at cost, less accumulated amortization. These intangible assets are amortized over the estimated useful life of the asset on a straight-line basis.

Recoverability of Intangible Assets with Definite Lives and Other Long-Lived Assets

We evaluate intangible assets and other long-lived assets for impairment whenever events or circumstances indicate that they may not be recoverable. Recoverability is measured by comparing the carrying amount of an asset group to future undiscounted net cash flows expected to be generated. We group assets for purposes of such review at the lowest level for

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which identifiable cash flows of the asset group are largely independent of the cash flows of the other groups of assets and liabilities. If this comparison indicates impairment, the amount of impairment to be recognized is calculated as the difference between the carrying value and the fair value of the asset group.

Deferred Revenue

Deferred revenue consists of prepaid advertising fees received or billed in advance of satisfying our performance obligations and prepaid but unrecognized subscription revenue. Deferred revenue is recognized when or as we satisfy our obligations under contracts with customers.

Business Combinations

We recognize identifiable assets acquired and liabilities assumed at their acquisition date fair values. Goodwill as of the acquisition date is measured as the excess of consideration transferred over the net of the acquisition date fair values of the assets acquired and the liabilities assumed. While we use our best estimates and assumptions for the purchase price allocation process to value assets acquired and liabilities assumed at the acquisition date, our estimates are inherently uncertain and subject to refinement. As a result, during the measurement period, which may be up to one year from the acquisition date, we record adjustments to the assets acquired and liabilities assumed, with the corresponding offset to goodwill to the extent that we identify adjustments to the preliminary purchase price allocation. Upon the conclusion of the measurement period or final determination of the values of assets acquired or liabilities assumed, whichever comes first, any subsequent adjustments are recorded to our consolidated statements of operations. We recognize adjustments to provisional amounts that are identified during the measurement period in the reporting period in which the adjustment amounts are determined.

Revenue Recognition

We recognize revenue when or as we satisfy our performance obligations by transferring control of the promised products or services to our customers in an amount that reflects the consideration to which we expect to be entitled in exchange for those products or services.

As a practical expedient, we do not adjust the promised amount of consideration for the effects of a significant financing component as the period between our transfer of a promised product or service to a customer and when the customer pays for that product or service is one year or less.

We do not disclose the transaction price related to remaining performance obligations for (i) contracts with an original expected duration of one year or less and (ii) contracts for which we recognize revenue at the amount to which we have the right to invoice for performance completed to date. The remaining duration of our performance obligations is generally less than one year.

In our Homes segment, we generate revenue from the resale of homes on the open market through our Zillow Offers program.

In our IMT segment, we generate revenue from the sale of advertising services and our suite of marketing software and technology solutions to businesses and professionals primarily associated with the residential real estate and rental industries. These professionals include real estate and rental professionals and brand advertisers. Our three primary revenue categories within our IMT segment are Premier Agent, Rentals and Other.

In our Mortgages segment, we generate revenue from the sale of advertising services to mortgage lenders and other mortgage professionals, mortgage originations and the related sale of mortgages on the secondary market through Zillow Home Loans, as well as Mortech mortgage software solutions.

Homes Revenue. Homes revenue is derived from the resale of homes on the open market through our Zillow Offers program. Homes revenue is recognized at the time of the closing of the home sale when title to and possession of the property are transferred to the buyer. The amount of revenue recognized for each home sale is equal to the sale price of the home net of resale concessions and credits to the buyer and does not reflect real estate agent commissions, closing or other costs associated with the transaction.

Premier Agent Revenue. Premier Agent revenue is derived from our Premier Agent and Premier Broker programs. Our Premier Agent and Premier Broker programs offer a suite of marketing and business technology products and services to help real estate agents and brokers achieve their advertising goals, while growing and managing their businesses and brands. All Premier Agents and Premier Brokers receive access to a dashboard portal on our mobile application and website that provides individualized program performance analytics, our customer relationship management, or CRM, tool that captures detailed information about each contact made with a Premier Agent or Premier Broker through our mobile and web platforms and our

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account management tools. The marketing and business technology products and services promised to Premier Agents and Premier Brokers are delivered over time, as the customer simultaneously receives and consumes the benefit of the performance obligations.

Premier Agent and Premier Broker advertising products, which include the delivery of impressions and validated consumer connections, or leads, are primarily offered on a share of voice basis. Payment is received prior to the delivery of impressions and connections. Impressions are delivered when an advertisement appears on pages viewed by users of our mobile applications and websites and connections are delivered when consumer contact information is provided to Premier Agents and Premier Brokers. We do not promise any minimum or maximum number of impressions or connections to customers, but instead control when and how many impressions to deliver based on a customer's share of voice. We determine the number of impressions and connections to deliver to Premier Agents and Premier Brokers in each zip code using a market-based pricing method in consideration of the total amount spent by Premier Agents and Premier Brokers to purchase impressions and connections in the zip code during the month. This results in the delivery of impressions and connections over time in proportion to each Premier Agent's and Premier Broker's share of voice. A Premier Agent's or Premier Broker's share of voice in a zip code is determined by their proportional monthly prepaid spend in that zip code as a percentage of the total monthly prepaid spend of all Premier Agents and Premier Brokers in that zip code, and includes both the share of impressions delivered as advertisements appearing on pages viewed by users of our mobile applications and websites, as well as the proportion of consumer connections a Premier Agent or Premier Broker receives. The number of impressions and connections delivered for a given spend level is dynamic - as demand for advertising in a zip code increases or decreases, the number of impressions and connections delivered to a Premier Agent or Premier Broker in that zip code decreases or increases accordingly.

We primarily recognize revenue related to the Premier Agent and Premier Broker products and services based on the monthly prepaid spend recognized on a straight-line basis during the monthly billing period over which the products and services are provided. This methodology best depicts how we satisfy our performance obligations to customers, as we continuously transfer control of the performance obligations to the customer over time. Given a Premier Agent or Premier Broker typically prepays their monthly spend and the monthly spend is refunded on a pro-rata basis upon cancellation of the contract by a customer at any point in time, we have determined that Premier Agent and Premier Broker contracts are effectively daily contracts, and each performance obligation is satisfied over time as each day lapses. We have not allocated the transaction price to each performance obligation within our Premier Agent and Premier Broker arrangements, as the amounts recognized would be the same irrespective of any allocation.

In October 2018, we began testing a new pricing model, Flex, for Premier Agent and Premier Broker advertising services in limited markets. With the Flex model, Premier Agents and Premier Brokers are provided with validated leads at no upfront cost, and they pay a performance advertising fee only when a real estate transaction is closed with one of their leads. With this pricing model, the transaction price represents variable consideration as the amount to which we expect to be entitled varies based on the number of validated leads that convert into real estate transactions and the value of those transactions. During this testing phase, we recognize revenue when we receive payment for a real estate transaction closed with a Flex lead. We will continuously reevaluate this determination and the point at which we may begin to estimate variable consideration and record revenue as performance obligations are transferred.

Rentals Revenue. Rentals revenue includes the sale of advertising and a suite of tools to rental professionals, landlords and other market participants. Rentals revenue primarily includes revenue generated by advertising sold to property managers, landlords and other rental professionals on a cost per lead, cost per click, cost per lease, cost per listing or cost per impression basis. We recognize revenue as leads, clicks and impressions are provided to rental professionals, or as rental listings are published on our mobile applications and websites, which is the amount for which we have the right to invoice. The number of leases generated through our rentals pay per lease product during the period is accounted for as variable consideration, and we estimate the amount of variable consideration based on the expected number of qualified leases secured during the period. We do not believe that a significant reversal in the amount of cumulative revenue recognized will occur once the uncertainty related to the number of leases secured is subsequently resolved.

Rentals revenue also includes revenue generated from our rental applications product through which potential renters can submit applications to multiple rental properties over a 30-day period for a flat service fee. We recognize revenue for the rental applications product on a straight-line basis during the contractual period over which the customer has the right to access and submit the rental application.

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Other Revenue. Other revenue primarily includes revenue generated by new construction and display, as well as revenue from the sale of various other marketing and business products and services to real estate professionals. Our new construction marketing solutions allow home builders to showcase their available inventory to home shoppers. New construction revenue primarily includes revenue generated by advertising sold to builders on a cost per residential community basis, and revenue is recognized on a straight-line basis during the contractual period over which the communities are advertised on our mobile applications and websites. New construction revenue also includes revenue generated on a cost per impression basis whereby we recognize revenue as impressions are delivered to users interacting with our mobile applications and websites, which is the amount for which we have the right to invoice. Consideration for new construction products is billed in arrears. Display revenue primarily consists of graphical mobile and web advertising sold on a cost per thousand impressions or cost per click basis to advertisers promoting their brands on our mobile applications and websites. We recognize display revenue as clicks occur or as impressions are delivered to users interacting with our mobile applications or websites, which is the amount for which we have the right to invoice.

Mortgages Revenue. Mortgages revenue includes marketing products sold to mortgage professionals on a cost per lead basis, including our Custom Quote and a portion of our Connect services, and on a subscription basis, including a portion of our Connect service, and beginning in the fourth quarter of 2018, also includes revenue generated by Zillow Home Loans, our affiliated mortgage lender, and revenue generated by Mortechn.

Zillow Group operates Custom Quote and Connect through its wholly owned subsidiary, Zillow Group Marketplace, Inc., a licensed mortgage broker. For our Connect and Custom Quote cost per lead marketing products, participating qualified mortgage professionals typically make a prepayment to gain access to consumers interested in connecting with mortgage professionals. Mortgage professionals who exhaust their initial prepayment prepay additional funds to continue to participate in the marketplace. For our Connect subscription mortgage marketing product, participating qualified mortgage professionals generally prepay a monthly subscription fee, which they then allocate to desired geographic counties. In Zillow Group's Connect platform, consumers answer a series of questions to find a local lender, and mortgage professionals receive consumer contact information, or leads, when the consumer chooses to share their information with a lender. Consumers who request rates for mortgage loans in Custom Quotes are presented with customized quotes from participating mortgage professionals.

For our cost per lead mortgages products, we recognize revenue when a user contacts a mortgage professional through our mortgages platform, which is the amount for which we have the right to invoice. For our subscription product, the opportunity to receive a consumer contact is based on the mortgage professional's relative share of voice in a geographic county. When a consumer submits a contact, we contact a group of subscription mortgage professionals via text message, and the first mortgage professional to respond receives the consumer contact information. We recognize revenue based on the contractual spend recognized on a straight-line basis during the contractual period over which the service is provided. This methodology best depicts how we satisfy our performance obligation to subscription customers, as we continuously transfer control of the performance obligation to the customer throughout the contractual period.

Mortgage origination revenue reflects both origination fees and the corresponding sale, or expected future sale, of a loan. When an interest rate lock commitment is made to a customer, we record the expected gain on sale of the mortgage, plus the estimated earnings from the expected sale of the associated servicing rights, adjusted for a pull-through percentage (which is defined as the likelihood that an interest rate lock commitment will be originated), as revenue. Revenue from loan origination fees is recognized at the time the related real estate transactions are completed, usually upon the close of escrow and when we fund mortgage loans. Once funded, mortgage loans held for sale are recorded at fair value based on either sale commitments or current market quotes and are adjusted for subsequent changes in fair value until the loan is sold. Net origination costs associated with mortgage loans are recognized as incurred. We sell substantially all of the mortgages we originate and the related servicing rights to third-party purchasers.

Mortgage loans are sold with limited recourse provisions, which can result in repurchases of loans previously sold to investors or payments to reimburse investors for loan losses. Based on historical experience, discussions with our mortgage purchasers, analysis of the volume of mortgages we originated and the current housing and credit conditions, we estimate and record a loss reserve for mortgage loans held in our portfolio and mortgage loans held for sale, as well as known and projected mortgage loan repurchase requests on loans previously sold. These have historically not been significant to our financial statements.

Mortgage revenue also includes revenue generated by Mortechn, which provides subscription-based mortgage software solutions, including a product and pricing engine and lead management platform, for which we recognize revenue on a straight-line basis during the contractual period over which the services are provided.

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There were no customers that generated 10% or more of our total revenue in the years ended December 31, 2019, 2018 or 2017.

Cost of Revenue

Our cost of revenue consists of expenses related to operating our mobile applications and websites, including associated headcount expenses, such as salaries, benefits, bonuses and share-based compensation expense, as well as revenue-sharing costs related to our commercial business relationships, depreciation expense and costs associated with hosting our mobile applications and websites. For our Homes segment, our cost of revenue also consists of the consideration paid to acquire and make certain repairs and updates to each home, including associated overhead costs, as well as inventory valuation adjustments. For our IMT and Mortgages segments, cost of revenue also includes credit card fees and ad serving costs paid to third parties. For our Mortgages segment, our cost of revenue consists of lead acquisition costs and direct costs to originate loans, including underwriting and processing costs.

Technology and Development

Technology and development expenses consist of headcount expenses, including salaries, benefits, bonuses and share-based compensation expense for individuals engaged in the design, development and testing of our products, mobile applications and websites and the tools and applications that support our products. Technology and development expenses also include equipment and maintenance costs and depreciation expense. Finally, technology and development expenses include amortization costs related to capitalized website and development activities, amortization of software, amortization of certain intangibles and other data agreement costs related to the purchase of data used to populate our mobile applications and websites, and amortization of intangible assets recorded in connection with acquisitions, including developed technology and customer relationships, amongst others.

Research and development costs are expensed as incurred and are recorded in technology and development expenses. For the years ended December 31, 2019, 2018 and 2017, expenses attributable to research and development for our business totaled \$343.7 million, \$298.1 million and \$193.0 million, respectively.

Share-Based Compensation

We measure compensation expense for all share-based awards at fair value on the date of grant and recognize compensation expense over the service period on a straight-line basis for awards expected to vest.

We use the Black-Scholes-Merton option-pricing model to determine the fair value for option awards. In valuing our option awards, we make assumptions about risk-free interest rates, dividend yields, volatility, and weighted-average expected lives. We account for forfeitures as they occur. Risk-free interest rates are derived from U.S. Treasury securities as of the option award grant date. Expected dividend yield is based on our historical cash dividend payments, which have been zero to date. The expected volatility for our Class A common stock and Class C capital stock is estimated using our historical volatility. The weighted-average expected life of the option awards is estimated based on our historical exercise data.

For issuances of restricted stock units and restricted units, we determine the fair value of the award based on the market value of our Class A common stock or Class C capital stock, as applicable, at the date of grant.

Advertising Costs

Advertising costs are expensed as incurred. For the years ended December 31, 2019, 2018 and 2017, expenses attributable to advertising totaled \$185.2 million, \$193.5 million and \$166.5 million, respectively. Advertising costs are recorded in sales and marketing expenses.

Income Taxes

We use the asset and liability approach for accounting and reporting income taxes, which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the financial statement and tax bases of assets and liabilities at the applicable enacted tax rates. A valuation allowance against deferred tax assets would be established if, based on the weight of available evidence, it is more likely than not (a likelihood of more than 50%) that some or all of the deferred tax assets are not expected to be realized.

We establish reserves for tax-related uncertainties based on estimates of whether, and the extent to which, additional taxes will be due. We adjust these reserves in light of changing facts and circumstances, such as the closing of a tax audit, new tax legislation or the change of an estimate. To the extent that the final tax outcome of these matters is different than the

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amounts recorded, such differences will affect the provision for income taxes in the period in which such determination is made. Interest and penalties related to unrecognized tax benefits are recorded as income tax expense.

Recently Adopted Accounting Standards

In February 2018, the Financial Accounting Standards Board (“FASB”) issued guidance on income tax accounting related to the Tax Cuts and Jobs Act (the “Tax Act”). This guidance permits a reclassification from accumulated other comprehensive income (loss) to accumulated deficit for the adjustment of deferred taxes due to the reduction of the historical corporate income tax rate to the newly enacted corporate income tax rate under the Tax Act. It also requires certain disclosures regarding these reclassifications. The guidance is effective for interim and annual reporting periods beginning after December 15, 2018, and early adoption is permitted. This guidance must be applied either on a prospective basis in the period of adoption or retrospectively to each period in which the effect of the change in the corporate income tax rate is recognized. We adopted this guidance on January 1, 2019. The adoption of this guidance did not have a material impact on our financial position, results of operations or cash flows.

In March 2017, the FASB issued guidance related to the premium amortization on purchased callable debt securities. This guidance shortens the amortization period for certain callable debt securities purchased at a premium by requiring that the premium be amortized to the earliest call date. This guidance is effective for interim and annual reporting periods beginning after December 15, 2018, and early adoption is permitted. This guidance must be applied on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings as of the beginning of the period of adoption. We adopted this guidance on January 1, 2019. The adoption of this guidance did not have a material impact on our financial position, results of operations or cash flows.

In February 2016, the FASB issued guidance on leases. This guidance requires the recognition of a right of use asset and lease liability on the balance sheet for all leases. This guidance also requires more detailed disclosures to enable users of financial statements to understand the amount, timing, and uncertainty of cash flows arising from leases. This guidance is effective for interim and annual reporting periods beginning after December 15, 2018. In July 2018, the FASB issued certain targeted improvements to the accounting and disclosure requirements for leases, including an additional optional transition method that allows entities to initially apply the new standard at the adoption date and recognize a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption without restating prior periods. When adopting the lease guidance, an entity may elect a practical expedient package, under which it need not reassess (a) whether any expired or existing contracts are or contain leases; (b) the lease classification for any expired or existing leases; and (c) initial direct costs for any existing leases. These three practical expedites must be elected as a package and must be consistently applied to all existing leases at the date of adoption. We adopted the new guidance on leases on January 1, 2019 using the optional transition method and elected to adopt the practical expedient package. Under this approach, we did not restate the prior financial statements presented. Based on our lease portfolio as of December 31, 2018, we recorded on our consolidated balance sheet right of use assets of \$106.5 million as well as operating lease liabilities of \$129.0 million, and we removed the existing deferred rent balance of \$22.5 million. The adoption of the standard did not have a material impact on our consolidated statements of operations and cash flows.

Recently Issued Accounting Standards Not Yet Adopted

In August 2018, the FASB issued guidance related to a customer’s accounting for implementation costs incurred in hosting arrangements. The guidance conforms the requirements for capitalizing implementation costs incurred in cloud computing arrangements that are service contracts with the accounting guidance that provides for the capitalization of costs incurred to develop or obtain internal-use software. Under the guidance, implementation costs that are capitalized should be characterized in financial statements in the same manner as other service costs and assets related to service costs and amortized over the term of the hosting arrangement. This guidance is effective for interim and annual reporting periods beginning after December 15, 2019, and early adoption is permitted. Entities are permitted to apply either a retrospective or prospective transition approach to adopt this guidance. We adopted this guidance on January 1, 2020 using the prospective transition approach under which we apply the guidance to all eligible costs incurred subsequent to adoption. Under this new guidance, we record the implementation costs incurred in cloud computing arrangements that are service contracts within prepaid expenses and other current assets or other long-term assets in our consolidated balance sheets, depending on the length of the underlying cloud computing contract. We amortize these costs on a straight-line basis over the term of the hosting arrangement unless another systematic and rational basis is more representative of the pattern in which we expect to benefit from access to the hosted software. We do not expect the adoption of this guidance to have a material impact on our financial position, results of operations or cash flows.

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In August 2018, the FASB issued guidance related to disclosure requirements for fair value measurements. This guidance removes, modifies and adds disclosures related to certain assets and liabilities measured at fair value. The amendments on changes in unrealized gains and losses, the range and weighted average of significant unobservable inputs used to develop Level 3 fair value measurements and the narrative description of measurement uncertainty should be applied prospectively for only the most recent interim and annual period presented in the initial fiscal year of adoption. All other amendments should be applied retrospectively to all periods presented upon their effective date. This guidance is effective for interim and annual periods beginning after December 15, 2019, and early adoption is permitted. We adopted this guidance on January 1, 2020. We have not historically recorded material amounts of Level 3 assets and liabilities or material transfers of assets or liabilities between levels within the fair value hierarchy and therefore do not anticipate the adoption of this guidance to have any impact on our financial statement disclosures.

In June 2016, and subsequently amended in April 2019, May 2019 and November 2019, the FASB issued guidance on the measurement of credit losses on financial assets. This guidance will require an entity to measure and recognize expected credit losses for certain financial instruments and financial assets, including trade receivables. This guidance requires an entity to recognize an allowance that reflects the entity's current estimate of credit losses expected to be incurred over the life of the financial instrument on initial recognition and at each reporting period, whereas current guidance employs an incurred loss methodology. This guidance is effective for interim and annual periods beginning after December 15, 2019, and early adoption is permitted for interim and annual reporting periods beginning after December 15, 2018. The adoption of this guidance requires a cumulative-effect adjustment to retained earnings as of the beginning of the first reporting period in which the guidance is adopted. We adopted this guidance on January 1, 2020. We have substantially completed our evaluation of the necessary changes to our accounting policies, processes and systems as a result of the adoption of the guidance and determined that the standard will primarily impact our trade accounts receivable and certain available-for-sale investments. Upon adoption, we expect to record a cumulative-effect adjustment to accumulated deficit as of January 1, 2020 to reflect estimated credit losses for trade receivables that are not currently aged. We do not expect the adoption of this guidance to have a material impact on our financial position, results of operations or cash flows.

Note 3. Fair Value Measurements

Accounting standards define fair value as the price that would be received to sell an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market in an orderly transaction between market participants on the measurement date. The standards also establish a fair value hierarchy, which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. There are three levels of inputs that may be used to measure fair value:

- Level 1—Quoted prices in active markets for identical assets or liabilities.
- Level 2—Assets and liabilities valued based on observable market data for similar instruments, such as quoted prices for similar assets or liabilities.
- Level 3—Unobservable inputs that are supported by little or no market activity; instruments valued based on the best available data, some of which is internally developed, and considers risk premiums that a market participant would require.

We applied the following methods and assumptions in estimating our fair value measurements:

Cash equivalents — The fair value measurement of money market funds is based on quoted market prices in active markets. The fair value measurement of corporate notes and bonds, commercial paper, U.S. government agency securities, treasury bills and certificates of deposit is based on observable market-based inputs or inputs that are derived principally from or corroborated by observable market data by correlation or other means.

Short-term investments — The fair value measurement of our short-term investments is based on observable market-based inputs or inputs that are derived principally from or corroborated by observable market data by correlation or other means.

Restricted cash — Restricted cash consists of cash received from the resale of homes through Zillow Offers which may be used to repay amounts borrowed on our credit facilities (see Note 15) and amounts held in escrow related to funding home purchases in our mortgage origination business. The carrying value of restricted cash approximates fair value due to the short period of time amounts borrowed on the revolving credit facilities are outstanding.

Mortgage loans held for sale — The fair value of mortgage loans held for sale is generally calculated by reference to quoted prices in secondary markets for commitments to sell mortgage loans with similar characteristics.

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Interest rate lock commitments — The fair value of IRLCs is calculated by reference to quoted prices in secondary markets for commitments to sell mortgage loans with similar characteristics. Expired commitments are excluded from the fair value measurement. We generally only issue IRLCs for products that meet specific purchaser guidelines. Since not all IRLCs will become closed loans, we adjust our fair value measurements for the estimated amount of IRLCs that will not close.

Forward contracts — The fair value of mandatory loan sales commitments and derivative instruments such as forward sales of mortgage-backed securities that are utilized as economic hedging instruments are calculated by reference to quoted prices for similar assets.

The following tables present the balances of assets and liabilities measured at fair value on a recurring basis, by level within the fair value hierarchy, as of the dates presented (in thousands):

	December 31, 2019		
	Total	Level 1	Level 2
Cash equivalents:			
Money market funds	\$ 872,431	\$ 872,431	\$ —
U.S. government agency securities	35,009	—	35,009
Commercial paper	31,113	—	31,113
Treasury bills	6,441	—	6,441
Corporate notes and bonds	1,065	—	1,065
Certificates of deposit	249	—	249
Short-term investments:			
U.S. government agency securities	862,154	—	862,154
Corporate notes and bonds	159,431	—	159,431
Commercial paper	150,267	—	150,267
Treasury bills	80,003	—	80,003
Municipal securities	27,889	—	27,889
Certificates of deposit	1,245	—	1,245
Mortgage origination-related:			
Mortgage loans held for sale	36,507	—	36,507
IRLCs	937	—	937
Forward contracts - other current assets	7	—	7
Forward contracts - other current liabilities	(60)	—	(60)
Total	\$ 2,264,688	\$ 872,431	\$ 1,392,257

	December 31, 2018		
	Total	Level 1	Level 2
Cash equivalents:			
Money market funds	\$ 541,575	\$ 541,575	\$ —
Commercial paper	3,999	—	3,999
Short-term investments:			
U.S. government agency securities	646,496	—	646,496
Corporate notes and bonds	112,933	—	112,933
Commercial paper	85,506	—	85,506
Municipal securities	39,306	—	39,306
Foreign government securities	14,915	—	14,915
Certificates of deposit	4,711	—	4,711
Mortgage origination-related:			
Mortgage loans held for sale	35,409	—	35,409
IRLCs	847	—	847
Forward contracts - other current liabilities	(125)	—	(125)
Total	<u>\$ 1,485,572</u>	<u>\$ 541,575</u>	<u>\$ 943,997</u>

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At December 31, 2019, the notional amounts of the hedging instruments related to our mortgage loans held for sale were \$34.3 million and \$64.7 million for our IRLCs and forward contracts, respectively. At December 31, 2018, the notional amounts of the hedging instruments related to our mortgage loans held for sale were \$26.7 million and \$28.8 million for our IRLCs and forward contracts, respectively. We do not have the right to offset our forward contract derivative positions.

See Note 15 for the carrying amount and estimated fair value of the Company's convertible senior notes.

We did not have any Level 3 assets as of December 31, 2019 or 2018. There were no material liabilities measured at fair value as of December 31, 2019 or 2018.

Note 4. Cash and Cash Equivalents, Short-term Investments and Restricted Cash

The following tables present the amortized cost, gross unrealized gains and losses and estimated fair market value of our cash and cash equivalents, available-for-sale investments and restricted cash as of the dates presented (in thousands):

	December 31, 2019			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Market Value
Cash	\$ 194,955	\$ —	\$ —	\$ 194,955
Cash equivalents:				
Money market funds	872,431	—	—	872,431
U.S. government agency securities	35,011	—	(2)	35,009
Commercial paper	31,113	—	—	31,113
Treasury bills	6,441	—	—	6,441
Corporate notes and bonds	1,065	—	—	1,065
Certificates of deposit	249	—	—	249
Short-term investments:				
U.S. government agency securities	861,862	365	(73)	862,154
Corporate notes and bonds	159,382	91	(42)	159,431
Commercial paper	150,267	—	—	150,267
Treasury bills	79,989	14	—	80,003
Municipal securities	27,836	56	(3)	27,889
Certificates of deposit	1,245	—	—	1,245
Restricted cash	89,646	—	—	89,646
Total	<u>\$ 2,511,492</u>	<u>\$ 526</u>	<u>\$ (120)</u>	<u>\$ 2,511,898</u>

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	December 31, 2018			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Market Value
Cash	\$ 105,484	\$ —	\$ —	\$ 105,484
Cash equivalents:				
Money market funds	541,575	—	—	541,575
Commercial paper	3,999	—	—	3,999
Short-term investments:				
U.S. government agency securities	647,266	51	(821)	646,496
Corporate notes and bonds	113,109	1	(177)	112,933
Commercial paper	85,506	—	—	85,506
Municipal securities	39,316	23	(33)	39,306
Foreign government securities	14,929	—	(14)	14,915
Certificates of deposit	4,711	1	(1)	4,711
Restricted cash	12,385	—	—	12,385
Total	<u>\$ 1,568,280</u>	<u>\$ 76</u>	<u>\$ (1,046)</u>	<u>\$ 1,567,310</u>

The following table presents available-for-sale investments by contractual maturity date as of December 31, 2019 (in thousands):

	Amortized Cost	Estimated Fair Market Value
Due in one year or less	\$ 1,254,763	\$ 1,255,186
Due after one year through two years	25,818	25,803
Total	<u>\$ 1,280,581</u>	<u>\$ 1,280,989</u>

Note 5. Accounts Receivable, net

The following table presents the detail of accounts receivable as of the dates presented (in thousands):

	December 31,	
	2019	2018
Accounts receivable	\$ 60,579	\$ 61,134
Unbilled accounts receivable	10,948	9,787
Less: allowance for doubtful accounts	(4,522)	(4,838)
Accounts receivable, net	<u>\$ 67,005</u>	<u>\$ 66,083</u>

The following table presents the changes in the allowance for doubtful accounts for the periods presented (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Allowance for doubtful accounts:			
Balance, beginning of period	\$ 4,838	\$ 5,341	\$ 1,337
Additions charged to expense	2,772	869	7,349
Less: write-offs, net of recoveries and other adjustments	(3,088)	(1,372)	(3,345)
Balance, end of period	<u>\$ 4,522</u>	<u>\$ 4,838</u>	<u>\$ 5,341</u>

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Note 6. Inventory

The following table presents the components of inventory, net of applicable lower of cost or net realizable value adjustments, as of the dates presented (in thousands):

	December 31,	
	2019	2018
Work-in-process	\$ 152,171	\$ 45,943
Finished goods	684,456	116,886
Inventory	\$ 836,627	\$ 162,829

Note 7. Contract Cost Assets

As of December 31, 2019 and December 31, 2018, we had \$45.2 million and \$45.8 million, respectively, of contract cost assets. Write-offs of contract cost assets that we determined were not recoverable during the years ended December 31, 2019 and 2018 were not material. We recorded amortization expense related to contract cost assets of \$35.3 million and \$36.0 million during the years ended December 31, 2019 and 2018, respectively.

Note 8. Property and Equipment, net

The following table presents the detail of property and equipment as of the dates presented (in thousands):

	December 31,	
	2019	2018
Website development costs	\$ 149,648	\$ 149,891
Leasehold improvements	81,981	65,012
Construction-in-progress	45,337	29,037
Office equipment, furniture and fixtures	36,582	39,510
Computer equipment	31,942	22,477
Property and equipment	345,490	305,927
Less: accumulated amortization and depreciation	(175,001)	(170,755)
Property and equipment, net	\$ 170,489	\$ 135,172

We recorded depreciation expense related to property and equipment (other than website development costs) of \$24.9 million, \$19.5 million and \$15.6 million, respectively, during the years ended December 31, 2019, 2018 and 2017.

We capitalized \$42.3 million, \$34.1 million and \$49.9 million, respectively, in website development costs during the years ended December 31, 2019, 2018 and 2017. Amortization expense for website development costs included in technology and development expenses was \$17.0 million, \$28.6 million and \$40.0 million, respectively, for the years ended December 31, 2019, 2018 and 2017.

Note 9. Acquisitions and Equity Investments

Acquisition of Mortgage Lenders of America

On October 31, 2018, Zillow Group's wholly owned subsidiary, ZGM Holdco, Inc., acquired the outstanding equity of Mortgage Lenders of America, L.L.C. ("MLOA"), a national mortgage lender headquartered in Overland Park, Kansas for approximately \$66.7 million in cash.

Our acquisition of MLOA was accounted for as a business combination, and assets acquired and liabilities assumed were recorded at their estimated fair values as of October 31, 2018. Goodwill, which represents the expected synergies from combining the acquired assets and the operations of the acquirer, as well as intangible assets that do not qualify for separate recognition, is measured as of the

acquisition date as the excess of consideration transferred, which is also measured at fair value, and the net of the fair values of the assets acquired and the liabilities assumed as of the acquisition date. The goodwill recognized in conjunction with this business combination was initially allocated to our Internet, Media & Technology (“IMT”) segment. However, beginning January 1, 2019, we have three operating and reportable segments, which have been identified

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based on the way in which our chief operating decision-maker manages our business, makes operating decisions and evaluates operating performance. In conjunction with this segment change, we reallocated goodwill to each segment based on the relative fair value of the segments impacted by the change. Refer to Note 10 for the allocation of goodwill to each of our reportable segments.

The total consideration paid upon acquisition was allocated to the assets acquired and liabilities assumed, including identifiable intangible assets, based on their respective fair values at the acquisition date. Based upon the fair values determined by us, in which we considered or relied in part upon a valuation report of a third-party expert, the total purchase price was allocated as follows (in thousands):

Cash and cash equivalents	\$ 10,796
Restricted cash	753
Mortgage loans available for sale	34,248
Property, plant and equipment	1,315
Intangible assets	2,600
Goodwill	53,831
Other acquired assets	3,079
Accounts payable	(1,953)
Accrued expenses	(2,591)
Warehouse lines of credit	(32,536)
Other assumed liabilities	(2,855)
Total purchase price	<u>\$ 66,687</u>

Acquisition-related costs incurred, which primarily included legal, accounting, regulatory and other external costs directly related to the acquisition, are included within Acquisition-related costs within our consolidated statements of operations and were expensed as incurred and were not material.

The results of operations related to the acquisition of MLOA have been included in our consolidated financial statements since the date of acquisition. On an unaudited pro forma basis, revenue would have been approximately 3.0% higher for the year ended December 31, 2018 and 5.0% higher for the year-ended December 31, 2017 if the acquisition would have been consummated as of January 1, 2017. Unaudited pro forma earnings information has not been presented as the effects were not material to our consolidated financial statements.

Equity Investments

In June 2017, we purchased an equity interest in a privately held corporation for approximately \$10.0 million.

In October 2016, we purchased a 10% equity interest in a privately held variable interest entity within the real estate industry for \$10.0 million. The entity is financed through its business operations. We are not the primary beneficiary of the entity, as we do not direct the activities that most significantly impact the entity's economic performance. Therefore, we do not consolidate the entity. Our maximum exposure to loss is \$10.0 million, the carrying amount of the investment as of December 31, 2019.

These investments are equity securities without readily determinable fair values which we account for at cost minus any impairment, plus or minus changes resulting from observable price changes in orderly transactions for identical or similar investments of the same issuer. During the year ended December 31, 2018, we recognized a non-cash impairment charge of \$10.0 million related to our June 2017 investment. The impairment charge is included in Impairment costs within our consolidated statements of operations. During the third quarter of 2018, in connection with our quarterly qualitative assessment of this investment for impairment indicators, we identified factors that led us to conclude that the investment was impaired and the fair value of the investment was less than the carrying value. The most significant of such factors was related to the business prospects of the investee. Accordingly, we performed an analysis to determine the fair value of the investment and concluded that our best estimate of its fair value was \$0.0 million. This is considered a Level 3 measurement under the fair value hierarchy.

There has been no impairment or upward or downward adjustments to our October 2016 equity investment as of December 31, 2019 that would impact the carrying amount of the investment. The equity investment is classified within other assets in the consolidated balance sheets.

[Table of Contents](#)**Note 10. Goodwill**

Beginning January 1, 2019, we have three operating and reportable segments, which have been identified based on the way in which our chief operating decision-maker manages our business, makes operating decisions and evaluates operating performance. In conjunction with this segment change, we reallocated goodwill to each reporting unit based on the relative fair value of the reporting units impacted by the segment change. The following table presents goodwill by reportable segment as of the period presented (in thousands):

	December 31, 2019
Homes	\$ —
IMT	1,786,416
Mortgages	198,491
Total	<u><u>\$ 1,984,907</u></u>

There was no change in the total balance of goodwill during 2019.

The goodwill balance as of December 31, 2018 was fully attributable to our IMT segment.

Note 11. Intangible Assets, net

The following tables present the detail of intangible assets subject to amortization as of the dates presented (in thousands):

	December 31, 2019		
	Accumulated		Net
	Cost	Amortization	
Customer relationships	\$ 102,600	\$ (73,770)	\$ 28,830
Developed technology	107,200	(81,383)	25,817
Purchased content	47,298	(40,636)	6,662
Intangibles-in-progress	6,391	—	6,391
Software	35,527	(20,843)	14,684
Lender licenses	400	(217)	183
Total	<u><u>\$ 299,416</u></u>	<u><u>\$ (216,849)</u></u>	<u><u>\$ 82,567</u></u>

	December 31, 2018		
	Accumulated		Net
	Cost	Amortization	
Customer relationships	\$ 103,900	\$ (60,733)	\$ 43,167
Developed technology	111,980	(72,788)	39,192
Purchased content	42,110	(30,477)	11,633
Software	24,296	(13,925)	10,371
Intangibles-in-progress	2,941	—	2,941
Lender licenses	400	(17)	383
Trade names and trademarks	4,900	(4,683)	217
Total	<u><u>\$ 290,527</u></u>	<u><u>\$ (182,623)</u></u>	<u><u>\$ 107,904</u></u>

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Amortization expense recorded for intangible assets for the years ended December 31, 2019, 2018 and 2017 was \$44.9 million, \$50.8 million and \$54.3 million, respectively, and these amounts are included in technology and development expenses.

Intangibles-in-progress consists of software that is capitalizable but has not been placed in service.

Estimated future amortization expense for intangible assets, including amortization related to future commitments (see Note 20), as of December 31, 2019 is as follows (in thousands):

2020	\$ 43,986
2021	36,867
2022	7,231
2023	587
Total future amortization expense	<u>\$ 88,671</u>

We have an indefinite-lived intangible asset that we recorded in connection with our February 2015 acquisition of Trulia for Trulia's trade names and trademarks that is not subject to amortization. The carrying value of the Trulia trade names and trademarks intangible asset was \$108.0 million as of December 31, 2019 and 2018.

During the year ended December 31, 2018, we recognized a non-cash impairment charge of \$69.0 million related to our indefinite-lived Trulia trade names and trademarks intangible asset. The impairment charge is included in Impairment costs within our IMT and Mortgages segments for \$65.0 million and \$4.0 million, respectively. In connection with our annual budgeting process that was substantially completed during the three months ended December 31, 2018, we identified factors that led us to conclude it was more likely than not that the \$177.0 million carrying value of the asset exceeded its fair value. The most significant of such factors was a shortfall in projected revenue related to the Trulia brand compared to projections at the time the intangible asset was remeasured as of October 1, 2017. Accordingly, with the assistance of a third-party valuation specialist, we performed a quantitative analysis to determine the fair value of the intangible asset and concluded that our best estimate of its fair value was \$108.0 million. The valuation was prepared using an income approach based on the relief-from-royalty method and relied on inputs with unobservable market prices including the assumed revenue growth rates, royalty rate, discount rate, and estimated tax rate, and therefore is considered a Level 3 measurement under the fair value hierarchy.

During the year ended December 31, 2017, we recognized a non-cash impairment charge of \$174.0 million related to our indefinite-lived Trulia trade names and trademarks intangible asset. The impairment charge is included in Impairment costs within our IMT and Mortgages segments for \$161.9 million and \$12.1 million, respectively. In connection with our qualitative assessment of the recoverability of this asset during our annual impairment test as of October 1, 2017, we identified factors that led us to conclude it was more likely than not that the \$351.0 million carrying value of the asset exceeded its fair value. The most significant of such factors was a shortfall in projected revenue related to the Trulia brand compared to projections at the time the intangible asset was initially recorded in February 2015. Accordingly, with the assistance of a third-party valuation specialist, we performed a quantitative analysis to determine the fair value of the intangible asset and concluded that our best estimate of its fair value was \$177.0 million. The valuation was prepared using an income approach based on the relief-from-royalty method and relied on inputs with unobservable market prices including the assumed revenue growth rates, royalty rate, discount rate, and estimated tax rate, and therefore is considered a Level 3 measurement under the fair value hierarchy.

In connection with our impairment analyses in 2019, we evaluated our planned future use of the Trulia trade names and trademarks intangible asset and concluded that it remains appropriate to consider this asset to have an indefinite life.

Note 12. Accrued Expenses and Other Current Liabilities

The following table presents the detail of accrued expenses and other current liabilities as of the dates presented (in thousands):

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	December 31,	
	2019	2018
Accrued marketing and advertising	\$ 18,343	\$ 18,559
Taxes payable	6,287	1,381
Merger consideration payable to former stockholders of certain acquired entities	6,117	5,904
Accrued interest expense	4,501	794
Accrued estimated legal liabilities and legal fees	3,882	7,305
Accrued purchased content	156	4,256
Other accrued expenses and other current liabilities	46,156	24,902
Total accrued expenses and other current liabilities	\$ 85,442	\$ 63,101

[Table of Contents](#)**Note 13. Deferred Revenue**

The following table presents the change in deferred revenue for the periods presented (in thousands):

	Year Ended December 31,	
	2019	2018
Balance as of the beginning of the period	\$ 34,080	\$ 31,918
Deferral of revenue during the period	1,049,634	982,647
Less: Revenue recognized during the period	(1,043,967)	(980,485)
Balance as of the end of the period	<u>\$ 39,747</u>	<u>\$ 34,080</u>

During the year ended December 31, 2019 we recognized as revenue a total of \$32.7 million pertaining to amounts that were recorded in deferred revenue as of December 31, 2018. During the year ended December 31, 2018, we recognized as revenue a total of \$28.8 million pertaining to amounts that were recorded in deferred revenue as of December 31, 2017.

Note 14. Leases

Our lease portfolio is primarily composed of operating leases for our office space. We have lease agreements that include lease components (e.g., fixed rent) and non-lease components (e.g., common area maintenance), which are accounted for as a single component, as we have elected the practical expedient to group lease and non-lease components. We also elected the practical expedient to keep leases with an initial term of 12 months or less off the balance sheet and recognize the associated lease payments in the consolidated statements of operations on a straight-line basis over the lease term.

Our leases have remaining lease terms ranging from less than one year to eleven years, some of which include options to extend the lease term for up to an additional ten years. For example, our largest leases, which include our corporate headquarters in Seattle, Washington and office space in New York, New York and San Francisco, California, include options to renew the existing leases for either one or two periods of five years. When determining if a renewal option is reasonably certain of being exercised at lease commencement, we consider several factors, including but not limited to, contract-based, asset-based and entity-based factors. We reassess the term of existing leases if there is a significant event or change in circumstances within our control that affects whether we are reasonably certain to exercise an option to extend a lease. Examples of such events or changes include construction of significant leasehold improvements or other modifications or customizations to the underlying asset, relevant business decisions or subleases. In most cases, we have concluded that renewal options are not reasonably certain of being exercised, therefore, such renewals are not included in the right of use asset and lease liability.

During the year ended December 31, 2019, it became reasonably certain that in a future period we would exercise the first of two five year renewal options related to the office space lease for our corporate headquarters in Seattle, Washington, due to the construction of significant leasehold improvements. Therefore, the payments associated with the renewal are included in the measurement of the lease liability and right of use asset.

As our leases do not provide an implicit rate, we use our incremental borrowing rate based on the information available at the lease commencement date in determining the present value of the lease payments. For those leases that existed as of January 1, 2019, we used our incremental borrowing rate based on information available at that date. We apply a portfolio approach for determining the incremental borrowing rate based on the applicable lease terms and the current economic environment, and we utilize the assistance of third-party specialists to assist us in determining our yield curve.

The components of our operating lease expense were as follows for the year ended December 31, 2019 (in thousands):

Operating lease cost	\$ 35,837
Variable lease cost	11,231
Total lease cost	<u>\$ 47,068</u>

Cash paid for amounts included in the measurement of lease liabilities for the year ended December 31, 2019 was \$31.8 million. Right of use assets obtained in exchange for new operating lease obligations for the year ended December 31, 2019 were

\$128.4 million. The weighted average remaining term for our leases as of December 31, 2019 was 8.50 years. The weighted average discount rate for our leases as of December 31, 2019 was 6.5%.

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The following table presents the scheduled maturities of our operating lease liabilities by fiscal year as of December 31, 2019 (in thousands):

2020	\$	38,914
2021		43,073
2022		40,760
2023		40,991
2024		36,040
All future years		143,140
Total lease payments		342,918
Less: Imputed interest		(104,881)
Present value of lease liabilities	\$	238,037

Operating lease expense for the years ended December 31, 2018 and 2017 was \$23.7 million and \$21.4 million, respectively. The following table presents our future minimum payments for all operating leases as of December 31, 2018, including future minimum payments for operating leases that had not yet commenced as of December 31, 2018 totaling \$112.9 million (in thousands):

2019	\$	29,085
2020		38,060
2021		40,099
2022		37,721
2023		36,458
All future years		85,462
Total future minimum lease payments	\$	266,885

[Table of Contents](#)**Note 15. Debt**

The following table presents the carrying values of Zillow Group's debt as of the periods presented (in thousands):

	December 31,	
	2019	2018
Homes Segment		
Credit facilities:		
Goldman Sachs Bank USA	\$ 39,244	\$ —
Citibank, N.A.	296,369	—
Credit Suisse AG, Cayman Islands	355,911	116,700
Total Homes Segment debt	<u>691,524</u>	<u>116,700</u>
Mortgages Segment		
Repurchase agreement:		
Citibank, N.A.	394	—
Warehouse lines of credit:		
Comerica Bank	30,033	18,892
People's United Bank, N.A.	—	14,125
Total Mortgages Segment debt	<u>30,427</u>	<u>33,017</u>
Convertible Senior Notes		
1.375% convertible senior notes due 2026	327,187	—
0.75% convertible senior notes due 2024	490,538	—
1.50% convertible senior notes due 2023	310,175	294,738
2.0% convertible senior notes due 2021	415,502	394,645
2.75% convertible senior notes due 2020	9,637	9,637
Total convertible senior notes	<u>1,553,039</u>	<u>699,020</u>
Total	<u>\$ 2,274,990</u>	<u>\$ 848,737</u>

Homes Segment

To provide capital for Zillow Offers, we utilize credit facilities that are classified as current liabilities in our consolidated balance sheets. We classify these credit facilities as current liabilities as amounts drawn to purchase homes are typically repaid as homes are sold, which we expect to be within one year. The following table summarizes certain details related to our credit facilities (in thousands, except interest rates):

Lender	Final Maturity Date	Maximum Borrowing Capacity	Weighted Average Interest Rate
Goldman Sachs Bank USA	April 20, 2022	\$ 500,000	4.41 %
Citibank, N.A.	January 31, 2022	500,000	5.54 %
Credit Suisse AG, Cayman Islands	July 31, 2021	500,000	5.63 %
Total		<u>\$ 1,500,000</u>	

Undrawn amounts available under the credit facilities included in the table above are not committed, meaning the applicable lender is not committed to, but may in its discretion, advance loan funds in excess of the outstanding borrowings. The final maturity dates are inclusive of extensions which are subject to agreement by the respective lender. The Goldman Sachs Bank USA credit facility has an initial term of two years which may be extended for one additional period of six months, subject to certain conditions. The Citibank, N.A. credit facility has an initial term of two years and may be extended for up to two additional periods of six months each.

The Credit Suisse AG, Cayman Islands Branch credit facility has an initial term of one year and then automatically renews on a monthly basis for up to 24 additional months.

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Zillow Group formed certain special purpose entities (each, an “SPE”) to purchase and sell residential properties through Zillow Offers. Each SPE is a wholly owned subsidiary of Zillow Group and a separate legal entity, and neither the assets nor credit of any such SPE are available to satisfy the debts and other obligations of any affiliate or other entity. The credit facilities are secured by the assets and equity of one or more SPEs. These SPEs are variable interest entities and Zillow Group is the primary beneficiary as it has the power to control the activities that most significantly impact the SPEs’ economic performance and the obligation to absorb losses of the SPEs or the right to receive benefits from the SPEs that could potentially be significant to the SPEs. The SPEs are consolidated within Zillow Group’s consolidated financial statements and primarily increased inventory and borrowings under credit facilities by \$836.6 million and \$691.5 million, respectively, as of December 31, 2019 and \$162.8 million and \$116.7 million, respectively, as of December 31, 2018.

Outstanding amounts drawn under each credit facility are required to be repaid on the facility maturity date or earlier if accelerated due to an event of default. Further, each SPE is required to repay any resulting shortfall if the value of the eligible properties owned by such SPE falls below a certain percentage of the principal amount outstanding under the applicable credit facility. Continued inclusion of properties in each credit facility is subject to various eligibility criteria. For example, aging criteria limit the inclusion in the borrowing base of properties owned longer than a specified number of days, and properties owned for longer than one year are ineligible.

The stated interest rate on our credit facilities is one-month LIBOR plus an applicable margin as defined in the respective credit agreements. Our credit facilities include customary representations and warranties, provisions regarding events of default and covenants. The terms of these credit facilities and related financing documents require Zillow Group and certain of its subsidiaries, as applicable, to comply with a number of customary financial and other covenants, such as maintaining certain levels of liquidity, tangible net worth, leverage ratios, adequate insurance coverage and market capitalization. As of December 31, 2019, Zillow Group was in compliance with all financial covenants and no event of default had occurred. Except for certain limited circumstances, the credit facilities are non-recourse to Zillow Group. Our credit facilities require that we establish, maintain and in certain circumstances that Zillow Group fund specified reserve accounts. These reserve accounts include, but are not limited to, interest reserves, insurance reserves, tax reserves, renovation cost reserves and reserves for specially permitted liens. Amounts funded to these reserve accounts and the collection accounts have been classified within our consolidated balance sheets as restricted cash.

Mortgages Segment

To provide capital for Zillow Home Loans, we utilize warehouse lines of credit and a master repurchase agreement which are classified as current liabilities in our consolidated balance sheets. The facilities provide short-term financing between the issuance of a mortgage loan and when Zillow Home Loans sell the loan to an investor. The following table summarizes certain details related to our warehouse lines of credit and repurchase agreement (in thousands, except interest rates):

Lender	Maturity Date	Maximum Borrowing Capacity	Weighted Average Interest Rate
Citibank, N.A.	October 27, 2020	\$ 75,000	3.29 %
Comerica Bank	June 27, 2020	50,000	4.22 %
People’s United Bank, N.A.	October 15, 2019	50,000	4.89 %

On October 29, 2019, Zillow Home Loans entered into a master repurchase agreement (the “Repurchase Agreement”) with Citibank, N.A. (“Citibank”) to provide short-term funding for mortgage loans and replaced the borrowing capacity of the warehouse line previously provided by People’s United Bank, N.A. On June 28, 2019, Zillow Home Loans amended and restated its warehouse line of credit with Comerica Bank previously maturing on June 29, 2019. The amended and restated credit agreement extended the term of the original agreement for one year and continues to provide for a committed maximum borrowing capacity of \$50.0 million.

In accordance with the Repurchase Agreement, Citibank agrees to pay Zillow Home Loans a negotiated purchase price for eligible loans and Zillow Home Loans simultaneously agrees to repurchase such loans from Citibank under a specified timeframe at an agreed upon price that includes interest. The Repurchase Agreement includes a committed amount of \$25.0 million, and includes customary representations and warranties, covenants and provisions regarding events of default. As of December 31, 2019, \$0.4 million in mortgage loans held for sale were pledged as collateral under the facility, and Zillow Home Loans was in compliance with all financial covenants and no event of default had occurred.

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Transactions under the Repurchase Agreement bear interest at the one-month LIBOR plus an applicable margin, as defined in the Repurchase Agreement, and are secured by residential mortgage loans available for sale. The Repurchase Agreement contains margin call provisions that provide Citibank with certain rights in the event of a decline in the market value of the assets purchased under the Repurchase Agreement. The Repurchase Agreement is recourse to Zillow Home Loans, but non-recourse to Zillow Group or any of its other subsidiaries.

Borrowings on the warehouse lines of credit bear interest at the one-month LIBOR plus an applicable margin, as defined in the governing credit agreements. The warehouse lines of credit include customary representations and warranties, covenants and provisions regarding events of default. As of December 31, 2019, Zillow Home Loans was in compliance with all financial covenants and no event of default had occurred. The warehouse lines of credit are recourse to Zillow Home Loans, but non-recourse to Zillow Group or any of its other subsidiaries.

Convertible Senior Notes

The following tables summarize certain details related to our outstanding convertible senior notes as of the periods presented (in thousands, except interest rates):

Maturity Date	Aggregate Principal Amount	Stated Interest Rate	Effective Interest Rate	First Interest Payment Date	Semi-Annual Interest Payment Dates	December 31, 2019		December 31, 2018	
						Unamortized Debt Discount and Debt Issuance Costs	Fair Value	Unamortized Debt Discount and Debt Issuance Costs	Fair Value
September 1, 2026	\$ 500,000	1.375 %	8.10 %	March 1, 2020	March 1; September 1	\$ 172,813	\$ 597,380	\$ —	\$ —
September 1, 2024	673,000	0.75 %	7.68 %	March 1, 2020	March 1; September 1	182,462	730,500	—	—
July 1, 2023	373,750	1.50 %	6.99 %	January 1, 2019	January 1; July 1	63,575	356,464	79,012	321,855
December 1, 2021	460,000	2.00 %	7.44 %	June 1, 2017	June 1; December 1	44,498	514,312	65,355	446,200
December 15, 2020	9,637	2.75 %	N/A	N/A	June 15; December 15	—	16,842	—	16,744
Total	<u>\$ 2,016,387</u>					<u>\$ 463,348</u>	<u>\$ 2,215,498</u>	<u>\$ 144,367</u>	<u>\$ 784,799</u>

Maturity Date	Year Ended December 31, 2019					Year Ended December 31, 2018				
	Contractual Coupon Interest	Amortization of Debt Discount	Amortization of Debt Issuance Costs	Interest Expense		Contractual Coupon Interest	Amortization of Debt Discount	Amortization of Debt Issuance Costs	Interest Expense	
September 1, 2026	\$ 2,139	\$ 5,869	\$ 144	\$ 8,152	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
September 1, 2024	1,539	9,482	325	11,346	—	—	—	—	—	—
July 1, 2023	5,606	14,047	1,374	21,027	2,788	6,655	650	10,093	—	—
December 1, 2021	9,200	18,899	1,957	30,056	9,200	17,571	1,817	28,588	—	—
December 15, 2020	265	—	—	265	265	—	—	—	265	265
Total	<u>\$ 18,749</u>	<u>\$ 48,297</u>	<u>\$ 3,800</u>	<u>\$ 70,846</u>	<u>\$ 12,253</u>	<u>\$ 24,226</u>	<u>\$ 2,467</u>	<u>\$ 38,946</u>		

The convertible notes are senior unsecured obligations and are classified as long-term debt in our consolidated balance sheets with the exception of the convertible senior notes due December 15, 2020 which are classified within short-term liabilities. Interest on the convertible notes is paid semi-annually in arrears. The estimated fair value of the convertible senior notes was determined through consideration of quoted market prices. The fair value is classified as Level 3 due to the limited trading activity for each of the convertible senior notes. The convertible senior notes maturing in 2026, 2024, 2023 and 2021 are not redeemable or convertible as of December 31, 2019. The convertible senior notes maturing in 2020 are convertible, at the option of the holder, and redeemable, at our option, as of December 31, 2019.

On September 9, 2019, Zillow Group issued \$600.0 million aggregate principal amount of Convertible Senior Notes due 2024 (the “Initial 2024 Notes”) and \$500.0 million aggregate principal amount of Convertible Senior Notes due 2026 (the “2026 Notes”) in a private offering to qualified institutional buyers. The net proceeds from the issuance of the Initial 2024 Notes were approximately

\$592.2 million and the net proceeds from the issuance of the 2026 Notes were approximately \$493.5 million, in each case after deducting fees and expenses payable by the Company. The Company used approximately \$75.2 million of the net proceeds from the issuance of the Initial 2024 Notes and approximately \$75.4 million of the net proceeds from the issuance of the 2026 Notes to pay the cost of the capped call transactions entered into in connection with the

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issuances, described below. On October 9, 2019, the Company issued \$73.0 million aggregate principal amount of 0.75% Convertible Senior Notes due 2024 (the “Additional Notes” and, together with the Initial 2024 Notes, the “2024 Notes”). The Additional Notes were sold pursuant to the initial purchasers’ partial exercise of their option to purchase such notes, granted in connection with the offering of the Initial 2024 Notes. The Additional Notes have the same terms, and were issued under the same indenture, as the Initial 2024 Notes. The net proceeds from the offering of the Additional Notes were approximately \$72.0 million, after deducting fees and expenses payable by the Company. The Company used approximately \$9.1 million of the net proceeds from the issuance of the Additional Notes to pay the cost of the capped call transactions entered into in connection with the issuance of the Additional Notes.

On July 3, 2018, Zillow Group issued \$373.8 million aggregate principal amount of Convertible Senior Notes due 2023 (the “2023 Notes”), which includes \$48.8 million principal amount of 2023 Notes sold pursuant to the underwriters’ option to purchase additional 2023 Notes. The net proceeds from the issuance of the 2023 Notes were approximately \$364.0 million, after deducting fees and expenses payable by the Company. We used approximately \$29.4 million of the net proceeds from the issuance of the 2023 Notes to pay the cost of capped call transactions entered into in connection with the issuances, described below.

On December 12, 2016, Zillow Group issued \$460.0 million aggregate principal amount of 2.00% Convertible Senior Notes due 2021 (the “2021 Notes”), which includes the exercise of the \$60.0 million over-allotment option, to the initial purchaser of the 2021 Notes in a private offering to qualified institutional buyers. The net proceeds from the issuance of the 2021 Notes were approximately \$447.8 million, after deducting fees and expenses payable by the Company. In December 2016, the Company used approximately \$370.2 million of the net proceeds from the issuance of the 2021 Notes to repurchase \$219.9 million aggregate principal amount of Trulia’s convertible senior notes due in 2020 in privately negotiated transactions. In addition, the Company used approximately \$36.6 million of the net proceeds from the issuance of the 2021 Notes to pay the cost of the capped call transactions with the initial purchaser of the 2021 Notes and two additional financial institutions, described below.

The Company has used or intends to use the remainder of the net proceeds of the 2026 Notes, 2024 Notes, 2023 Notes, and 2021 Notes (together the “Notes”) for general corporate purposes, which may include working capital, sales and marketing activities, general and administrative matters and capital expenditures.

The Notes are convertible into cash, shares of Class C capital stock or a combination thereof, at our election, and may be settled as described below. The Notes will mature on their respective Maturity Date, unless earlier repurchased, redeemed or converted in accordance with their terms.

The following table summarizes the conversion and redemption options with respect to the Notes:

Maturity Date	Early Conversion Date	Conversion Rate	Conversion Price	Optional Redemption Date
September 1, 2026	March 1, 2026	22.9830	\$ 43.51	September 5, 2023
September 1, 2024	March 1, 2024	22.9830	43.51	September 5, 2022
July 1, 2023	April 1, 2023	12.7592	78.37	July 6, 2021
December 1, 2021	September 1, 2021	19.0985	52.36	December 6, 2019

Prior to the close of business on the business day immediately preceding the applicable Early Conversion Date, the Notes will be convertible at the option of the holders only under certain conditions. On or after the applicable Early Conversion Date, until the close of business on the second scheduled trading day immediately preceding the applicable Maturity Date, holders may convert the Notes at their option at the applicable Conversion Rate then in effect, irrespective of these conditions. The Company will settle conversions of the Notes by paying or delivering, as the case may be, cash, shares of its Class C capital stock, or a combination of cash and shares of its Class C capital stock, at its election. The applicable Conversion Rate for each series of Notes will initially be the conversion rate of shares of Class C capital stock per \$1,000 principal amount of the Notes (equivalent to an initial Conversion Price per share of Class C capital stock). The applicable Conversion Rate and the corresponding initial Conversion Price will be subject to adjustment in some events but will not be adjusted for any accrued and unpaid interest. The Company may redeem for cash all or part of the respective series of Notes, at its option, on or after the applicable Optional Redemption Date, under certain circumstances, at a redemption price equal to 100% of the principal amount of the Notes to be redeemed, plus accrued and unpaid interest to, but excluding, the redemption date (as defined in the indentures governing the Notes). We may not redeem a series of Notes prior to the applicable Optional Redemption Date. We may redeem for cash all or any portion of a series of Notes, at our option, in whole or in part on or after the applicable Optional Redemption Date if the last reported sale price per share of our Class C capital stock has been at least 130% of the Conversion

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Price then in effect for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading day period. The conversion option does not meet the criteria for separate accounting as a derivative as it is indexed to our own stock.

If the Company undergoes a fundamental change (as defined in the indentures governing the Notes), holders may require the Company to repurchase for cash all or part of a series of Notes, as applicable, at a repurchase price equal to 100% of the principal amount of the notes to be purchased, plus accrued and unpaid interest to, but excluding, the fundamental change repurchase date (as defined in the indentures governing the Notes). In addition, if certain fundamental changes occur, the Company may be required, in certain circumstances, to increase the conversion rate for any of the Notes converted in connection with such fundamental changes by a specified number of shares of its Class C capital stock. Certain events are also considered “Events of Default,” which may result in the acceleration of the maturity of the Notes, as described in the indentures governing the Notes. There are no financial covenants associated with the Notes.

In accounting for the issuance of the Notes, the Company separated the Notes into liability and equity components. The carrying amount of the liability component for each of the Notes was calculated by measuring the fair value of a similar liability that does not have an associated convertible feature. The carrying amount of the equity component, representing the conversion option, was determined by deducting the fair value of the liability component from the par value of the Notes. The difference between the principal amounts of the Notes and their liability components represents their respective debt discounts, which are recorded as a direct deduction from the related debt liability in the consolidated balance sheets and amortized to interest expense using the effective interest method over the term of the Notes. The equity components of the Notes, net of issuance costs, are included in additional paid-in capital in the consolidated balance sheets and are not remeasured as long as they continue to meet the conditions for equity classification.

The equity components of the 2026 Notes, 2024 Notes, 2023 Notes and 2021 Notes of \$172.3 million, \$183.5 million, \$76.6 million and \$91.4 million, respectively, are net of issuance costs of \$2.3 million, \$2.4 million, \$2.0 million and \$2.5 million, respectively.

The following table summarizes certain details related to the capped call confirmations with respect to the Notes:

Maturity Date	Initial Cap Price	Cap Price Premium
September 1, 2026	\$ 80.5750	150 %
September 1, 2024	72.5175	125 %
July 1, 2023	105.45	85 %
December 1, 2021	69.19	85 %

The capped call confirmations are expected generally to reduce the potential dilution of our Class C capital stock upon any conversion of the Notes and/or offset the cash payments the Company is required to make in excess of the principal amount of such notes in the event that the market price of the Class C capital stock is greater than the strike price of the capped call confirmations (which initially corresponds to the initial Conversion Price of such notes and is subject to certain adjustments under the terms of the capped call confirmations), with such reduction and/or offset subject to a cap based on the cap price of the capped call confirmations. The capped call confirmations with respect to the Notes have an Initial Cap Price per share, which represents a premium (“Cap Price Premium”) over the relevant historical closing price of the Company’s Class C capital stock on the Nasdaq Global Select Market, and is subject to certain adjustments under the terms of the capped call confirmations. The capped call confirmations will cover, subject to anti-dilution adjustments substantially similar to those applicable to the Notes, the number of shares of Class C capital stock that will underlie such notes. The capped call confirmations do not meet the criteria for separate accounting as a derivative as they are indexed to our own stock. The capped call premiums paid have been included as a net reduction to additional paid-in capital within shareholders’ equity.

Note 16. Income Taxes

We are subject to federal and state income taxes in the United States and federal and provincial income taxes in Canada.

We recorded an income tax benefit of \$4.3 million for the year ended December 31, 2019. The majority of the income tax benefit is a result of federal and state interest expense limitation carryforwards that are indefinite-lived deferred tax assets that can be offset against our indefinite-lived deferred tax liabilities. In addition, net operating losses generated after December 31, 2017 also can be offset against the indefinite-lived deferred tax liabilities. These items contributed to a release of the valuation allowance and the recognition of an income tax benefit for the year ended December 31, 2019.

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We recorded an income tax benefit of \$31.1 million for the year ended December 31, 2018. Approximately \$15.4 million of the income tax benefit resulted from the \$69.0 million non-cash impairment we recorded during the year ended December 31, 2018 related to the indefinite-lived Trulia trade names and trademarks intangible asset. For additional information about the non-cash impairment, see Note 11 to our consolidated financial statements. The remaining portion of our income tax benefit was primarily the result of net operating losses generated after December 31, 2017 with an indefinite carryforward period due to the Tax Act. Thus, net operating losses for the year ended December 31, 2018 could be offset against our indefinite-lived deferred tax liabilities, which resulted in the release of our valuation allowance and the recognition of an income tax benefit for the year ended December 31, 2018.

During the year ended December 31, 2018, we completed our accounting for the income tax effects of deduction limitations on compensation under the Tax Act. The Internal Revenue Service provided further guidance regarding the written binding contracts requirement under the Tax Act, and we determined that certain of our executives' compensation previously eligible to be deducted for tax purposes under Section 162(m) of the Internal Revenue Code were considered grandfathered. Therefore, we continued to deduct this compensation during the year ended December 31, 2018. Based on the clarification of these rules, we recorded a \$5.9 million income tax benefit for the year ended December 31, 2018.

We recorded an income tax benefit of \$89.6 million for the year ended December 31, 2017. Approximately \$66.0 million of the income tax benefit related to a \$174.0 million non-cash impairment we recorded during the year ended December 31, 2017 related to the indefinite-lived Trulia trade names and trademarks intangible asset. For additional information about the non-cash impairment, see Note 11 to our consolidated financial statements. The remaining \$23.6 million of the income tax benefit primarily relates to our initial analysis of the impact of the rate decrease included in the Tax Act for the impact of the reduction in our net deferred tax liability related to our indefinite-lived intangible asset.

The following table summarizes the components of our income tax benefit for the periods presented (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Current income tax expense:			
State	\$ 304	\$ —	\$ —
Foreign	99	161	—
Total current income tax expense	403	161	—
Deferred income tax benefit:			
Federal	(1,631)	(28,502)	(84,238)
State	(2,856)	(2,441)	(5,348)
Foreign	(174)	(320)	—
Total deferred income tax benefit	(4,661)	(31,263)	(89,586)
Total income tax benefit	\$ (4,258)	\$ (31,102)	\$ (89,586)

The following table presents a reconciliation of the federal statutory rate and our effective tax rate for the periods presented:

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	Year Ended December 31,		
	2019	2018	2017
Tax expense at federal statutory rate	(21.0)%	(21.0)%	(35.0)%
State income taxes, net of federal tax benefit	(3.0)	(5.9)	(4.4)
Nondeductible expenses	—	—	0.8
Share-based compensation	(0.9)	(16.5)	(20.6)
Section 162(m) of Internal Revenue Code	1.1	1.0	—
Research and development credits	(7.2)	(8.4)	(6.3)
Meals and entertainment	1.1	1.8	—
Return to provision adjustments	0.5	(4.2)	—
Enactment of Tax Act	—	(1.9)	(13.1)
Other	(0.6)	0.4	2.2
Valuation allowance	28.6	34.0	27.7
Effective tax rate	(1.4)%	(20.7)%	(48.7)%

Deferred federal, state and foreign income taxes reflect the net tax impact of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and such amounts for tax purposes. The following table presents the significant components of our deferred tax assets and liabilities as of the dates presented (in thousands):

	December 31,	
	2019	2018
Deferred tax assets:		
Federal and state net operating loss carryforwards	\$ 273,171	\$ 259,629
Share-based compensation	75,704	55,280
Research and development credits	70,970	48,805
Lease liabilities	58,899	—
Other tax credits	910	910
Accruals and reserves	3,891	3,000
Inventory	17,819	3,574
Depreciation and amortization	2,032	—
Deferred rent	—	4,842
Other deferred tax assets	55,851	10,792
Total deferred tax assets	559,247	386,832
Deferred tax liabilities:		
Website and software development costs	(20,681)	(14,685)
Goodwill	(1,951)	(598)
Intangible assets	(38,032)	(45,035)
Right of use assets	(52,486)	—
Discount on 2021 Notes, 2023 Notes, 2024 Notes and 2026 Notes not deductible for tax	(108,114)	(31,450)
Depreciation and amortization	—	(888)
Total deferred tax liabilities	(221,264)	(92,656)
Net deferred tax assets before valuation allowance	337,983	294,176
Less: valuation allowance	(346,877)	(307,599)
Net deferred tax liabilities	\$ (8,894)	\$ (13,423)

Realization of deferred tax assets is dependent upon the generation of future taxable income, if any, the timing and amount of which are uncertain. We have provided a full valuation allowance against the net deferred tax assets as of December 31, 2019 and 2018 because, based on the weight of available evidence, it is more likely than not (a likelihood of more than 50%) that some or all of the deferred tax assets will not be realized. The valuation allowance increased by \$39.3 million and \$32.8 million, respectively, during the years ended December 31, 2019 and 2018.

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We have accumulated federal tax losses of approximately \$1,137.6 million and \$1,081.7 million, respectively, as of December 31, 2019 and 2018, which are available to reduce future taxable income. We have accumulated state tax losses of approximately \$34.3 million and \$32.5 million (tax effected), respectively, as of December 31, 2019 and 2018. Additionally, we have net research and development credit carryforwards of \$71.0 million and \$48.8 million, respectively, as of December 31, 2019 and 2018, which are available to reduce future tax liabilities. The tax loss and research and development credit carryforwards begin to expire in 2025. Under Sections 382 and 383 of the Internal Revenue Code, if a corporation undergoes an ownership change, the corporation's ability to use its pre-change net operating loss carryforwards and other pre-change tax attributes, such as research tax credits, to offset its post-change income or income tax liability may be limited. In connection with our August 2013 public offering of our Class A Common stock, we experienced an ownership change that triggered Sections 382 and 383, which may limit our ability to utilize net operating loss and tax credit carryforwards. In connection with our February 2015 acquisition of Trulia, Trulia experienced an ownership change that triggered Section 382 and 383, which may limit Zillow Group's ability to utilize Trulia's net operating loss and tax credit carryforwards.

We are currently not under audit in any tax jurisdiction. Tax years from 2016 through 2019 are currently open for audit by federal and state taxing authorities.

Changes for unrecognized tax benefits for the periods presented are as follows (in thousands):

Balance at January 1, 2017	\$ 15,395
Gross increases—prior and current period tax positions	5,216
Gross increases—prior period tax positions	1,002
<u>Balance at December 31, 2017</u>	<u>\$ 21,613</u>
Gross increases—current period tax positions	6,421
Gross increases—prior period tax positions	591
<u>Balance at December 31, 2018</u>	<u>\$ 28,625</u>
Gross increases—current period tax positions	9,021
Gross increases—prior period tax positions	1,786
<u>Balance at December 31, 2019</u>	<u>\$ 39,432</u>

At December 31, 2019, the total amount of unrecognized tax benefits of \$39.4 million is recorded as a reduction to our deferred tax asset. We do not anticipate that the amount of existing unrecognized tax benefits will significantly increase or decrease within the next 12 months. Accrued interest and penalties related to unrecognized tax benefits are recorded as income tax expense and are zero.

Note 17. Shareholders' Equity

Preferred Stock

Our board of directors has the authority to fix and determine and to amend the number of shares of any series of preferred stock that is wholly unissued or to be established and to fix and determine and to amend the designation, preferences, voting powers and limitations, and the relative, participating, optional or other rights, of any series of shares of preferred stock that is wholly unissued or to be established, subject in each case to certain approval rights of holders of our outstanding Class B common stock. There was no preferred stock issued and outstanding as of December 31, 2019 or December 31, 2018.

Common and Capital Stock

Our Class A common stock has no preferences or privileges and is not redeemable. Holders of Class A common stock are entitled to one vote for each share.

Our Class B common stock has no preferences or privileges and is not redeemable. At any time after the date of issuance, each share of Class B common stock, at the option of the holder, may be converted into one share of Class A common stock, or automatically converted into Class A common stock upon the affirmative vote by or written consent of holders of a majority of the shares of the Class B common stock. During the years ended December 31, 2019, 2018 and 2017, no shares of Class B common stock were converted into Class A common stock at the option of the holders. Holders of Class B common stock are entitled to 10 votes for each share.

Our Class C capital stock has no preferences or privileges, is not redeemable and, except in limited circumstances, is non-voting.
On July 3, 2018, Zillow Group issued and sold 6,557,017 shares (of which 855,263 shares were related to the exercise

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of the underwriters' option to purchase additional shares) of our Class C capital stock at a public offering price of \$57.00 per share. We received net proceeds of \$360.3 million after deducting underwriting discounts and commissions and offering expenses payable by us.

The following shares of common and capital stock have been reserved for future issuance as of the dates presented:

	December 31, 2019	December 31, 2018
Option awards outstanding	29,634,296	27,310,110
Restricted stock units outstanding	7,052,767	5,266,324
Class A common stock and Class C capital stock available for grant under 2011 Plan	1,466,856	3,675,082
Class C capital stock available for grant under the 2019 Equity Inducement Plan	7,898,167	—
Shares issuable upon conversion of outstanding Class B common stock	6,217,447	6,217,447
Total	52,269,533	42,468,963

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Note 18. Share-Based Awards

In connection with our February 2015 acquisition of Trulia, we assumed the obligations of Zillow and Trulia outstanding under pre-existing stock plans. We intend that future equity grants will be made under Zillow Group's 2011 Amended and Restated Incentive Plan (as amended and/or restated from time to time, the "2011 Plan") only (or a successor thereto).

Zillow Group, Inc. 2019 Equity Inducement Plan

On August 8, 2019, the 2019 Equity Inducement Plan ("Inducement Plan") became effective. Subject to adjustment from time to time as provided in the Inducement Plan, 10,000,000 shares of Class C capital stock are available for issuance under the Inducement Plan. Shares issued under the Inducement Plan shall be drawn from authorized and unissued shares of Class C capital stock. The purpose of the Inducement Plan is to attract, retain and motivate certain new employees of the Company and its subsidiaries by providing them the opportunity to acquire a proprietary interest in the Company and to align their interests and efforts to the long-term interests of the Company's shareholders. Each award under the Inducement Plan is intended to qualify as an employment inducement award pursuant to Listing Rule 5635(c) of the corporate governance rules of the NASDAQ Stock Market. The Inducement Plan is administered by the compensation committee of the board of directors. Under the terms of the Inducement Plan, the compensation committee may grant equity awards, including incentive stock options, nonqualified stock options, restricted stock, restricted stock units or restricted units to new employees of the Company and its subsidiaries. The Inducement Plan provides that in the event of a stock dividend, stock split or similar event, the maximum number and kind of securities available for issuance under the plan will be proportionally adjusted.

Options under the Inducement Plan are granted with an exercise price per share not less than 100% of the fair market value of our stock on the date of grant, with the exception of substituted option awards granted in connection with acquisitions, and are exercisable at such times and under such conditions as determined by the compensation committee. Any portion of an option that is not vested and exercisable on the date of a participant's termination of service expires on such date. Employees generally forfeit their rights to exercise vested options 3 months following their termination of employment or 12 months following termination by reason of death, disability or retirement. Options granted under the Inducement Plan expire ten years from the grant date and vest 25% after 12 months and quarterly thereafter over the next three years.

Restricted stock units granted under the Inducement Plan vest 25% after 12 months and quarterly thereafter over the next three years. Any portion of a restricted stock unit that is not vested on the date of a participant's termination of service expires on such date.

Zillow Group, Inc. Amended and Restated 2011 Incentive Plan

On July 19, 2011, the 2011 Plan became effective. In addition to the share reserve of 18,400,000 shares, the number of shares available for issuance under the 2011 Plan automatically increases on the first day of each of our fiscal years by a number of shares equal to the least of (a) 3.5% of our outstanding Class A common stock, Class B common stock, and Class C capital stock on a fully diluted basis as of the end of our immediately preceding fiscal year, (b) 10,500,000 shares, and (c) a lesser amount determined by our board of directors; provided, however, that any shares from any increases in previous years that are not actually issued will continue to be available for issuance under the 2011 Plan. In addition, shares previously available for grant under Zillow, Inc.'s 2005 Equity Incentive Plan (the "2005 Plan"), but not issued or subject to outstanding awards under the 2005 Plan as of July 19, 2011, and shares subject to outstanding awards under the 2005 Plan that subsequently cease to be subject to such awards (other than by reason of exercise of the awards) are available for grant under the 2011 Plan. The 2011 Plan is administered by the compensation committee of the board of directors. Under the terms of the 2011 Plan, the compensation committee may grant equity awards, including incentive stock options, nonqualified stock options, restricted stock, restricted stock units or restricted units to employees, officers, directors, consultants, agents, advisers and independent contractors. The board of directors has also authorized certain senior executive officers to grant equity awards under the 2011 Plan, within limits prescribed by our board of directors. The 2011 Plan provides that in the event of a stock dividend, stock split or similar event, the maximum number and kind of securities available for issuance under the plan will be proportionally adjusted.

Options under the 2011 Plan are granted with an exercise price per share not less than 100% of the fair market value of our stock on the date of grant, with the exception of substituted option awards granted in connection with acquisitions, and are exercisable at such times and under such conditions as determined by the compensation committee. Any portion of an option that is not vested and exercisable on the date of a participant's termination of service expires on such date. Employees generally forfeit their rights to exercise vested options 3 months following their termination of employment or 12 months following termination by reason of death, disability or retirement. Options granted under the 2011 Plan typically expire seven or ten years from the grant date and typically vest either 25% after 12 months and ratably thereafter over the next 36 months or quarterly over a period of four years, though certain options have been granted with alternative vesting schedules.

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Restricted stock units granted under the 2011 Plan typically vest either 25% after 12 months and quarterly thereafter over the next three years, quarterly over a period of four years, or 12.5% after 6 months and quarterly thereafter for the next 3.5 years. Any portion of a restricted stock unit that is not vested on the date of a participant's termination of service expires on such date.

Trulia 2005 Stock Incentive Plan

Trulia granted options under its 2005 Stock Incentive Plan (as amended, "the 2005 Plan") until September 2012 when the 2005 Plan was terminated. Stock options issued prior to the plan termination remained outstanding in accordance with their terms. Options granted under the 2005 Plan generally vest at a rate of 25% after 12 months and ratably thereafter over the next 36 months and expire 10 years from the grant date. Certain options vest monthly over two to four years.

Trulia 2012 Equity Incentive Plan, as Amended and Restated

On September 19, 2012, Trulia's 2012 Equity Incentive Plan (the "2012 Plan") became effective. The 2012 Plan provides for the grant of incentive and nonqualified stock options, restricted stock, restricted stock units, stock appreciation rights, performance units and performance shares to employees, directors and consultants. Under the 2012 Plan, stock options are granted at a price per share not less than 100% of the fair market value per share of the underlying stock at the grant date. The plan administrator determines the vesting period for each option award on the grant date, and the options generally expire 10 years from the grant date or such shorter term as may be determined for the options. No new equity awards will be made under the 2012 Plan.

Option Awards

The following table summarizes option award activity for the year ended December 31, 2019:

	Number of Shares Subject to Existing Options	Weighted- Average Exercise Price Per Share	Weighted- Average Remaining Contractual Life (Years)	Aggregate Intrinsic Value (in thousands)
Outstanding at January 1, 2019	27,310,110	\$ 34.04	6.23	\$ 97,941
Granted	7,950,882	39.53		
Exercised	(2,918,053)	22.43		
Forfeited or cancelled	(2,708,643)	41.77		
Outstanding at December 31, 2019	29,634,296	35.95	6.28	331,107
Vested and exercisable at December 31, 2019	18,587,087	33.01	4.86	257,029

The fair value of options granted is estimated at the date of grant using the Black-Scholes-Merton option-pricing model, assuming no dividends and with the following assumptions for the periods presented:

	Year Ended December 31,		
	2019	2018	2017
Expected volatility	45% – 47%	42% – 45%	45% – 49%
Expected dividend yield	—	—	—
Risk-free interest rate	1.60% – 2.53%	2.52% – 2.84%	1.67% – 2.06%
Weighted-average expected life	4.75 – 5.25 years	4.50 – 5.00 years	4.25 – 4.75 years
Weighted-average fair value of options granted	\$16.52	\$19.11	\$14.51

As of December 31, 2019, there was a total of \$169.1 million in unrecognized compensation cost related to unvested stock options, which is expected to be recognized over a weighted-average period of 2.8 years.

The total intrinsic value of options exercised during the years ended December 31, 2019, 2018 and 2017 was \$51.1 million, \$161.4 million and \$156.1 million, respectively. The fair value of options vested for the years ended December 31, 2019, 2018 and 2017 was \$100.1 million, \$87.7 million and \$84.8 million, respectively.

[Table of Contents](#)**Restricted Stock Units**

The following table summarizes activity for restricted stock units for the year ended December 31, 2019:

	Restricted Stock Units	Weighted- Average Grant- Date Fair Value
Unvested outstanding at January 1, 2019	5,266,324	\$ 42.19
Granted	5,313,377	38.18
Vested	(2,244,631)	40.04
Forfeited or cancelled	(1,282,303)	41.35
Unvested outstanding at December 31, 2019	<u><u>7,052,767</u></u>	<u><u>40.01</u></u>

The total fair value of vested restricted stock units was \$89.9 million, \$62.0 million and \$43.7 million, respectively, for the years ended December 31, 2019, 2018 and 2017.

The fair value of the outstanding restricted stock units is based on the market value of our Class A common stock or Class C capital stock, as applicable on the date of grant, and will be recorded as share-based compensation expense over the vesting period. As of December 31, 2019, there was \$260.0 million of total unrecognized compensation cost related to restricted stock units, which is expected to be recognized over a weighted-average period of 3.0 years.

Share-Based Compensation Expense

The following table presents the effects of share-based compensation expense in our consolidated statements of operations during the periods presented (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Cost of revenue	\$ 3,978	\$ 4,127	\$ 3,884
Sales and marketing	25,126	22,942	22,735
Technology and development	69,921	56,673	39,938
General and administrative	99,877	65,342	47,014
Total	<u><u>\$ 198,902</u></u>	<u><u>\$ 149,084</u></u>	<u><u>\$ 113,571</u></u>

On February 21, 2019, Zillow Group announced the appointment of Richard N. Barton as Zillow Group's Chief Executive Officer, effective February 21, 2019. Mr. Barton succeeds Spencer Rascoff, who served as Zillow Group's Chief Executive Officer since 2010 and who remains a member of Zillow Group's board of directors. In connection with Mr. Rascoff's resignation as Chief Executive Officer, Zillow Group entered into an Executive Departure Agreement and Release (the "Agreement") with Mr. Rascoff. Pursuant to the Agreement, Mr. Rascoff remained a full-time employee of Zillow Group until March 22, 2019 (the "Departure Date") in order to provide transition services until such date. Pursuant to the Agreement, Mr. Rascoff received, among other things, accelerated vesting of outstanding stock options held by Mr. Rascoff as of the Departure Date by an additional eighteen months from the Departure Date. Options not vested as of the Departure Date, taking into account the foregoing vesting acceleration, were terminated. Each of Mr. Rascoff's vested stock options outstanding as of the Departure Date will remain exercisable until, except for any later date contemplated by the following proviso, the earlier of (x) the third anniversary of the Departure Date and (y) the latest day upon which the option would have expired by its original terms under any circumstances (the "Option Expiration Outside Date"); provided, however, that the options will remain exercisable for so long as Mr. Rascoff serves on Zillow Group's board of directors (but not later than any applicable Option Expiration Outside Date), and if Mr. Rascoff ceases to serve on Zillow Group's board of directors on or after the third anniversary of the Departure Date, each option will remain exercisable until the earlier of (i) ninety days from the final date of Mr. Rascoff's service on Zillow Group's board of directors and (ii) the applicable Option Expiration Outside Date. The change in the exercise period of the options as well as the vesting acceleration pursuant to the Agreement have been accounted for as equity modifications, and we recorded \$26.4 million of share-based compensation expense associated with the modifications in the year ended December 31, 2019. We measured the modification charge by calculating the incremental fair value of the modified award compared to the fair value of the original award immediately prior to the modification. The value of the modified awards as of the modification date

was estimated using the Black-Scholes-Merton option-pricing model, assuming no dividends, expected volatility of 46%-47%, a risk-free interest rate of 2.47%-2.49% and a weighted-average expected life of 3.84-5.25 years.

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Note 19. Net Loss Per Share

Basic net loss per share is computed by dividing net loss by the weighted-average number of shares (including Class A common stock, Class B common stock and Class C capital stock) outstanding during the period. In the calculation of basic net loss per share, undistributed earnings are allocated assuming all earnings during the period were distributed.

Diluted net loss per share is computed by dividing net loss by the weighted-average number of shares (including Class A common stock, Class B common stock and Class C capital stock) outstanding during the period and potentially dilutive Class A common stock and Class C capital stock equivalents, except in cases where the effect of the Class A common stock or Class C capital stock equivalent would be antidilutive. Potential Class A common stock and Class C capital stock equivalents consist of Class A common stock and Class C capital stock issuable upon exercise of stock options and Class A common stock and Class C capital stock underlying unvested restricted stock awards and unvested restricted stock units using the treasury stock method. Potential Class A common stock equivalents also include Class A common stock issuable upon conversion of the convertible senior notes due in 2020 using the if-converted method.

Since the Company expects to settle the principal amount of the outstanding convertible notes maturing in 2021, 2023, 2024 and 2026 in cash, the Company uses the treasury stock method for calculating any potential dilutive effect of the conversion spread on diluted net income per share, if applicable. The conversion spread for each of the notes has a dilutive impact on diluted net income per share when the market price of the Company's Class C capital stock at the end of the period exceeds the conversion price per share. The following table presents the conversion spread and conversion price per share of Class C capital stock for each of the convertible senior notes (in thousands, except per share amounts):

Maturity Date	Conversion Spread	Conversion Price per Share
September 1, 2026	11,492	\$ 43.51
September 1, 2024	15,468	43.51
July 1, 2023	4,769	78.37
December 1, 2021	8,785	52.36

For the periods presented, the following Class A common stock and Class C capital stock equivalents were excluded from the calculations of diluted net loss per share because their effect would have been antidilutive (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Weighted-average Class A common stock and Class C capital stock option awards outstanding	19,183	22,736	27,998
Weighted-average Class A common stock and Class C capital stock restricted stock units outstanding	6,765	4,949	4,262
Class A common stock issuable upon conversion of the convertible senior notes due in 2020	404	400	435
Class C capital stock issuable related to conversion spread on the 2024 and 2026 Notes	439	—	—
Total Class A common stock and Class C capital stock equivalents	26,791	28,085	32,695

In the event of liquidation, dissolution, distribution of assets or winding-up of the Company, the holders of all classes of common and capital stock have equal rights to receive all the assets of the Company after the rights of the holders of preferred stock have been satisfied. We have not presented net loss per share under the two-class method for our Class A common stock, Class B common stock and Class C capital stock because it would be the same for each class due to equal dividend and liquidation rights for each class.

Note 20. Commitments and Contingencies

Lease Commitments

We have entered into various non-cancelable operating lease agreements for certain of our office space and equipment with original lease periods expiring between 2020 and 2030. For additional information regarding our lease agreements, see Note 14.

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Purchase Commitments

Purchase commitments primarily include various non-cancelable agreements to purchase content related to our mobile applications and websites and certain cloud computing services as well as homes we are under contract to purchase through Zillow Offers but that have not closed as of the respective date. The amounts due for non-cancelable purchase commitments excluding homes under contract as of December 31, 2019 are as follows (in thousands):

	Purchase Obligations
2020	\$ 65,375
2021	32,507
2022	507
2023	507
Total future purchase commitments	\$ 98,896

As of December 31, 2019, the value of homes under contract that have not closed was \$163.4 million.

Letters of Credit

As of December 31, 2019 and 2018, we have outstanding letters of credit of approximately \$16.9 million which secure our lease obligations in connection with certain of our office space operating leases.

Surety Bonds

In the course of business, we are required to provide financial commitments in the form of surety bonds to third parties as a guarantee of our performance on and our compliance with certain obligations. If we were to fail to perform or comply with these obligations, any draws upon surety bonds issued on our behalf would then trigger our payment obligation to the surety bond issuer. We have outstanding surety bonds issued for our benefit of approximately \$10.2 million and \$8.9 million, respectively, as of December 31, 2019 and December 31, 2018.

Legal Proceedings

We are involved in a number of legal proceedings concerning matters arising in connection with the conduct of our business activities, some of which are at preliminary stages and some of which seek an indeterminate amount of damages. We regularly evaluate the status of legal proceedings in which we are involved to assess whether a loss is probable or there is a reasonable possibility that a loss or additional loss may have been incurred to determine if accruals are appropriate. We further evaluate each legal proceeding to assess whether an estimate of possible loss or range of loss can be made if accruals are not appropriate. For certain cases described below, management is unable to provide a meaningful estimate of the possible loss or range of possible loss because, among other reasons, (i) the proceedings are in preliminary stages; (ii) specific damages have not been sought; (iii) damages sought are, in our view, unsupported and/or exaggerated; (iv) there is uncertainty as to the outcome of pending appeals or motions; (v) there are significant factual issues to be resolved; and/or (vi) there are novel legal issues or unsettled legal theories presented. For these cases, however, management does not believe, based on currently available information, that the outcomes of these proceedings will have a material effect on our financial position, results of operations or cash flow. For the matters discussed below, we have not recorded any material accruals as of December 31, 2019 or 2018.

In July 2015, VHT, Inc. (“VHT”) filed a complaint against us in the U.S. District Court for the Western District of Washington alleging copyright infringement of VHT’s images on the Zillow Digs site. In January 2016, VHT filed an amended complaint alleging copyright infringement of VHT’s images on the Zillow Digs site as well as the Zillow listing site. In December 2016, the court granted a motion for partial summary judgment that dismissed VHT’s claims with respect to the Zillow listing site. A federal jury trial began on January 23, 2017, and on February 9, 2017, the jury returned a verdict finding that the Company had infringed VHT’s copyrights in images displayed or saved to the Digs site. The jury awarded VHT \$79,875 in actual damages and approximately \$8.2 million in statutory damages. In March 2017, the Company filed motions in the district court seeking judgment for the Company on certain claims that are the subject of the verdict, and for a new trial on others. On June 20, 2017, the district court granted in part our motions, finding that VHT failed to present sufficient evidence to prove direct copyright infringement for a portion of the images, reducing the total damages to approximately \$4.1 million. On March 15, 2019, after the Company had filed an appeal with the Ninth Circuit Court of Appeals seeking review of the final judgment and certain prior rulings entered by the district court, the Ninth Circuit Court of Appeals issued an opinion that, among other things, (i) affirmed the district court’s grant of summary judgment in favor of Zillow on direct

infringement of images on Zillow's listing site, (ii) affirmed the district court's grant in favor of Zillow of judgment notwithstanding the verdict on certain images that were displayed on the Zillow Digs site, (iii) remanded consideration of the

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issue whether VHT's images on the Zillow Digs site were part of a compilation or individual photos, and (iv) vacated the jury's finding of willful infringement. On October 7, 2019, the United States Supreme Court denied VHT's petition for writ of certiorari seeking review of certain rulings by the Ninth Circuit Court of Appeals. On December 9, 2019, the Company filed a motion for summary judgment with the district court seeking a ruling that VHT's images are a compilation, or in the alternative, seeking a dismissal of the case based on a recent United States Supreme Court ruling. We do not believe there is a reasonable possibility that a material loss may be incurred related to this complaint.

In August and September 2017, two purported class action lawsuits were filed against us and certain of our executive officers, alleging, among other things, violations of federal securities laws on behalf of a class of those who purchased our common stock between February 12, 2016 and August 8, 2017. One of those purported class actions, captioned Vargosko v. Zillow Group, Inc. et al, was brought in the U.S. District Court for the Central District of California. The other purported class action lawsuit, captioned Shotwell v. Zillow Group, Inc. et al, was brought in the U.S. District Court for the Western District of Washington. The complaints allege, among other things, that during the period between February 12, 2016 and August 8, 2017, we issued materially false and misleading statements regarding our business practices. The complaints seek to recover, among other things, alleged damages sustained by the purported class members as a result of the alleged misconduct. In November 2017, an amended complaint was filed against us and certain of our executive officers in the Shotwell v. Zillow Group class action lawsuit, extending the beginning of the class period to November 17, 2014. In January 2018, the Vargosko v. Zillow Group purported class action lawsuit was transferred to the U.S. District Court for the Western District of Washington and consolidated with the Shotwell v. Zillow Group purported class action lawsuit. In February 2018, the plaintiffs filed a consolidated amended complaint, and in April 2018, we filed our motion to dismiss the consolidated amended complaint. In October 2018, our motion to dismiss was granted without prejudice, and in November 2018, the plaintiffs filed a second consolidated amended complaint, which we moved to dismiss in December 2018. On April 19, 2019, our motion to dismiss the second consolidated amended complaint was denied, and we filed our answer to the second amended complaint on May 3, 2019. On October 11, 2019, plaintiffs filed a motion for class certification. We have denied the allegations of wrongdoing and intend to vigorously defend the claims in this lawsuit. We do not believe a loss related to this complaint is probable.

In October and November 2017 and January and February 2018, four shareholder derivative lawsuits were filed in the U.S. District Court for the Western District of Washington and the Superior Court of the State of Washington, King County, against certain of our executive officers and directors seeking unspecified damages on behalf of the Company and certain other relief, such as reform to corporate governance practices. The plaintiffs in the derivative suits (in which the Company is a nominal defendant) allege, among other things, that the defendants breached their fiduciary duties in connection with oversight of the Company's public statements and legal compliance, and as a result of the breach of such fiduciary duties, the Company was damaged, and defendants were unjustly enriched. Certain of the plaintiffs also allege, among other things, violations of Section 14(a) of the Securities Exchange Act of 1934 and waste of corporate assets. On February 5, 2018, the U.S. District Court for the Western District of Washington consolidated the two shareholder derivative lawsuits pending in that court. On February 16, 2018, the Superior Court of the State of Washington, King County, consolidated the two shareholder derivative lawsuits pending in that court. All four of the shareholder derivative lawsuits were stayed until our motion to dismiss the second consolidated amended complaint in the securities class action lawsuit discussed above was denied in April 2019. On July 8, 2019, the plaintiffs in the consolidated federal derivative lawsuit filed a consolidated shareholder derivative complaint, which we moved to dismiss on August 22, 2019. We do not believe a loss is probable related to these lawsuits.

On September 17, 2019, International Business Machines Corporation ("IBM") filed a complaint against us in the United States District Court for the Central District of California, alleging, among other things, that the Company has infringed and continues to willfully infringe seven patents held by IBM and seeks unspecified damages, including a request that the amount of compensatory damages be trebled, injunctive relief and costs and reasonable attorneys' fees. On December 2, 2019, IBM filed an amended complaint. On December 16, 2019, the Company filed a motion to transfer venue and a motion to dismiss the complaint. We deny the allegations of any wrongdoing and intend to vigorously defend the claims in the lawsuit. There is a reasonable possibility that a loss may be incurred related to this complaint; however, the possible loss or range of loss is not estimable.

In addition to the matters discussed above, from time to time, we are involved in litigation and claims that arise in the ordinary course of business. Although we cannot be certain of the outcome of any such litigation or claims, nor the amount of damages and exposure that we could incur, we currently believe that the final disposition of such matters will not have a material effect on our business, financial position, results of operations or cash flow. Regardless of the outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources and other factors.

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Indemnifications

In the ordinary course of business, we enter into contractual arrangements under which we agree to provide indemnification of varying scope and terms to business partners and other parties with respect to certain matters, including, but not limited to, losses arising out of the breach of such agreements and out of intellectual property infringement claims made by third parties. In addition, we have agreements that indemnify certain issuers of surety bonds against losses that they may incur as a result of executing surety bonds on our behalf. For our indemnification arrangements, payment may be conditional on the other party making a claim pursuant to the procedures specified in the particular contract. Further, our obligations under these agreements may be limited in terms of time and/or amount, and in some instances, we may have recourse against third parties for certain payments. In addition, we have indemnification agreements with certain of our directors and executive officers that require us, among other things, to indemnify them against certain liabilities that may arise by reason of their status or service as directors or officers. The terms of such obligations may vary.

Note 21. Related Party Transactions

On April 3, 2019, we entered into a Charter Service Agreement with Executive Jet Management, Inc. for the occasional use by us of an aircraft owned by an entity that is owned by Mr. Lloyd Frink, our Executive Chairman and President, for business travel. We recognized approximately \$0.3 million in expenses pursuant to the Charter Service Agreement for the year ended December 31, 2019.

Note 22. Self-Insurance

We are self-insured for medical benefits and dental benefits for all qualifying Zillow Group employees. The medical plan carries a stop-loss policy which provides protection when cumulative medical claims exceed 125% of expected claims for the plan year with a limit of \$1.0 million and from individual claims during the plan year exceeding \$500,000. We record estimates of the total costs of claims incurred based on an analysis of historical data and independent estimates. Our liability for self-insured claims is included within accrued compensation and benefits in our consolidated balance sheets and was \$3.6 million and \$3.9 million, respectively, as of December 31, 2019 and December 31, 2018.

Note 23. Employee Benefit Plan

We have a defined contribution 401(k) retirement plan covering Zillow Group employees who have met certain eligibility requirements (the “Zillow Group 401(k) Plan”). Eligible employees may contribute pretax compensation up to a maximum amount allowable under the Internal Revenue Service limitations. Employee contributions and earnings thereon vest immediately. We currently match up to 4% of employee contributions under the Zillow Group 401(k) Plan. The total expense related to the Zillow Group 401(k) Plan was \$20.8 million, \$16.0 million and \$12.3 million, respectively, for the years ended December 31, 2019, 2018 and 2017.

Note 24. Segment Information and Revenue

Beginning January 1, 2019, we have three operating and reportable segments, which have been identified based on the way in which our chief operating decision-maker manages our business, makes operating decisions and evaluates operating performance. The chief executive officer acts as the chief operating decision-maker and reviews financial and operational information for the Homes, Internet, Media & Technology (“IMT”) and Mortgages segments.

The Homes segment includes the financial results from Zillow Group’s purchase and sale of homes directly. The IMT segment includes the financial results for the Premier Agent, Rentals and new construction marketplaces, dotloop, and display, as well as revenue from the sale of various other marketing and business products and services to real estate professionals. The Mortgages segment includes financial results for advertising sold to mortgage lenders and other mortgage professionals, mortgage originations through Zillow Home Loans and the sale of mortgages on the secondary market, as well as Mortech mortgage software solutions.

Revenue and costs are directly attributed to our segments when possible. However, due to the integrated structure of our business, certain costs incurred by one segment may benefit the other segments. These costs primarily include headcount-related expenses, general and administrative expenses including executive, finance, accounting, legal, human resources, recruiting, and facilities costs, product development and data acquisition costs and marketing and advertising costs. These costs are allocated to each segment based on the estimated benefit each segment receives from such expenditures.

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The chief executive officer reviews information about our revenue categories as well as statement of operations data inclusive of loss before income taxes by segment. This information is included in the following tables for the periods presented (in thousands):

	Year Ended December 31, 2019			Year Ended December 31, 2018			Year Ended December 31, 2017		
	Homes	IMT	Mortgages	Homes	IMT	Mortgages	Homes	IMT	Mortgages
Revenue:									
Homes	\$ 1,365,250	\$ —	\$ —	\$ 52,365	\$ —	\$ —	\$ —	\$ —	\$ —
Premier Agent	—	923,876	—	—	898,332	—	—	761,594	—
Rentals	—	164,173	—	—	134,587	—	—	102,544	—
Other	—	188,847	—	—	168,224	—	—	132,065	—
Mortgages	—	—	100,691	—	—	80,046	—	—	80,591
Total revenue	1,365,250	1,276,896	100,691	52,365	1,201,143	80,046	—	996,203	80,591
Costs and expenses:									
Cost of revenue	1,315,345	98,522	18,154	49,392	96,693	7,505	—	80,310	4,893
Sales and marketing	171,634	488,909	53,585	17,134	502,785	32,702	—	415,739	32,462
Technology and development	78,994	365,769	32,584	21,351	363,712	25,755	—	297,007	22,978
General and administrative	81,407	243,636	41,133	22,002	220,564	19,587	—	192,581	18,235
Impairment costs	—	—	—	—	75,000	4,000	—	161,850	12,150
Acquisition-related costs	—	—	—	—	27	2,305	—	463	—
Integration costs	—	—	650	—	—	2,015	—	—	—
Total costs and expenses	1,647,380	1,196,836	146,106	109,879	1,258,781	93,869	—	1,147,950	90,718
Income (loss) from operations	(282,130)	80,060	(45,415)	(57,514)	(57,638)	(13,823)	—	(151,747)	(10,127)
Segment other income	—	—	1,409	—	—	244	—	—	—
Segment interest expense	(29,990)	—	(956)	(2,177)	—	(132)	—	—	—
Income (loss) before income taxes (1)	\$ (312,120)	\$ 80,060	\$ (44,962)	\$ (59,691)	\$ (57,638)	\$ (13,711)	\$ —	\$ (151,747)	\$ (10,127)

(1) The following table presents the reconciliation of total segment loss before income taxes to consolidated loss before income taxes for the periods presented (in thousands):

	Year Ended December 31,		
	2019	2018	2017
Total segment loss before income taxes	\$ (277,022)	\$ (131,040)	\$ (161,874)
Corporate interest expense	(70,846)	(38,946)	(27,517)
Corporate other income	38,249	19,026	5,385
Consolidated loss before income taxes	\$ (309,619)	\$ (150,960)	\$ (184,006)

Certain corporate items are not directly attributable to any of our segments, including interest income earned on our short-term investments included in Other income and interest costs on our convertible senior notes included in Interest expense.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure.

None.

Item 9A. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

The Company carried out an evaluation, with the participation of our management, and under the supervision of our Chief Executive Officer and Chief Financial Officer, of the effectiveness of our disclosure controls and procedures (as defined under Rule 13a-15(e) and Rule 15d-15(e) under the Exchange Act) as of the end of the period covered by this report. Based upon that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective as of December 31, 2019.

[Table of Contents](#)***Management's Report on Internal Control Over Financial Reporting***

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined under Rule 13a-15(f) under the Exchange Act. Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework). Based on our evaluation, our management concluded that our internal control over financial reporting was effective as of December 31, 2019.

We intend to regularly review and evaluate the design and effectiveness of our disclosure controls and procedures and internal control over financial reporting on an ongoing basis and to improve these controls and procedures over time and to correct any deficiencies that we may discover in the future. While we believe the present design of our disclosure controls and procedures and internal control over financial reporting are effective, future events affecting our business may cause us to modify our controls and procedures.

The Company's independent registered public accounting firm has issued an attestation report regarding its assessment of the effectiveness of the Company's internal control over financial reporting as of December 31, 2019.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting identified in connection with the evaluation required by Rule 13a-15(d) and 15d-15(d) of the Exchange Act that occurred during the three months ended December 31, 2019 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

[Table of Contents](#)**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

The Board of Directors and Shareholders of Zillow Group, Inc.

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Zillow Group, Inc. (the “Company”) as of December 31, 2019, based on criteria established in Internal Control — Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in Internal Control — Integrated Framework (2013) issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements of the Company as of and for the year ended December 31, 2019, and our report dated February 19, 2020 expressed an unqualified opinion on those financial statements and included an explanatory paragraph related to the Company’s change in method of accounting for leases as of January 1, 2019 due to the adoption of the new lease accounting standard.

Basis for Opinion

The Company’s management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management’s Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company’s internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company’s internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company’s assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ DELOITTE & TOUCHE LLP

Seattle, Washington

February 19, 2020

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None.

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PART III

Item 10. Directors, Executive Officers and Corporate Governance.

The information required by this item is incorporated by reference to the Company's definitive proxy statement relating to the 2019 annual meeting of shareholders. The definitive proxy statement will be filed with the Securities and Exchange Commission within 120 days after the end of the 2019 fiscal year.

We have adopted a Code of Ethics that applies to our Chief Executive Officer, Chief Financial Officer, Chief Accounting Officer, controller and persons performing similar functions. The Code of Ethics is posted on our website at <http://investors.zillowgroup.com/corporate-governance.cfm>. We intend to satisfy the disclosure requirements under Item 5.05 of Form 8-K regarding an amendment to, or waiver from, a provision of the Code of Ethics by posting such information on our website at the address specified above.

Item 11. Executive Compensation.

The information required by this item is incorporated by reference to the Company's definitive proxy statement relating to the 2019 annual meeting of shareholders. The definitive proxy statement will be filed with the Securities and Exchange Commission within 120 days after the end of the 2019 fiscal year.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

The information required by this item is incorporated by reference to the Company's definitive proxy statement relating to the 2020 annual meeting of shareholders. The definitive proxy statement will be filed with the Securities and Exchange Commission within 120 days after the end of the 2019 fiscal year.

Item 13. Certain Relationships and Related Transactions, and Director Independence.

The information required by this item is incorporated by reference to the Company's definitive proxy statement relating to the 2020 annual meeting of shareholders. The definitive proxy statement will be filed with the Securities and Exchange Commission within 120 days after the end of the 2019 fiscal year.

Item 14. Principal Accountant Fees and Services.

The information required by this item is incorporated by reference to the Company's definitive proxy statement relating to the 2020 annual meeting of shareholders. The definitive proxy statement will be filed with the Securities and Exchange Commission within 120 days after the end of the 2019 fiscal year.

[Table of Contents](#)**PART IV****Item 15. Exhibits, Financial Statement Schedules.**(a)(1) *Financial Statements*

We have filed the financial statements listed in the Index to Consolidated Financial Statements as a part of this Annual Report on Form 10-K.

(a)(2) *Financial Statement Schedules*

All financial statement schedules have been omitted because they are not applicable, not material or the required information is presented in the financial statements or the notes thereto.

(a)(3) *Exhibits*

Certain of the following exhibits have heretofore been filed with the Securities and Exchange Commission and are incorporated by reference from the documents described in parentheses. Certain others are filed herewith. The exhibits are numbered in accordance with Item 601 of Regulation S-K. In reviewing the agreements included as exhibits to this Annual Report on Form 10-K, please remember that they are included to provide you with information regarding their terms and are not intended to provide any other factual or disclosure information about the Company or the other parties to the agreement. The agreements may contain representations and warranties by each of the parties to the applicable agreement. These representations and warranties have been made solely for the benefit of the other party or parties to the applicable agreement and (i) should not be treated as categorical statements of fact, but rather as a means of allocating the risk to one of the parties if those statements prove to be inaccurate; (ii) may have been qualified by disclosures that were made to the other party or parties in connection with the negotiation of the applicable agreement, which disclosures are not necessarily reflected in the agreement; (iii) may apply standards of materiality in a manner that is different from what may be viewed as material to you or other investors; and (iv) were made only as of the date of the applicable agreement or other date or dates that may be specified in the agreement and are subject to more recent developments. Accordingly, these representations and warranties may not describe the actual state of affairs as of the date they were made or at any other time. Additional information about the Company may be found elsewhere in this Annual Report on Form 10-K and the Company's other public filings, which are available without charge through the SEC's website at <http://www.sec.gov>.

Exhibit Number	Description
2.1+	<u>Agreement and Plan of Merger, dated August 16, 2013, by and among Zillow, Inc., NMD Interactive, Inc., d/b/a StreetEasy, Strawberry Acquisition, Inc. and Shareholder Representative Services LLC (Filed as Exhibit 2.1 to Zillow, Inc.'s Current Report on Form 8-K filed with the Securities and Exchange Commission on August 19, 2013, and incorporated herein by reference).</u>
3.1	<u>Amended and Restated Articles of Incorporation of Zillow Group, Inc. (Filed as Exhibit 3.1 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on February 17, 2015, and incorporated herein by reference).</u>
3.2	<u>Amended and Restated Bylaws of Zillow Group, Inc. (Filed as Exhibit 3.2 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on February 17, 2015, and incorporated herein by reference).</u>
4.1	<u>Specimen of Class A Common Stock Certificate (Filed as Exhibit 4.1 to Registrant's Quarterly Report on Form 10-Q filed on May 12, 2015, and incorporated herein by reference).</u>
4.2	<u>Specimen of Class C Capital Stock Certificate (Filed as Exhibit 4.1 Registrant's Form 8-A filed with the Securities and Exchange Commission on July 29, 2015, and incorporated herein by reference).</u>

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- 4.3 [Indenture dated as of December 17, 2013, between Trulia, Inc. and Wells Fargo Bank, National Association, as trustee \(Filed as Exhibit 4.1 to Trulia, Inc.'s Current Report on Form 8-K filed with the Securities and Exchange Commission on December 17, 2013, and incorporated herein by reference\).](#)
- 4.4 [Form of Note for Trulia, Inc.'s 2.75% Convertible Senior Notes due 2020 \(incorporated by reference to Exhibit 4.3 hereto\).](#)
- 4.5 [Supplemental Indenture dated as of February 17, 2015, among Zillow Group, Inc., Trulia, Inc. and Wells Fargo Bank, National Association, as trustee \(Filed as Exhibit 4.2 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on February 17, 2015, and incorporated herein by reference\).](#)
- 4.6 [Second Supplemental Indenture dated as of December 30, 2015, among Zillow Group, Inc., Trulia, Inc. and Wells Fargo Bank, National Association, as trustee \(Filed as Exhibit 4.1 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on December 30, 2015, and incorporated herein by reference\).](#)
- 4.7 [Transfer Restriction Agreement and Amendment to Noncompetition Agreement, dated July 20, 2015, among Zillow Group, Inc., Zillow, Inc., Richard Barton and the other holders signatory thereto \(Filed as Exhibit 10.1 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on July 21, 2015, and incorporated herein by reference\).](#)
- 4.8 [Transfer Restriction Agreement and Amendment to Noncompetition Agreement, dated July 20, 2015, among Zillow Group, Inc., Zillow, Inc., Lloyd Frink and the other holders signatory thereto \(Filed as Exhibit 10.2 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on July 21, 2015, and incorporated herein by reference\).](#)
- 4.9 [Indenture, dated as of December 12, 2016, by and between Zillow Group, Inc. and The Bank of New York Mellon Trust Company, National Association, as trustee \(Filed as Exhibit 4.1 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on December 12, 2016, and incorporated herein by reference\).](#)
- 4.10 [Form of 2.00% Convertible Senior Note due 2021 \(incorporated by reference to Exhibit 4.9 hereto\).](#)
- 4.11 [Indenture, dated as of July 3, 2018, by and between Zillow Group, Inc. and The Bank of New York Mellon Trust Company, N.A., as trustee \(Filed as Exhibit 4.1 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on July 3, 2018, and incorporated herein by reference\).](#)
- 4.12 [Form of 1.50% Convertible Senior Note due 2023 \(incorporated by reference to Exhibit 4.11 hereto\).](#)
- 4.13 [Indenture dated as of September 9, 2019, by and between Zillow Group, Inc. and The Bank of New York Mellon Trust Company, N.A., as trustee \(Filed as Exhibit 4.1 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on September 10, 2019, and incorporated herein by reference\).](#)
- 4.14 [Indenture dated as of September 9, 2019 by and between Zillow Group, Inc. and The Bank of New York Mellon Trust Company, N.A., as trustee \(Filed as Exhibit 4.2 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on September 10, 2019, and incorporated herein by reference\).](#)
- 4.15 [Form of 0.75% Convertible Senior Note due 2024 \(incorporated by reference to Exhibit 4.13 hereto\).](#)
- 4.16 [Form of 1.375% Convertible Senior Note due 2026 \(incorporated by reference to Exhibit 4.14 hereto\).](#)
- 4.17 [Description of Registrant's Securities.](#)

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- 10.1* [Form of Stock Option Grant Notice and Stock Option Agreement under the Zillow, Inc. Amended and Restated 2005 Equity Incentive Plan \(Filed as Exhibit 10.6 to Zillow, Inc.'s Registration Statement on Form S-1 filed with the Securities and Exchange Commission on April 18, 2011, and incorporated herein by reference\).](#)
- 10.2* [Trulia, Inc. 2005 Stock Incentive Plan, as amended, and form of Stock Option Agreement and form of Stock Option Grant Notice thereunder \(Assumed by Registrant; Filed as Exhibit 10.2 to Trulia, Inc.'s Form S-1 filed with the Securities and Exchange Commission on August 17, 2012, and incorporated herein by reference\).](#)
- 10.3* [Zillow, Inc. Amended and Restated 2011 Equity Incentive Plan \(Filed as Appendix A to Zillow, Inc.'s Definitive Proxy Statement filed with the Securities and Exchange Commission on April 17, 2012, and incorporated herein by reference\).](#)
- 10.4* [Amendment No. 1 to the Zillow, Inc. Amended and Restated 2011 Incentive Plan \(Filed as Appendix A to Zillow, Inc.'s Definitive Proxy Statement filed with the Securities and Exchange Commission on April 16, 2013, and incorporated herein by reference\).](#)
- 10.5* [Form of Stock Option Grant Notice and Stock Option Agreement under the Zillow, Inc. 2011 Incentive Plan \(Filed as Exhibit 10.3 to Zillow, Inc.'s Amendment No. 3 to Registration Statement on Form S-1 filed with the Securities and Exchange Commission on June 20, 2011, and incorporated herein by reference\).](#)
- 10.6* [Form of Restricted Stock Unit Award Notice and Restricted Stock Unit Award Agreement under the Zillow, Inc. Amended and Restated 2011 Incentive Plan \(Filed as Exhibit 10.2 to Zillow, Inc.'s Form 10-Q filed with the Securities and Exchange Commission on May 8, 2014, and incorporated herein by reference\).](#)
- 10.7* [Form of Restricted Unit Award Notice and Restricted Unit Award Agreement under the Zillow, Inc. Amended and Restated 2011 Incentive Plan \(Filed as Exhibit 10.3 to Zillow, Inc.'s Form 10-Q filed with the Securities and Exchange Commission on May 8, 2014, and incorporated herein by reference\).](#)
- 10.8* [Amended and Restated Stock Option Grant Program for Nonemployee Directors under the Zillow, Inc. Amended and Restated 2011 Incentive Plan \(Filed as Exhibit 10.11 to Registrant's Quarterly Report on Form 10-Q filed on May 12, 2015, and incorporated herein by reference\).](#)
- 10.9* [Amended and Restated Stock Option Grant Program for Nonemployee Directors under the Zillow Group, Inc. Amended and Restated 2011 Incentive Plan \(Filed as Exhibit 10.1 to Registrant's Quarterly Report on Form 10-Q filed on May 4, 2016, and incorporated herein by reference\).](#)
- 10.10* [Amended and Restated Stock Option Grant Program for Nonemployee Directors under the Zillow Group, Inc. Amended and Restated 2011 Incentive Plan \(Filed as Exhibit 10.1 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on February 13, 2017, and incorporated herein by reference\).](#)
- 10.11* [Form of Stock Option Grant Notice and Stock Option Agreement under the Zillow, Inc. Amended and Restated 2011 Incentive Plan \(Assumed by Registrant; Filed as Exhibit 10.12 to Registrant's Quarterly Report on Form 10-Q filed on May 12, 2015, and incorporated herein by reference\).](#)
- 10.12* [Form of Restricted Stock Unit Award Notice and Restricted Stock Unit Award Agreement under the Zillow, Inc. Amended and Restated 2011 Incentive Plan \(Assumed by Registrant; Filed as Exhibit 10.13 to Registrant's Quarterly Report on Form 10-Q filed on May 12, 2015, and incorporated herein by reference\).](#)
- 10.13* [Trulia, Inc. 2012 Equity Incentive Plan, as amended and restated \(Assumed by Registrant; Filed as Exhibit 10.1 to Trulia, Inc.'s Form 10-Q filed with the Securities and Exchange Commission on August 12, 2013, and incorporated herein by reference\).](#)
- 10.14* [Form of Nonqualified Stock Option Grant Notice and Stock Option Agreement under the Trulia, Inc. 2012 Equity Incentive Plan \(Assumed by Registrant; Filed as Exhibit 10.15 to Registrant's Quarterly Report on Form 10-Q filed on May 12, 2015, and incorporated herein by reference\).](#)

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- 10.15* [Form of Restricted Stock Unit Award Notice and Restricted Stock Unit Award Agreement under the Trulia, Inc. 2012 Equity Incentive Plan \(Assumed by Registrant; Filed as Exhibit 10.16 to Registrant's Quarterly Report on Form 10-Q filed on May 12, 2015, and incorporated herein by reference\).](#)
- 10.16* [Amended and Restated Executive Employment Agreement by and between Errol Samuelson and Zillow, Inc. \(Filed as Exhibit 10.1 to Zillow, Inc.'s Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on May 8, 2014, and incorporated herein by reference\).](#)
- 10.17* [Amendment No. 1 to the Amended and Restated Executive Employment Agreement, dated March 25, 2016, by and between Errol Samuelson and Zillow, Inc. \(Filed as Exhibit 10.3 to Zillow, Inc.'s Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on May 4, 2016, and incorporated herein by reference\).](#)
- 10.18* [Form of Confidential Information, Inventions, and Nonsolicitation Agreement for certain officers of Zillow, Inc. \(Filed as Exhibit 10.4 to Zillow, Inc.'s Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on May 8, 2014, and incorporated herein by reference\).](#)
- 10.19* [Form of Confidential Information, Inventions, Nonsolicitation and Noncompetition Agreement for the Officers of Zillow Group, Inc. \(Filed as Exhibit 10.29 to Registrant's Quarterly Report on Form 10-Q filed on May 12, 2015, and incorporated herein by reference\).](#)
- 10.20* [Form of Indemnification Agreement between Zillow Group, Inc. and each of its directors and executive officers \(Filed as Exhibit 10.9 to Registrant's Current Report on Form 8-K12B filed with the Securities and Exchange Commission on February 17, 2015, and incorporated herein by reference\).](#)
- 10.21* [Zillow Group, Inc. Amended and Restated 2011 Incentive Plan \(Filed as Exhibit 10.3 to Registrant's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on August 5, 2016, and incorporated herein by reference\).](#)
- 10.22* [Form of Stock Option Grant Notice and Stock Option Agreement under the Zillow Group, Inc. Amended and Restated 2011 Incentive Plan \(Filed as Exhibit 10.2 to Registrant's Quarterly Report on Form 10-Q filed on August 5, 2015, and incorporated herein by reference\).](#)
- 10.23* [Form of Restricted Stock Unit Award Notice and Restricted Stock Unit Award Agreement under the Zillow Group, Inc. Amended and Restated 2011 Incentive Plan \(Filed as Exhibit 10.3 to Registrant's Quarterly Report on Form 10-Q filed on August 5, 2015, and incorporated herein by reference\).](#)
- 10.24* [Office Lease between The Northwestern Mutual Life Insurance Company and Zillow, Inc. dated March 22, 2011 \(Filed as Exhibit 10.10 to Zillow, Inc.'s Registration Statement on Form S-1 filed on April 18, 2011, and incorporated herein by reference\).](#)
- 10.25 [Amendment to Office Lease by and between FSP-RIC LLC and Zillow, Inc., dated as of June 27, 2012 \(Filed as Exhibit 10.1 to Zillow, Inc.'s Current Report on Form 8-K filed with the Securities and Exchange Commission on June 29, 2012, and incorporated herein by reference\).](#)
- 10.26 [Second Amendment to Lease by and between FSP-RIC, LLC and Zillow, Inc., dated as of April 16, 2013 \(Filed as Exhibit 10.1 to Zillow, Inc.'s Current Report on Form 8-K filed with the Securities and Exchange Commission on April 22, 2013, and incorporated herein by reference\).](#)
- 10.27 [Third Amendment to Lease by and between FSP-RIC, LLC and Zillow, Inc., dated as of January 10, 2014 \(Filed as Exhibit 10.10 to Zillow, Inc.'s Form 10-K filed with the Securities and Exchange Commission on February 18, 2014, and incorporated herein by reference\).](#)
- 10.28 [Fourth Amendment to Lease by and between FSP-RIC, LLC and Zillow, Inc., dated as of May 2, 2014 \(Filed as Exhibit 10.1 to Zillow, Inc.'s Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on August 6, 2014, and incorporated herein by reference\).](#)

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- 10.29 [Fifth Amendment to Lease by and between FSP-RIC, LLC and Zillow, Inc., dated as of November 19, 2014 \(Filed as Exhibit 10.1 to Zillow, Inc.'s Current Report on Form 8-K filed with the Securities and Exchange Commission on November 24, 2014, and incorporated herein by reference\).](#)
- 10.30 [Sixth Amendment to Lease by and between FSP-RIC, LLC and Zillow, Inc., dated as of June 21, 2016 \(Filed as Exhibit 10.1 to Registrant's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on August 5, 2016, and incorporated herein by reference\).](#)
- 10.31 [Lease, dated March 10, 2014, between Trulia, Inc. and BXP Mission 535 LLC \(Filed as Exhibit 10.1 to Trulia, Inc.'s Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on May 2, 2014, and incorporated herein by reference\).](#)
- 10.32 [Amendment to Office Lease, dated July 25, 2014, between Trulia, Inc. and BXP Mission 535 LLC \(Filed as Exhibit 10.1 to Trulia, Inc.'s Form 10-Q filed with the Securities and Exchange Commission on August 8, 2014, and incorporated herein by reference\).](#)
- 10.33 [Base Capped Call Confirmation, dated December 6, 2016, between Zillow Group, Inc. and Citigroup Global Markets Inc. \(Filed as Exhibit 10.1 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on December 12, 2016, and incorporated herein by reference\).](#)
- 10.34 [Base Capped Call Confirmation, dated December 6, 2016, between Zillow Group, Inc. and Goldman, Sachs & Co. \(Filed as Exhibit 10.2 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on December 12, 2016, and incorporated herein by reference\).](#)
- 10.35 [Base Capped Call Confirmation, dated December 6, 2016, between Zillow Group, Inc. and Bank of America, N.A. \(Filed as Exhibit 10.3 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on December 12, 2016, and incorporated herein by reference\).](#)
- 10.36 [Additional Capped Call Confirmation, dated December 8, 2016, between Zillow Group, Inc. and Citigroup Global Markets Inc. \(Filed as Exhibit 10.4 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on December 12, 2016, and incorporated herein by reference\).](#)
- 10.37 [Additional Capped Call Confirmation, dated December 8, 2016, between Zillow Group, Inc. and Goldman, Sachs & Co. \(Filed as Exhibit 10.5 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on December 12, 2016, and incorporated herein by reference\).](#)
- 10.38 [Additional Capped Call Confirmation, dated December 8, 2016, between Zillow Group, Inc. and Bank of America, N.A. \(Filed as Exhibit 10.6 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on December 12, 2016, and incorporated herein by reference\).](#)
- 10.39 [Zillow, Inc. Proprietary Rights Agreement \(Filed as Exhibit 10.1 to Zillow, Inc.'s Form 10-Q filed with the Securities and Exchange Commission on May 8, 2018, and incorporated herein by reference\).](#)
- 10.40 [Base Capped Call Confirmation, dated June 28, 2018, between Zillow Group, Inc. and Goldman Sachs & Co. LLC \(Filed as Exhibit 10.1 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on July 3, 2018, and incorporated herein by reference\).](#)
- 10.41 [Base Capped Call Confirmation, dated June 28, 2018, between Zillow Group, Inc. and Citibank, N.A. \(Filed as Exhibit 10.2 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on July 3, 2018, and incorporated herein by reference\).](#)
- 10.42 [Base Capped Call Confirmation, dated June 28, 2018, between Zillow Group, Inc. and Royal Bank of Canada, represented by RBC Capital Markets, LLC as its agent \(Filed as Exhibit 10.3 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on July 3, 2018, and incorporated herein by reference\).](#)

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- 10.43 [Base Capped Call Confirmation, dated June 28, 2018, between Zillow Group, Inc. and Bank of America, N.A. \(Filed as Exhibit 10.4 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on July 3, 2018, and incorporated herein by reference\).](#)
- 10.44 [Additional Capped Call Confirmation, dated July 2, 2018, between Zillow Group, Inc. and Goldman Sachs & Co., LLC \(Filed as Exhibit 10.5 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on July 3, 2018, and incorporated herein by reference\).](#)
- 10.45 [Additional Capped Call Confirmation, dated July 2, 2018, between Zillow Group, Inc. and Citibank, N.A. \(Filed as Exhibit 10.6 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on July 3, 2018, and incorporated herein by reference\).](#)
- 10.46 [Additional Capped Call Confirmation, dated July 2, 2018, between Zillow Group, Inc. and Royal Bank of Canada, represented by RBC Capital Markets, LLC as its agent \(Filed as Exhibit 10.7 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on July 3, 2018, and incorporated herein by reference\).](#)
- 10.47 [Additional Capped Call Confirmation, dated July 2, 2018, between Zillow Group, Inc. and Bank of America, N.A. \(Filed as Exhibit 10.8 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on July 3, 2018, and incorporated herein by reference\).](#)
- 10.48* [Executive Employment Agreement, dated November 6, 2018, between Zillow Group, Inc. and Allen Parker \(Filed as Exhibit 10.1 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on November 6, 2018, and incorporated herein by reference\).](#)
- 10.49* [Amended and Restated Executive Employment Agreement, dated November 13, 2018, between Zillow Group, Inc. and Allen Parker \(Filed as Exhibit 10.1 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on November 14, 2018, and incorporated herein by reference\).](#)
- 10.50* [Executive Employment Agreement, dated January 29, 2019, between Zillow Group, Inc. and Arik Prawer \(Filed as Exhibit 10.1 to Registrant's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on May 9, 2019, and incorporated herein by reference\).](#)
- 10.51* [Executive Departure Agreement and Release, dated February 20, 2019, between Zillow Group, Inc. and Spencer Rascoff \(Filed as Exhibit 10.1 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on February 21, 2019, and incorporated herein by reference\).](#)
- 10.52* [Zillow, Inc. Proprietary Rights Agreement \(Filed as Exhibits 10.3 to Registrant's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on May 9, 2019, and incorporated herein by reference\).](#)
- 10.53* [Zillow Group, Inc. 2019 Equity Inducement Plan \(Filed as Exhibit 99.2 to Registrant's Form S-8, filed with the Securities and Exchange Commission on August 8, 2019, and incorporated herein by reference\).](#)
- 10.54* [Form of Stock Option Grant Notice and Stock Option Agreement under the Zillow Group, Inc. 2019 Equity Inducement Plan \(Filed as Exhibit 10.2 to Registrant's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on November 7, 2019, and incorporated herein by reference\).](#)
- 10.55* [Form of Restricted Stock Unit Award Notice and Restricted Stock Unit Award Agreement under the Zillow Group, Inc. 2019 Equity Inducement Plan \(Filed as Exhibit 10.3 to Registrant's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on November 7, 2019, and incorporated herein by reference\).](#)
- 10.56 [Capped Call Confirmation \(2024 Notes\), dated September 4, 2019, between Zillow Group, Inc. and Morgan Stanley & Co., LLC \(Filed as Exhibit 10.1 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on September 10, 2019, and incorporated herein by reference\).](#)

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- 10.57 [Capped Call Confirmation \(2026 Notes\), dated September 4, 2019, between Zillow Group, Inc. and Morgan Stanley & Co., LLC.](#) (Filed as Exhibit 10.2 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on September 10, 2019, and incorporated herein by reference).
- 10.58 [Capped Call Confirmation \(2024 Notes\), dated September 4, 2019, between Zillow Group, Inc. and Citibank, N.A.](#) (Filed as Exhibit 10.3 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on September 10, 2019, and incorporated herein by reference).
- 10.59 [Capped Call Confirmation \(2026 Notes\), dated September 4, 2019, between Zillow Group, Inc. and Citibank, N.A.](#) (Filed as Exhibit 10.4 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on September 10, 2019, and incorporated herein by reference).
- 10.60 [Capped Call Confirmation \(2024 Notes\), dated September 4, 2019, between Zillow Group, Inc. and Goldman Sachs & Co. LLC](#) (Filed as Exhibit 10.5 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on September 10, 2019, and incorporated herein by reference).
- 10.61 [Capped Call Confirmation \(2024 Notes\), dated September 4, 2019, between Zillow Group, Inc. and Barclays Bank PLC](#) (Filed as Exhibit 10.6 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on September 10, 2019, and incorporated herein by reference).
- 10.62 [Capped Call Confirmation \(2026 Notes\), dated September 4, 2019, between Zillow Group, Inc. and Barclays Bank PLC](#) (Filed as Exhibit 10.7 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on September 10, 2019, and incorporated herein by reference).
- 10.63 [Capped Call Confirmation \(2026 Notes\), dated September 4, 2019, between Zillow Group, Inc. and JPMorgan Chase Bank, National Association](#) (Filed as Exhibit 10.8 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on September 10, 2019, and incorporated herein by reference).
- 10.64 [Capped Call Confirmation \(2024 Notes\), dated October 4, 2019, between Zillow Group, Inc. and Morgan Stanley & Co., LLC](#) (Filed as Exhibit 10.1 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on October 9, 2019, and incorporated herein by reference).
- 10.65 [Capped Call Confirmation \(2024 Notes\), dated October 4, 2019, between Zillow Group, Inc. and Citibank, N.A.](#) (Filed as Exhibit 10.2 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on October 9, 2019, and incorporated herein by reference).
- 10.66 [Capped Call Confirmation \(2024 Notes\), dated October 4, 2019, between Zillow Group, Inc. and Goldman Sachs & Co. LLC](#) (Filed as Exhibit 10.3 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on October 9, 2019, and incorporated herein by reference).
- 10.67 [Capped Call Confirmation \(2024 Notes\), dated October 4, 2019, between Zillow Group, Inc. and Barclays Bank PLC](#) (Filed as Exhibit 10.4 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on October 9, 2019, and incorporated herein by reference).
- 10.68* [Executive Departure Agreement and Release, dated November 15, 2019, between Zillow Group, Inc. and Greg Schwartz](#) (Filed as Exhibit 10.1 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on November 18, 2019, and incorporated herein by reference).
- 16.1 [Letter of Ernst & Young LLP, dated August 4, 2016](#) (Filed as Exhibit 16.1 to Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on August 4, 2016, and incorporated herein by reference).
- 16.2 [Letter of Ernst & Young LLP, dated February 7, 2017](#) (Filed as Exhibit 16.1 to Registrant's Current Report on Form 8-K/A filed with the Securities and Exchange Commission on February 10, 2017, and incorporated herein by reference).
- 21.1 [Subsidiaries of Zillow Group, Inc.](#)
- 23.1 [Consent of independent registered public accounting firm.](#)
- 31.1 [Certification of Chief Executive Officer pursuant to Rule 13-14\(a\) of the Securities Exchange Act of 1934 as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.](#)

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- 31.2 [Certification of Chief Financial Officer pursuant to Rule 13-14\(a\) of the Securities Exchange Act of 1934 as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.](#)
 - 32.1 [Certification of Chief Executive Officer Pursuant to 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.](#)
 - 32.2 [Certification of Chief Financial Officer Pursuant to 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.](#)
- 101.INS Inline XBRL Instance Document (the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the inline XBRL document).
- 101.SCH Inline XBRL Taxonomy Extension Schema Document.
- 101.CAL Inline XBRL Taxonomy Extension Calculation Linkbase Document.
- 101.DEF Inline XBRL Taxonomy Extension Definition Linkbase Document.
- 101.LAB Inline XBRL Taxonomy Extension Label Linkbase Document.
- 101.PRE InlineXBRL Taxonomy Extension Presentation Linkbase Document.
- 104 Coverage Page Interactive Data File (embedded within the Inline XBRL document).
- * Indicates a management contract or compensatory plan or arrangement.
- + Schedules omitted pursuant to Item 601(b)(2) of Regulation S-K. Zillow Group agrees to furnish a supplemental copy of any omitted schedule to the Securities and Exchange Commission upon request.

Item 16. Form 10-K Summary.

None.

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Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Dated: February 19, 2020

ZILLOW GROUP, INC.

By: /s/ JENNIFER ROCK
 Name: Jennifer Rock
 Title: Chief Accounting Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities indicated below on February 19, 2020.

Signature	Title
<u>/s/ RICHARD BARTON</u> Richard Barton	Chief Executive Officer (Principal Executive Officer) and Director
<u>/s/ ALLEN PARKER</u> Allen Parker	Chief Financial Officer (Principal Financial Officer)
<u>/s/ JENNIFER ROCK</u> Jennifer Rock	Chief Accounting Officer (Principal Accounting Officer)
<u>/s/ LLOYD D. FRINK</u> Lloyd D. Frink	Executive Chairman, President and Director
<u>/s/ ERIK BLACHFORD</u> Erik Blachford	Director
<u>/s/ APRIL UNDERWOOD</u> April Underwood	Director
<u>/s/ JAY C. HOAG</u> Jay C. Hoag	Director
<u>/s/ GREGORY B. MAFFEI</u> Gregory B. Maffei	Director
<u>/s/ SPENCER M. RASCOFF</u> Spencer M. Rascoff	Director
<u>/s/ GORDON STEPHENSON</u> Gordon Stephenson	Director
<u>/s/ AMY BOHUTINSKY</u> Amy Bohutinsky	Director

