



IMPACT ANALYSIS REPORT

Airbnb and Impacts on the New York City Lodging Market and Economy

NEW YORK, NEW YORK

SUBMITTED TO:

Hotel Association of New York City
320 Park Avenue, 22nd Floor
New York, New York 10022

+1 (212) 754-6700

PREPARED BY:

HVS Consulting & Valuation
Division of TS Worldwide, LLC
369 Willis Avenue
Mineola, New York 11501

+1 (516) 248-8828



October 13, 2015

Mr. Vijay Dandapani, Chair
And
Joseph E. Spinnato, Esq., CAE, President
Hotel Association of New York City
320 Park Avenue, 22nd Floor
New York, New York 10022
(212) 754-6700

HVS NEW YORK
369 Willis Avenue
Mineola, New York, 11501
+1 (516) 248-8828
+1 (516) 742-3059 FAX
www.hvs.com

- Atlanta
- Boston
- Boulder
- Chicago
- Dallas
- Denver
- Houston
- Las Vegas
- Los Angeles
- Mexico City
- Miami
- Minneapolis
- New Orleans
- New York
- Newport
- Philadelphia
- Portland
- San Francisco
- St. Louis
- Toronto
- Vancouver
- Washington
- Athens
- Bahamas
- Bangkok
- Beijing
- Dubai
- Hong Kong
- Jakarta
- London
- Milan
- New Delhi
- Sao Paulo
- Shenzhen
- Shanghai
- Singapore

Dear Association Members:

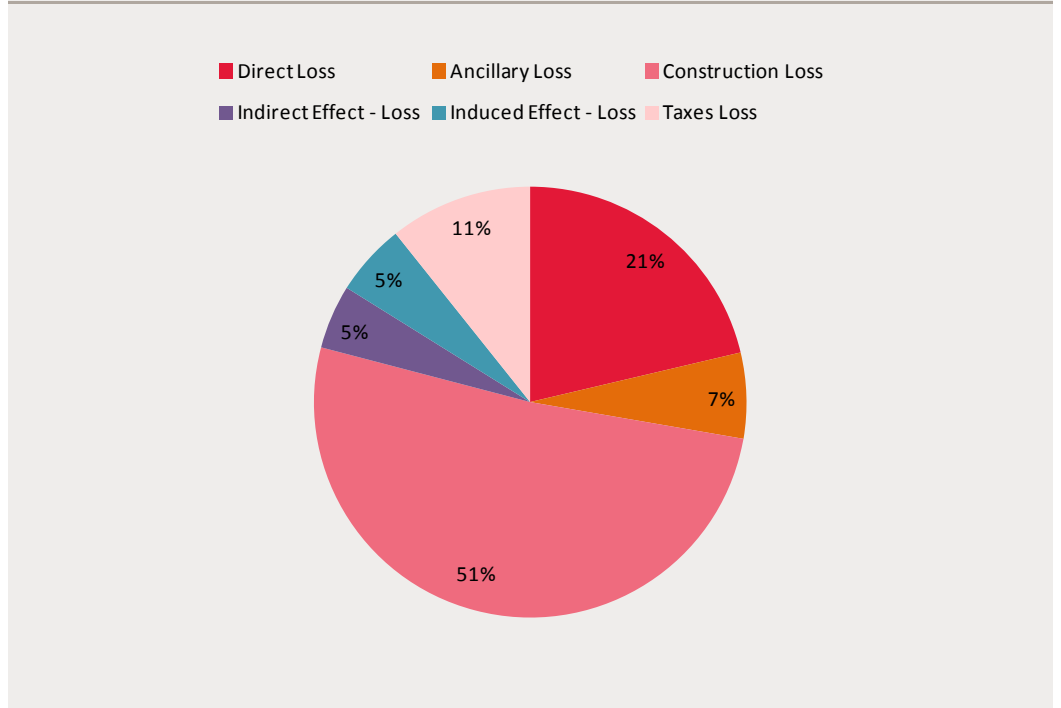
This report presents our findings of impact of the operation of Airbnb on the local lodging industry and economy of New York City. We have studied the direct impact of lost lodging revenue over the twelve-month period from September 2014 through August 2015 and have developed a forecast of potential growth in this impact through 2018. We also developed opinions of impact as it relates to the ancillary departments of a hotel, loss to the construction sector, indirect and induced economic impacts, and effects on taxes. The following table summarizes the overall impact of Airbnb on the New York City lodging market and economy from September 2014 through August 2015.

OVERALL ANNUAL IMPACT (2014/15 ENDING AUGUST)

Direct Loss	\$451,426,000
Ancillary Loss	
Food	\$88,880,636
Beverage	\$20,537,467
Other Operated Departments	\$11,850,752
Miscellaneous Income	\$14,669,620
Total	\$135,938,475
Construction Loss (Entire home/apt)	\$1,088,746,711
Indirect Effect - Loss	\$101,616,132
Induced Effect - Loss	\$114,665,277
Tax	
Employee Compensation	\$28,549,361
Proprietor Income	\$835,414
Tax on Production and Imports	\$78,257,402
Households	\$31,287,187
Corporations	\$11,161,818
Lodging Tax	\$76,503,790
Total	\$226,594,972
Total	\$2,118,987,567
Rounded	\$2,100,000,000

As illustrated, the overall impact is estimated to be \$2.1 billion (rounded) during the fiscal year ending August 2015. Further details pertaining to fire safety and the union sector are also presented herein.

FIGURE 1 FISCAL IMPACT SUMMARY – MAJOR CATEGORIES



We hereby certify that we have no undisclosed interest as it relates to the subject matter of this study, and our employment and compensation are not contingent upon our findings. This study is subject to the comments made throughout this report and to all assumptions and limiting conditions set forth herein.

Sincerely,
TS Worldwide, LLC



Rodney G. Clough, MAI, Senior Managing Director
rclough@hvs.com, +1 (214) 629-1136

Table of Contents

SECTION	TITLE	PAGE
1.	Direct Rooms Revenue Impact	5
2.	Ancillary Revenue Loss	21
3.	Economic Impact - Labor	23
4.	Economic Impact - Construction Industry	32
5.	Impact to Taxes	37
6.	Conclusion	40
7.	Statement of Assumptions and Limiting Conditions	42

1. Direct Rooms Revenue Impact

\$451 Million in Rooms Revenue is now Captured by Airbnb

Our study first presents the direct rooms-revenue impact on the New York Lodging market, by the existence and availability of the Airbnb room supply.

According to Airdna, a leading data collection firm, the following table presents the total reservations, room nights, and revenue for the period of September 2014 through August 2015. Average daily rate (ADR) is calculated by dividing the revenue by the room nights.

FIGURE 2 NEARLY 2.9 MILLION ROOM NIGHTS ARE CURRENTLY CAPTURED BY AIRBNB ANNUALLY, AT A \$157 RATE

2014 SEPT - 2015 AUG	
Total Reservations	479,651
Total Airbnb Room Nights	2,876,396
Average ADR	\$156.94
Total Revenue	\$451,426,142

As indicated, Airbnb has accommodated nearly 2.9 million room nights during the last fiscal year, ending August 2015, at an average rate of approximately \$157.00 per night.

Potential of \$800 Million in Rooms-Revenue Capture by 2018

HVS has taken this base year of data and applied a forecast of revenue growth going forward. This is presented in the following table, along with a longer-term historical perspective of Airbnb revenues for context.

FIGURE 3 AIRBNB REVENUE GROWTH RATE DECLINES, BUT OVERALL SHARE OF MARKET REVENUE NEARLY DOUBLES BY 2018

Year	Estimated	Forecast	Combined	% Change
2010	\$13.33		\$13.33	
2011	\$45.00		\$45.00	238%
2012	\$116.67		\$116.67	159%
2013	\$215.00		\$215.00	84%
2014	\$319.28		\$319.28	49%
2015	\$451.43		\$451.43	41%
2016		\$610.09	\$610.09	35%
2017		\$732.11	\$732.11	20%
2018		\$805.32	\$805.32	10%

The historical data reflect a diminishing trend in the growth rate, which is expected to continue. Based on the historical pattern through August 2015, we have forecast revenue growth of 35% in 2016, 20% in 2017, and 10% in 2018. This results in just over \$800 million by 2018. The following table presents the distribution of this revenue growth between demand and ADR.

FIGURE 4 DISTRIBUTION OF REVENUE GROWTH WEIGHTED TOWARD ROOM NIGHTS WITH LESS RATE GROWTH EXPECTED

Year	Demand in Room Nights	Demand Growth	ADR	ADR Growth
2015	2,876,396		\$156.94	
2016	3,848,887	34%	\$159	1%
2017	4,550,409	18%	\$161	2%
2018	4,883,366	7%	\$165	3%

FIGURE 5 GROWTH RATES IN DEMAND AND REVENUE REMAIN POSITIVE, BUT CONTINUE TO LOWER IN INTENSITY AS BASE BUILDS

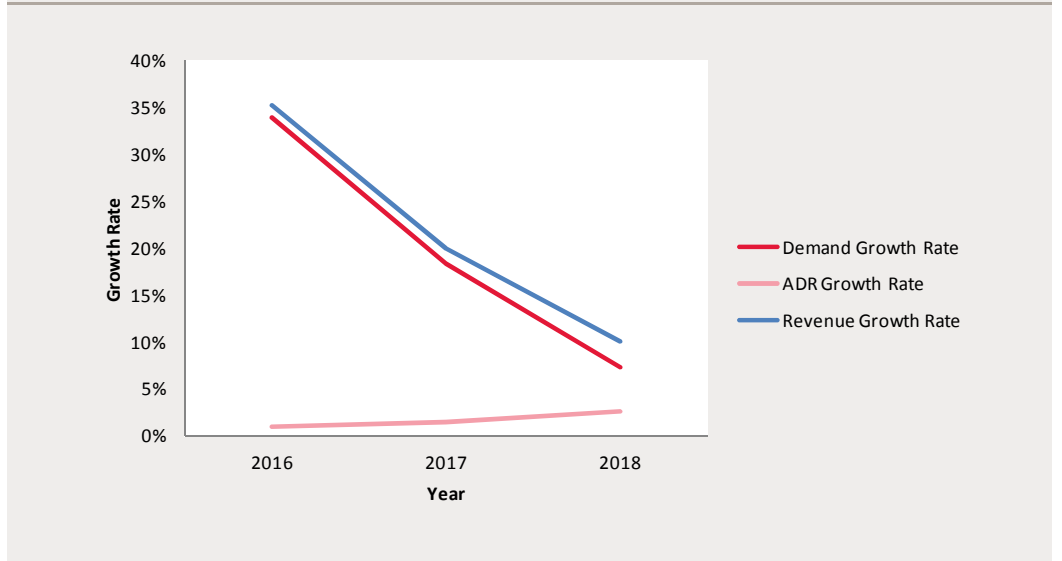


FIGURE 6 AIRBNB NYC ROOM-NIGHT CAPTURE APPROACHES 5 MILLION BY 2018

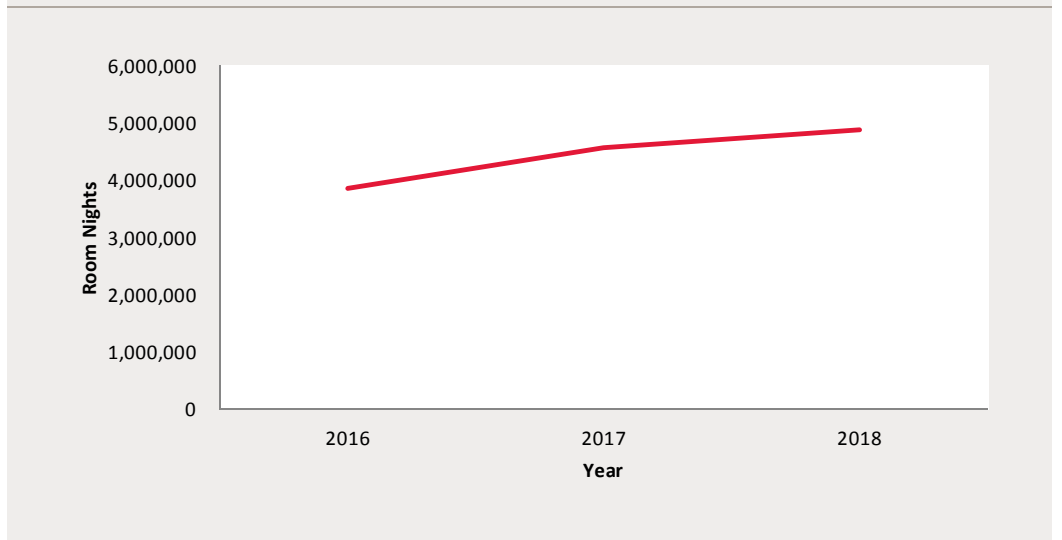
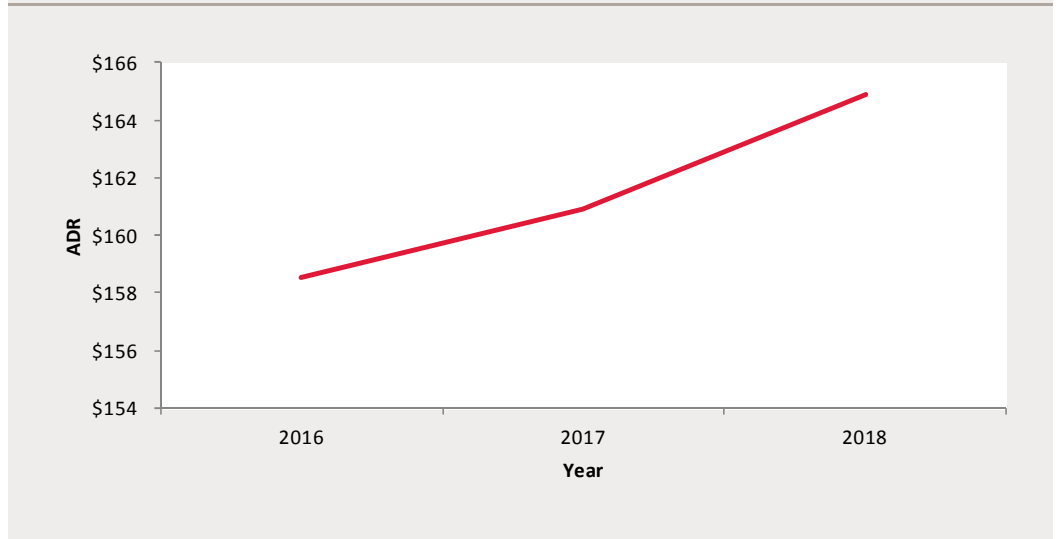
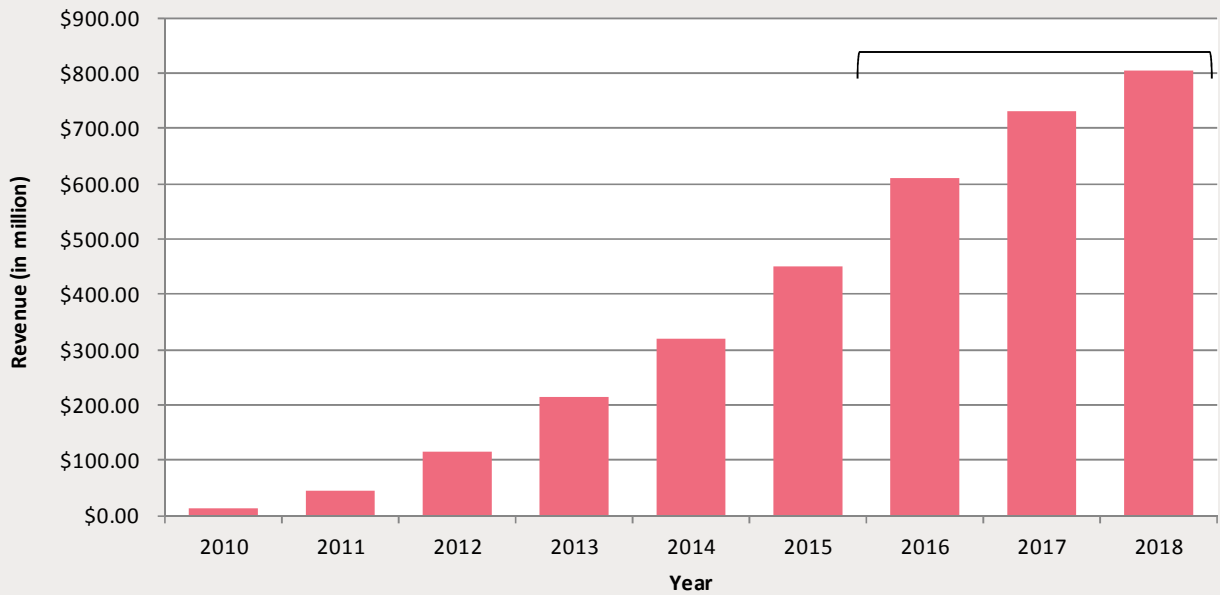


FIGURE 7 AIRBNB NYC ADR REACHES \$165

Given the current trends of diminishing pricing power in the New York City market, we have allocated a majority of the revenue growth to the room-nights component. ADR grows more gradually, at 1%, 2%, and 3%, over the course of the next three years. Ultimately, we expect the average Airbnb rate to approach the mid-\$160 range, while room nights captured by the platform should approach 4.9 million over the course of the next three years. This revenue growth forecast is illustrated in the following graph.

FIGURE 8 AIRBNB REVENUE GROWTH RATE EXPECTED TO DIMINISH, BUT GROW TO \$800M



We have also considered the new supply dynamic of the market as a whole. The availability of new rooms within the New York City lodging market is intensifying over time, as more and more new hotels are under construction and are ultimately set to open over the next several years. These new options will increase the competitiveness of the overall market and open lower rate tiers of rooms to price-sensitive customers.

Airbnb Now Captures Nearly 8% of NYC Demand

To put this base year of revenue capture into perspective, the roughly \$451 million in revenue represents 4.6% of the overall rooms-revenue capture of the greater New York City market. Due to the lower overall average rate of Airbnb inventory versus the NYC hotel rate, the impact on demand is accordingly higher, at roughly 7.8%. This share is considered strong; it is growing and is an important market dynamic that all NYC lodging-market owners and managers must consider. The following table presents these respective shares of the market.

FIGURE 9 AIRBNB NOW CAPTURES NEARLY 8% OF NYC DEMAND

	Airbnb	Hotels	Total
Total Occupied Room Nights	2,876,396	33,949,584	36,825,980
%	7.81%	92.19%	
ADR	\$156.94	\$276.08	
Revenue	\$451,426,142	\$9,372,720,548	\$9,824,146,690
%	4.60%	95.40%	

FIGURE 10 AIRBNB INVENTORY SHARE IS NOW NEARLY 5%

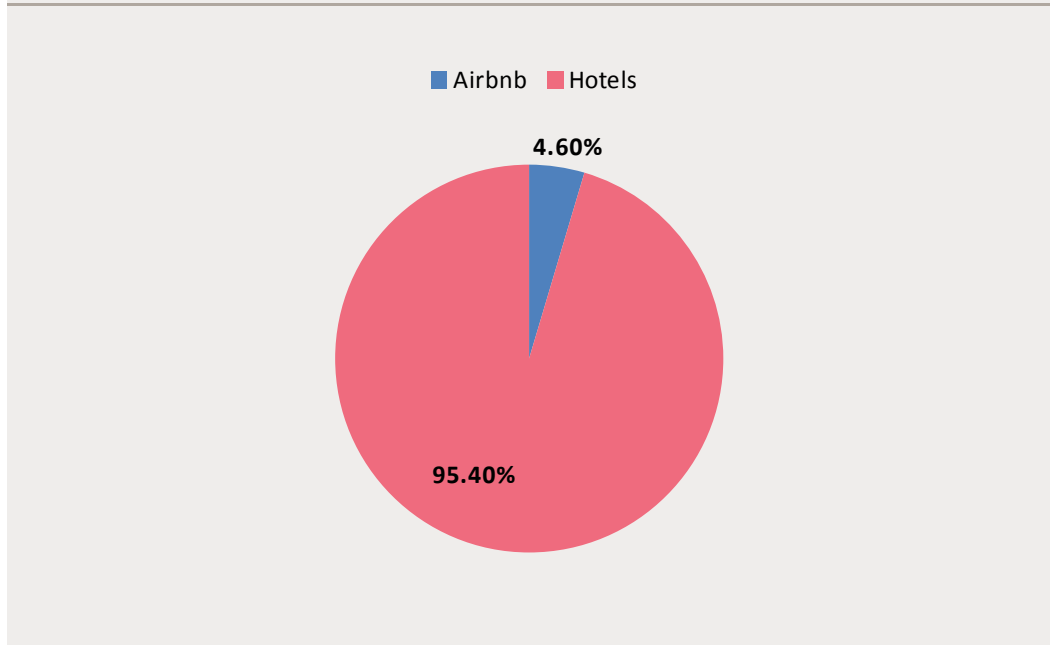
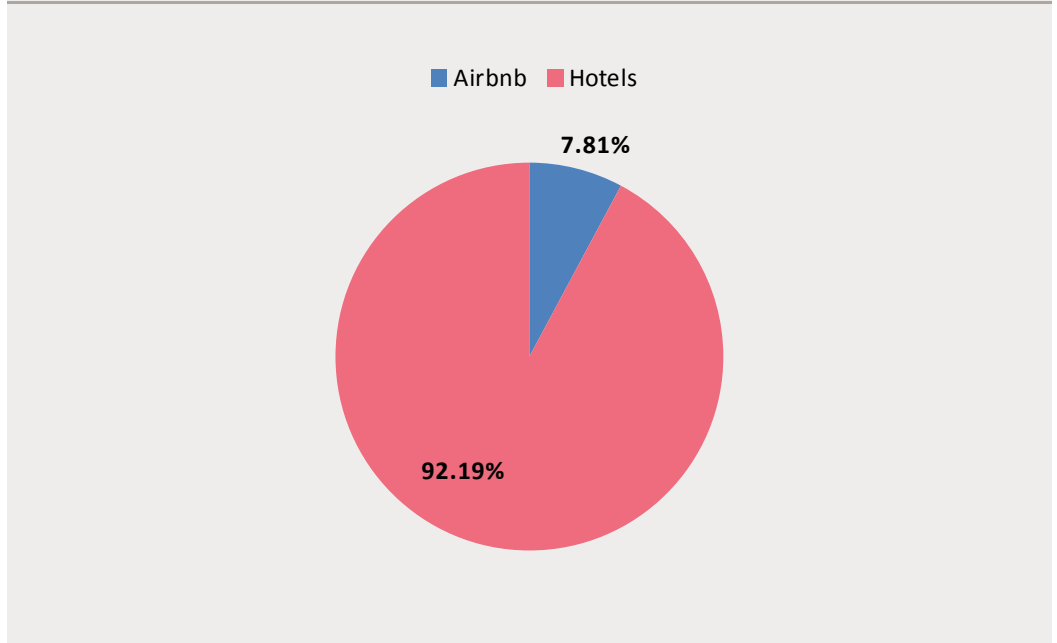


FIGURE 11 AIRBNB ROOM-NIGHTS SHARE IS NOW NEARLY 8%



Seasonality Trends Reflect Heightened Impact from April through December

The following tables detail the monthly data over the historical period reviewed, illustrating that while demand is spread throughout the entire year, it diminishes during the very early months of the year (typically the coldest months).

FIGURE 12 MAY THROUGH DECEMBER REPRESENTS PEAK DEMAND PERIOD FOR AIRBNB

	September-14	October-14	November-14	December-14	January-15	February-15	March-15	April-15	May-15	June-15	July-15	August-15
Supply	335,070	362,217	404,242	509,783	444,410	288,004	342,063	363,174	418,124	392,051	425,573	456,905
Demand	247,907	251,624	230,453	276,555	191,987	143,545	185,339	223,285	283,139	268,385	277,037	297,140
Occupancy	74%	69%	57%	54%	43%	50%	54%	61%	68%	68%	65%	65%
Revenue	\$38,760,261	\$41,439,826	\$38,392,952	\$46,340,922	\$29,139,086	\$21,683,362	\$26,389,502	\$34,904,080	\$45,315,321	\$41,467,849	\$42,925,967	\$44,667,014
ADR	\$154	\$161	\$164	\$164	\$150	\$150	\$142	\$154	\$155	\$152	\$151	\$147

FIGURE 13 AIRBNB REVENUE DECLINES JANUARY – APRIL

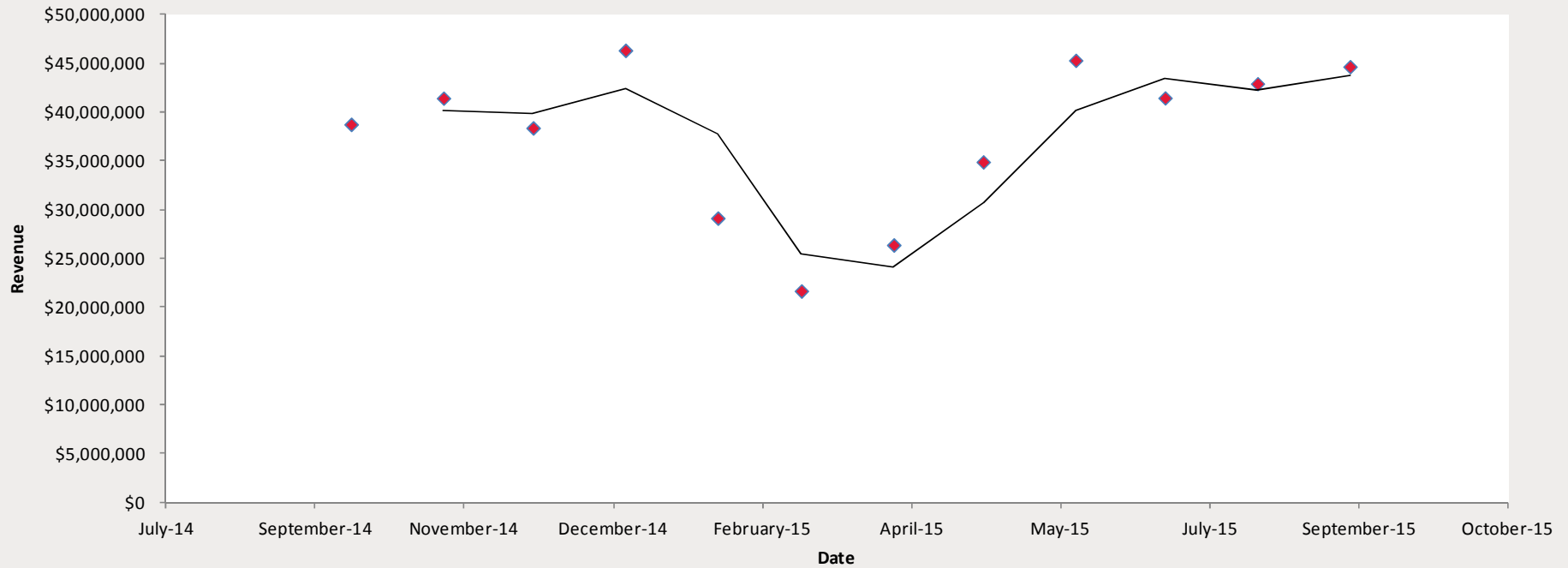


FIGURE 14 DEMAND VARIES WITH SUPPLY, WITH PEAK SUPPLY AVAILABLE IN DECEMBER

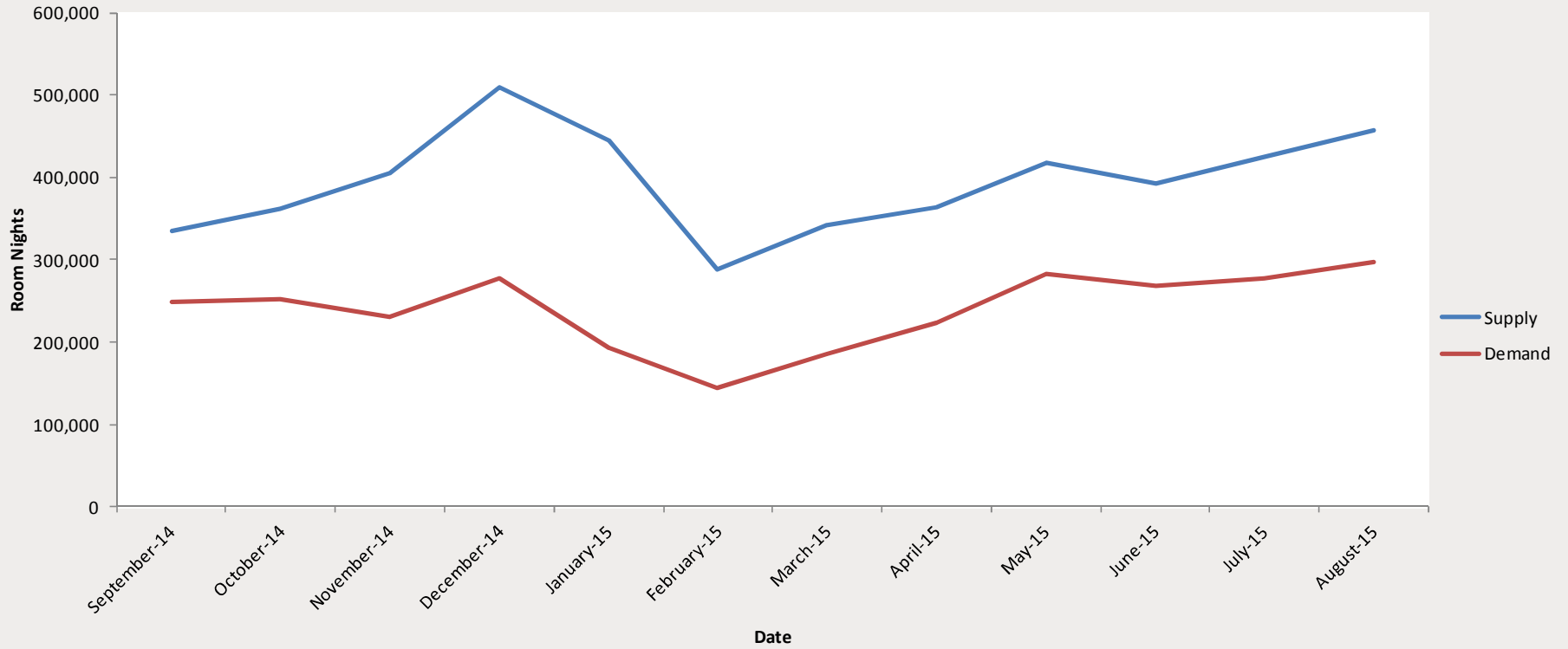


FIGURE 15 AIRBNB RATES INTENSIFY IN THE FINAL MONTHS AND SPRING

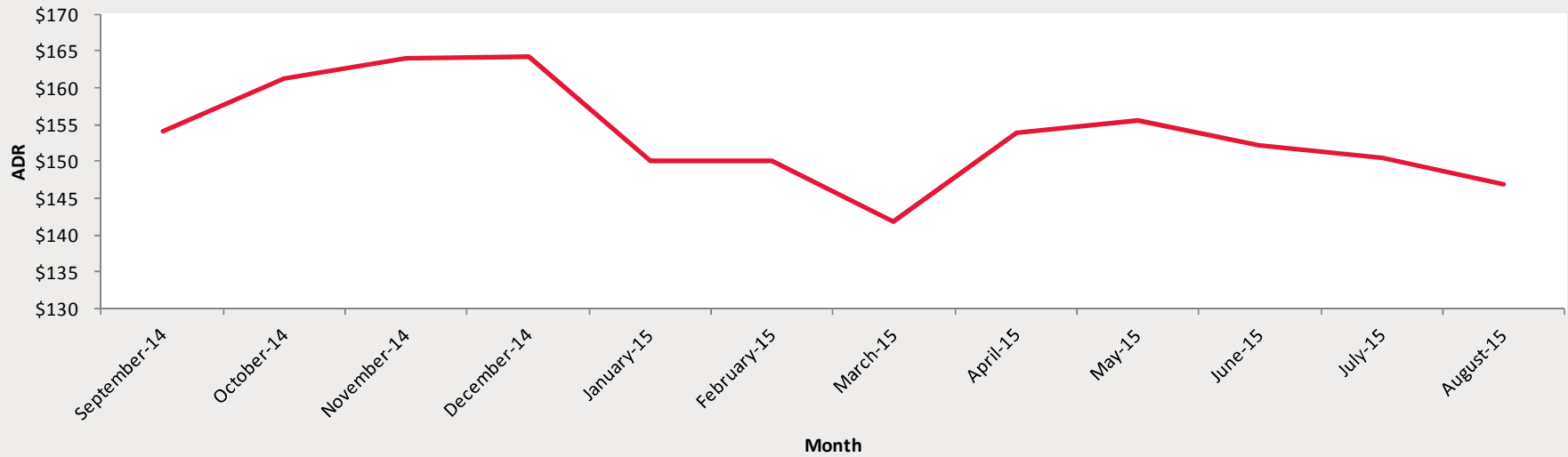


FIGURE 16 WINTER REPRESENTS SLOWEST DEMAND PERIOD FOR ENTIRE MARKET

	September-14	October-14	November-14	December-14	January-15	February-15	March-15	April-15	May-15	June-15	July-15	August-15
Airbnb Supply	335,070	362,217	404,242	509,783	444,410	288,004	342,063	363,174	418,124	392,051	425,573	456,905
Airbnb Demand	247,907	251,624	230,453	276,555	191,987	143,545	185,339	223,285	283,139	268,385	277,037	297,140
Hotel Supply	3,129,870	3,233,331	3,132,120	3,239,996	3,227,286	2,919,028	3,241,825	3,148,440	3,275,305	3,178,650	3,294,494	3,321,774
Hotel Demand	2,804,705	2,911,643	2,652,227	2,790,839	2,228,500	2,208,765	2,712,738	2,766,818	2,956,354	2,900,042	2,952,511	2,941,471
Occupancy	90%	90%	85%	86%	69%	76%	84%	88%	90%	91%	90%	89%
Total Demand (Airbnb + Hotel)	3,052,612	3,163,267	2,882,680	3,067,394	2,420,487	2,352,310	2,898,077	2,990,103	3,239,493	3,168,427	3,229,548	3,238,611
Total Demand/Hotel Supply	97.5%	97.8%	92.0%	94.7%	75.0%	80.6%	89.4%	95.0%	98.9%	99.7%	98.0%	97.5%

Over time, we would anticipate this type of seasonality trend to diminish, particularly for the months of March and April, when demand becomes more plentiful. The trend line experienced in the fall of 2014 will become more prevalent throughout the remainder of the year, although the drop in January and February would be expected to continue given the historical seasonality trends.

Going forward, we would expect Airbnb rate growth to intensify during the spring and summer months, in particular, as that is where the greatest opportunity for rate growth exists. However, as previously stated, we forecast most of the revenue growth to come from room-night capture.

**The Majority of Airbnb
Room Types Compete
with the NYC Hotel
Industry**

The product type of Airbnb available inventory is important to consider in the overall impact analysis, as not every listing represents a unit that would necessarily compete with the New York City hotel industry. Renting someone's couch, air mattress in a shared room, and staying in a tent in someone's backyard is not necessarily demand that would pay a substantially higher rate to stay in a hotel. This is best illustrated by the non-real-bed type, shared-room type, and other property type, as presented in the following table.

FIGURE 17 REAL BEDS, ENTIRE HOUSE & PRIVATE ROOMS, AND APARTMENT/HOUSE DOMINATE AIRBNB PRODUCT TYPE

2014 SEPT - 2015 AUG	Bed Type			Room Type				Property Type			
	Real Bed	Non-Real Bed	Total	Entire House or Apartment	Private Room	Shared Room	Total	Apartment and House	Bed and Breakfast, Condominium, and Townhouse	Other	Total
Listings	63,262	2,641	65,903	36,643	27,121	2,139	65,903	63,397	667	1,839	65,903
Listing Percentage	95.99%	4.01%		55.60%	41.15%	3.25%		96.20%	1.01%	2.79%	
Room nights/Year (Demand)	2,769,449	106,947	2,876,396	1,699,703	1,071,319	105,374	2,876,396	2,780,496	16,529	79,371	2,876,396
Percentage	96%	4%		59.09%	37.25%	3.66%		96.67%	0.57%	2.76%	
Average Price	\$154.81	\$128.36		\$172.95	\$128.54	\$109.45		\$153.67	\$138.95	\$162.00	

Real-bed demand is potential demand that could be captured by the New York City lodging market. The non-real-bed demand is considered unavailable demand that would not stay in a hotel, even if the lowest price point were available within the market.

FIGURE 18 MAJORITY OF AIRBNB REVENUE (96%) CONSISTS OF REAL-BED CATEGORY

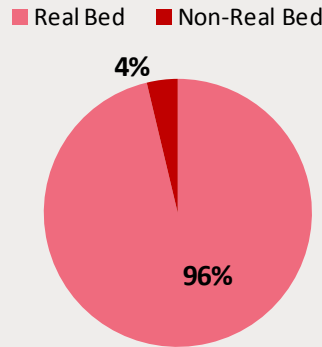
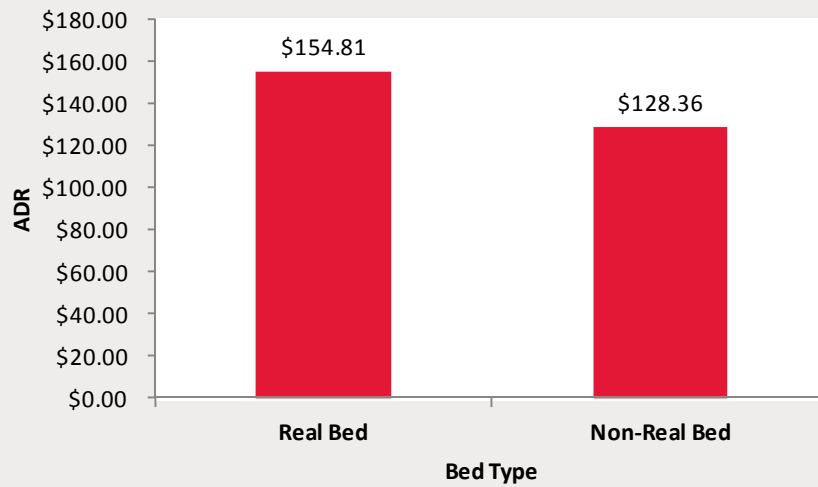


FIGURE 19 REAL-BED CATEGORY COMMANDS HIGHEST RATES



The same dynamic extends to entire residence and private-room demand, which would be demand available to the hotel industry but has opted for Airbnb as the lodging option. The shared-room category would not be demand expected to be available to the lodging industry.

FIGURE 20 MAJORITY OF AIRBNB REVENUE CONSISTS OR ENTIRE RESIDENCE OR PRIVATE ROOM

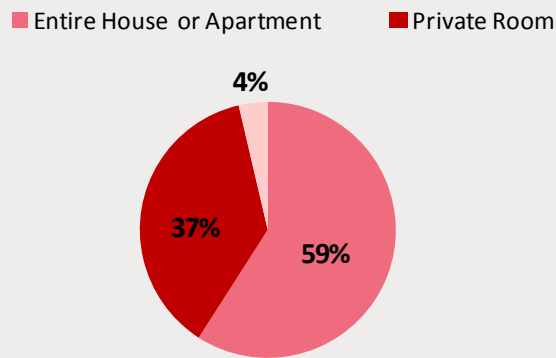
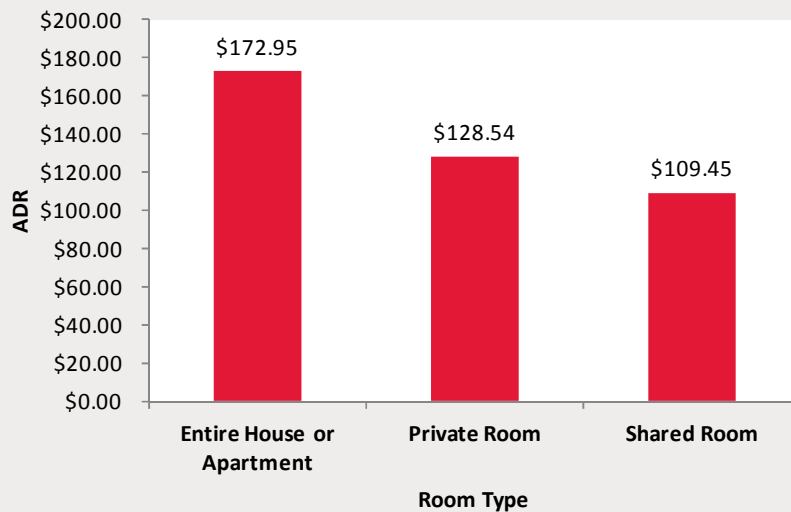


FIGURE 21 ENTIRE RESIDENCE AND PRIVATE ROOM COMMAND HIGHEST RATES



Finally, apartment/house demand would be demand available to the hotel industry.

FIGURE 22 MAJORITY OF AIRBNB REVENUE: ENTIRE RESIDENCE OR PRIVATE ROOM

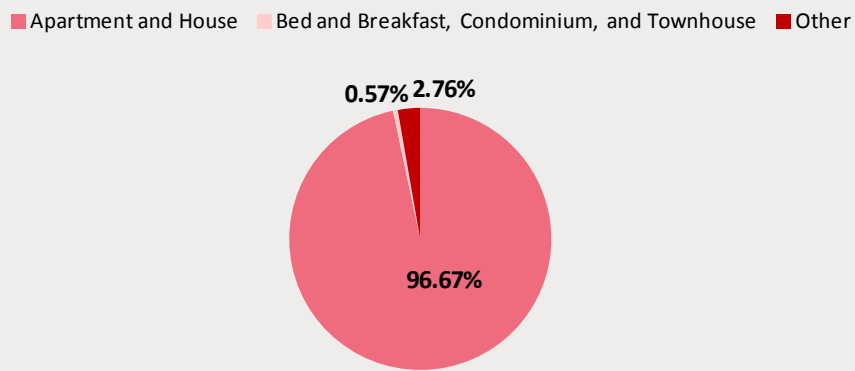
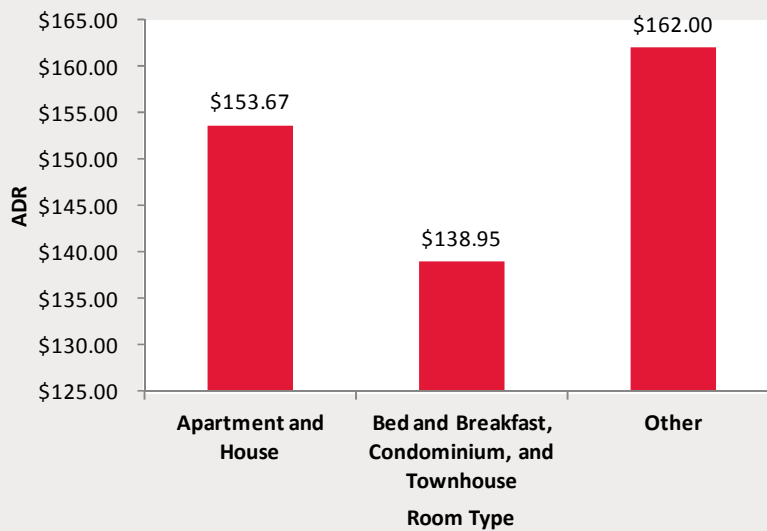


FIGURE 23 ENTIRE RESIDENCE AND PRIVATE ROOMS EARN HIGHEST RATES



We note in conclusion:

- In the fiscal year ending August 2015, Airbnb revenue surpassed \$451 million, representing a nearly 5% share of the overall NYC lodging market.
- Given the trend line of growth and expected market dynamics, this revenue level has the potential to grow to \$800 million by 2018, intensifying the impact on the NYC lodging market.
- The majority of this revenue growth will come from room nights, as rates remain depressed and have less potential to expand in this product and customer category.
- The room-type inventory of Airbnb comprises a majority of units that represent direct competition to the New York City lodging market. This dynamic is not expected to vary over time given the consistency of the overall mix of room types that has developed to date.
- The share of the overall market demand is now approaching a formidable 8%, a number that represents nearly 2.9 million room nights and growing.

2. Ancillary Revenue Loss

Direct Revenue Impact Has the Potential to Surpass \$1 Billion

Hotels earn much revenue beyond the direct impact from the rooms department, which is important to consider. Guests spend additional funds on food items, beverages, gift shop and market pantry items, vending machines, parking, and other ancillary sources.

Given that the people who utilize Airbnb are individuals, not groups, banquet and related revenues specifically tied to the group demand segment were adjusted out of our forecasts. Accordingly, the following table reflects our opinion of overall revenue impact, after considering all departments and aspects of a hotel's operation in this market.

FIGURE 24 ULTIMATE DIRECT IMPACT SUPASSES \$1 BILLION BY 2018

	2015	2016	2017	2018	2015 (%)
Room	\$451,426,000	\$610,091,000	\$732,109,000	\$805,320,000	77%
Food	\$88,880,636	\$114,203,580	\$134,793,815	\$147,228,478	15%
Beverage	\$20,537,467	\$25,054,317	\$28,780,507	\$31,098,064	3%
Other Operated Departments	\$11,850,752	\$13,379,070	\$14,695,862	\$15,584,250	2%
Miscellaneous Income	\$14,669,620	\$16,561,470	\$18,191,480	\$19,291,183	2%
Total	\$587,364,475	\$779,289,437	\$928,570,663	\$1,018,521,974	

The following graph helps illustrate the contributions of rooms and food categories to the overall total.

FIGURE 25 RELATIONSHIPS OF ROOMS AND FOOD REVENUE TO TOTAL

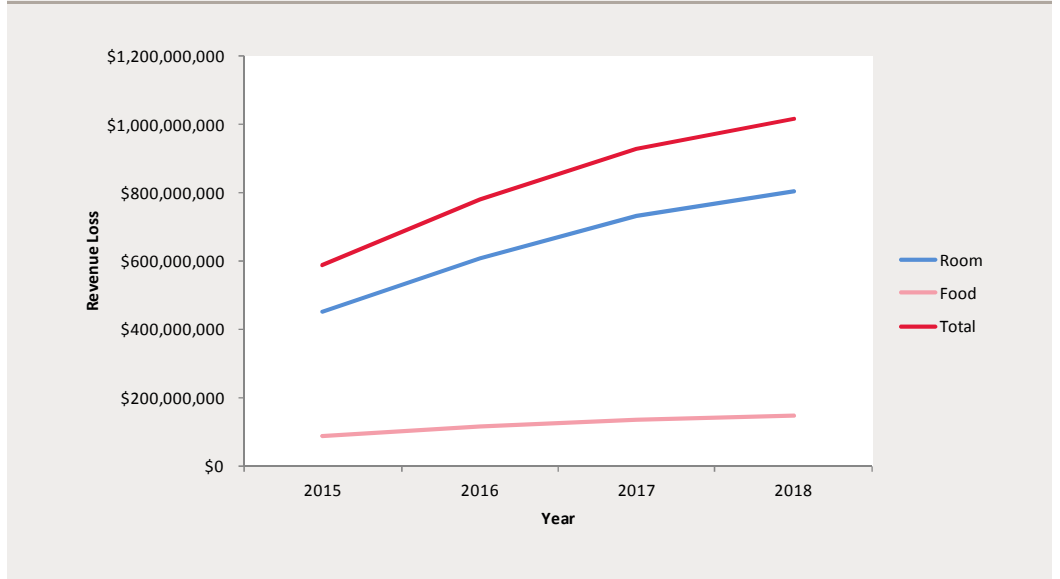
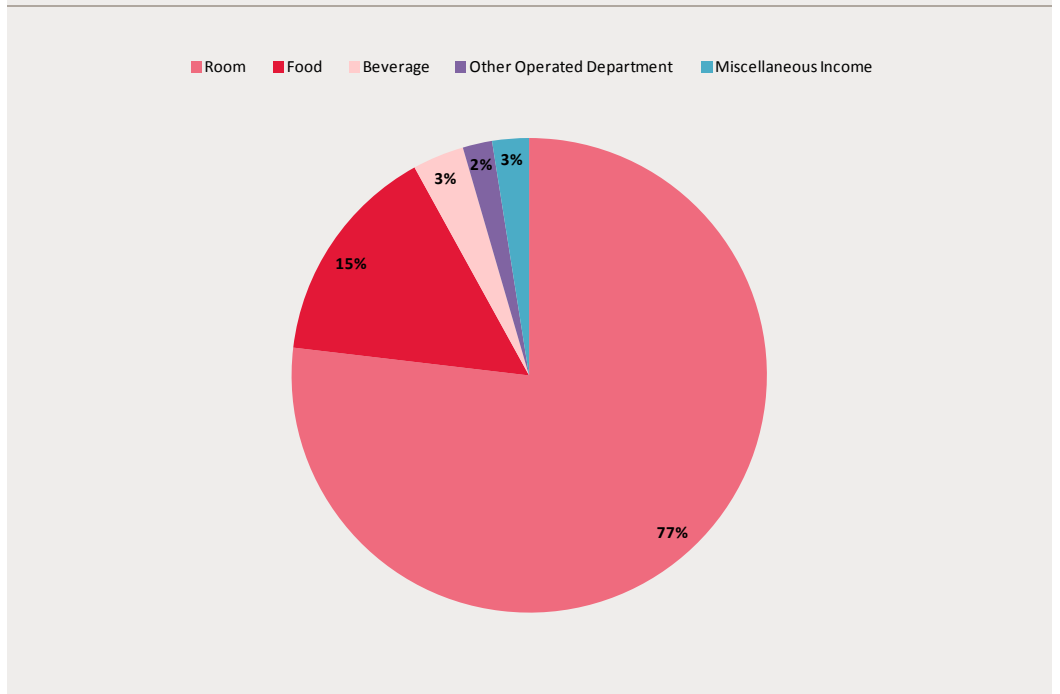


FIGURE 26 REMAINING CATEGORIES HAD THE POTENTIAL TO CONTRIBUTE AN IMPORTANT 23% OF REVENUE TO THE OVERALL HOTEL INDUSTRY REVENUE CAPTURE



3. Economic Impact – Labor

Hotels are labor-intensive operations that generate significant employment opportunities for a community. By removing demand from the market, and the need to service those rooms, so too are jobs removed from the market that would handle the operations of those rooms. According to our research, including data analyzed via IMPLAN software, we estimate impacts to labor as follows (note that construction industry and tax impacts are presented in later chapters).

FIGURE 27 LABOR LOSS APPROACHES \$670 MILLION IN ECONOMIC IMPACT

Impact Type	Employment	Labor Income	Value Added	Output
Direct Effect	2,842.30	\$204,628,182	\$339,742,952	\$451,426,161
Indirect Effect	508.1	\$43,731,793	\$65,432,642	\$101,616,132
Induced Effect	693.1	\$45,978,604	\$76,931,788	\$114,665,277
Total Effect	4,043.60	\$294,338,579	\$482,107,382	\$667,707,571

The impact types are described as follows:

- Direct effect: this represents a series of production changes made by producers/consumers because of an activity.
- Indirect effect: this exhibits the impact of local industries buying goods and services from other local industries.
- Induced effect: this is the response by an economy to an initial change (direct effect) that occurs through re-spending of income received by a component of value added.
- Labor income: this reflects direct compensation that is lost to the potential employee.
- Value added: this presents the difference between an industry’s total output and the cost of its intermediate inputs. This figure includes employment compensation, proprietor income, other property income, and indirect business taxes.

- Output: this indicates the value of industry production. This figure combines value added and the cost of the goods needed to make the product.

FIGURE 28 OVER 2,800 JOBS ARE DIRECTLY LOST DUE TO A LACK OF ABILITY TO SERVICE AIRBNB DEMAND

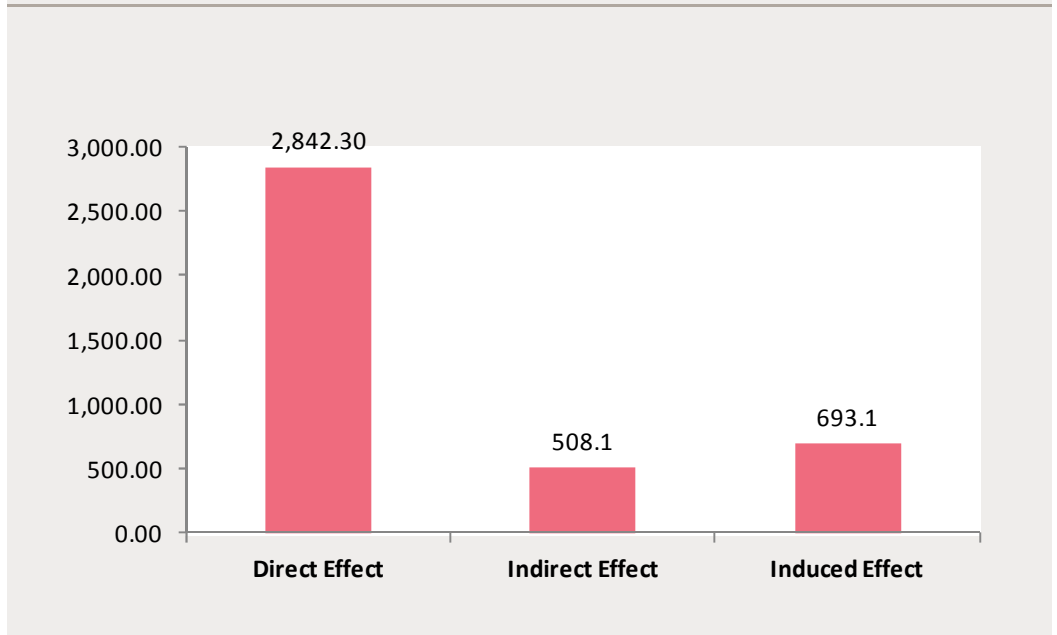


FIGURE 29 OVER \$200M IN LOST DIRECT-LABOR INCOME

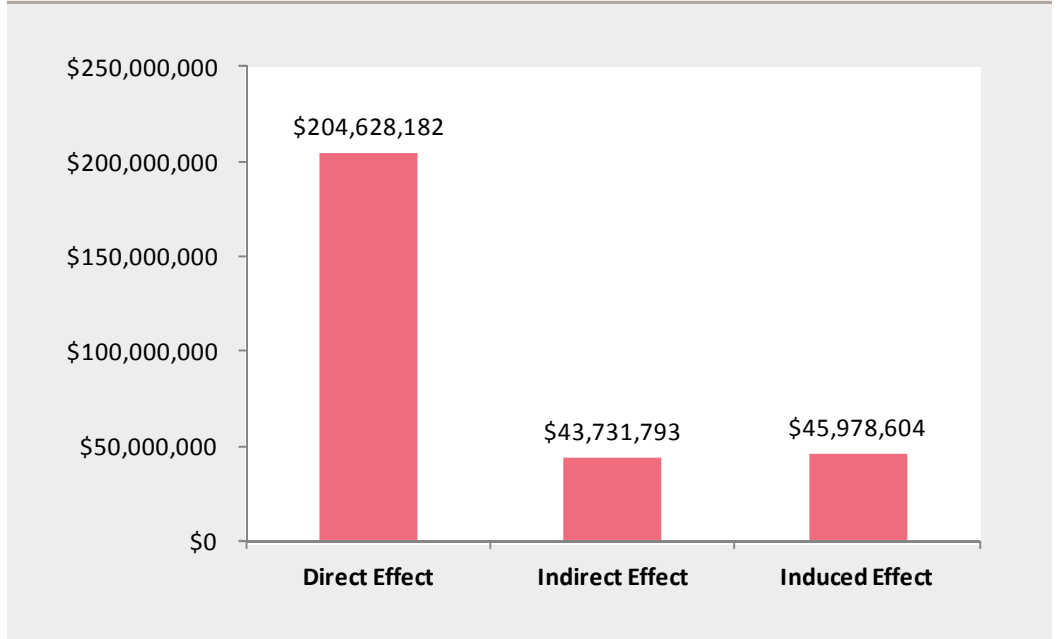


FIGURE 30 VALUE-ADDED LOSS SURPASSES \$480M COMBINED

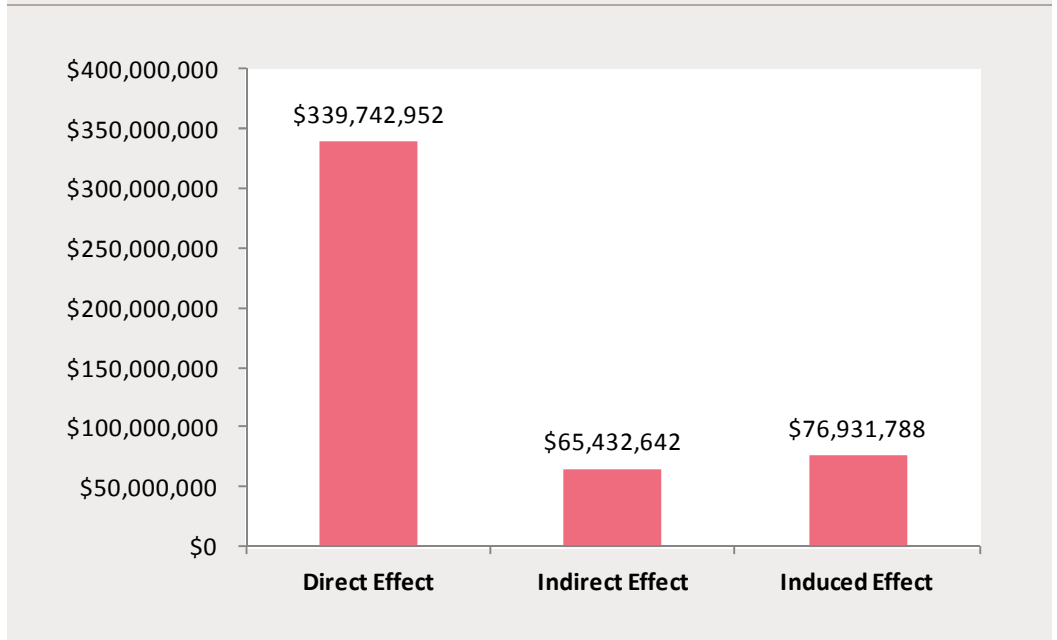
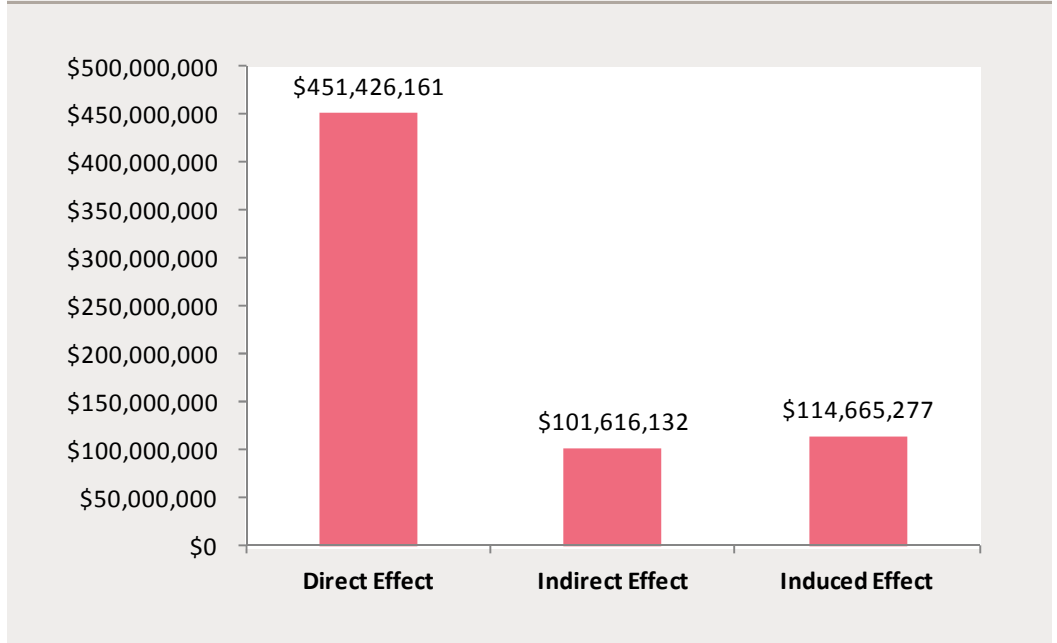


FIGURE 31 OUTPUT LOSS APPROACHES \$670M OVERALL



Further detail on the impact is presented in the following table.

FIGURE 32 IMPACT BY INDUSTRY

	Sector	Description	Employment	Labor Income	Value Added	Output
By Employment	499	Hotels and motels, including casino hotels	2,843.90	\$204,740,722	\$339,929,801	\$451,674,433
	503	All other food and drinking places	69	\$2,713,084	\$3,786,365	\$6,824,016
	440	Real estate	59	\$3,523,205	\$12,826,794	\$15,182,037
	501	Full-service restaurants	45.7	\$1,623,636	\$1,908,631	\$3,025,308
	482	Hospitals	45.4	\$4,428,731	\$4,940,853	\$7,885,744
	502	Limited-service restaurants	34.7	\$1,115,084	\$1,773,397	\$2,524,529
	395	Wholesale trade	33.8	\$3,743,028	\$6,603,625	\$9,153,649
	464	Employment services	33.5	\$1,904,432	\$2,268,362	\$2,577,401
	511	Dry-cleaning and laundry services	33	\$852,820	\$380,505	\$861,675
	400	Retail - Food and beverage stores	31.3	\$1,110,746	\$1,587,522	\$2,296,917
By Labor Income	499	Hotels and motels, including casino hotels	2,843.90	\$204,740,722	\$339,929,801	\$451,674,433
	461	Management of companies and enterprises	24.3	\$4,958,019	\$5,694,948	\$8,109,044
	482	Hospitals	45.4	\$4,428,731	\$4,940,853	\$7,885,744
	457	Advertising, public relations, and related services	29	\$3,838,768	\$5,167,365	\$7,356,442
	395	Wholesale trade	33.8	\$3,743,028	\$6,603,625	\$9,153,649
	440	Real estate	59	\$3,523,205	\$12,826,794	\$15,182,037
	435	Securities and commodity contracts intermediation and brokerage	10.9	\$2,732,780	\$2,229,113	\$2,709,690
	503	All other food and drinking places	69	\$2,713,084	\$3,786,365	\$6,824,016
	437	Insurance carriers	16.5	\$2,528,087	\$5,456,646	\$8,151,908
	475	Offices of physicians	26.7	\$2,510,164	\$2,189,756	\$3,336,499
By Value Added	499	Hotels and motels, including casino hotels	2,843.90	\$204,740,722	\$339,929,801	\$451,674,433
	440	Real estate	59	\$3,523,205	\$12,826,794	\$15,182,037
	441	Owner-occupied dwellings	0	\$0	\$10,254,237	\$14,394,380
	395	Wholesale trade	33.8	\$3,743,028	\$6,603,625	\$9,153,649
	461	Management of companies and enterprises	24.3	\$4,958,019	\$5,694,948	\$8,109,044
	437	Insurance carriers	16.5	\$2,528,087	\$5,456,646	\$8,151,908
	457	Advertising, public relations, and related services	29	\$3,838,768	\$5,167,365	\$7,356,442
	482	Hospitals	45.4	\$4,428,731	\$4,940,853	\$7,885,744
	433	Monetary authorities and depository credit intermediation	6.5	\$1,110,335	\$4,502,457	\$5,054,153
	503	All other food and drinking places	69	\$2,713,084	\$3,786,365	\$6,824,016
By Output	499	Hotels and motels, including casino hotels	2,843.90	\$204,740,722	\$339,929,801	\$451,674,433
	440	Real estate	59	\$3,523,205	\$12,826,794	\$15,182,037
	441	Owner-occupied dwellings	0	\$0	\$10,254,237	\$14,394,380
	395	Wholesale trade	33.8	\$3,743,028	\$6,603,625	\$9,153,649
	49	Electric power transmission and distribution	6.4	\$1,007,348	\$2,387,022	\$8,939,754
	437	Insurance carriers	16.5	\$2,528,087	\$5,456,646	\$8,151,908
	461	Management of companies and enterprises	24.3	\$4,958,019	\$5,694,948	\$8,109,044
	482	Hospitals	45.4	\$4,428,731	\$4,940,853	\$7,885,744
	457	Advertising, public relations, and related services	29	\$3,838,768	\$5,167,365	\$7,356,442
	503	All other food and drinking places	69	\$2,713,084	\$3,786,365	\$6,824,016

We have further detailed this loss of employment by analyzing the differences between lost line-level and managerial jobs, as well as lost line-level and managerial income. These differences are presented in the following table and charts.

FIGURE 33 LINE-LEVEL JOBS REFLECT 83% OF LOST EMPLOYMENT

	Jobs	Jobs %	Income	Income %
Managerial	478	16.8%	\$54,472,022	26.6%
Line Level	2364	83.2%	\$150,156,160	73.4%

FIGURE 34 SHARE OF MANAGERIAL TO LINE-LEVEL JOB LOSS: MANAGERS REPRESENT NEARLY 17% OF THE TOTAL

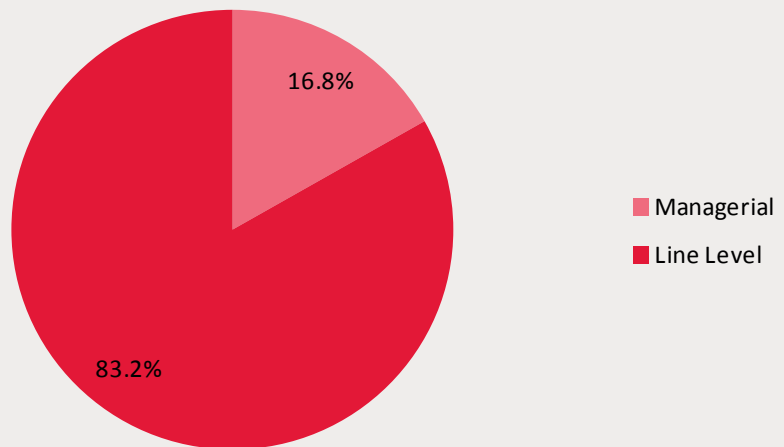
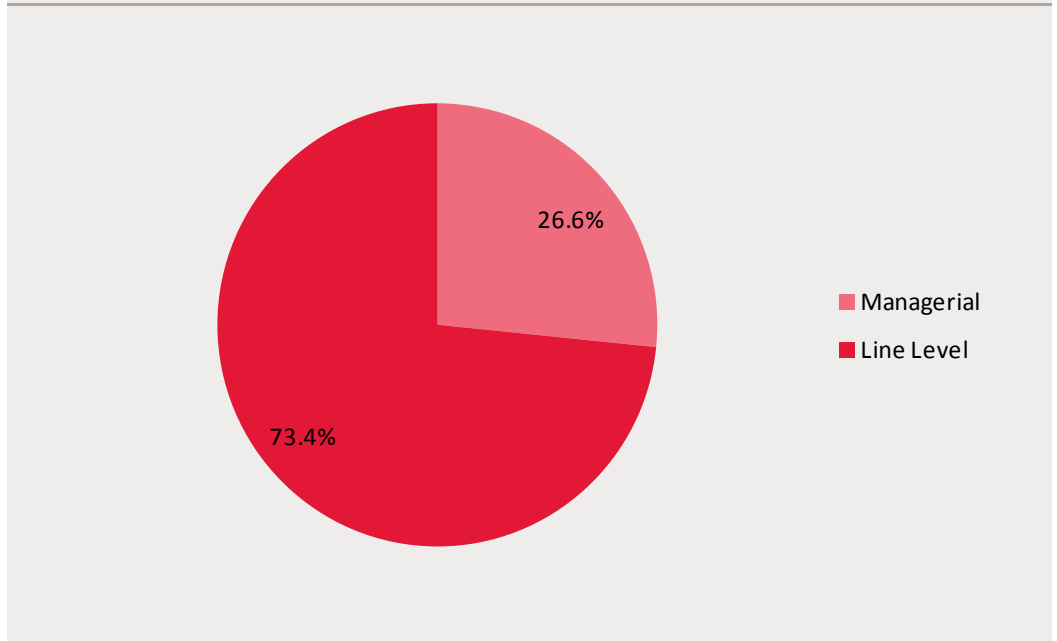


FIGURE 35 SHARE OF MANAGERIAL TO LINE-LEVEL INCOME LOSS: MANAGERS' SHARE OF INCOME LOSS REFLECTS A HIGHER, NEARLY 27%



Due to higher salaries paid to management, the roughly 17% share in jobs translates to a higher 27% (rounded) share in income.

Beyond the direct loss, the levels of induced spending lost by category are presented in the following table.

FIGURE 36 LOSS OF INDUCED SPENDING BY EMPLOYMENT TYPE

	Employment	Labor Income	Value Added	Output
Managerial	185	\$12,239,504	\$20,479,242	\$30,523,897
Line Level	509	\$33,739,100	\$56,452,546	\$84,141,380

Next, we show the impact on the fire safety and related industries.

FIGURE 37 FIRE SAFETY AND RELATED JOB IMPACTS

Sector	Description	Direct	Indirect	Induced	Total
By Employment					
	438 Insurance agencies, brokerages, and related activities	0	2.9	3.3	6.2
	467 Investigation and security services	0	7.4	4.7	12
	470 Other support services	0	1.5	0.5	2
	Total	0	11.8	8.5	20.2
By Labor Income					
	438 Insurance agencies, brokerages, and related activities	\$0	\$434,237	\$498,858	\$933,095
	467 Investigation and security services	\$0	\$215,775	\$136,723	\$352,497
	470 Other support services	\$0	\$74,935	\$26,548	\$101,482
	Total	\$0	\$724,947	\$662,129	\$1,387,074
By Value Added					
	438 Insurance agencies, brokerages, and related activities	\$0	\$631,439	\$725,407	\$1,356,846
	467 Investigation and security services	\$0	\$241,809	\$153,219	\$395,027
	470 Other support services	\$0	\$85,193	\$30,182	\$115,375
	Total	\$0	\$958,441	\$908,808	\$1,867,248
By Output					
	438 Insurance agencies, brokerages, and related activities	\$0	\$895,937	\$1,029,266	\$1,925,203
	467 Investigation and security services	\$0	\$335,136	\$212,355	\$547,491
	470 Other support services	\$0	\$149,032	\$52,799	\$201,830
	Total	\$0	\$1,380,105	\$1,294,420	\$2,674,524

This reflects a total job loss of roughly 20 fire safety and related jobs and an overall impact of nearly \$2.7 million when all fire safety and related factors are taken into consideration.

Finally, we present the loss to unions, which are included in the “labor and civic organizations” category of the economic impact analysis.

FIGURE 38 UNION DUES IMPACTS

	Sector	Description	Direct	Indirect	Induced	Total
By Employment	516	Labor and civic organizations	0	0.1	7.1	7.1
By Labor Income	516	Labor and civic organizations	\$0	\$4,457	\$492,824	\$497,280
By Value Added	516	Labor and civic organizations	\$0	\$5,169	\$571,572	\$576,741
By Output	516	Labor and civic organizations	\$0	\$6,144	\$679,396	\$685,540

This reflects an impact of roughly \$700,000 due to the lack of jobs servicing the noted lost room nights.

4. Economic Impact - Construction Industry

It is important to consider impacts to the development side of the industry. Due to the availability of supply within the Airbnb sector, fewer rooms are needed within traditional hotels, thus limiting the ultimate incentive to build those rooms within the market. We have estimated the economic impact of the removal of this construction need given the current availability of the Airbnb inventory.

Of the Two Impact Scenarios Presented, Entire Home/ Apartment Only Reflects \$1 Billion of Additional Impact

We have presented two scenarios for impact. The first considers all Airbnb inventory as unavailable and having to be constructed within the NYC market. The second takes only the entire home/apartment category and applies the same factors. It is important to consider that developers may not see the needed returns to entice development of all categories of Airbnb inventory; the price of land and the time and effort required to develop are important factors to consider. The adjusted entire home/apartment category is therefore a better indicator of real-world construction industry impact, which as shown, is roughly \$1 billion (vs. \$1.8 billion if the entire Airbnb inventory is considered).

The following tables reflect the needed supply of rooms to accommodate the current demand levels captured by Airbnb users.

FIGURE 39 ROOM INVENTORIES REQUIRED – ASSUMING ALL DEMAND

Room Nights	2,876,396
Number of Rooms	7,881
NYC Occupancy (Current)	85.5%
Potential Supply (Rooms)	9,217

FIGURE 40 ROOM INVENTORIES REQUIRED – ASSUMING ENTIRE HOME/APARTMENT DEMAND ONLY

Room Nights	1,699,703
Number of Rooms	4,657
NYC Occ	85.5%
Potential Supply (room nights)	5,446

FIGURE 41 ROOM INVENTORIES REQUIRED – COMPARISON

	All	Entire Home/Apt
Room Nights	2,876,396	1,699,703
Number of Rooms	7,881	4,657
Potential Supply (room nights)	9,217	5,446

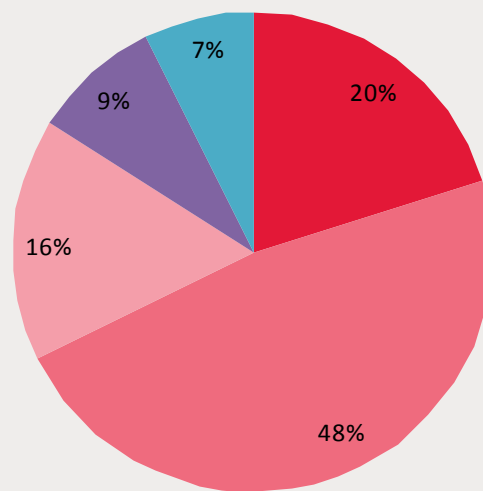
As shown, roughly 9,200 rooms would be required to house all of the Airbnb room-night demand within the NYC lodging market based upon current hotel occupancy levels. When only entire home/apartment demand is considered, this number drops to just under 5,500 new hotel rooms. This translates into overall construction cost as follows, based on the *HVS Development Cost Survey* and our experience in the NYC hotel development market.

FIGURE 42 OVERALL CONSTRUCTION COST IMPACT - ASSUMING ALL DEMAND

Land	\$371,906,044
Building and Site Improvements	\$874,232,670
Soft Costs	\$300,935,126
FF&E	\$160,375,840
Pre-Opening Working Capital	\$135,029,084
Total	\$1,842,478,764

FIGURE 43 OVERALL CONSTRUCTION COST IMPACT (ALL DEMAND) – BUILDING AND SITE IMPROVEMENTS REPRESENT LARGEST SHARE

■ Land ■ Building and Site Improvements ■ Soft Costs ■ FF&E ■ Pre-Opening Working Capital



When considering only entire home/apartment units, impact adjusts to just over \$1 billion.

FIGURE 44 OVERALL CONSTRUCTION COST IMPACT - ASSUMING ENTIRE HOME/APARTMENT DEMAND ONLY

Land	\$219,764,531
Building and Site Improvements	\$516,596,426
Soft Costs	\$177,826,814
FF&E	\$94,768,348
Pre-Opening Working Capital	\$79,790,592
Total	\$1,088,746,711

FIGURE 45 OVERALL CONSTRUCTION COST IMPACT - COMPARISON

	All	Entire Home/Apt
Land	\$371,906,044	\$219,764,531
Building and Site Improvements	\$874,232,670	\$516,596,426
Soft Costs	\$300,935,126	\$177,826,814
FF&E	\$160,375,840	\$94,768,348
Pre-Opening Working Capital	\$135,029,084	\$79,790,592
Total	\$1,842,478,764	\$1,088,746,711

FIGURE 46 OVERALL CONSTRUCTION COST IMPACT – ADDITIONAL COMPARISON

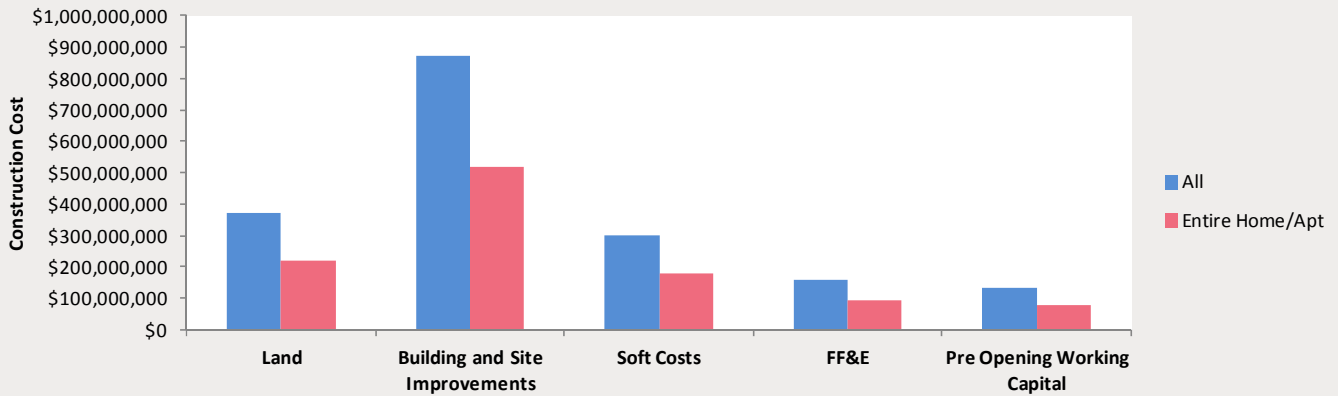
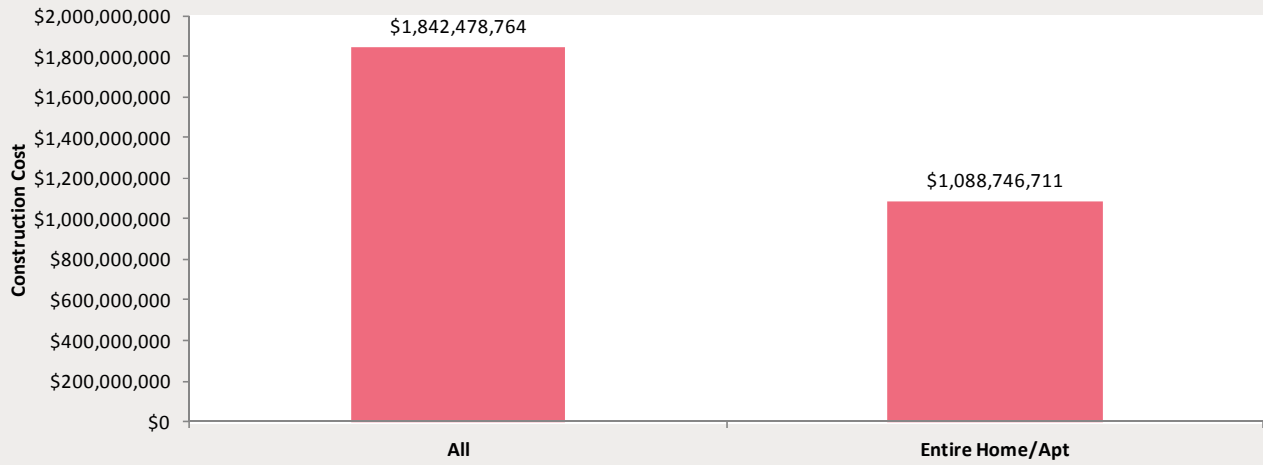


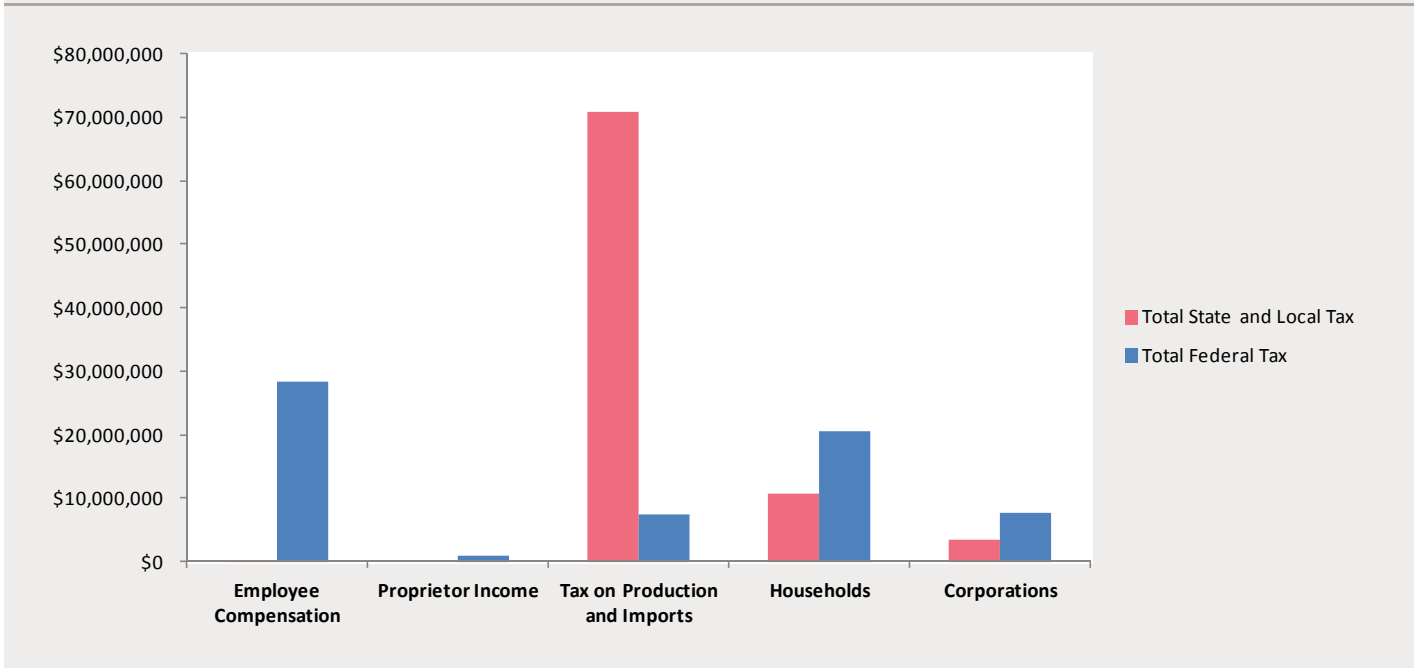
FIGURE 47 OVERALL CONSTRUCTION COST IMPACT – ADDITIONAL COMPARISON



5. Impact on Taxes

We have also researched the impact on taxes due to the lack of the commercial lodging enterprise that would accommodate the lost room nights. The breakdown of state, local, and federal taxes lost are presented in the following chart.

FIGURE 48 DISTRIBUTION OF TAXES LOST AT LOCAL, STATE, AND FEDERAL LEVELS



This graphic reflects that the greatest state and local tax impact is in the tax on production and imports category, while employee compensation represents the greatest impact on a federal level.

The following table provides the results in a greater level of detail for each of the five major categories and the types of taxes that comprise the overall totals. A summary table is also provided.

FIGURE 49 IMPACT ON STATE, LOCAL, AND FEDERAL TAXES

		Employee Compensation	Proprietor Income	Tax on Production and Imports	Households	Corporations
State/Local Taxes	Dividends					\$108,077
	Social Ins Tax- Employee Contribution	\$87,970	\$0			
	Social Ins Tax- Employer Contribution	\$170,076				
	Tax on Production and Imports: Sales Tax			\$478,623		
	Tax on Production and Imports: Property Tax			\$4,043,752		
	Tax on Production and Imports: Motor Vehicle Lic			\$35,932,284		
	Tax on Production and Imports: Severance Tax			\$107,988		
	Tax on Production and Imports: Other Taxes			\$30,238,970		
	Tax on Production and Imports: S/L NonTaxes			\$0		
	Corporate Profits Tax					\$3,241,813
	Personal Tax: Income Tax				\$9,067,165	
	Personal Tax: NonTaxes (Fines- Fees)				\$203,338	
	Personal Tax: Motor Vehicle License				\$1,175,906	
	Personal Tax: Property Taxes				\$57,825	
	Personal Tax: Other Tax (Fish/Hunt)				\$143,049	
	Total State and Local Tax	\$258,047	\$0	\$70,801,617	\$10,647,282	\$3,349,890
Federal	Social Ins Tax- Employee Contribution	\$14,194,974	\$835,414			
	Social Ins Tax- Employer Contribution	\$14,096,340				
	Tax on Production and Imports: Excise Taxes			\$4,907,387		
	Tax on Production and Imports: Custom Duty			\$2,031,831		
	Tax on Production and Imports: Fed NonTaxes			\$516,567		
	Corporate Profits Tax					\$7,811,928
	Personal Tax: Income Tax				\$20,639,905	
Total Federal Tax	\$28,291,314	\$835,414	\$7,455,785	\$20,639,905	\$7,811,928	

FIGURE 50 TAX IMPACT SUMMARY

	Employee Compensation	Proprietor Income	Tax on Production and Imports	Households	Corporations	Lodging Tax
Total State and Local Tax	\$258,047	\$0	\$70,801,617	\$10,647,282	\$3,349,890	
Total Federal Tax	\$28,291,314	\$835,414	\$7,455,785	\$20,639,905	\$7,811,928	
Total	\$28,549,361	\$835,414	\$78,257,402	\$31,287,187	\$11,161,818	\$76,503,790
%	12.60%	0.37%	34.54%	13.81%	4.93%	33.76%

FIGURE 51 DISTRIBUTION OF TAXES LOST BY TAX TYPE (OVERALL)

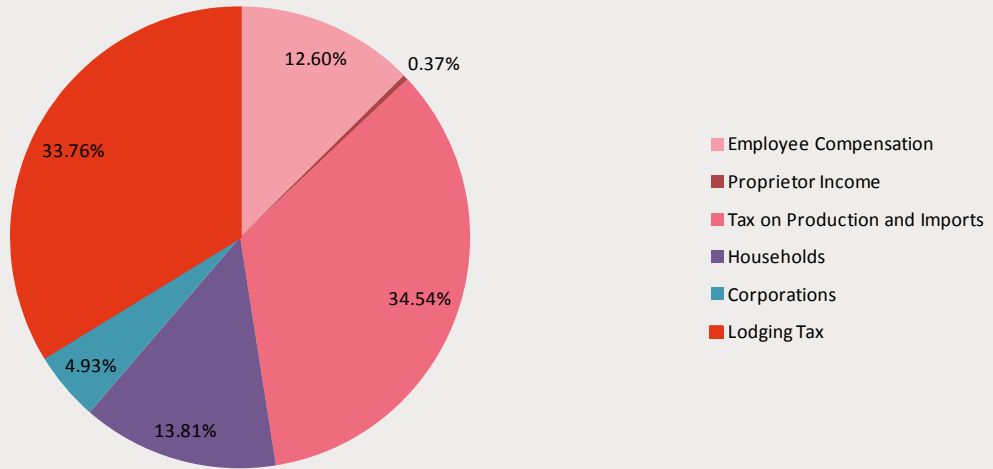
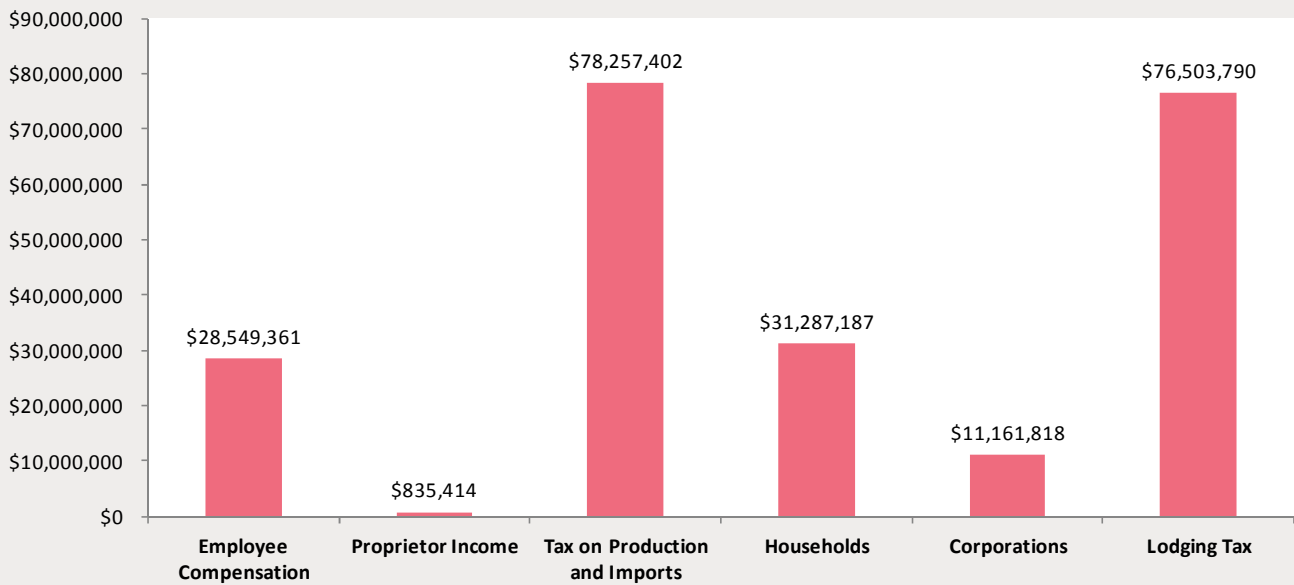


FIGURE 52 TAXES ON PRODUCTION, IMPORTS AND LODGING TAX REPRESENT GREATEST IMPACTS



6. Conclusion

This report presents a wide range of New York City lodging industry impacts that exist due to the existence of the Airbnb lodging alternatives present in the market. Impacts presented in this report are summarized in the following table and graph.

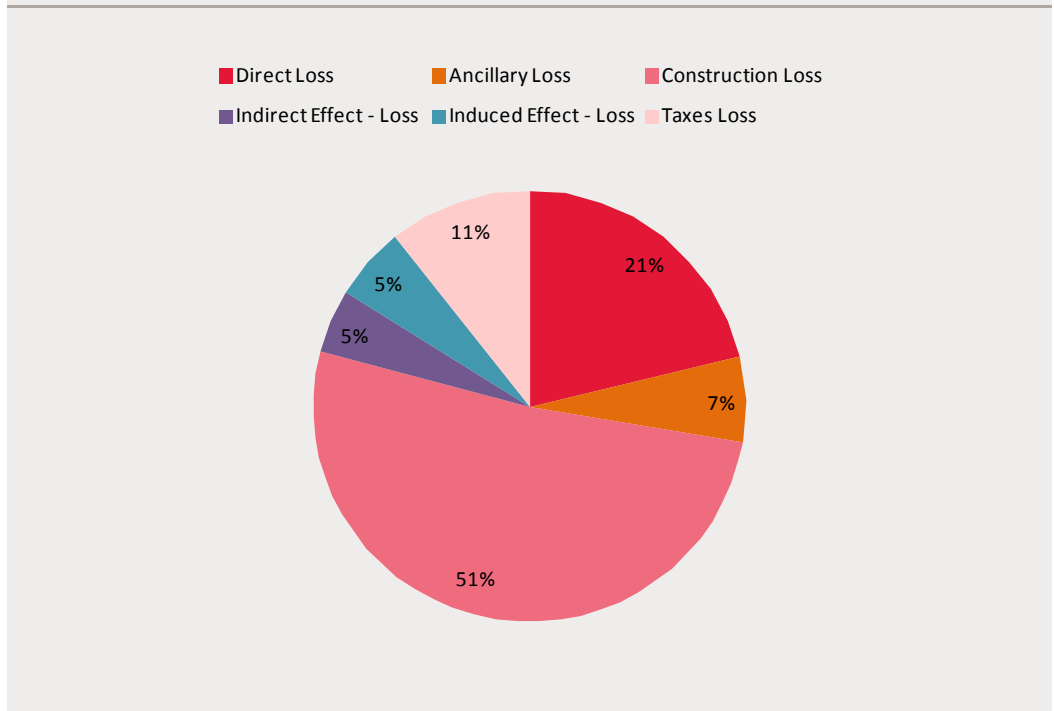
FIGURE 53 FISCAL IMPACT SUMMARY

Direct Loss	\$451,426,000
Ancillary Loss	
Food	\$88,880,636
Beverage	\$20,537,467
Other Operated Departments	\$11,850,752
Miscellaneous Income	\$14,669,620
Total	\$135,938,475
Construction Loss (Entire home/apt)	\$1,088,746,711
Indirect Effect - Loss	\$101,616,132
Induced Effect - Loss	\$114,665,277
Tax	
Employee Compensation	\$28,549,361
Proprietor Income	\$835,414
Tax on Production and Imports	\$78,257,402
Households	\$31,287,187
Corporations	\$11,161,818
Lodging Tax	\$76,503,790
Total	\$226,594,972
Total	\$2,118,987,567
Rounded	\$2,100,000,000

FIGURE 54 FISCAL IMPACT SUMMARY – MAJOR CATEGORIES

Direct Loss	\$451,426,000
Ancillary Loss	\$135,938,475
Construction Loss	\$1,088,746,711
Indirect Effect - Loss	\$101,616,132
Induced Effect - Loss	\$114,665,277
Taxes Loss	\$226,594,972
Total	\$2,118,987,567
Rounded	\$2,100,000,000

FIGURE 55 FISCAL IMPACT SUMMARY – MAJOR CATEGORIES



In conclusion, the market as a whole is affected by over \$2.1 billion, with the greatest levels of impact generated by loss of over \$450 million in direct revenue and roughly \$1 billion in potential new development investments. With the Airbnb revenue staged to potentially double in size, we only expect these impacts to grow proportionately and become a more significant and important factor in the competitive landscape of the New York City lodging market.

7. Statement of Assumptions and Limiting Conditions

1. This report is to be used in whole and not in part.
1. All information, Airdna market data, estimates, and opinions obtained from parties not employed by TS Worldwide, LLC are assumed true and correct. We can assume no liability resulting from misinformation.
2. None of this material may be reproduced in any form without our written permission, and the report cannot be disseminated to the public through advertising, public relations, news, sales, or other media.
3. We are not required to give testimony or attendance in court because of this analysis without previous arrangements, and shall do so only when our standard per-diem fees and travel costs have been paid prior to the appearance.
4. If the reader is making a fiduciary or individual investment decision and has any questions concerning the material presented in this report, it is recommended that the reader contact us.
5. We take no responsibility for any events or circumstances that take place subsequent to either the date of this report;
6. Many of the figures presented in this report were generated using sophisticated computer models that make calculations based on numbers carried out to three or more decimal places. In the interest of simplicity, most numbers have been rounded to the nearest tenth of a percent. Thus, these figures may be subject to small rounding errors.
7. It is agreed that our liability to the client is limited to the amount of the fee paid as liquidated damages. Our responsibility is limited to the client, and use of this report by third parties shall be solely at the risk of the client and/or third parties. The use of this report is also subject to the terms and conditions set forth in our engagement letter with the client.
8. This study was prepared by TS Worldwide, LLC. All opinions, recommendations, and conclusions expressed during the course of this assignment are rendered by the staff of TS Worldwide, LLC as employees, rather than as individuals.