

# **Influence of Venue Types on International Tourism in United States Cities**



# Importance

- International tourism into the United States generated \$1.2 trillion and supported 7.6 million jobs in 2011
- In 2011, 62 million international visitors came to the United States, however their destinations were largely condensed to only 60 cities in the United States
- One of the largest influencers on international travel destination is the types of venues within each United States city
- Determining type of venue impact on United States city tourism rates can help governing bodies support local economies, provide employment, and benefit conservation of habitats and historic sites

# Data Sources & Cleaning

- Inbound international travel estimates by United States cities for 2017 and 2018 were acquired from TravelTrade.gov
  - Removed unnecessary columns, renamed city areas, and evaluated data for outliers, duplicates, and missing values
- Location coordinates for the 61 most visited cities were found using Google Maps API geocoding
- The 60 most popular venues within each city were found using Foursquare API with city coordinates

# Most Popular International Travel Destinations in US



# Most Popular Venues Among US Cities

- 60 most popular venues from each city were gathered from Foursquare
- Venues condensed to 30 to exclude gyms and grocery stores

	City	Avg Visitors Per Year	City Latitude	City Longitude	Venue Rank	Venue	Venue Latitude	Venue Longitude	Venue Category
0	New York, NY	10320.5	40.712728	-74.006015	1	Central Park	40.784083	-73.964853	Park
1	New York, NY	10320.5	40.712728	-74.006015	2	Bryant Park	40.753621	-73.983265	Park
2	New York, NY	10320.5	40.712728	-74.006015	3	Prospect Park	40.661971	-73.971226	Park
3	New York, NY	10320.5	40.712728	-74.006015	4	Brooklyn Bridge	40.705967	-73.996707	Bridge
4	New York, NY	10320.5	40.712728	-74.006015	5	High Line	40.746825	-74.005507	Park

# Venue Type & Tourism Rate Correlation

	Venue	Correlation	PValue	Trend
0	Fountain	0.512367	0.000024	Moderate Positive Correlation, Strong Certainty
1	Tennis Stadium	0.484282	0.000077	Moderate Positive Correlation, Strong Certainty
2	Memorial Site	0.483483	0.000079	Moderate Positive Correlation, Strong Certainty
3	Art Museum	0.479273	0.000093	Moderate Positive Correlation, Strong Certainty
4	Theme Park Ride / Attraction	0.376908	0.002752	Moderate Positive Correlation, Moderate Certainty
5	Bridge	0.370809	0.003263	Moderate Positive Correlation, Moderate Certainty
6	Public Art	0.323124	0.011085	Moderate Positive Correlation, Moderate Certainty
7	Park	0.315056	0.013395	Moderate Positive Correlation, Moderate Certainty
8	Performing Arts Venue	0.308670	0.015506	Moderate Positive Correlation, Moderate Certainty
9	Canal	0.307758	0.015830	Moderate Positive Correlation, Moderate Certainty
10	College Residence Hall	0.307758	0.015830	Moderate Positive Correlation, Moderate Certainty
11	Observatory	0.307758	0.015830	Moderate Positive Correlation, Moderate Certainty
12	Building	0.304905	0.016880	Moderate Positive Correlation, Moderate Certainty
13	Monument / Landmark	0.282331	0.027488	Weak Positive Correlation, Moderate Certainty
14	Art Gallery	0.263955	0.039829	Weak Positive Correlation, Moderate Certainty
15	Shopping Mall	0.248004	0.053964	Weak Positive Correlation, Weak Certainty
16	Fast Food Restaurant	-0.238722	0.063912	Weak Negative Correlation, Weak Certainty
17	American Restaurant	-0.235996	0.067098	Weak Negative Correlation, Weak Certainty
18	Warehouse Store	-0.228955	0.075921	Weak Negative Correlation, Weak Certainty

- Fountain, Tennis Stadium, Memorial Site, and Art Museum demonstrated the strongest positive correlation to tourism rates
- Fast Food Restaurant, American Restaurant, and Warehouse Store showed the strongest negative correlation to tourism rates

# Mapped Clusters Based on Venue Frequency and Popularity



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- Cluster 0 (red) contains cities that have common venue types of Park, Scenic Lookout, Trails, and Plaza and cities in this cluster have an average of 2,991,000 visitors per year
- Cluster 1 (purple) cities have common venue types of Beach, Surf Spot, and Hotel and cities in this cluster have an average of 1,360,000 visitors per year
- Cluster 2 (green) contains cities with common venue types of Park, Warehouse Store, Supermarkets, and Fast Food Restaurants and cities in this cluster have an average of 420,000 visitors per year
- Geographical location of the city plays an important role in the types of common venues within each city



# Conclusion

- Focus on building fountains, parks, art museums, theme parks, and bridges while reducing the number of fast food restaurants, american restaurants, and warehouse stores in United States cities can increase international tourism
- Consideration of the geographical aspects of each city is also important when considering venue types and their impact on international tourism
  - Coastline, Inland, Mountains, Historical Importance
- Future work may consider data more specific to international tourism to remove local resident popularity value