The Data Pandas

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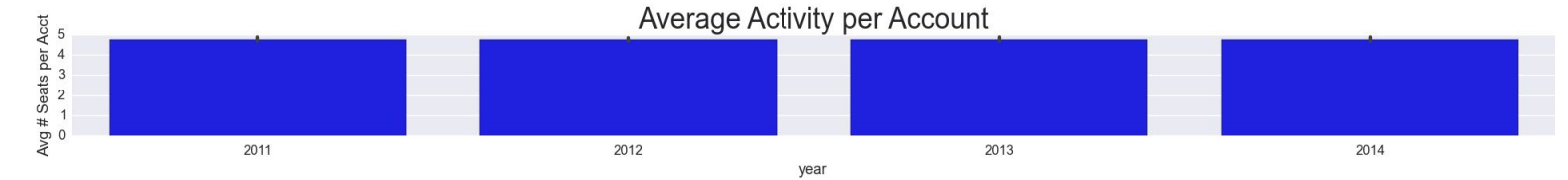
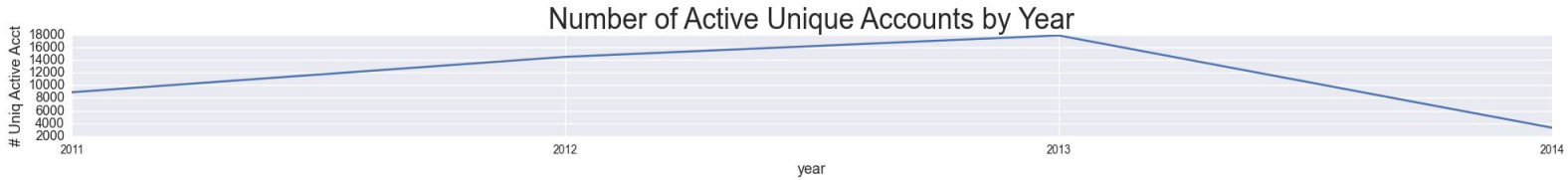
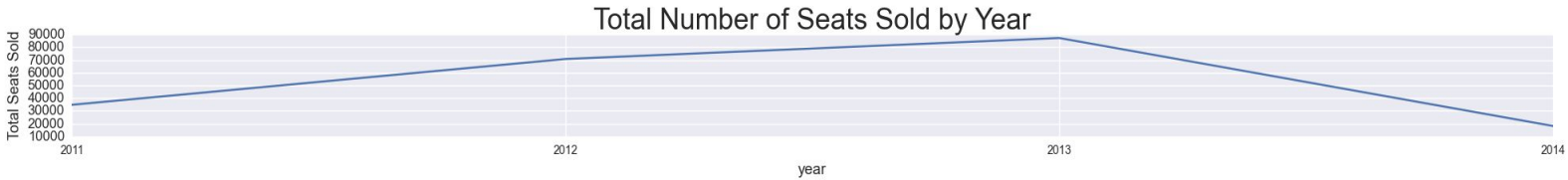
- Analysis and modelling of customer behavior
- Maps showing UMS influence outside of state and location dynamics

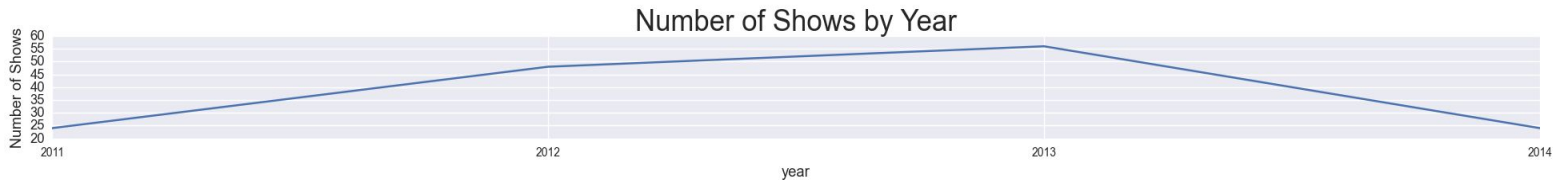
Analysis of Customer Activity

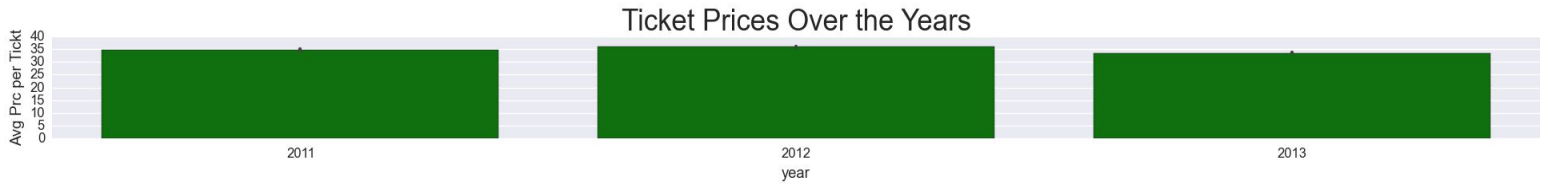
- Average account activity is *very* stable
- This stability causes the number of seats to behave proportionally to the number of active accounts
- The relationship between number of events and number of seats sold is also linear
    - This means that if UMS increased the number of performances, members would respond proportionally



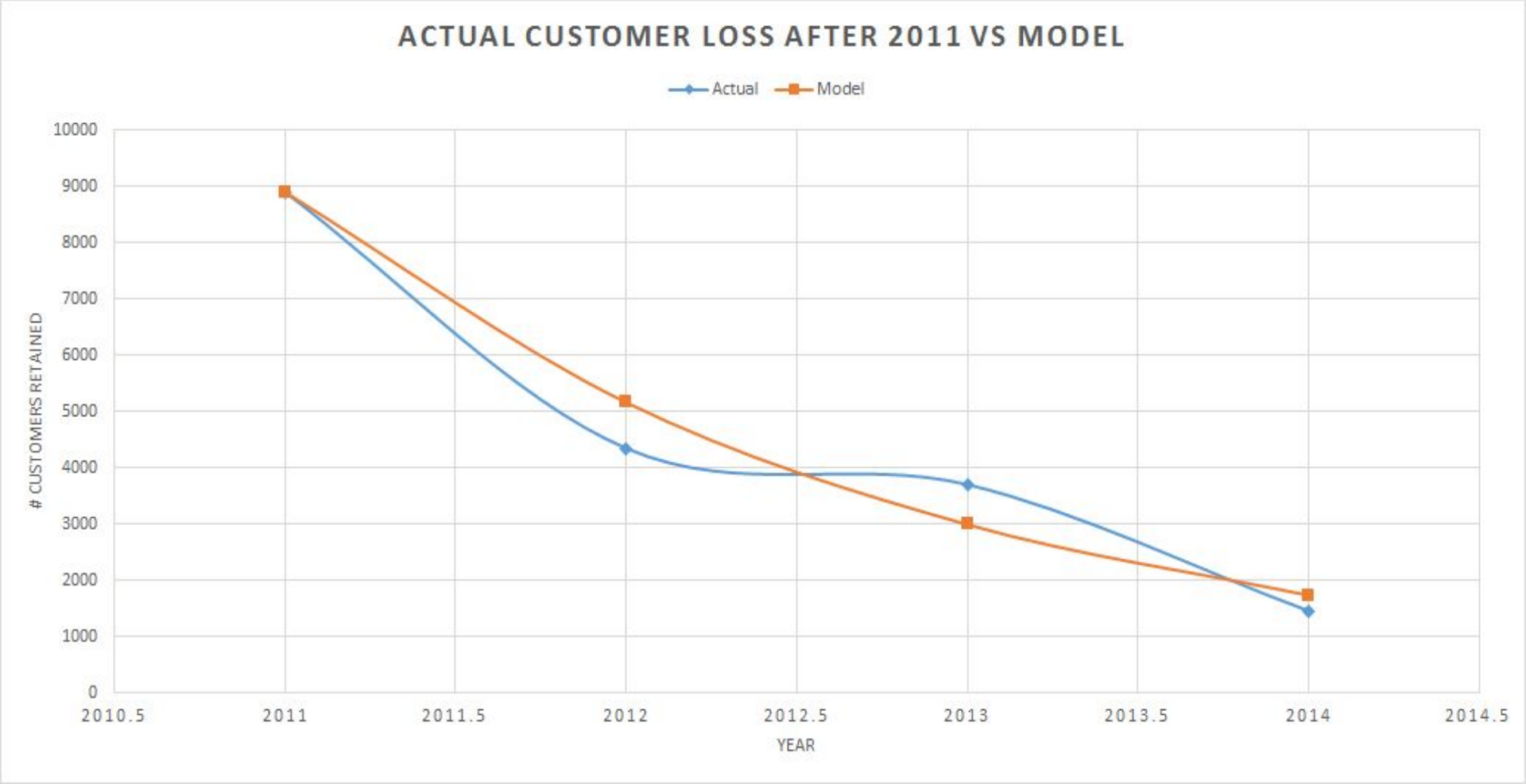




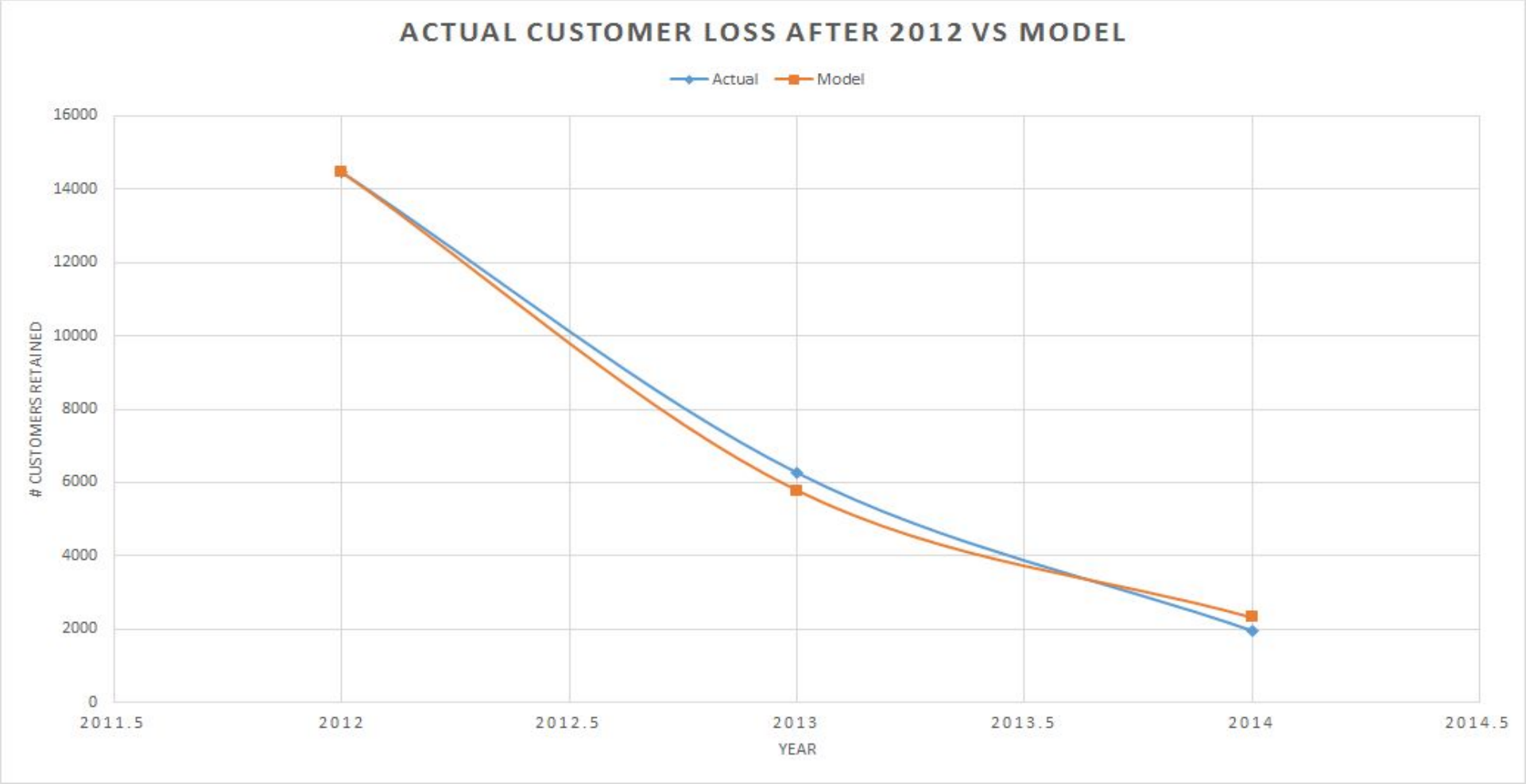




Customer activity as it relates to ticket sales



Customer Retention among those who were Active in 2011



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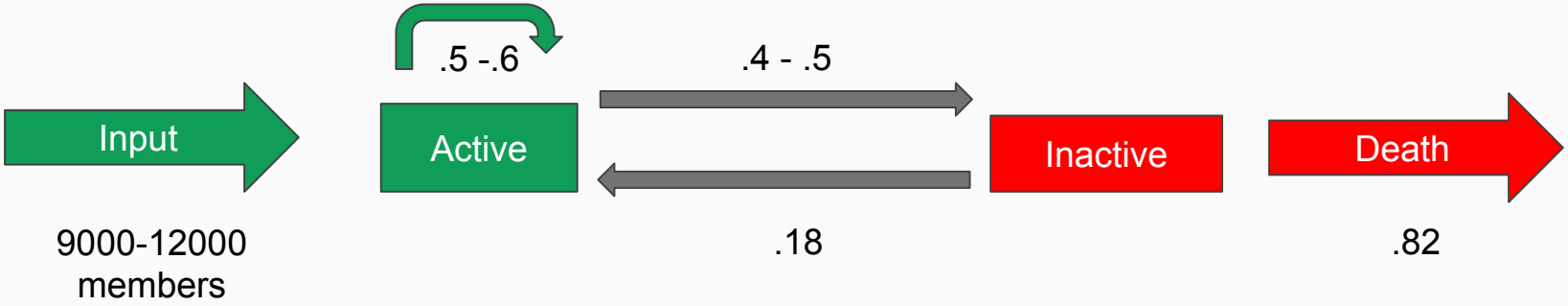
Customer Behavior Modeling

- We use a “Markov Chain” to model customer behavior



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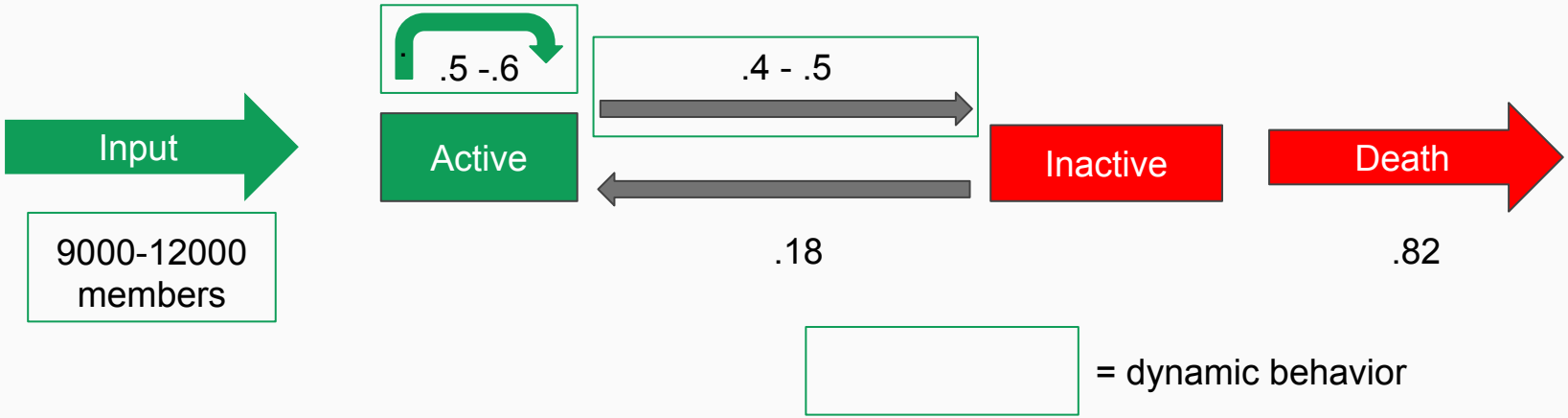

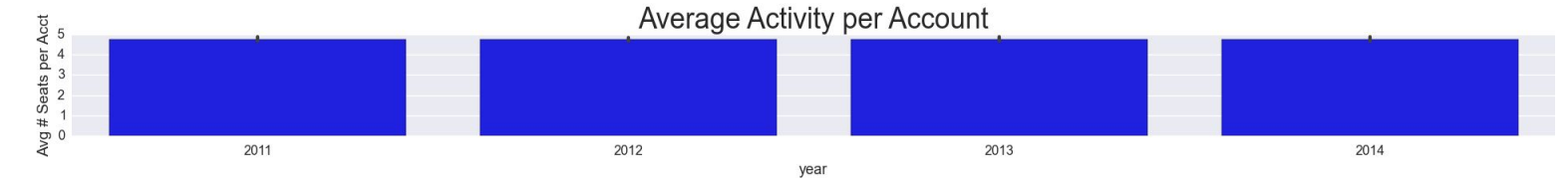

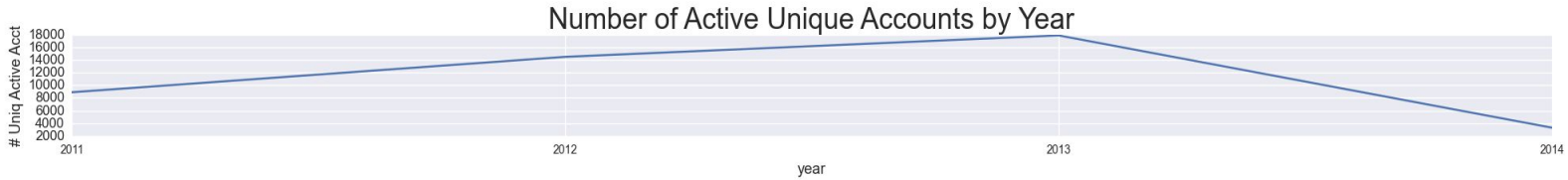

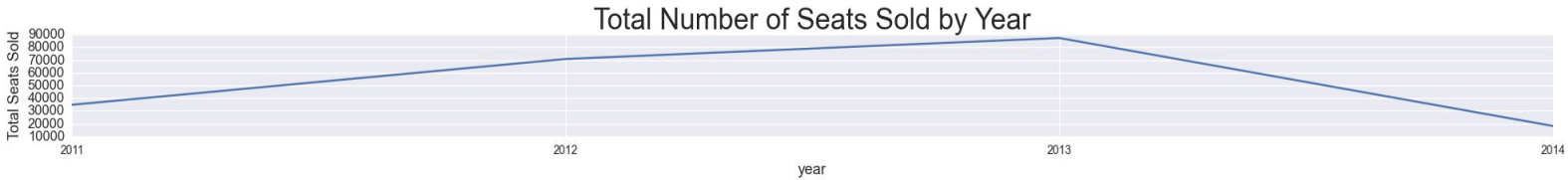

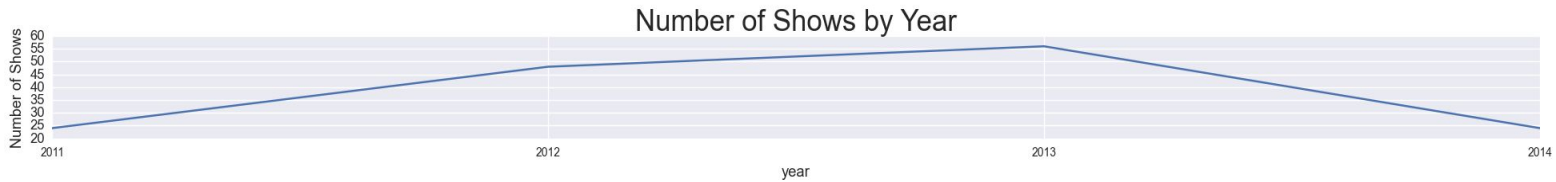

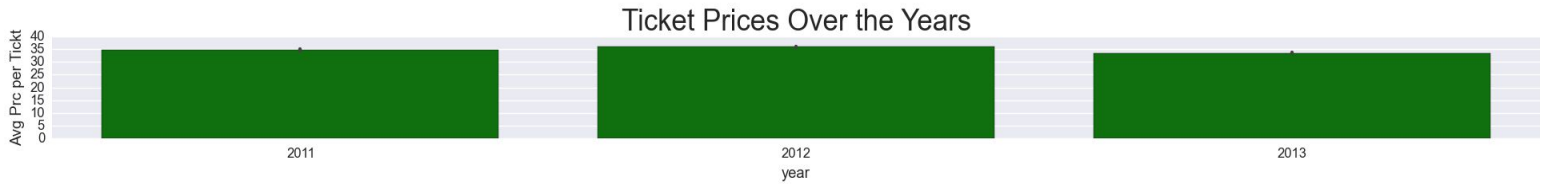

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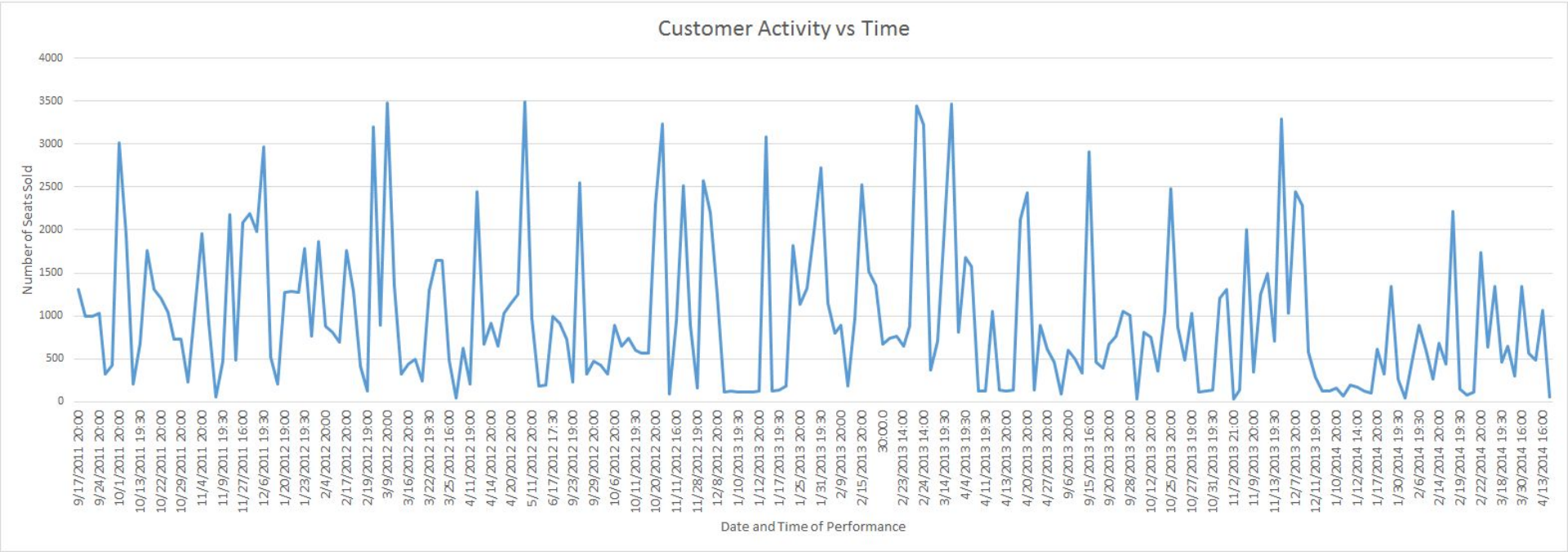
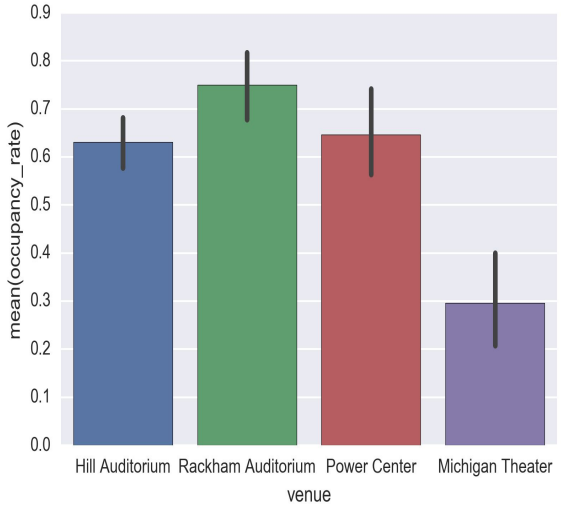
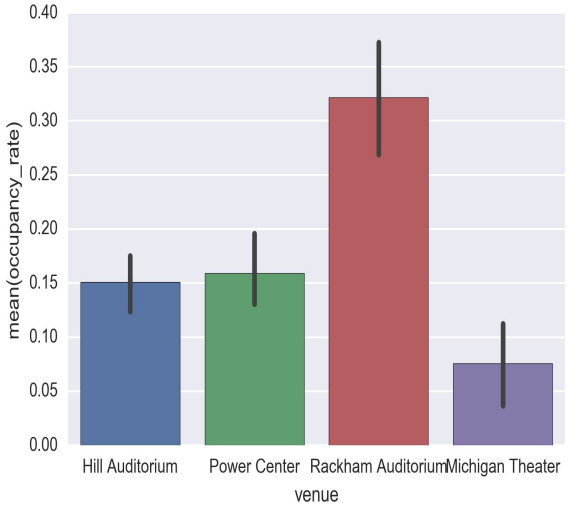


Customer Activity vs Time

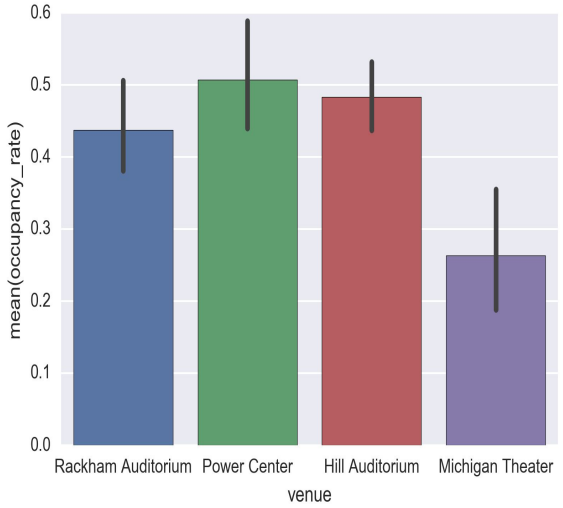
Subscribers + non-Subscribers

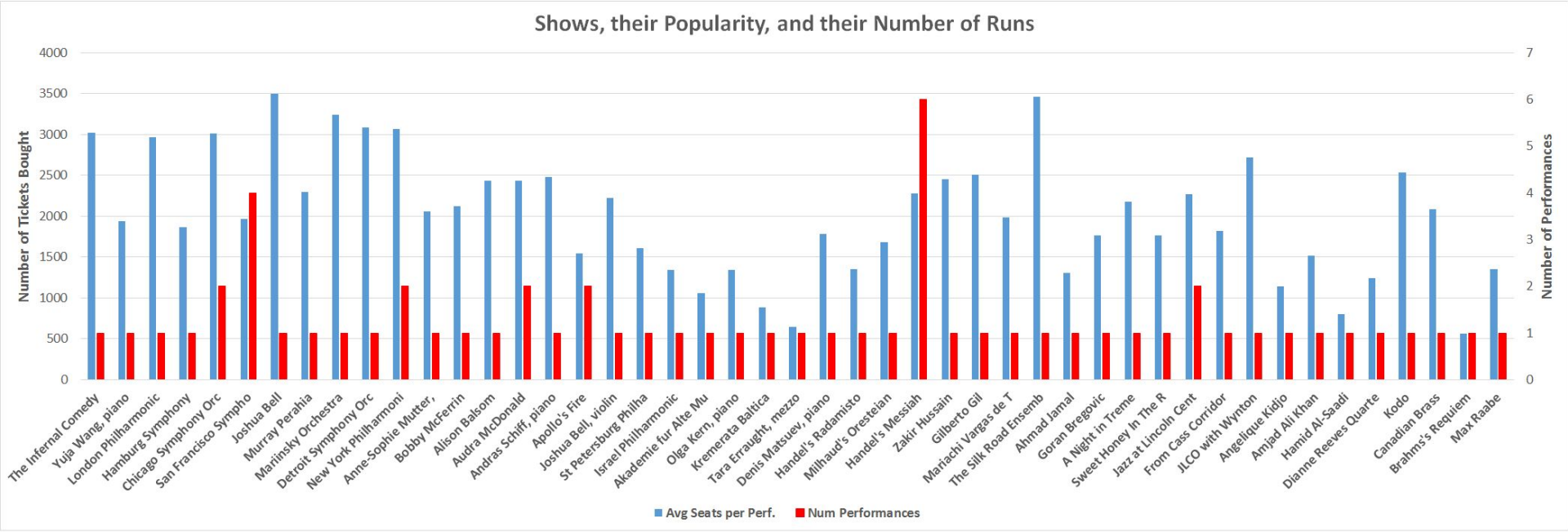


Subscribers



non-Subscribers

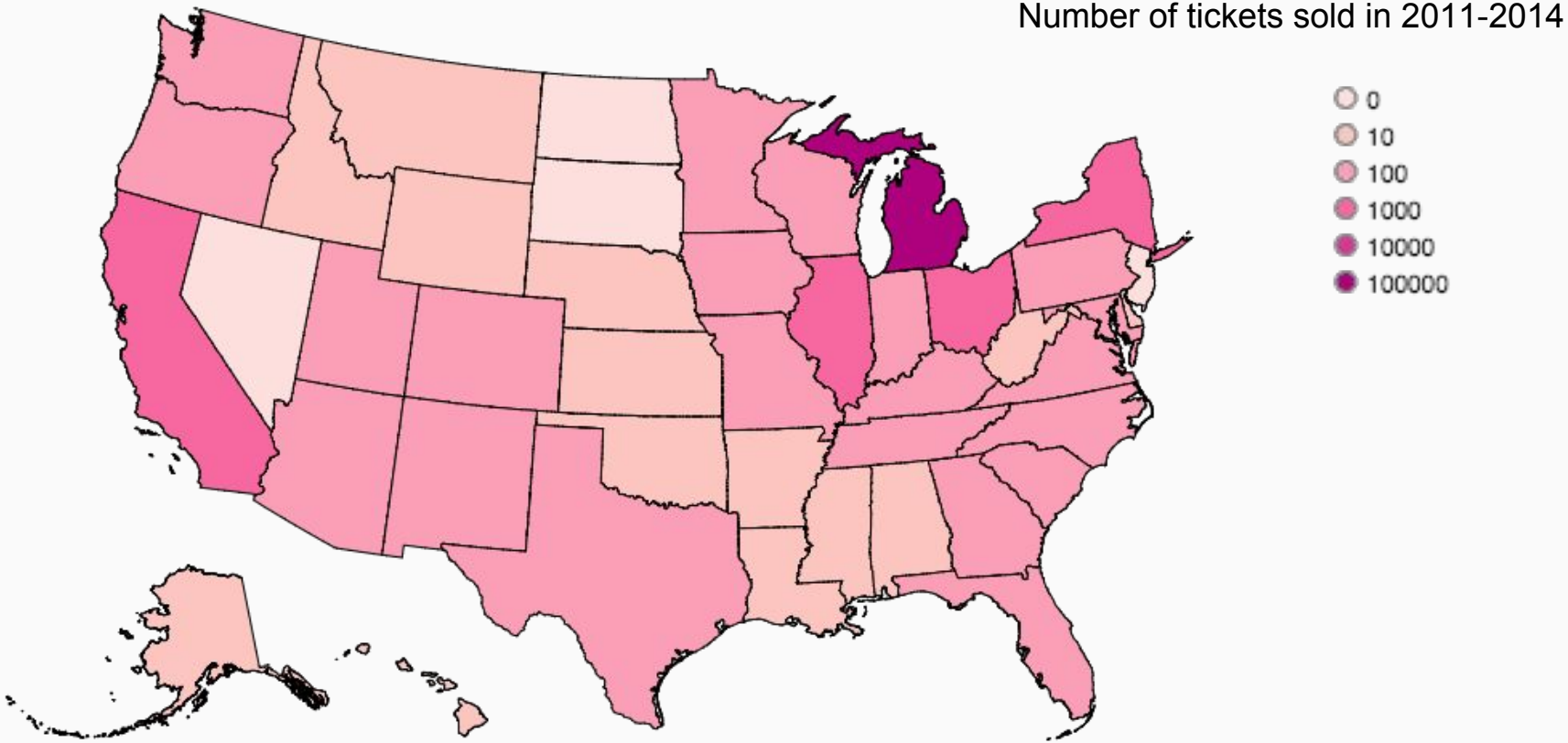




Popularity statistics for some shows held at the Hill Auditorium

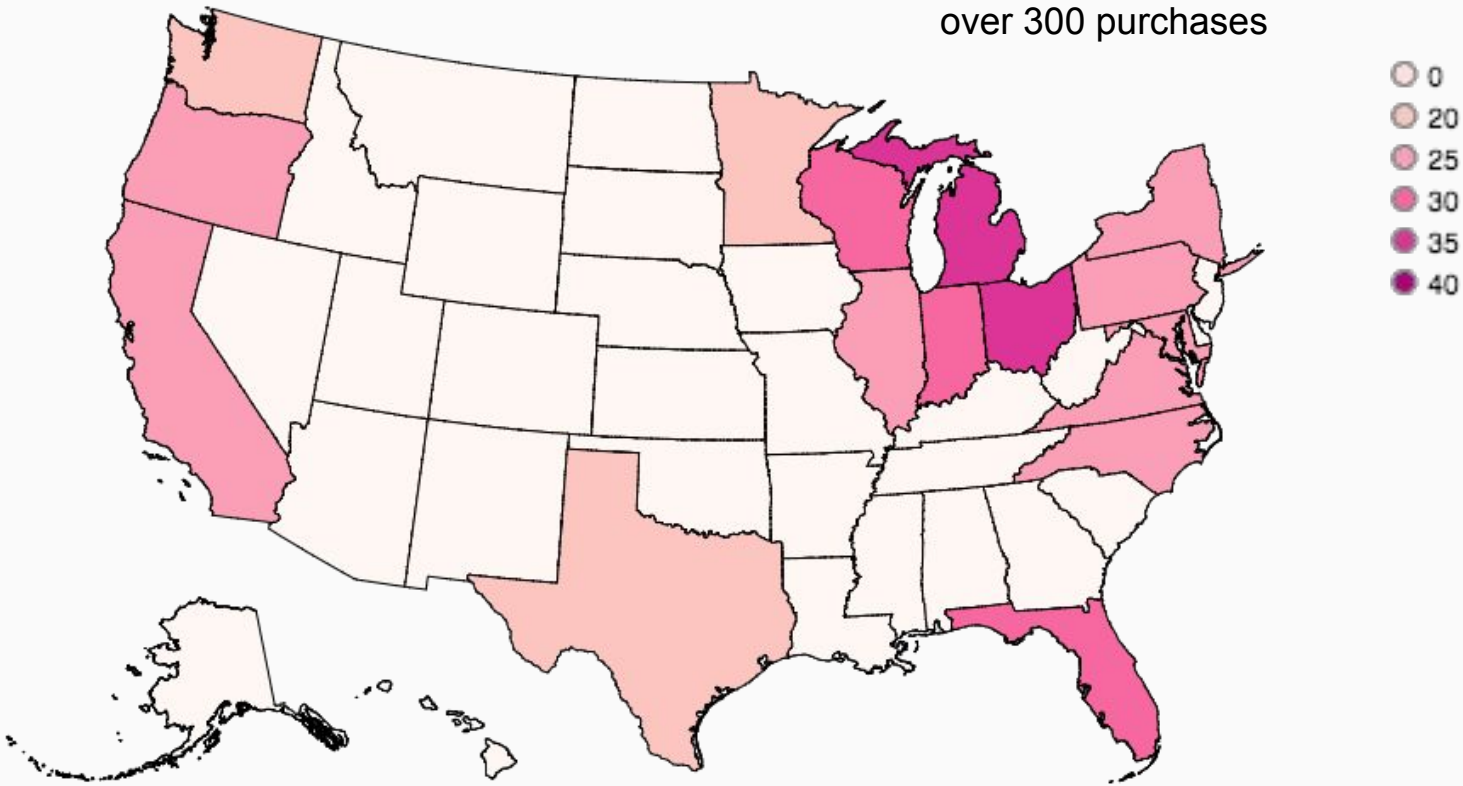
Maps showing UMS influence outside of state and location dynamics

- Conversion from zip codes to state names
- Questions to answer:
  - Where are the majority of customers from?
  - How much did customers pay for each ticket on average in each state?
  - How many tickets did customers buy on average in each purchase?
  - Where are the early birds from?



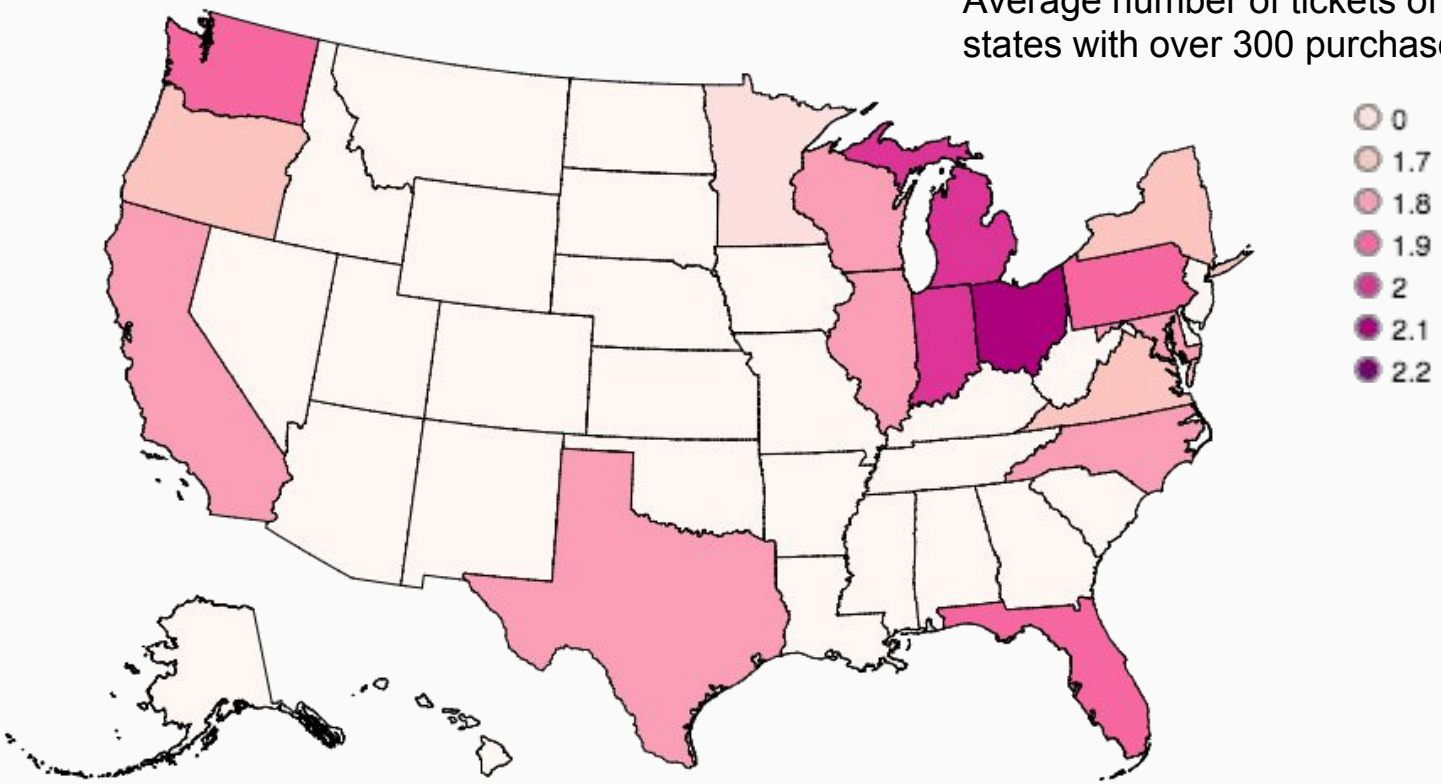
Number of tickets sold in 2011-2014

Average cost (USD) on each ticket in states with over 300 purchases



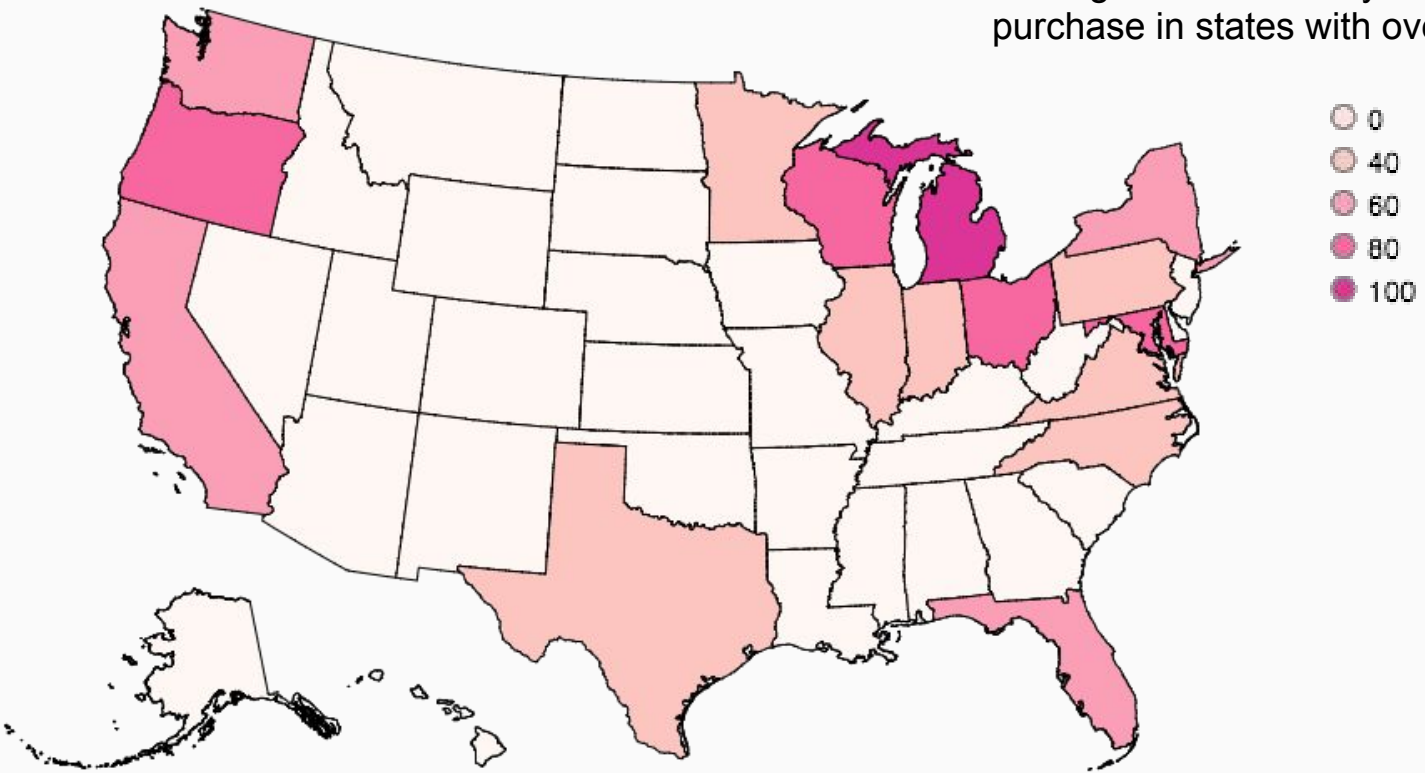
Average cost (USD) on each ticket in states with over 300 purchases

Average number of tickets of each purchase in states with over 300 purchases



Average number of tickets of each purchase in states with over 300 purchases

Average number of days in advance of each purchase in states with over 300 purchases



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