Is New Orleans Ready to Celebrate after Katrina?
Evidence from Mardi Gras and the Tourism Industry

Kathleen Deloughery
Ohio State University
Satellite Images of New Orleans

Pre Katrina

Post Katrina

- Brown areas are land, green areas are water
- Pictures from CNN.com areas appearing
Will New Orleans Recover?

• Key Indicators of Recovery
  (population, employment, health services)

• Airport Activity
  (passengers)

• Hotel/Hospitality Data
  (capacity, occupancy, rates)

• Data from Mardi Gras
  (parades, local participation)
### Key Indicators of Recovery to New Orleans MSA

<table>
<thead>
<tr>
<th></th>
<th>July 2005</th>
<th>Sept 2005</th>
<th>Mar 2006</th>
<th>% of PreK Activity</th>
<th>% Change</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>1,292,774</td>
<td>703,387</td>
<td>887,879</td>
<td>68.68%</td>
<td>14.27%</td>
<td></td>
</tr>
<tr>
<td>Employment (non Farm)</td>
<td>610200</td>
<td>405500</td>
<td>425700</td>
<td>69.76%</td>
<td>3.31%</td>
<td></td>
</tr>
<tr>
<td>Employment/Population</td>
<td>0.47</td>
<td>2.92</td>
<td>0.48</td>
<td>101.58%</td>
<td>-517.69%</td>
<td></td>
</tr>
<tr>
<td>Construction Employment</td>
<td>30100</td>
<td>12700</td>
<td>19100</td>
<td>63.46%</td>
<td>21.26%</td>
<td></td>
</tr>
<tr>
<td>New Housing Permits</td>
<td>417</td>
<td>280</td>
<td>486</td>
<td>116.55%</td>
<td>49.40%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open Public Schools</td>
<td>317</td>
<td>31</td>
<td>189</td>
<td>59.62%</td>
<td>49.84%</td>
<td></td>
</tr>
<tr>
<td>Hotel Employment</td>
<td>15800</td>
<td>9000</td>
<td>11500</td>
<td>72.78%</td>
<td>15.82%</td>
<td></td>
</tr>
<tr>
<td>Restaurant Employment</td>
<td>56300</td>
<td>28200</td>
<td>37900</td>
<td>67.32%</td>
<td>17.23%</td>
<td></td>
</tr>
<tr>
<td>Sales Tax Collections</td>
<td>64712092</td>
<td>30788490</td>
<td>91438713</td>
<td>141.30%</td>
<td>93.72%</td>
<td></td>
</tr>
<tr>
<td>Sales Tax/Population</td>
<td>50.06</td>
<td>43.77</td>
<td>102.99</td>
<td>205.74%</td>
<td>118.29%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Airport Traffic</td>
<td>881,552</td>
<td>42,198</td>
<td>483,176</td>
<td>54.81%</td>
<td>50.02%</td>
<td></td>
</tr>
<tr>
<td>Open Hospitals</td>
<td>53</td>
<td>17</td>
<td>31</td>
<td>58.49%</td>
<td>26.42%</td>
<td></td>
</tr>
</tbody>
</table>

- Only 45% of hospital beds are open

( * ) Data came from October 2005

Data from BLS, Louis Armstrong Airport, Smith Travel Reasearch, and http://www.lorenscottassociates.com
### Key Indicators of Recovery to City of New Orleans

<table>
<thead>
<tr>
<th></th>
<th>July 2005</th>
<th>Sept 2005</th>
<th>Mar 2006</th>
<th>% of PreK Activity</th>
<th>% Change</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>437,186</td>
<td>138,681</td>
<td>181,400</td>
<td>41.49%</td>
<td>9.77%</td>
<td></td>
</tr>
<tr>
<td>Employment (non Farm)</td>
<td>406,583</td>
<td>114,134</td>
<td>138,238</td>
<td>34.00%</td>
<td>5.93%</td>
<td></td>
</tr>
<tr>
<td>Employment/Population</td>
<td>0.93</td>
<td>0.82</td>
<td>0.76</td>
<td>81.94%</td>
<td>-6.55%</td>
<td></td>
</tr>
<tr>
<td>New Housing Permits</td>
<td>50</td>
<td>0</td>
<td>60</td>
<td>120.00%</td>
<td>120.00%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Housing Permits fell again after rebuilding codes were announced (April)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open Public Schools</td>
<td>122</td>
<td>0</td>
<td>21</td>
<td>17.21%</td>
<td>17.21%</td>
<td></td>
</tr>
<tr>
<td>Occupied Hotel Rooms</td>
<td>257,64</td>
<td>63,85</td>
<td>209,45</td>
<td>81.30%</td>
<td>56.51%</td>
<td></td>
</tr>
<tr>
<td>Hotel Rooms/Population</td>
<td>0.06</td>
<td>0.05</td>
<td>0.12</td>
<td>195.93%</td>
<td>117.80%</td>
<td></td>
</tr>
<tr>
<td>Food Establishments Open</td>
<td>1,882</td>
<td>??</td>
<td>573</td>
<td>30.45%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales Tax Collections</td>
<td>125,000,000</td>
<td>70,000,000</td>
<td>115,000,000</td>
<td>92.00%</td>
<td>36.00%</td>
<td></td>
</tr>
<tr>
<td>Sales Tax/Population</td>
<td>28.59</td>
<td>50.48</td>
<td>63.40</td>
<td>221.73%</td>
<td>45.19%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Sales tax collections usually rise after a disaster</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Airport Traffic</td>
<td>881,552</td>
<td>42,198</td>
<td>483,176</td>
<td>54.81%</td>
<td>50.02%</td>
<td></td>
</tr>
<tr>
<td>Open Hospitals</td>
<td>25</td>
<td>0</td>
<td>7</td>
<td>28.00%</td>
<td>28.00%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Only 45% of hospital beds are open</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

( * ) Data came from October 2005

Data from BLS, Louis Armstrong Airport, Smith Travel Reasearch, and http://www.lorenscottassociates.com
Population of New Orleans since Hurricane Katrina

Data from http://www.demographia.com/db-katrina.htm
Why Tourism and Mardi Gras are Vital

• Tourism
  – 2nd largest industry
  – 2nd largest private employer
  – 4% of gross state product (directly)
  – Indirectly accounts for $4.1 billion/year

• Mardi Gras
  – Draws 1,000,000 visitors in 5 day period
  – News coverage
yet to reach the level of any pre-Katrina month with exception of Sept 2001

auto-regressive process with seasonal variation

Data from Louis Armstrong
Fraction of Pre Katrina Passengers Traveling to New Orleans Post Katrina

# of passengers in month n post Katrina

Average # of passengers month n pre Katrina

Data from Louis Armstrong
Projected Time for New Orleans Airport to Recover to PreKatrina Levels of Passenger Activity

- Logarithmic trend in deviation from mean (R^2 = 0.9736)
- Predicts return to 100% by Jan 09
- Upper bound as early as May 07
- Lower bound as late as 2016
• 68% of all the hotels have reopened
• 72% of the hotel rooms have reopened
• expect another 1,150 rooms to open after the 2006 hurricane season

Data from Smith Travel Research
• Hotel occupancy rates have stayed fairly stable

• No month has reached the average pre-Katrina hotel occupancy

Data from Smith Travel Research
Deviations from Trend in Occupied Hotel Rooms in New Orleans

Data from Smith Travel Research

does not yield a simple trend … Why?
Possible Explanations

• Total Population
  * Previous figure does not show that total population yields an estimable curve.

• Change in Population
  * Tested with regression - $R^2=0.026$ so very little explanatory power

• Relief Workers
  * Most believable explanation but still need data
New Orleans Festivals

• Mardi Gras
  – 2005 attendance over last weekend 1,000,000
  – 2006 attendance over last weekend 700,000

• Jazz and Heritage Festival
  – 2004 attendance 500,000
  – 2006 attendance 350,000

• Essence Festival
  – Moved to Houston
• Have membership information from 9 Krewes

• Membership numbers fell by just over 27% after Hurricane Katrina

• Number of floats provided for those parades decreased by 26%

Data from Gambit Weekly Parade Reviews
Percent Change in Airport and Hotel Activity during Mardi Gras Season

- fluctuations moved in the same direction
- airline industry experienced a much sharper drop off from the previous year than the hotel industry
• airline and hotel industry did not always move in the same direction

• do not see the huge divergence between the hotel and airline industry
Reasons for the Difference

• Mardi Gras provided a short-lived boost in helping the hotel industry recover but did not provide the same boost for the airline industry
  – Premature to make this statement

• possible that during the Mardi Gras season there were still more temporary workers living in hotels than there were in April
Summary

- In order for the area to continue to thrive, tourists once again have to come back to New Orleans
- Airport functioning at 63% of pre-Katrina activity
- Occupied hotel rooms over 70% of pre-Katrina average
- within 5 months able to host a Mardi Gras that drew 70% of the past crowd size
- participation in Krewes, number of floats per parade also fell by about 30%
- Mardi Gras has possibly provided a positive shock to the hotel industry in comparison to the airport industry
Conclusions

• estimates in this paper will become more precise over time

• information for this paper should continue to be gathered over the next several years to see if the trends realized within the first year continue