

Sustainable Tourism and the Circular Economy in Four Major U.S. Visitor Industry - Dependent Economies

Charles E. Morrison

Senior Fellow, East-West Center

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Four Visitor-Industry Dependent Economies: Las Vegas, Metro Orlando, Atlantic City and Honolulu/Hawaii



Three Elements of Sustainability



- Sustainability of Visitor Economy
- Sustainability of the Natural Environment
- Social sustainability of the Host Community

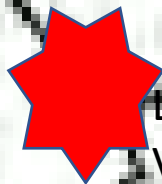
The Global Picture

- Number of tourists globally has risen from 527 million in 1995 to 1.18 billion in 2016
- Tourism directly or indirectly accounts for 11 percent of global employment
- Tourism directly or indirectly accounts for about 10 percent of global gross product
- Sustainability goals cannot be achieved without the participation of this sector



Cautionary Notes

- Visitor industry data by city or county varies widely in the way it is collected and is not necessarily comparable. Since visitor industry data is largely collected for and by the industry itself, there is probably a strong bias in favor of showing its importance.
- The term “circular economy” is variously defined, but in the strictest definition means seeking zero waste. We treat circularity more in terms of a contrast with linearity. In other words, determined efforts are made toward recycling and reducing waste. Please note, however, that we are looking at sustainability in a larger sense to include sustainability of the industry and the community, not just the environment.
- Much of the sustainability efforts made in resort communities necessarily involves the whole community, particularly those that require public policies, not just the visitor industry efforts themselves. Southern Nevada water conservation and reuse is a good example.
- Visitor industry obviously requires transportation. But transport efficiencies rarely covered in sustainability discussions of the visitor industry except within the locality.



LAS
VEGAS



HONOLULU



ATLANTIC
CITY



ORLANDO

Four Visitor-Industry Dependent Economies in the US

- **Las Vegas:** “57% of the economy would not exist without tourism.” Jeremy Aguero, Applied Analytics, March 2017. Aguero considers Las Vegas the U.S.’s most visitor-industry dependent economy.
- **Orlando:** “In 1992, the tourism sector accounted for 18.7 percent of all jobs in the Metro Orlando area. Ten years ago, it was 19 percent. And today, leisure and hospitality makes up about 20.5 percent.” Orlando Sentinel, January 25, 2013.
- **Atlantic City:** In April of this year, construction began on the Atlantic City Gateway, a new, \$210 million development that will include corporate, residential, restaurant, and entertainment buildings, as well as academic facilities for Stockton University. It will be the first non-casino development in the city in 15 years. Business Insider, July 23, 2017.
- **Honolulu:** “Hawaii is facing its worst recession since becoming a state 50 years ago, dragged down by its reliance on a single industry. As much as a third of Hawaii's economy is driven by tourism, say state finance experts . . .” Wall Street Journal story during the GFC, August 17, 2009.

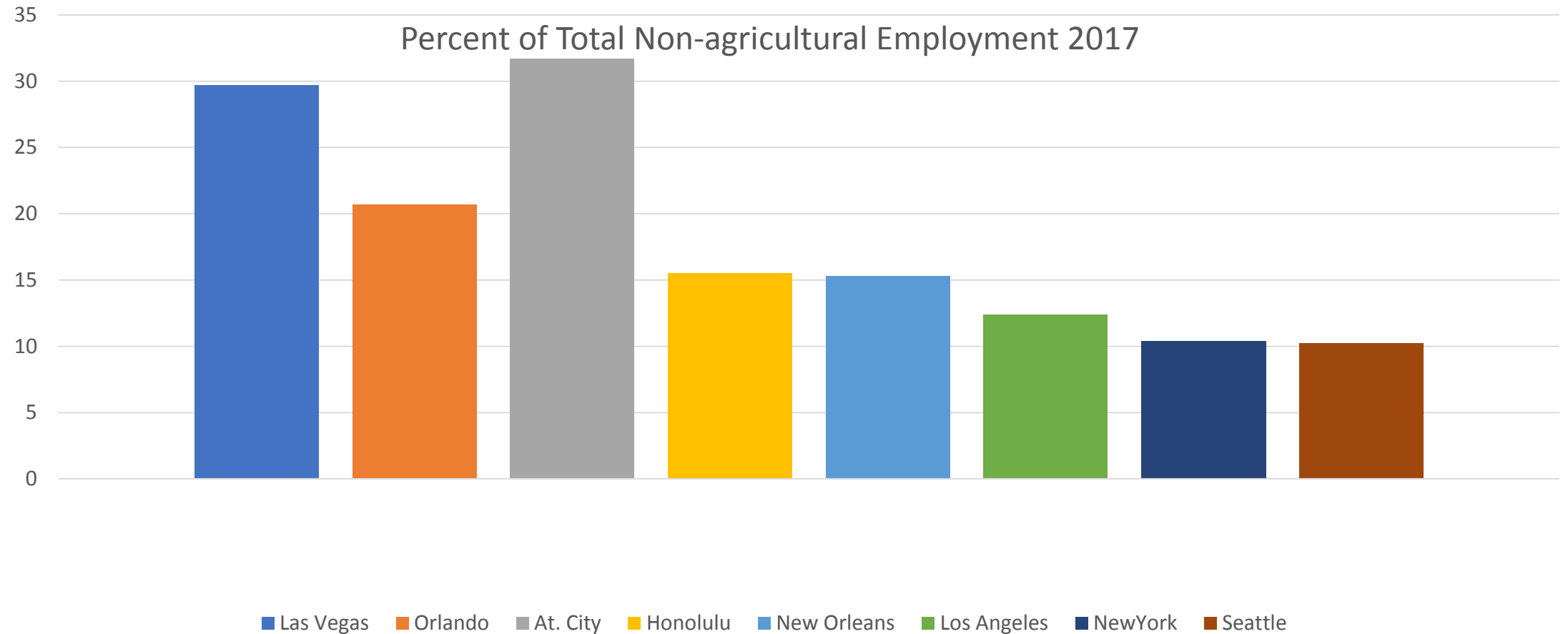
Short Histories

- **Las Vegas'** initial boom came with the construction of Hoover Dam in 1930. Gambling was legalized in 1931, and Las Vegas developed a reputation as "sin city." It was able to capitalize on its proximity to Hollywood to develop as an entertainment and center and it moved early into the convention business. Las Vegas boomed in the 1970s and 1980s, but its tourist dependent economy is vulnerable to recessions as was evident during the GFC.
- **Orlando** was selected by Disneyland chose for its East Coast "Disney World" because Miami and Tampa were considered more vulnerable to hurricanes. In the first year, Disney World drew 10 million visitors. In contrast to Las Vegas or Atlantic City, Orlando remains focused on family-oriented tourism with Sea World and Universal Studios joining the Disney complex as a top attractions.
- **Atlantic City** developed as a beach resort in the 1870s and experienced its heyday in the 1920s, followed by a decline. In 1978, gambling was legalized in an effort to compete with Las Vegas as an East Coast casino venue. Atlantic City boomed as long as it was the only legal gambling center on the East Coast, but has been struggling in past 15 years with casinos closing.
- **Hawaii's** tourism is largely based on its environment and culture as there is no legal gambling industry (the only such state) and entertainment options are limited. Almost totally dependent on air transport, supplemented by a small cruise industry, Hawaii has many fewer visitors than the other resorts, but its visitors tend to stay more nights. A larger proportion of them are international tourists, so Hawaii has benefited from the high income growth rates in Asia.

THE FIRST TAKE: Visitor Economy Sustainability

- A significant issue for all four locations is the over-dependence on a single sector, leading to boom and bust variability as the sector tends to have wider cyclical swings than for the economy as a whole.
- Of the four, Las Vegas, Orlando, and Atlantic City appear to be the most dependent on the visitor industry. Las Vegas and Orlando had significant boom and bust swings during the past 15 years as a result of their dependency.
- Atlantic City's visitor industry may be experiencing a secular declining trend, although there is some very recent evidence of a recovery.
- None of the cases show significant diversification away from the visitor industry, but for all, except for Atlantic City, there has been a diversification of visitor offering within the sector.
- Despite the downswings during recessions, the long-term outlook continues to be for growth.

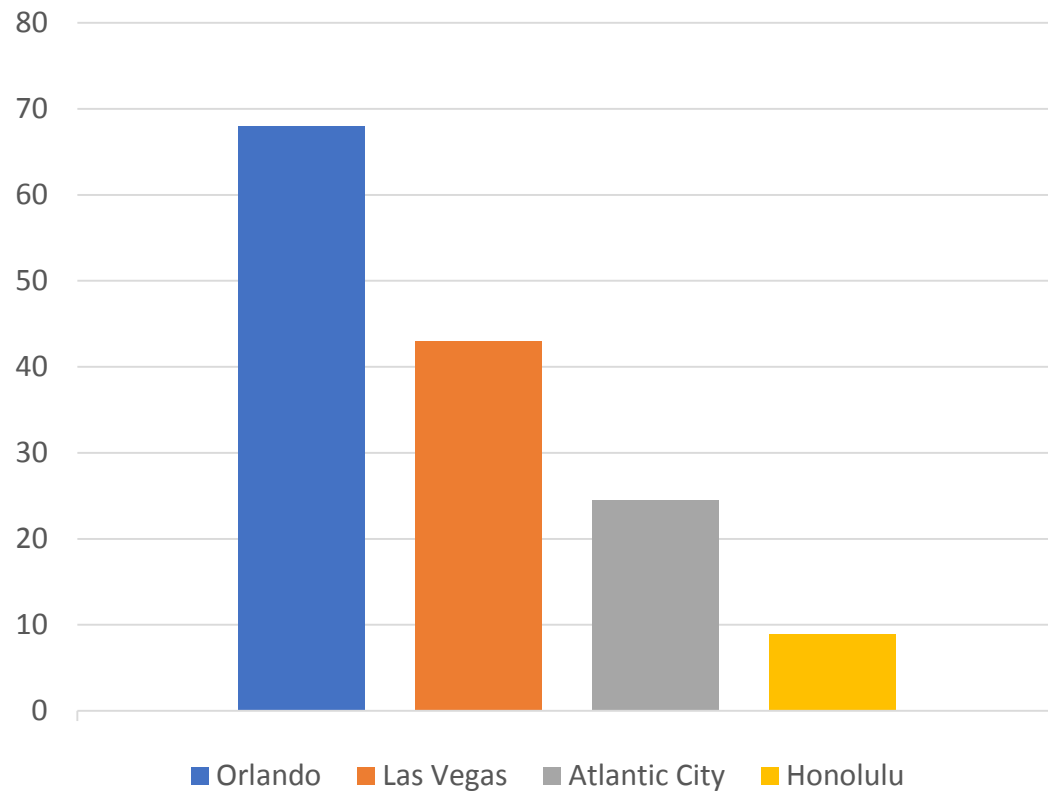
Dependency: Leisure and Hospitality Share of Labor Market



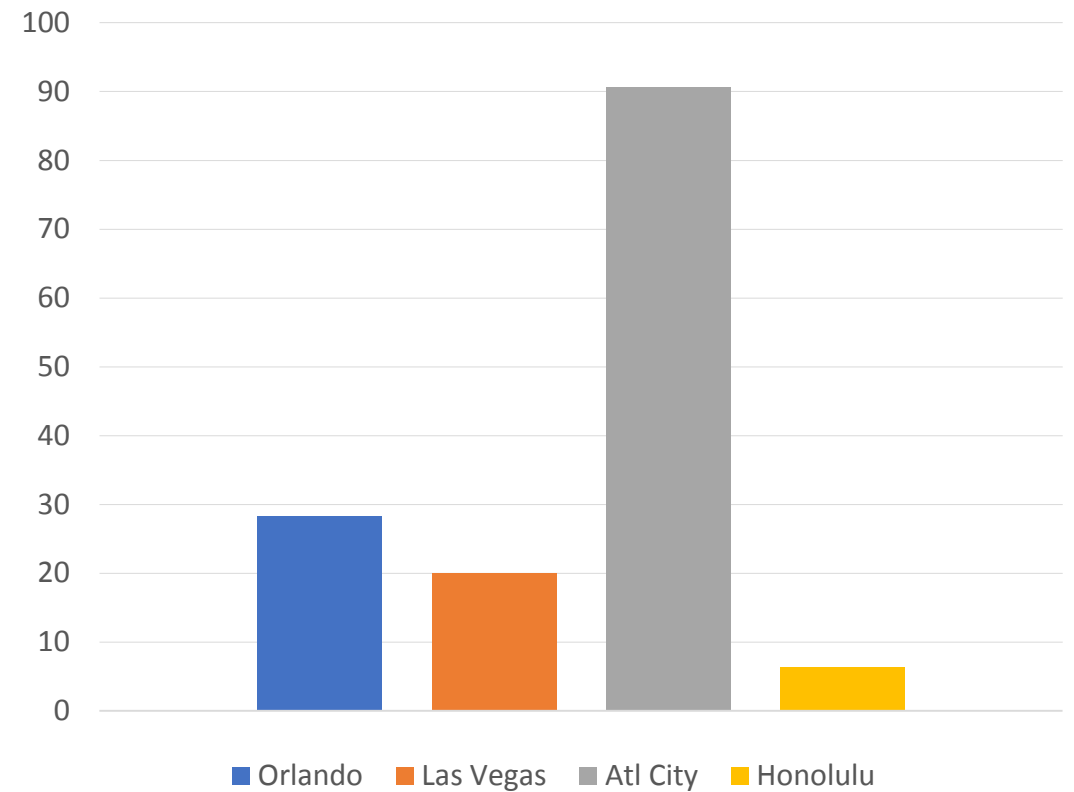
Source: U.S. Bureau of Labor Statistics, Economic Summary for each area, September 2017

Dependency: Visitor Numbers

Millions of Visitors in 2016



Visitors per Local Population



Approximate Number of Hotel Rooms

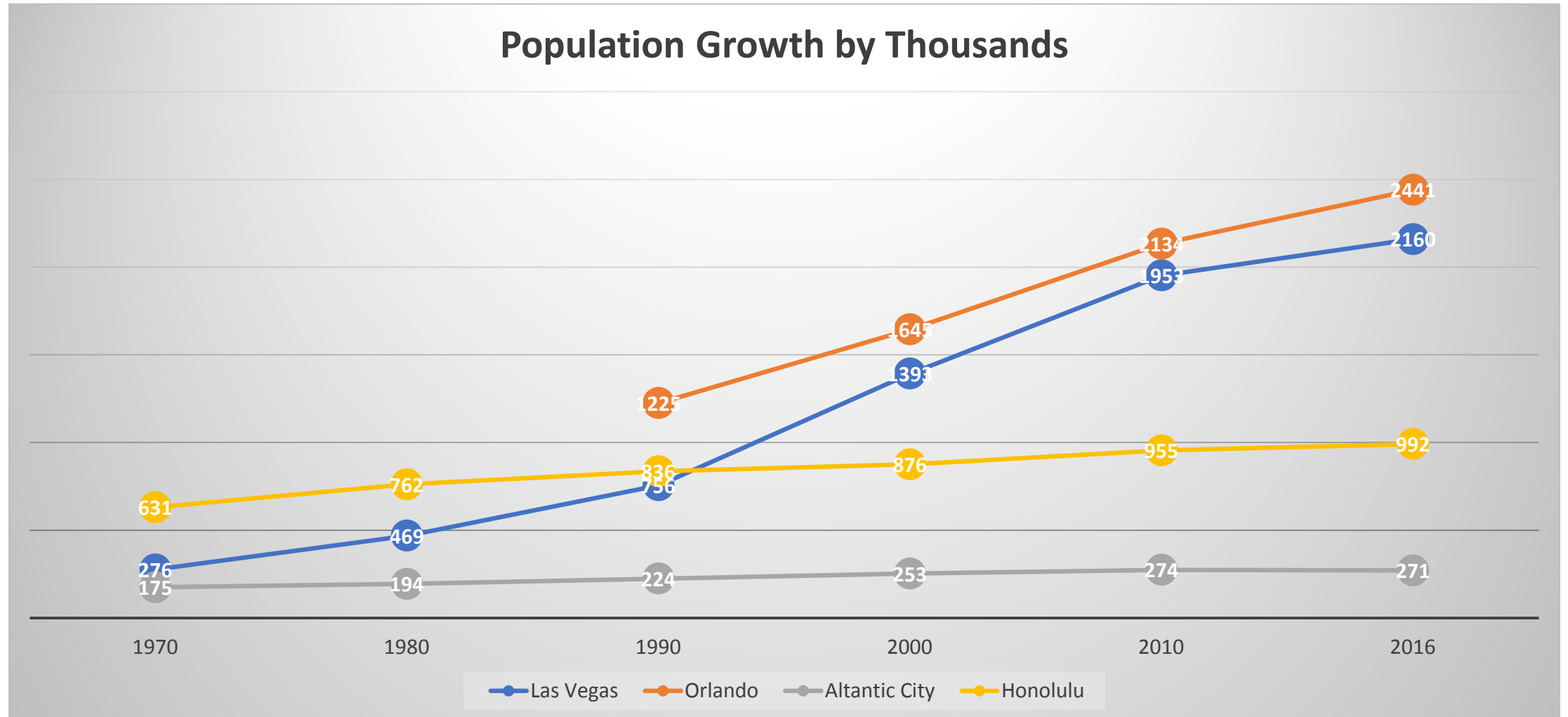
These Case Studies

- Las Vegas: 167,000
- Orlando: 130,000
- Honolulu: 25,000
- Atlantic City: 20,000

Some Other US Cities

- New York: 117,000
- Chicago: 112,000
- DC area: 107,000
- LA/Long Beach: 100,000
- Miami/Boston: around 50,000 each

Tourism a Driver of Growth

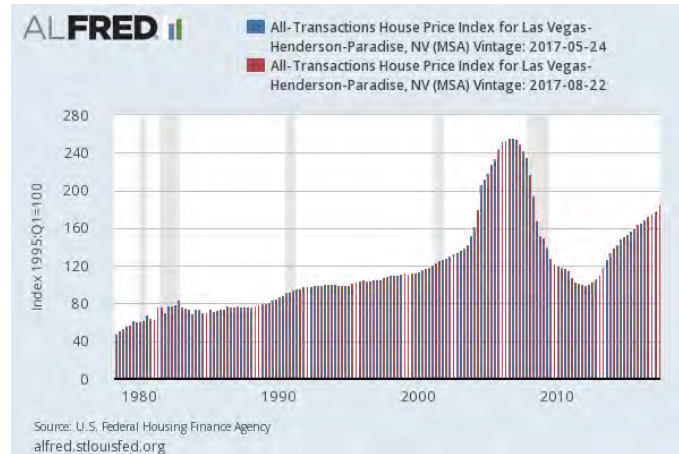


Populations for Clark County, NV; Metropolitan Orlando; Atlantic MSMA; and Oahu Island.

Key Vulnerability: Cyclical Volatility

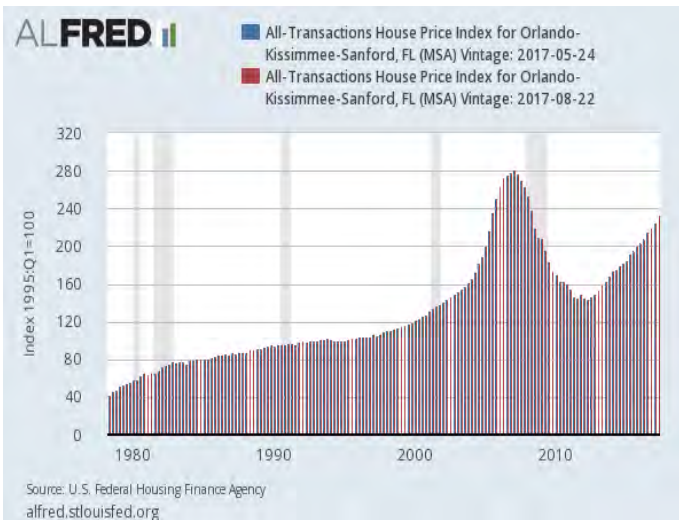
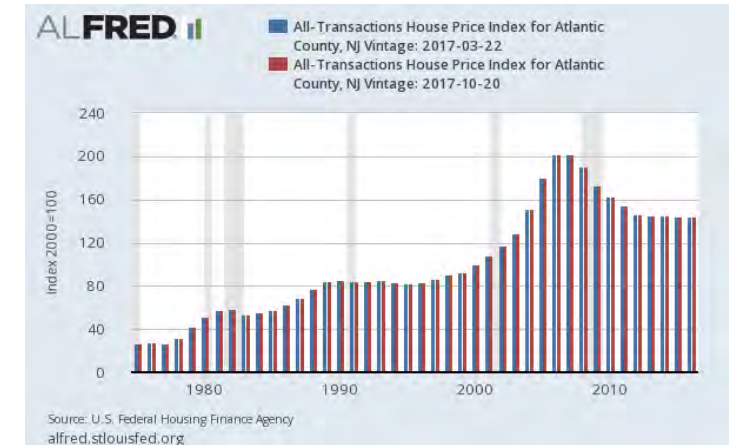


House Price Indices: 1980-



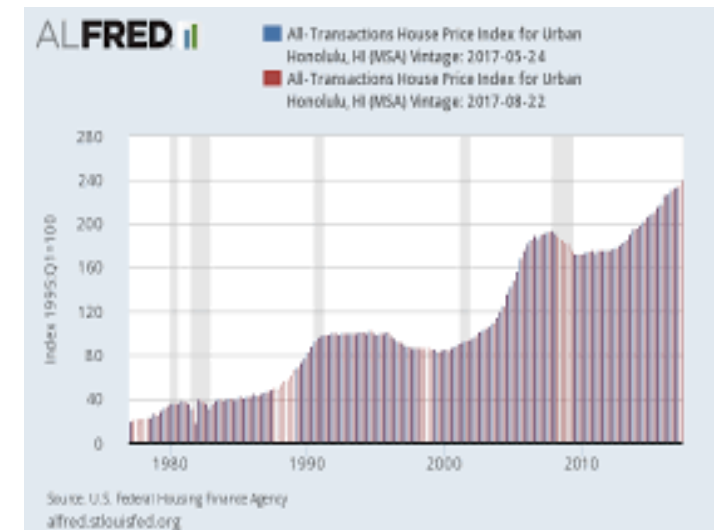
LAS VEGAS

ATLANTIC
COUNTY



HONOLULU

ORLANDO



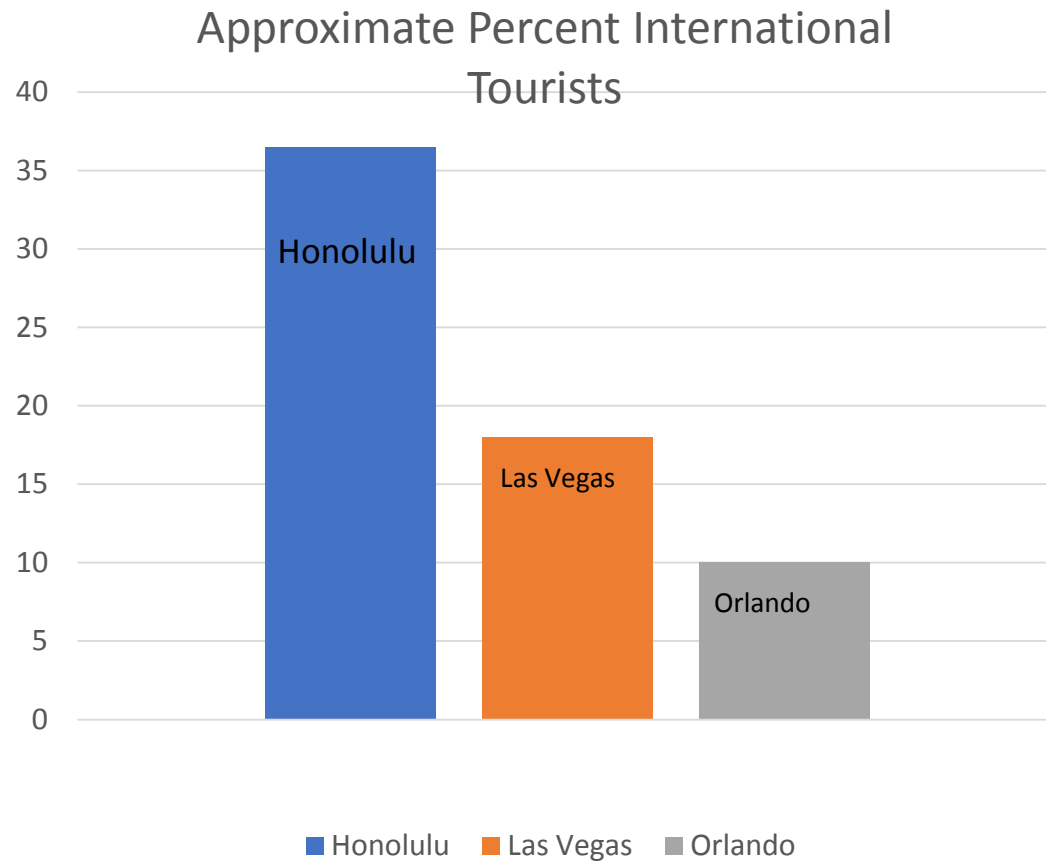
Other Vulnerabilities

- While economic downturns is the most likely industry threat, there are other both short-term and long-term vulnerabilities. Examples:
- Destructive storms, earthquakes or other disasters, or to pick an absolutely devastating scenario, an eruption of the Yellowstone super volcano.
- Political unrest, terrorist incidents, or a rise in crime.
- A medical emergency, such as SARS or the Zika Virus.
- A change of government policy or practice, for example, frowning on holiday resorts for government conventions or discouraging gambling.
- A long term change of consumer preferences.

Diversification within the Industry

- **Las Vegas:** Initially gambling, growth of entertainment sector in the 1950s, now according to Cvent, the third most popular convention site.
- **Orlando:** Initially family entertainment based around Disney World, now the most popular convention site in the U.S. About 10 million convention visitors a year. At the same time, the number of theme parks continued to grow to 3 complexes (Disney, Sea World, Universal Studios) of 8 theme parks today.
- **Atlantic City:** Initially a beach destination, diversified into convention trade, later into casino. East Coast competition has caused the casino industry to decline and AC is struggling to develop more diversified attractions.
- **Honolulu:** Based on leisure including family, senior citizen, and honeymoon trade. Sought to promote convention trade and site for intergovernmental meetings, but faces challenge of remoteness and does not figure in top 50 convention sites. Neighbor island tourism is growing. While considered from time-to-time, Hawaii is the only state to have no gambling.

Diversification: International Tourism



- Top Origins: Honolulu

- Japan
- Canada
- Australia-New Zealand
- Korea
- China

- Top Origins: Las Vegas

- Canada
- Mexico
- UK
- Australia
- Japan

- Top Origins: Orlando

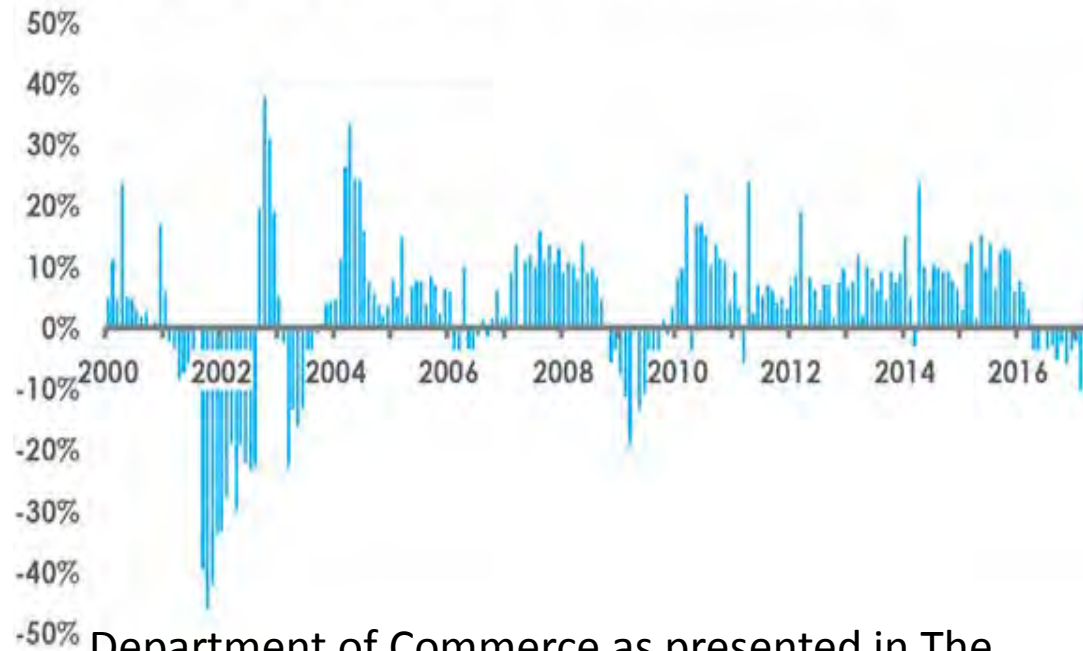
- Canada
- Brazil
- UK
- Argentina
- Colombia

Note: Unable to find reliable figures for Atlantic City

International Visitors to US

Overseas Visits to the United States

Year-over-year change



Department of Commerce as presented in The Motley Fool, October 19, 2017

Major Ports of Entry: 2016 (millions)

NYC-Newark: 8.2

Miami: 4.9

Los Angeles: 4.2

Honolulu: 2.3

San Francisco: 2.2

Chicago: 1.6

Orlando: 1.5

Guam: 1.4

Washington, Atlanta, and

Houston: 1.0 each

Department of Commerce, July 2017, preliminary

Atlantic City Woes

- Unlike the other destinations, Atlantic City has not recovered the vibrancy of the 1990s and early 2000s. Five major casinos closed, and tax revenues and jobs plunged.
- In 2015, the architectural and design firm, Perkins+Will, rolled out a plan to turn AC into a “living laboratory” of sustainability. The casinos would be repurposed as research institutions and testing laboratories.
- According to Perkins+Will, “Since Atlantic City is an intact city with built structures, civic systems and a living, breathing community, it provides a unique opportunity to research and test in place . . .”
- However, Atlantic City’s 2017 masterplan envisages renovating casinos, hosting more events, and trying to better exploit the beaches for family vacations.

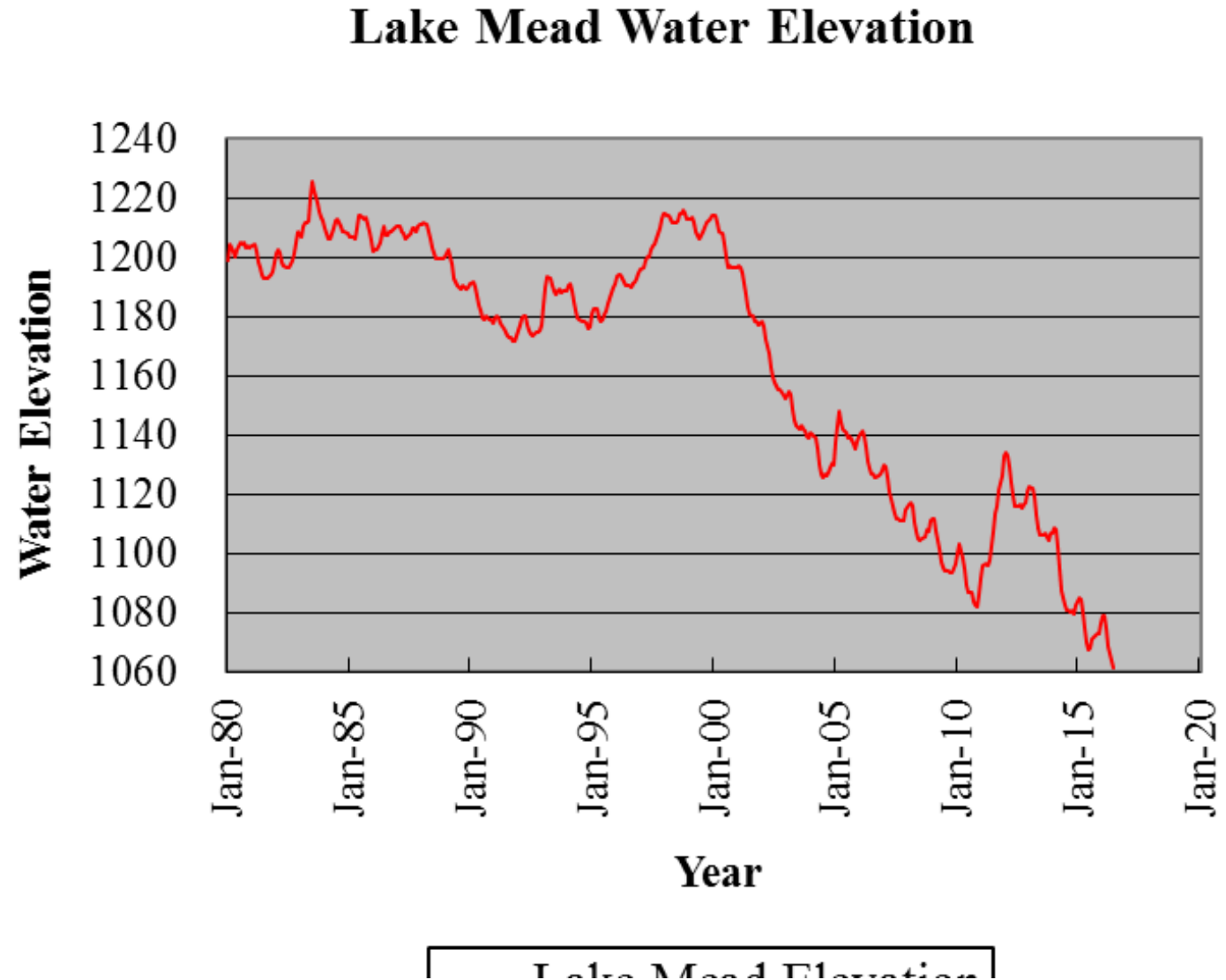


THE SECOND TAKE: Environmental Issues

- Whether a scenic natural environment is a direct cause of visitors or not, an attractive natural environment is an essential the visitor industry. No one enjoys polluted air, unplanned development, or an unsafe environment.
- Las Vegas: Tourists do NOT come to Las Vegas for the beauty of its physical environment. But water availability is critical to the sustained growth of the city and its tourist industry.
- Orlando: Again the natural environment as opposed to entertainment does not figure into attracting tourists to this area, but Orlando faces major environmental challenges from rapid growth.
- Atlantic City: This city average about double the declared disasters opposed to US as whole. The city is especially vulnerable to sea level rise, storms and storm-surge.
- Hawaii: Because Hawaii's tourism is so dependent on its physical beauty, protection of the environment has to have a high priority for the visitor industry. Hawaii's small land area and fragile micro-environments add special challenges in areas such as waste disposal. In addition, the city's airport, partly built on a reef, and beaches are vulnerable to sea level rise.

Las Vegas Water Facts

- Rainfall is 4.1" a year, desert climate
- Water is sourced from the Colorado River. Under the 1922 compact of 7 US states, Nevada has 4% of the lower Colorado River water (compared to 58% for California)
- Lake Mead, the large reservoir near Las Vegas, has seen some fluctuations, but the general trend has been toward dropping water levels.
- About 65% of water use is for landscape, and less than 8% for casinos and hotels.
- More efficient per capita water use has been offset by population gain. Per capita, Las Vegas still uses more than double the water of San Francisco or Los Angeles.



Las Vegas Water Sustainability Efforts

Many efforts are focused on the community as a whole, not specifically on the visitor industry

Severe landscaping watering rules were instituted in 2003.

Grassy front yards are illegal for developers and total grass area for residences regulated; “cash for grass” encouraged replacing grass yards with rocks.

Golf courses have allotments, subject to severe fines.

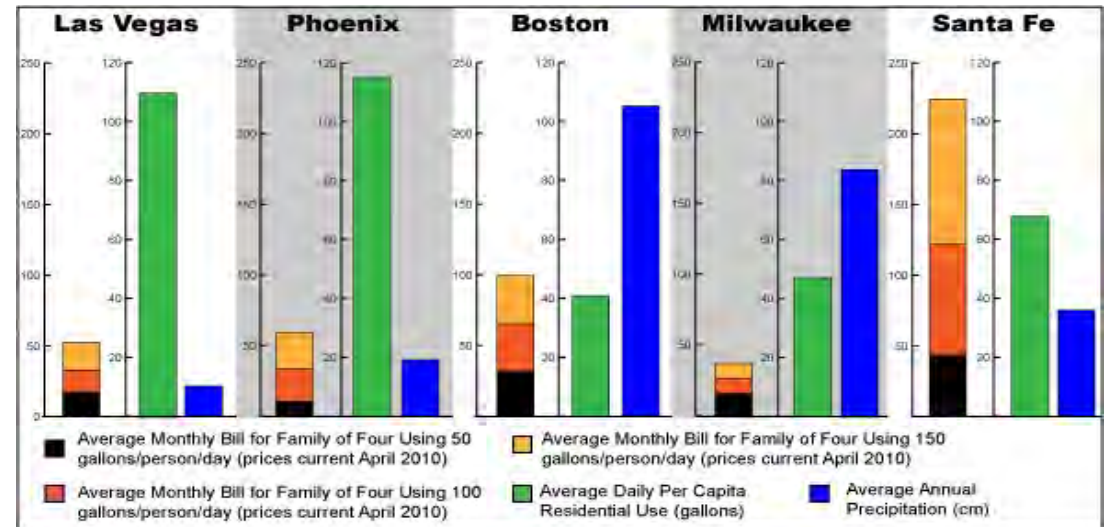
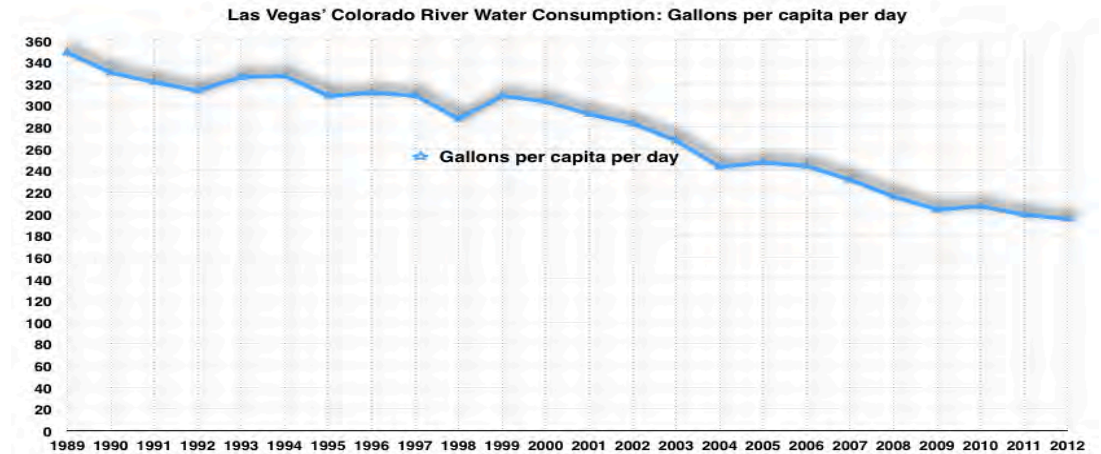


Las Vegas: Water Reuse Efforts

- Recycling of water, but evaporation loss.
- "Water cops."
- Monitoring of pipelines for leaks has high priority.
- Purified water returned to Lake Mead.
- City of Las Vegas has reduced its water consumption from 1.47 billion gallons in 2008 to 1.18 billion gallons in 2016. 40 acres grass in parks replaced with artificial turf.
- While local population under severe constraints regarding water use, visitor population less aware of these.
- Hotels prefer that visitors feel that a vacation in Las Vegas is an escape from the normal constraints of life.

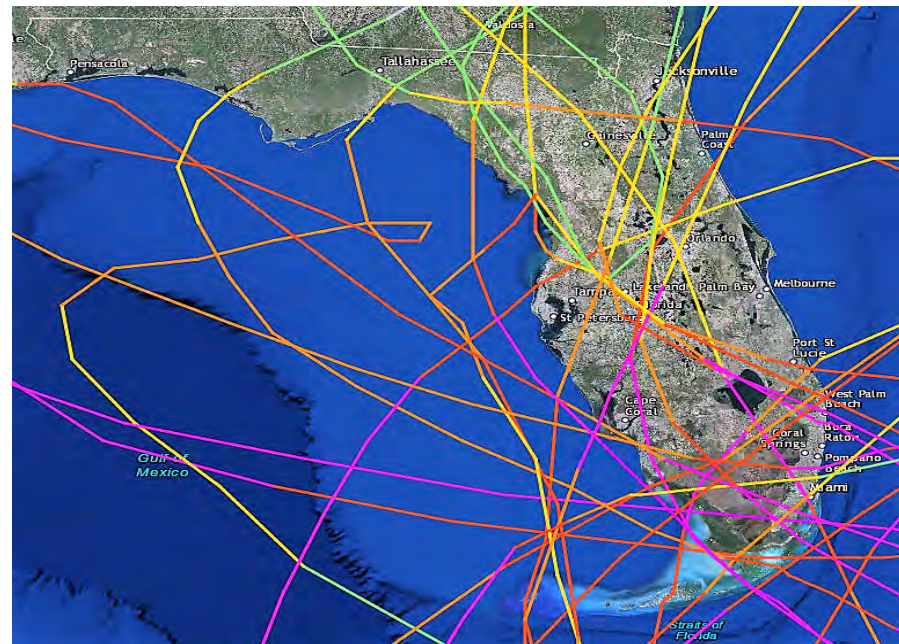
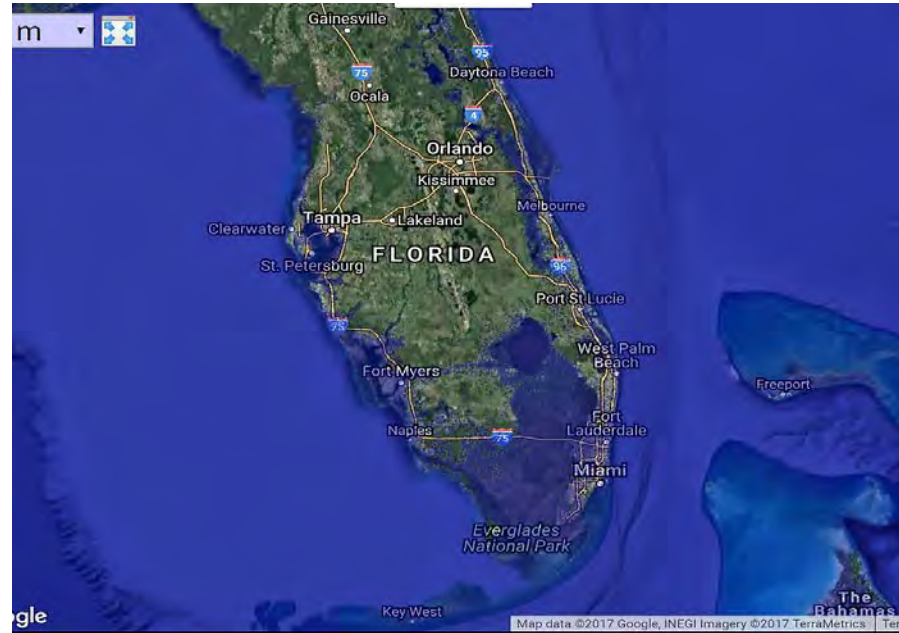
Las Vegas Water: The Net Result

- Significant reduction in per capita water use since 1990.
- At 140 gallon per day per capita water use still almost 3 times that of Los Angeles (50 gpd) or San Francisco (49 gpd)
- The Vegas paradox is that this goal can only be reached with a further influx of people.



Orlando, Sea Level Rise, and Storms

- Orlando was selected by Disney as less vulnerable to disasters than other major Florida cities.
- The top picture shows Florida with 9 meter sea level rise, and the bottom shows recent category 3-5 hurricane storm tracks.
- All Florida's low-lying with the highest elevation in the state at little more than 100 meters, and all Florida has been subject to hurricanes.
- Orlando, however, is on higher ground by Florida standards, and the hurricanes have usually fallen to category 2 or 3 by the time they have reached the Orlando area.

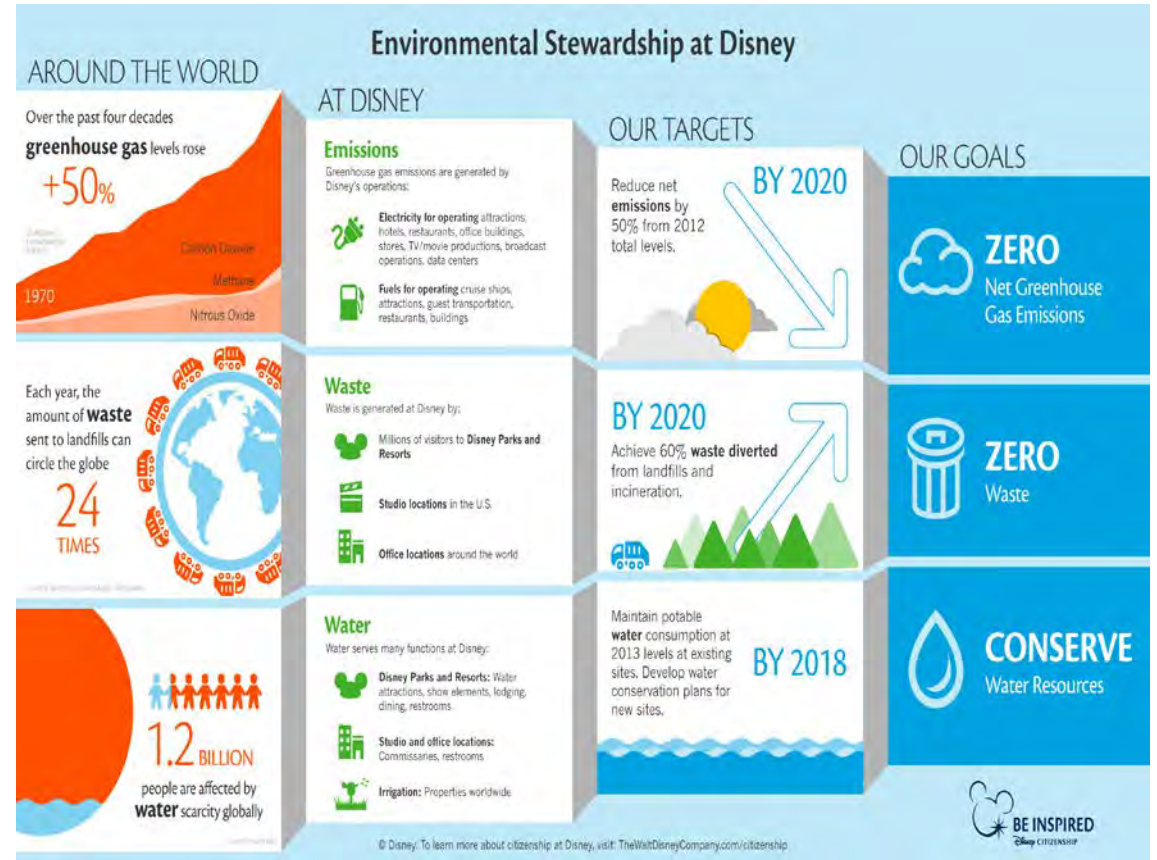


Disaster Responses

- Aside from hurricanes, Orlando is subject to fires and tornadoes. It also had a major shooting massacre in 2016.
- Proximity to much more disaster-prone coastal cities means that it needs to be prepared to house temporary populations when other Florida cities are evacuated. Long-term it may be subject to influx from more disaster-prone areas (including Puerto Rico).
- On the mitigation side, Orlando is seeking to be a leader in sustainability.

Industry Sustainability Programs

- **Disney:** hotels “green certified,” goals for reducing greenhouse gases, electrical use, water, and waste.
- **Universal:** hotels “green certified,” service vehicles fueled by alternatives, cooking oil and cardboard recycled.
- **Sea World:** shuttles hydrogen powered; utensils made from sugarcane and vegetable starch, seafood purchased from sustainable fisheries. 50% of park waste recycled.

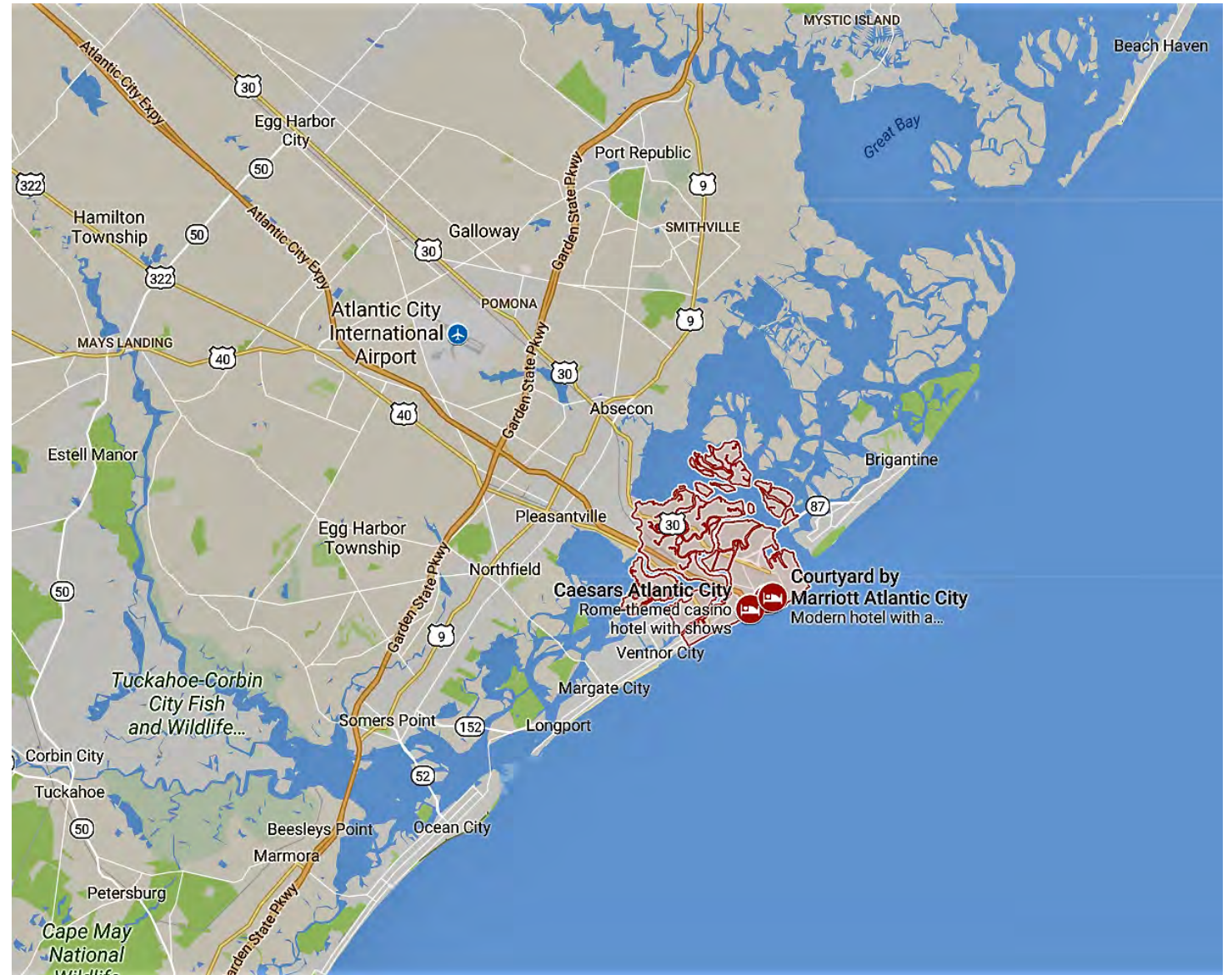


Orlando City Sustainability Programs

- Waste Diversion Goals: 100% by 2040 (27% actual in 2010, 50% goal for 2018).
- Renewable Energy Goals: 50% of power generation for city buildings by 2040 (1.8% actual in 2010), 8% goal in 2018).
- GHG goals: Reduction of 25% by 2018 (from 2007 base), 90% by 2040.
- As of 2016, provides financial tools for households and business owners to reduce utility bills.
- Coming 2018: Energy and Water Efficiency Strategy
- Water Use: 166 gallon per cap/day in 2010; reduce by 3% 2018, 20% by 2040.

Atlantic City: The Most Vulnerable City

- Hurricanes and storm surge: A 4 foot storm surge would leave 50 percent of the city under water.
- Media augmentation: Although Atlantic City was open for business within a week of Hurricane Sandy, there was much more reporting of the devastation than the recovery, hurting the visitor industry for months.



NEW JERSEY: ATLANTIC CITY UNDER WATER





Environmental Sustainability: Atlantic City

- Atlantic City has been focused on its fiscal problems as it nearly defaulted and city government had to be taken over for a period of time by the State of New Jersey.
- Mayor Guardian's 2017 city report emphasized city staffing and expenditure reductions as demonstrations of "resilience." No mention of sustainability goals.
- Catholic Charities and Vistacorps have recently added Atlantic City to a list of cities being assisted for disaster management, and a job advertisement emphasizes working with Spanish speaking populations
- Most forward looking planning appears to be at the state-wide level; New Jersey has had a slow recovery from 2012 Hurricane Sandy.

Hawaii's Environmental Record

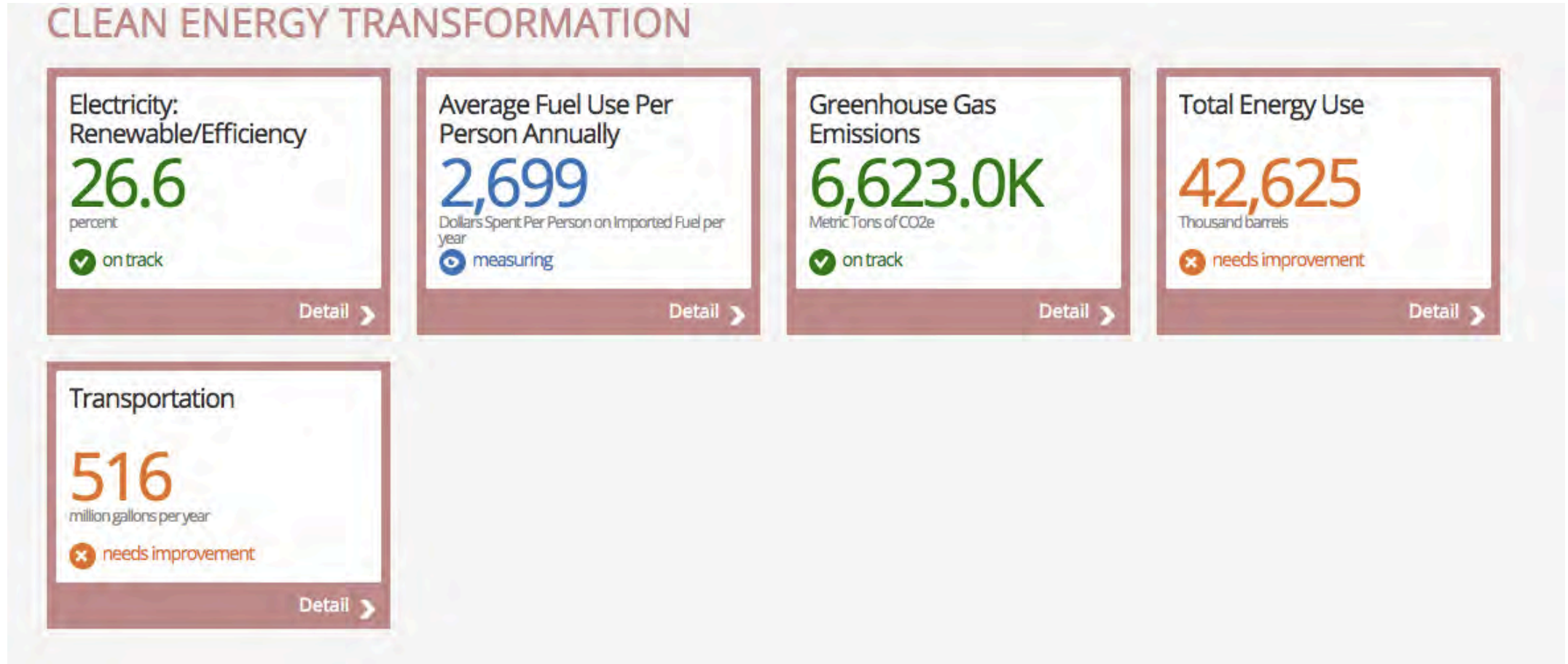
- It is widely acknowledged that human habitation in Hawaii had a devastating impact on native plants and animals.
- However, Hawaii is still a beautiful place, and today much more conscious of its need to protect its heritage.



Hawaii's Priorities and Goals

- Clean Energy: 2008 law mandates 70% of generation should be in clean energy by 2030. 40% from use of renewables, 30% from efficiencies. There is a 100% goal for 2045.
- Solid waste: To reduce 70% by 2030. (A year 2000 goal was not met).
- Natural Resources: To protect 30% of priority watersheds by 2030.
- Local Food: The 2050 Sustainability Plan called for 30 percent of food intake to come from local sources by 2030. (Now 85 percent from outside state). Metrics not determined
- Green jobs and education. Metrics to be determined
- Smart cities and communities. Metrics to be determined

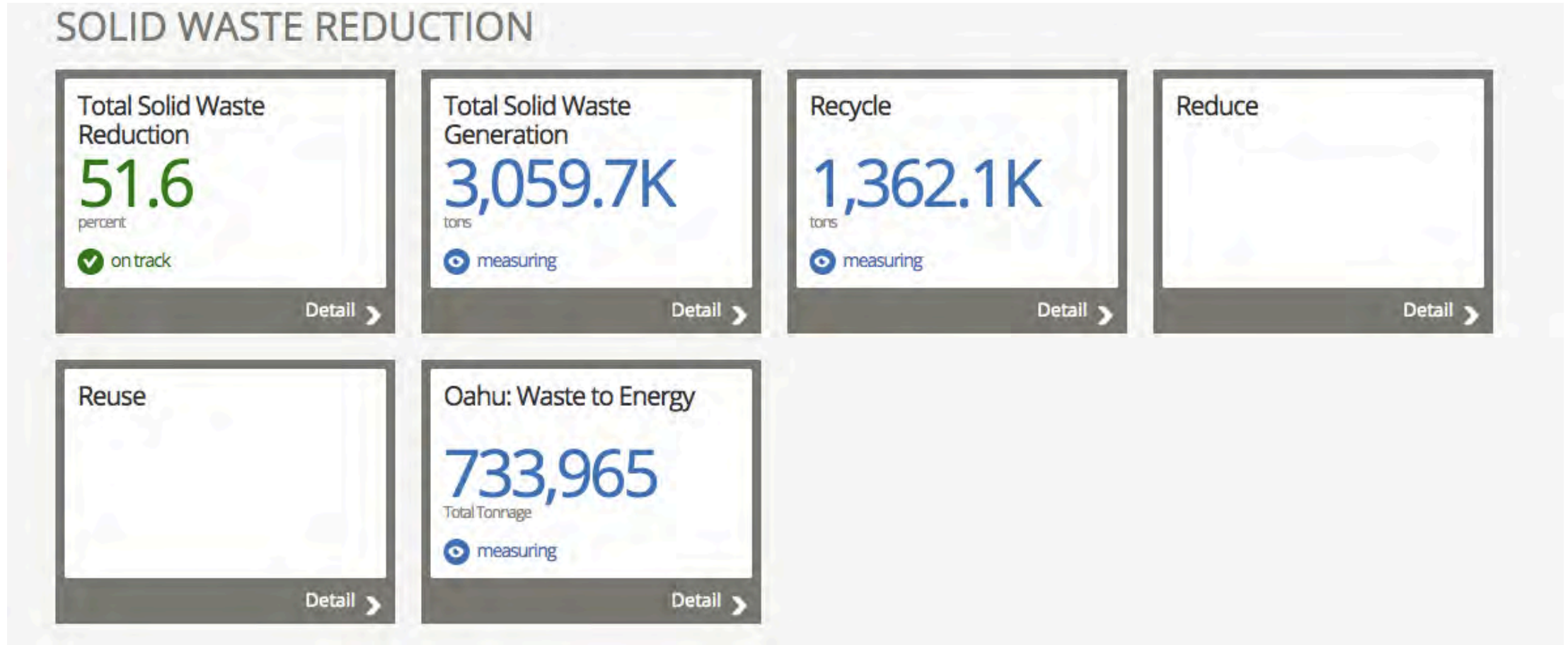
Honolulu Renewable Energy: Hawaii Aloha+ Challenge Dashboard: Clean Energy



Clean Energy and Blue Planet Foundation Report Card 2016

- Overall Mark: B-
- Best Mark: A- for efficiencies. Overall electricity use is falling.
- Worst Mark: D for smart grid
- Most Important Mark: D+ for transportation. Transportation accounts for two-third's Hawaii use of fossil fuels. Average mileage is 24 miles per gallon against the 2020 target of 30 mpg and fuel use is rising. Use of electric cars is not meeting targets.
- Other marks are C+ for economies (pricing, costs) and B+ for renewables

Honolulu Renewable Energy: Hawaii Aloha+ Challenge Dashboard: Solid Waste Reduction



Honolulu Waste Disposal

- Recycling at 39%, compared to 80% for San Francisco, 76% for Los Angeles, and 58% for Chicago. Households separate waste into green, blue, and gray bins.
- Recycled green material turned into compost for reuse in gardens.
- As for the “blue” material, with no recycling facilities for other materials, glass is sent to California, aluminum to Alabama, and lower-value material (cardboards, plastics) to China.
- The gray garbage goes to H-POWER, providing about 10% of Oahu’s energy. This saves importing of oil for power generation and reduces the use of the landfill by 90%.
- In 2015, sewage sludge began to be burned, diverting 20,000 tons of sewage a year from the landfill and generating the energy equivalent of 22,000 barrels of oil.

Honolulu Renewable Energy: Hawaii Aloha+ Challenge Dashboard: Natural Resource Mgmt

NATURAL RESOURCE MANAGEMENT

Increase Fresh Water Capacity

0

Million Gallons per day

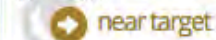


Detail >

Watershed Area

132,000

Acres of Native Watershed Under High-Level Protection



Detail >

Marine Managed Areas

13.1

Percent under active management



Detail >

Invasive Species Control



Detail >

Native Species Managed

5.5

percent



Detail >

Honolulu Renewable Energy: Hawaii Aloha+ Challenge Dashboard: Local Food (To Come)

LOCAL FOOD PRODUCTION AND CONSUMPTION

Local Food System

Detail >

Dairy

Detail >

Protein

Detail >

Vegetables

Detail >

Fruit

Detail >

Starches

Detail >

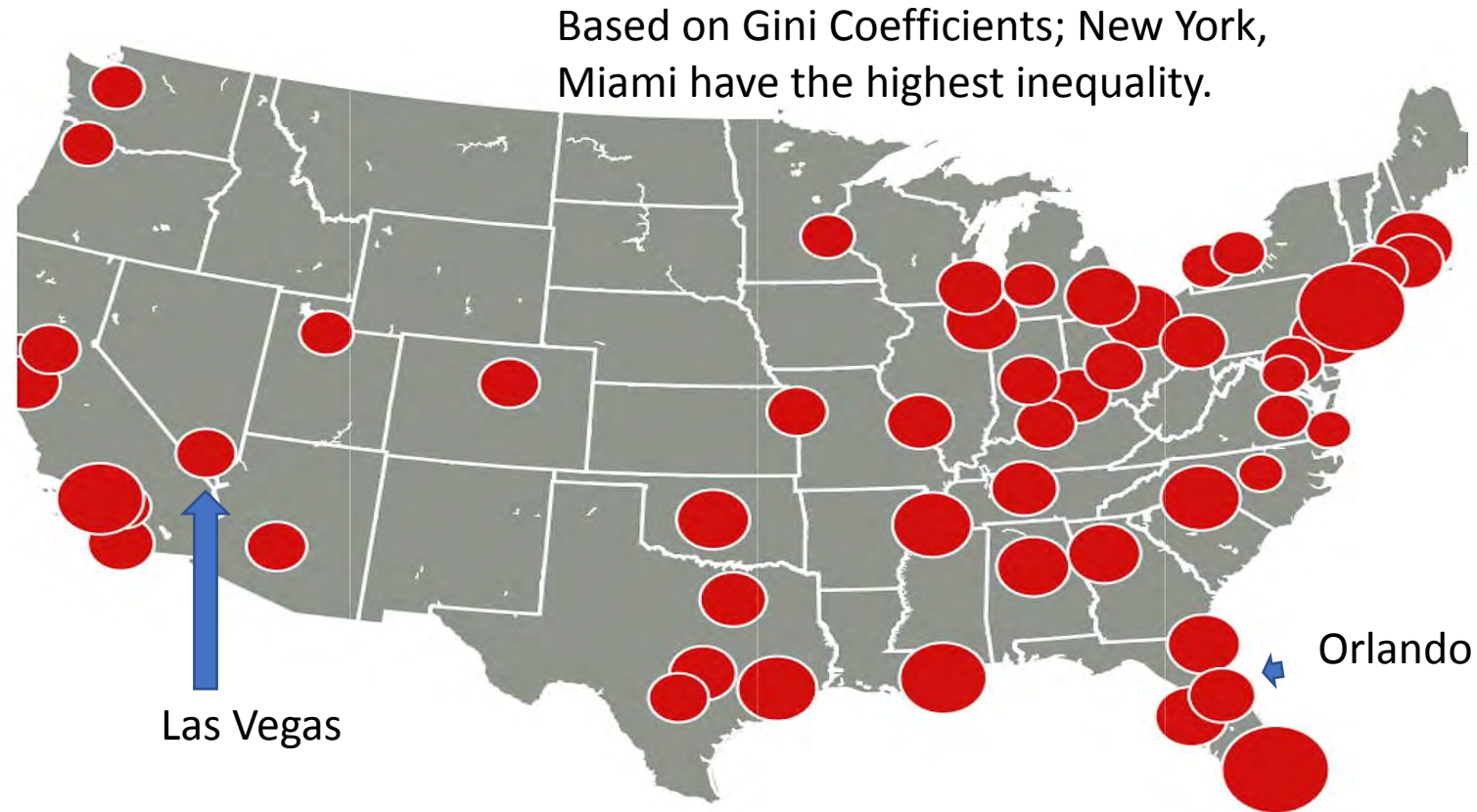
THE THIRD TAKE: Viable Host Communities

- Las Vegas: Comparatively high homeless rate (13th in US), lowing jobs, high school dropout rates, poverty rate increasing, very low voting turnout and volunteerism below 20 percent. Nation's highest suicide rate (34/100,000, more than three times national average).
- Orlando: Low paying jobs, traffic.
- Atlantic City: High poverty rate (36.6%) in Atlantic City itself. (14.3% for Atlantic County).
- Honolulu: Low wages and high costs, homeless rate 2nd in US and growing, poor public school system. But Hawaii ranks first in "happiness."

Low Wages and Lack of Opportunity for Advancement

- The most general complaint in the visitor industry in all locations is the relatively low wages paid.
- For this reason, a major emphasis in the rhetoric of each resort is economic diversification beyond the visitor industry.
- However, these efforts have largely been unsuccessful. Since the competitive advantage of these locations lies in attracting visitors, most diversification involves diversification within the industry rather than into new industries. With population growth, however, there has been a development of services including retail establishments, health care, and education.
- Of these four locations, Hawaii probably has the most diversified economy, with the second industry being defense related. An early pillar of the economy, agriculture, has long declined as a share of the economy or of jobs.
- Las Vegas' STAR Communities report gives the city just 0.6 of 20 possible points in its economic rating section for "Jobs and Living Wages." Only a third of city's households reportedly have incomes exceeding living costs.
- In Oahu the average wage rate is half that needed for rented a 2-bedroom apartment, the biggest gap in the nation. Hawaii has the highest percentage in the nation of both spouses working.

Income Inequality Appear No Worse than Elsewhere in US (Larger Circles Indicate Higher Inequality)



Income Inequality By Household Income Distribution

The U.S. Conference of Mayors published metro area income inequality data by considering household income distribution.

Visitor Tax Use

- Many cities levy lodging taxes on visitors. For Orlando, for example, 6 percent on hotel rooms. These taxes in Florida can only be used for visitor promotion, convention centers, and sport facilities.
- In Las Vegas resorts, the room tax is 12%, and is used to pay for promotions and facilities, but there is also sharing with taxing authorities and schools.
- Hawaii's 10.25% accommodation tax is shared by the State, county governments, tourist agency, convention center, and, most recently, rail authority.
- Atlantic City's imposes 9% "luxury tax" on many visitor services, that in the case of lodging is escalated to 13.875%, and is used to support tourist promotion, the convention center, and other tourist related infrastructure.
- While tourism boost overall revenues, there is no explicit mechanism to use tourist taxes for social welfare purposes.

Some Conclusions

- Visitor industry is not a driving force in the circular economy. The main force comes from public policy and compliance. But virtually all major visitor industry organizations have sustainability efforts.
- Public and political awareness of sustainability has improved, but policy initiatives have tended to set broad, long-term goals, often without concrete or enforceable steps. Serious crises, such as Las Vegas water shortages, do drive stronger policy measures.
- Major environmental costs of tourism, such as the environmental impact of the airline industry, are not addressed by locations such as those studied here.