

UF vs. FSU Carbon Neutral Football Calculations

Known elements that make up this initial FSU-UF football game carbon footprint. In this approach, the utility consumption of Ben Hill Griffin Stadium of November 2006 was used as representative of Stadium impact of November 2007. In fact, typically two home games are held in November of each year, so arguably, one game results in 125 tCO2 emissions, not the 250, rounded up figure used here. The other elements included in this footprint are vehicle travel, of which we chose the lower range of 15,000, lodging, for which we factored 7,900 room nights and air travel, both commercial and private. As such, 75% of the game footprint is due to fan travel, 15% from the stadium, and 10% from lodging.

| | QTY | MPG | Miles traveled | tCO2 per mode |
|------------------|------|-----|----------------|---------------|
| Stadium | 1 | | | |
| Private cars | 5000 | 18 | 30 | 0.0146 |
| Private cars | 5000 | 18 | 100 | 0.0487 |
| Private cars | 5000 | 18 | 300 | 0.1462 |
| RV's | 30 | 7 | 30 | 0.0442 |
| RV's | 30 | 7 | 100 | 0.1473 |
| RV's | 30 | 7 | 300 | 0.4418 |
| Buses | 15 | 4 | 300 | 0.7732 |
| Vans | 2 | 10 | 300 | 0.2632 |
| Truck | 1 | 7 | 300 | 0.3759 |
| Air - commercial | 30 | | 1358 | 0.4200 |
| Air - commercial | 40 | | 1074 | 0.3400 |
| Air - commercial | 30 | | 1050 | 0.3400 |
| Air - private | 40 | | | 3.4000 |
| Hotel nights | 7900 | | | 0.0207 |

Total Rounded off total

Total expected visitors

88,000

tCO2 per fan

0.020

CO2 in lbs

43.834

Counted: Air Travel

Private Airplanes - About 40 private aircraft, propellor to jets come to Gainesville for an FSU game. About half of those refuel. Big games, such as recent Tennessee, drew 129 aircraft, Alabama, 140. Refuel rate for Tennessee game was 22,000 gallon of Jet-A and 100 Low Lead which equals 220 tCO₂We estimated 7,000 gallons of jet-fuel, and doubled it to account for the inbound voyage, for a total of 14,000.

Source: Bill Pokorny, General Manager, University Air Center Gainesville (352-335-4681)

Commercial Aircraft - no additional commercial aircraft come to GNV for home games, but occupancy rate jumps from yearly average of 86% to 98% on game weekends. Typical daily load varies between 400 to 500 passengers. Inbound pax number Nov 23 is 242 and outbound Nov 25 is 428. If a quarter of the fliers are game related, it would be 100 pax. Because Tallhassee is so close, and Thanksgiving fall on that weekend, most travelers are here for the holidays.

Source: Frank Stagl, Security Director TSA Gainesville (352-514-3428) / Michelle Danisovszky, Manager,

Counted: Hotels

Gainesville has 4600 hotel rooms, 90% which book up on game weekends, for both nights. Of that 95% are estimated to be game related, or 3,933 rooms. This excludes visitors staying in Ocala, High Springs, and other near Gainesville locations. Utility consumption sourced directly from Gainesville Regional Utilities' database, using Nov 2006 historical records.

Source: John Pritchard, Alachua County Visitors Bureau (352-374-5260), David Barclay, Utility Analyst, Strategic Planning, (352-393-1296)

Counted: Fan Traffic

Between 15,000 and 35,000 vehicles are estimated to flow to Gainesville during a home game, with a 2 to 3 person occupancy rate. We chose the lower number, and divided it into 3 distance groups, those traveling 15 miles or less, 50 miles, and 150 miles, the distance between Tallahassee and Gainesville. Excluded are the many fans that come from Miami, Savannah and other longer distances. The chosen MPG of 18, was an eyeball call, based on the relatively large number of modern vehicles which are seen during games.

Source: Lt. Wagner, University Police Department (352-392-1409)

Not counted: Vendor impacts such food, drinks, cups, vendor travel, embodied carbon in brochures, waste etc.

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Bambi Motel

2119 Southwest 13th Street, 352-376-2622

<http://hotelsinsider.travelhero.com/index.cfm/id/22752/aid/1620/city/GAINESVILLE/index.html>

34 rooms, all sell out during FSU game

Rush Lake
 1410 SW 16th Avenue, 352-373-5000
<http://www.afn.org/~acvacb/hotels/rushlake.htm>

90 rooms, all sell out during FSU game, but 10 rooms are kept aside for hospital service

Best Western Gateway Grand Hotel
 4200 NW 97th Boulevard, 352-331-3336
<http://book.bestwestern.com/bestwestern/productInfo.do?propertyCode=10281>

152 rooms, all sell out during FSU game

| | |
|-----------|-----------|
| RT impact | 0.42 tCO2 |
| | 0.34 tCO2 |
| | 0.34 tCO2 |

Commercial Air

| | | |
|-------------|---------|---------------------|
| US Air | CLT-GNV | |
| Delta | ATL-GNV | |
| Continental | MIA-GNV | |
| | | 135.366 tCO2 |

Private Air

| | |
|-------------|--------|
| Gallons A-1 | 14,000 |
|-------------|--------|

CO2 factor in gCO2/gallon
 9,669

| <i>GRU Premise #</i> | ConsumptType | Rooms x nights |
|----------------------|--------------|----------------|
| 29800588 | 9,240 E | 1020 |
| 29800588 | 9,560 E | |
| 29800588 | 193 G | |
| 29800588 | 125 W | |
| 22671529 | 14,520 E | 2700 |
| 22671855 | 135 W | |
| 22672231 | 21,520 E | |
| 22672231 | 23,520 E | |
| 11333 | 116,200 E | 4560 |
| 12316 | 29 W | |

Average electricity per room night
 Electricity for 7,900 room nights
 GRU CO2 factor

CO2 impact electricity

Average water per room night
Water for 7,900 room nights
GRU water CO2 factor

CO2 impact water

Natural gas per room night
Gas for 2,600 room nights
Natural gas CO2 factor

CO2 impact natural gas

Total CO2 impact hotel

| | |
|---------------------------|--------------|
| <i>Stadium</i> | 250.00 |
| <i>Private Cars</i> | 1047.76 |
| <i>RV's</i> | 19.00 |
| <i>Buses & trucks</i> | 12.50 |
| <i>Air - commercial</i> | 36.40 |
| <i>Air - private</i> | 135.37 |
| <i>Hotels</i> | 163.75 |
| <i>Total</i> | 1664.78 tCO2 |

| | | |
|-----------------------|--------------|--------|
| <i>Transportation</i> | 1251.02 | 75.15% |
| <i>Facility</i> | 250.00 | 15.02% |
| <i>Lodging</i> | 163.75 | 9.84% |
| <i>total</i> | 1664.78 tCO2 | |

| | |
|-----------------------|---------------|
| <i>Gasoline</i> | 1067.28 |
| <i>Electricity</i> | 318.59 |
| <i>Jet Fuel (A-1)</i> | 171.77 |
| <i>Chilled Water</i> | 55.62 |
| <i>Steam</i> | 27.82 |
| <i>Diesel</i> | 11.97 |
| <i>Natural Gas</i> | 2.61 |
| <i>Water</i> | 0.79 |
| <i>Total</i> | 1,656.45 tCO2 |