Why Revisit Energy Use Intensity?

Two good reasons:

Density

Transportation
Occupant Density

• Buildings very similar in construction and energy use can be occupied very differently.
Occupant Density

• A building can serve a greater number of occupants through shared facilities, hosting telework or remote staff with hoteling and conference space, and accommodating multiple shifts.
Occupant Density

- Looking at energy use per building occupant rather than per building square foot leverages the effectiveness of higher density.
Transportation

• Buildings very similar in construction and energy use can be located and therefore accessed very differently.
THIS ONE RUNS ON FAT AND SAVES YOU MONEY

THIS ONE RUNS ON MONEY AND MAKES YOU FAT
Energy Consumption:
Tall Urban Building vs. Low-Rise Office Park
Energy Consumption: Tall Urban Building vs. Low-Rise Office Park

Number of buildings
High-Rise: 1
Low-Rise: 10

<table>
<thead>
<tr>
<th></th>
<th>Tall Urban Building</th>
<th>Low-Rise Office Park</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average floor size</td>
<td>30,612 sf</td>
<td>36,000 sf</td>
</tr>
<tr>
<td>Area of roof</td>
<td>88,000 sf</td>
<td>375,000 sf</td>
</tr>
<tr>
<td>Area of ext. wall</td>
<td>343,000 sf</td>
<td>385,000 sf</td>
</tr>
<tr>
<td>Area for parking</td>
<td>0 sf</td>
<td>1,837,500 sf</td>
</tr>
</tbody>
</table>
Energy Consumption: Tall Urban Building vs. Low-Rise Office Park
Energy Consumption: Tall Urban Building vs. Low-Rise Office Park

Commute: 41,000 BTU/sq ft-yr
- 30 mi. round trip
- Diesel Bus, 4 mpg, 20 passengers
- 300 sq.ft. per person, 252 days per year

Commute: 210,000 BTU/sq ft-yr
- 30 mi. round trip
- Private Car, 15 mpg, 1 passenger
- 300 sq.ft. per person, 252 days per year
GHG Per Person: Kg CO2E (Carbon dioxide equivalent) pa.

Source: Journal of Urban Planning and Development, Norman, March 2006