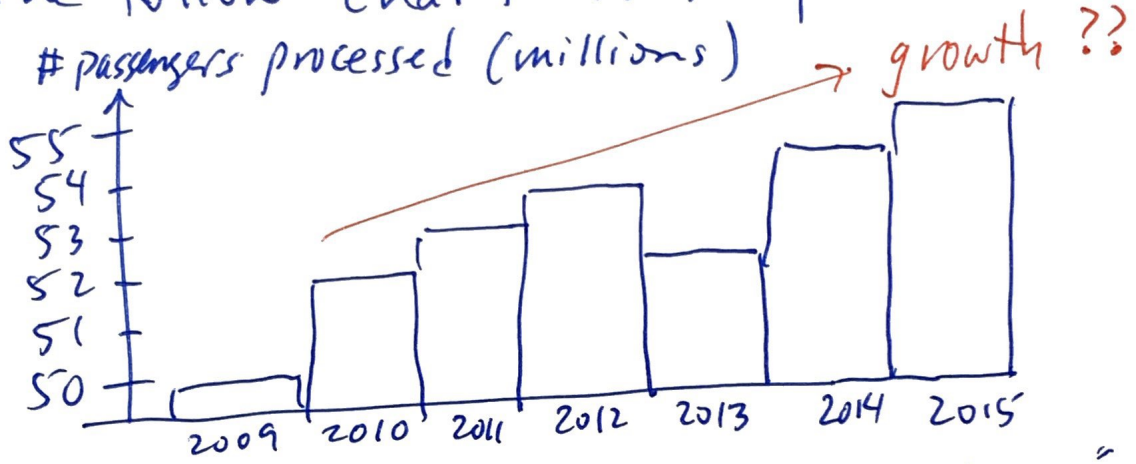


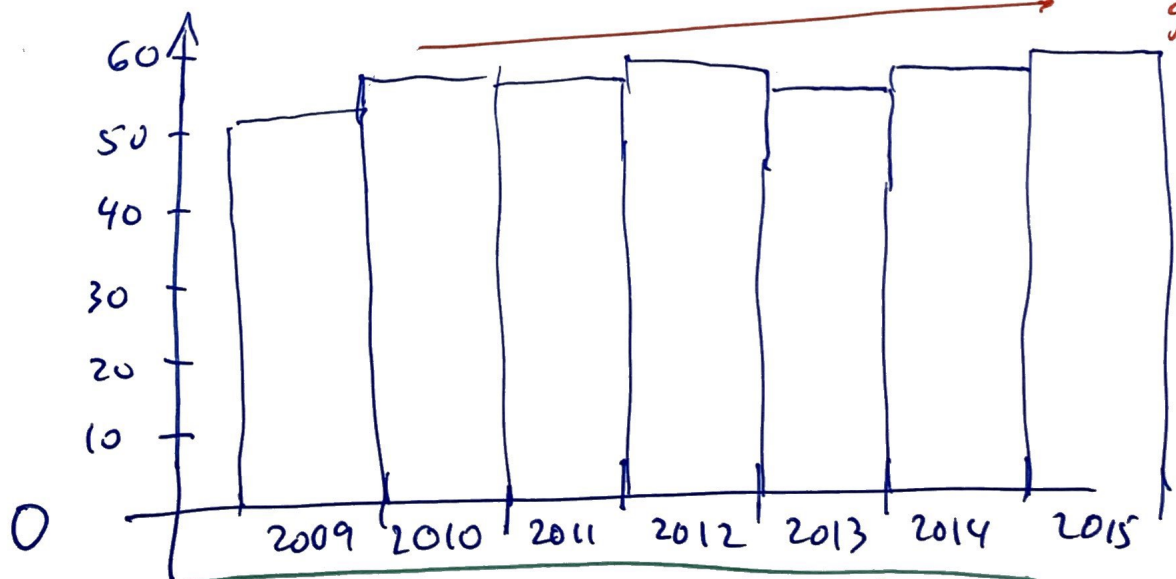
## 2.4 Misleading Graphs

We study in this section ways that graphs can misrepresent data - sometimes unintentional and sometimes intentional

**EX** The Denver Airport Expansion panel presents the follow chart to the public:



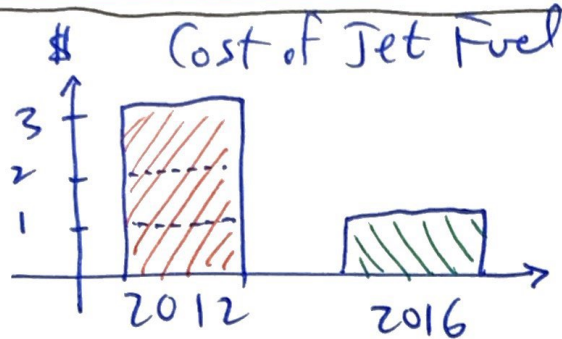
This is only showing 50 million and above "growth". This is potentially **misleading** when the full bars are NOT shown ... This is the <sup>correct way</sup> limited growth



**Remedy: Start your bars at 0**

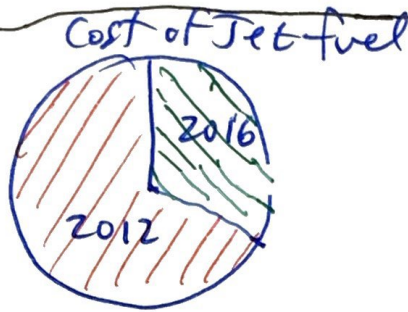
**Area Rule**: The area representing a category (qualitative data) or a class (quantitative data) should be proportional to that category or class's count value. (2)

• Bar Chart



Good  
the Red is  
3X more  
than the green

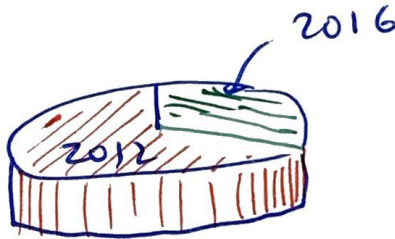
• Pie Chart



areas represents  
counts  
- good!

• Bad Pie Chart

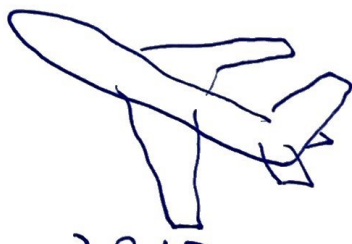
3-D  
perspective  
of  
a thick pie



area is **NOT**  
representing **count**  
- BAD!

• graphics

Here It is hard to get a  
**proper feel** for the  
lesser price in  
2016



2012

incorrect  
use of  
size



2016