

# High Impact Data Visualization

## Displaying Data

University of Michigan

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# Today

- ✓ Introductions & Agenda
- Why Visualize Data?
- Selecting Charts & Graphs
- Graph Basics
- Parts of the Whole
- Text Values
- Geographic Data
- Concepts, Words & Relationships
- Encoding Data
- Storytelling, Data-Ink, & Icons
- Colors, Fonts, & Animation

<https://github.com/thcrawford/DisplayingData>



# the functional art

an introduction to  
information graphics  
and visualization

# the truthful art

data, charts, and maps  
for communication

alberto cairo

"Cairo sets the standard for how data should be understood, explained, and presented. *The Truthful Art* is both a remarkable and a crucial tool for anyone who wants to communicate clearly through graphics, charts, and maps, whether they're professionals, students, or just curious individuals."

JOE MICHNA, professor, CUNY Graduate School of Journalism,  
and author of *Death by Design: Why Design Matters for News*

# INFORMATION DASHBOARD DESIGN

## Show Me the Numbers

Designing Tables and Graphs to Enlighten



Stephen Few

# Why Visualize Data?



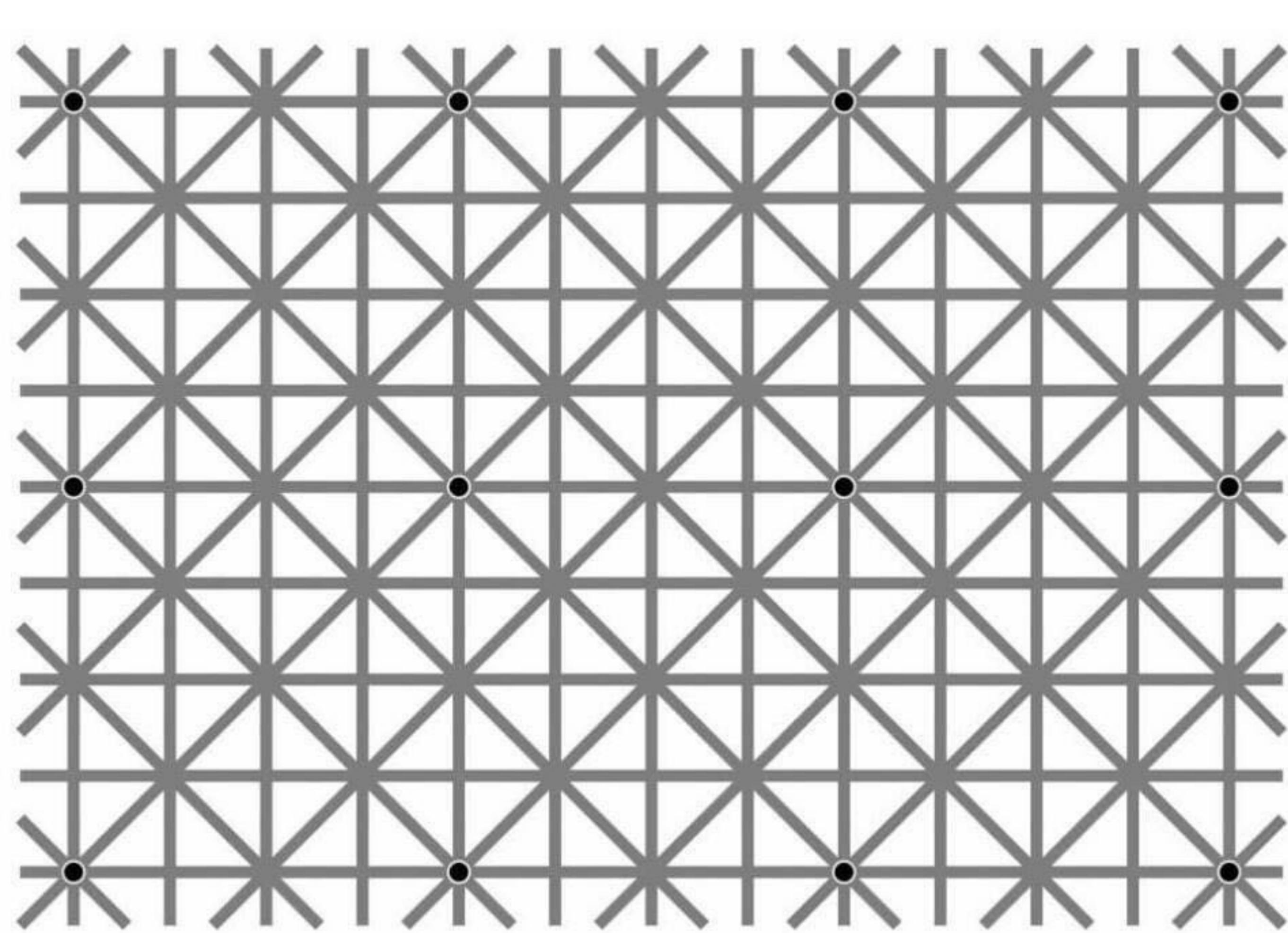
**PBS**

**KIDS**

[pbskids.org](http://pbskids.org)





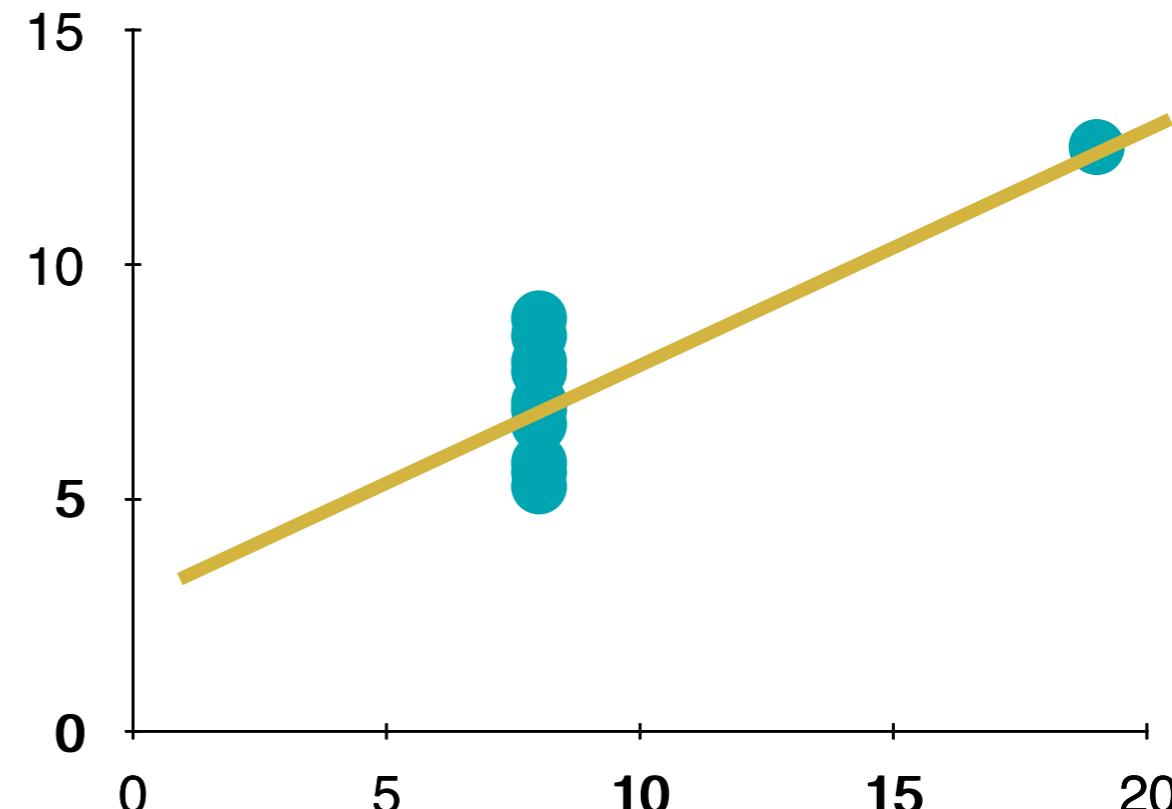
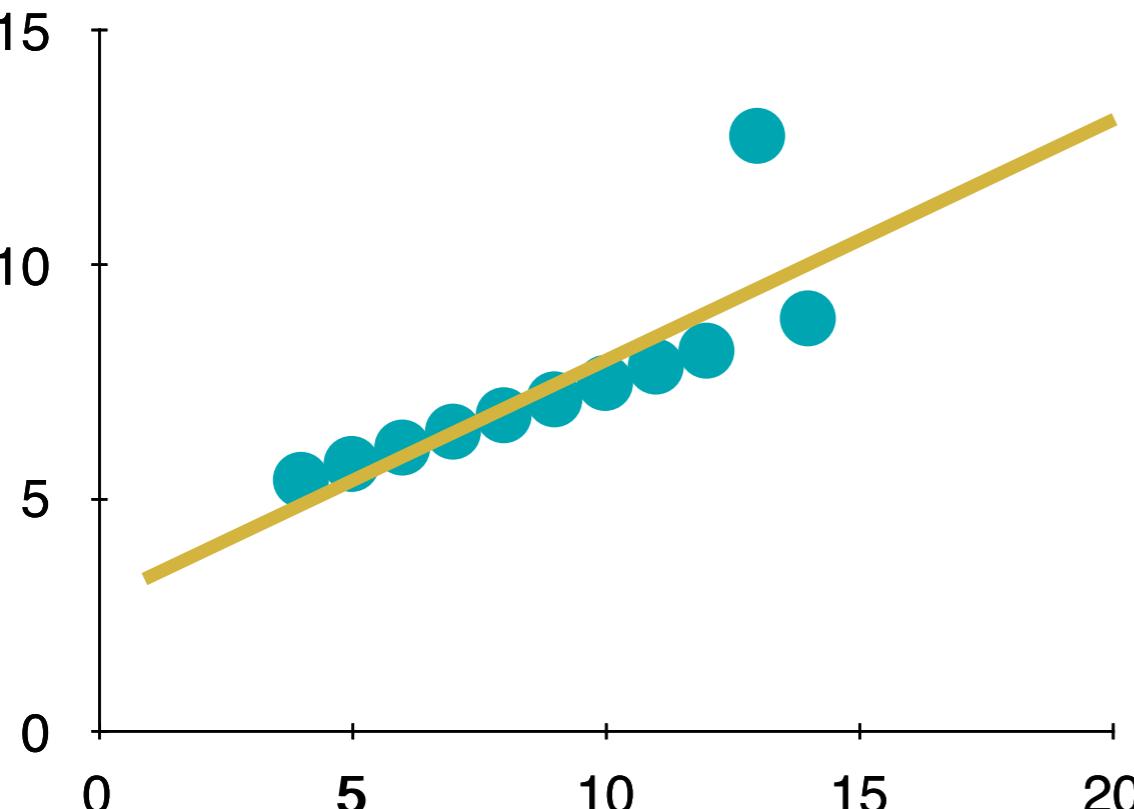
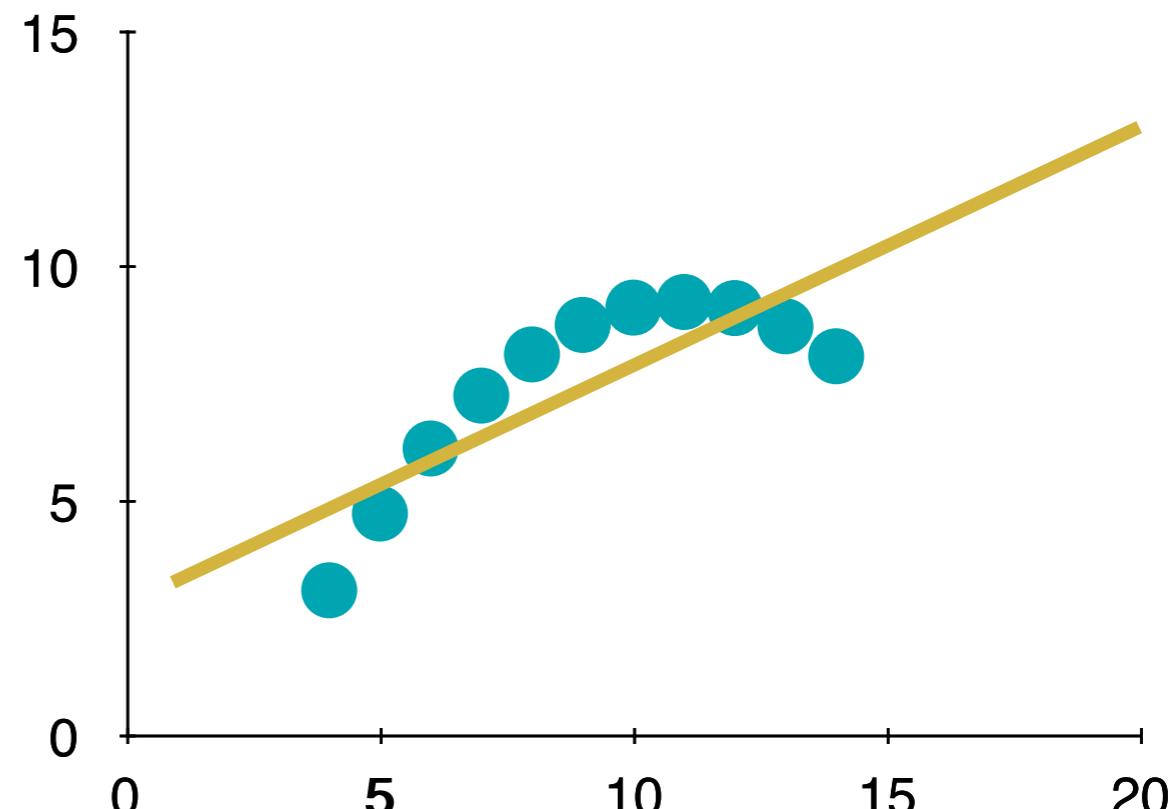
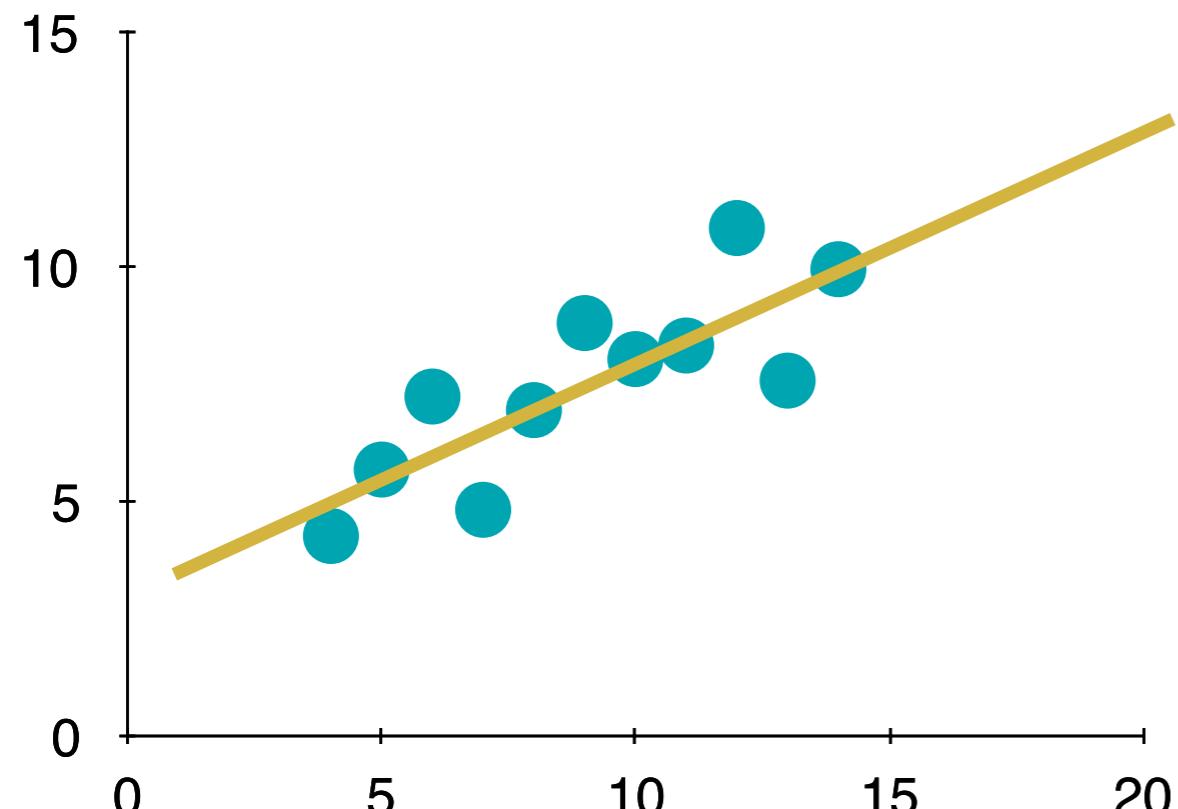


1	5	8	9	3	5	6	2	3	4
6	7	9	2	4	1	5	6	6	7
8	4	3	1	4	9	7	8	5	9
3	4	2	5	7	2	5	3	1	8
7	9	1	3	4	6	2	5	9	1
3	2	4	3	5	5	2	5	1	4
9	8	7	1	2	3	4	3	2	1
2	5	8	9	8	7	6	2	4	5
9	2	3	5	2	8	7	5	6	4
1	2	3	7	9	4	2	3	2	1
8	6	4	2	1	3	5	7	9	8
4	4	2	4	9	8	1	3	2	4
5	7	6	4	1	3	1	2	5	9
1	3	7	9	5	7	3	4	6	2
9	2	3	5	7	2	9	4	1	3

# Why Visualize?

- ▶ 4 Data Sets
- ▶ Each has:
  - Mean of X: 9
  - Sample Variance of X: 11
  - Mean of Y: 7.5
  - Correlation of X & Y: 0.816
  - Linear Regression Line:  $Y = 3.00 + 0.500X$

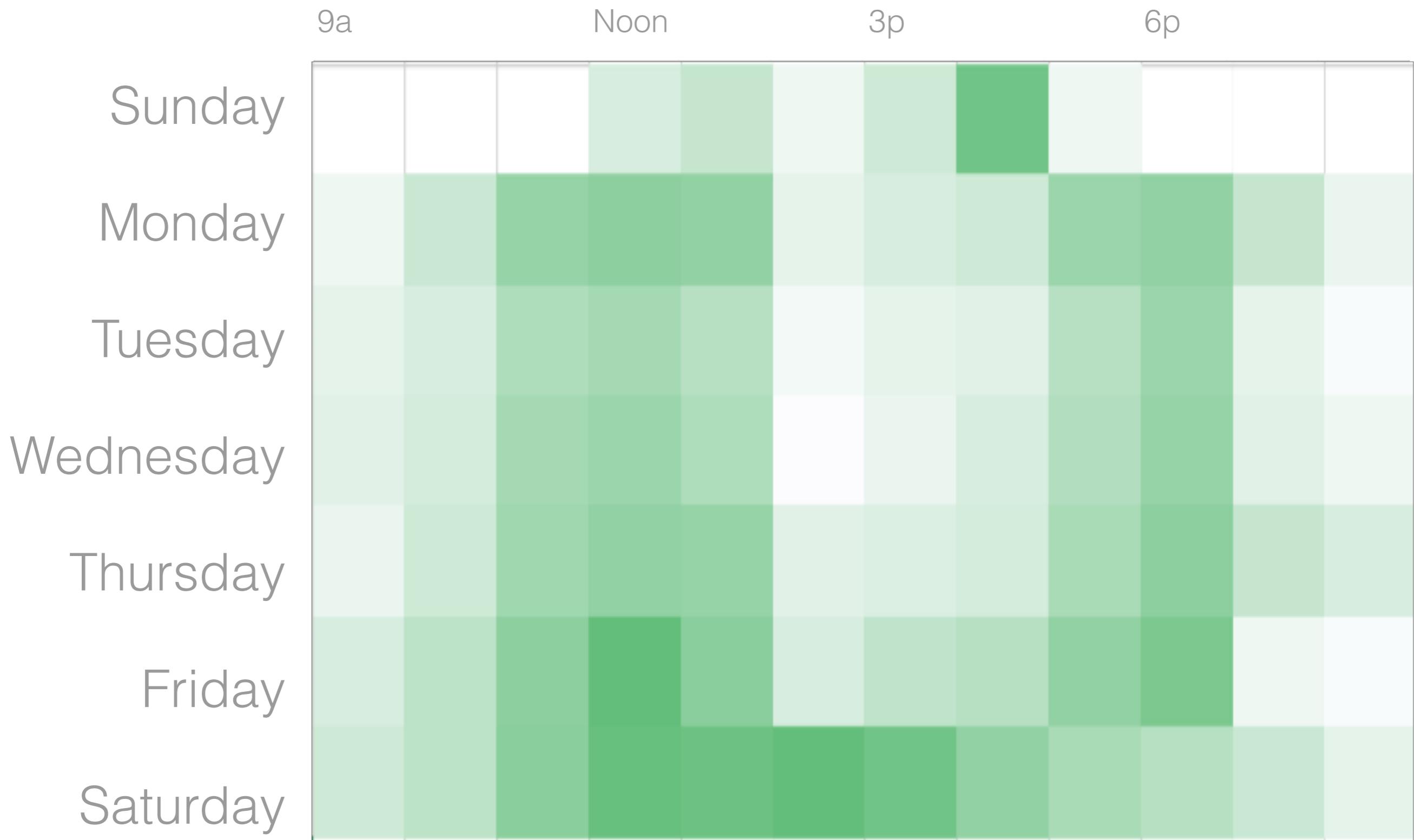
# Why Visualize Data?



Source: Anscombe's Quartet

# Why Visualize?

## Store Arrivals

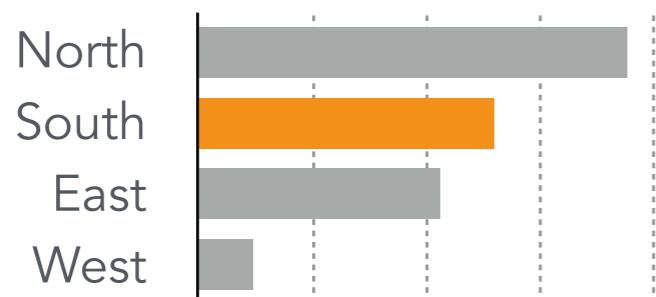


# Why Not Visualize?

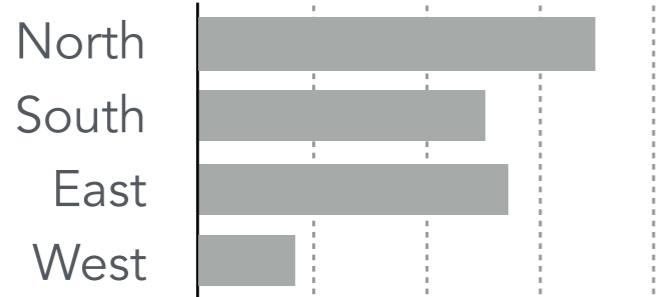
How many **Widgets** did the **South** region sell?

**Sales by region**

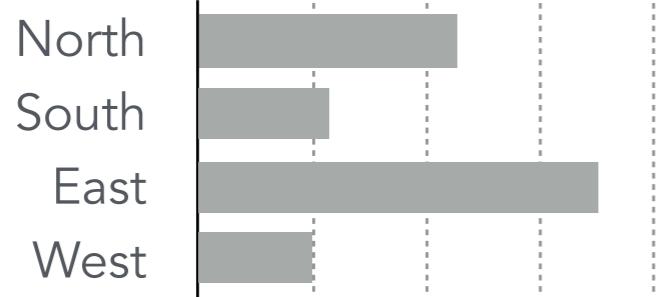
Widgets



Gizmos



Whatsits



**Sales by region**

Region	Widgets	Gizmos	Whatsits	TOTAL
North	94	87	57	238
South	65	63	29	157
East	53	68	38	159
West	12	21	25	58
TOTAL	224	239	149	612

# Selecting Charts & Graphs

# Types of Data

## Categories

Dog  
House  
President  
Flew  
Speak  
Written  
Red  
Large  
Beautiful

## Numbers

38°55'7"N 77°13'47"W  
Here  
Virginia  
4/24/2009  
July 4, 1776  
Yesterday  
Next week  
255.255.0.0  
google.com

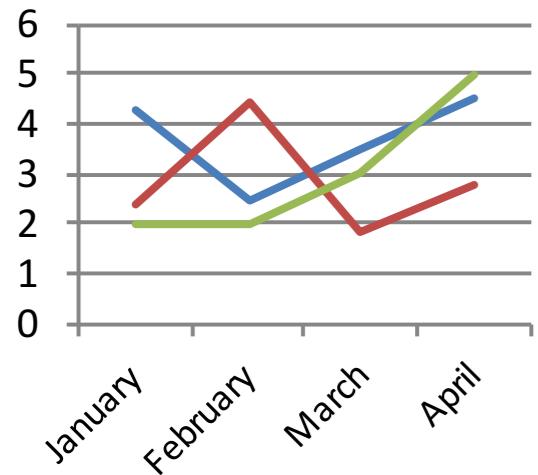
## Addition

1	-512
24	thirty nine
5.93	5%

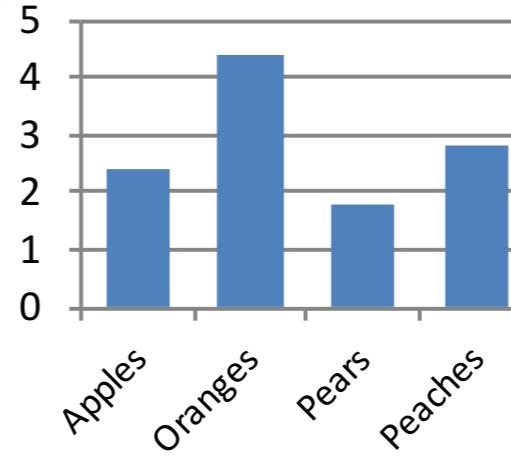
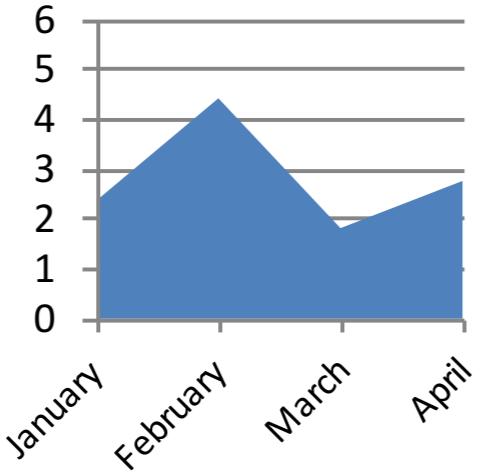
Music

Pictures/Video

# 10 Basic Ways to Display Data



Series  
(ordered)



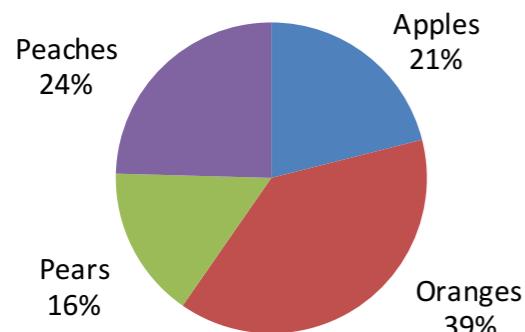
Comparison  
(unordered)

Sales

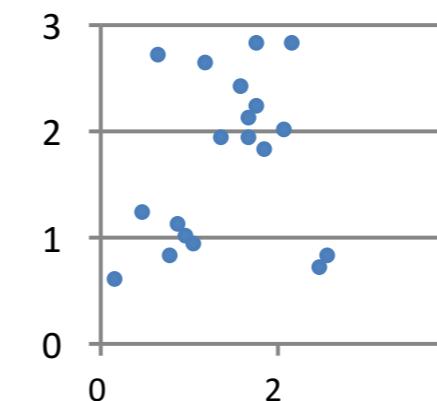
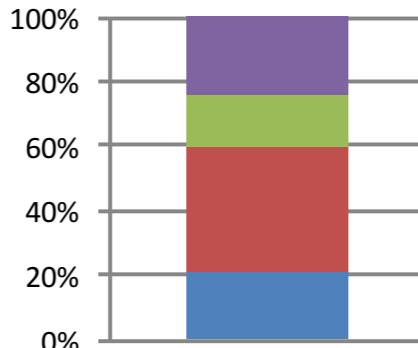
Category	Sales
Apples	2.4
Oranges	4.4
Pears	1.8
Peaches	2.8

Apples  
21%

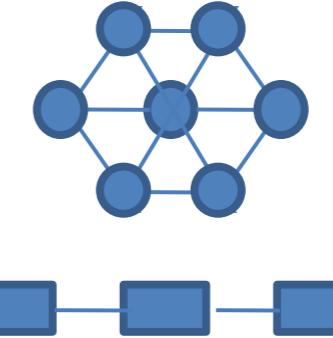
Value



Composition



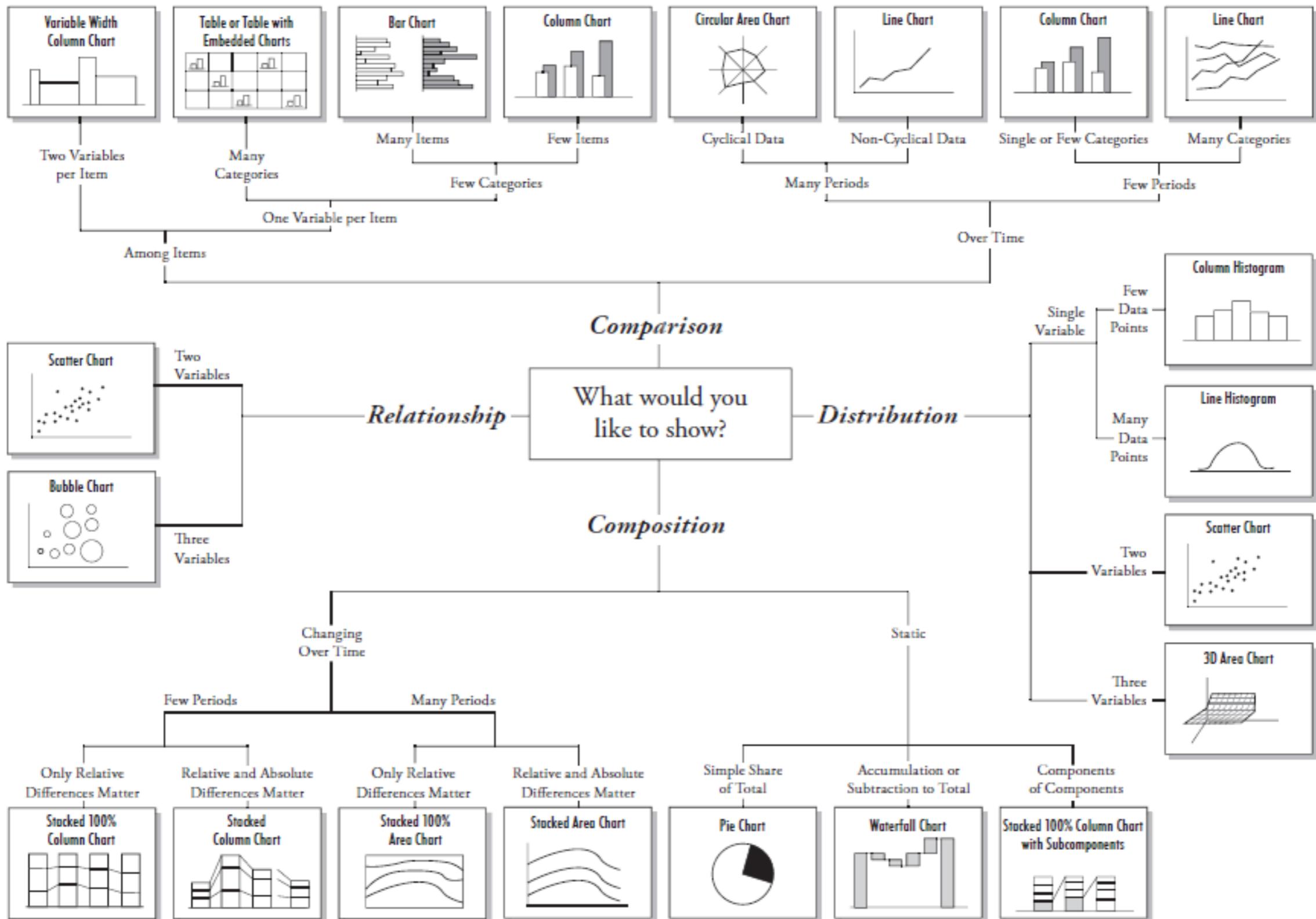
Relationship



Location

# Selecting Charts

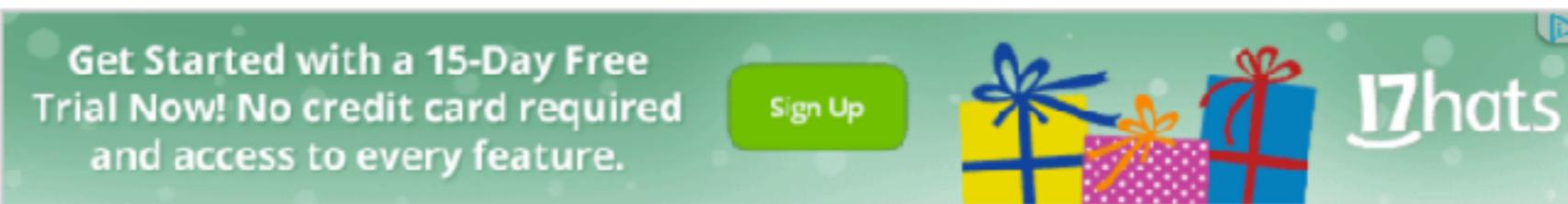
## Chart Suggestions—A Thought-Starter



# Selecting Charts

## The Data Visualisation Catalogue

About · Suggest · Shop · Resources



Search by Function

View by List



Arc Diagram



Area Graph



Bar Chart



Box & Whisker Plot



Brainstorm



Bubble Chart



Bubble Map



Calendar



Chord Diagram



Choropleth Map



Circle Packing



Connection Map



Donut Chart



Dot Map



Dot Matrix Chart



Flow Map



Histogram



Illustration Diagram

# Selecting Charts

## Deviation

Show the relationship between points. Typically a reference point is zero and lines show a range or a long-term average. Can visualize over time and trends.

Example PT uses  
Trendlines, confidence intervals

### Strength

A representation for chart that handles both negative and positive magnitude values.

Strength stacked bar  
Perfectly representing accuracy, satisfaction, creativity, satisfaction, originality.

### Value

Splits a single value into two contrasting components by measurement.

Two-by-Match plot  
The mixed type of three characteristics: search, tool, content - either equal or different, or two equal or two different.

XY heatmap  
A practice of showing the patterns between 2 variables. A dot for each point of showing the difference between.

Bubble  
A representation, but with additional detail because the circle contains a third variable.

Dot whip plot  
Gives details in order to show the specific context of the data without highlighting individual points.

Dot  
Used for showing the relationship between 2 variables. A dot for each point of showing the difference between.

Dot plot  
Efficient for showing changing voltage across multiple data, but large numbers, can be difficult to read.

Population pyramid  
A standard way of showing the age and sex distribution of a population, but it's also effective for tracking differences.

Cumulative curve  
A graph that shows how much a quantity is distributed among different categories.

Violin plot  
For displaying multiple dimensions at once.

## Correlation

Show the relationship between two variables (x and y) that uses one set of measurements to describe or relate to another. Don't try to highlight the points of interest.

Example PT uses  
Correlations, univariate, bivariate, income & real experience

### Scatterplot

The standard way to show the relationship between two continuous variables, such as height and weight.

Dot matrix  
A practice of showing the relationship between an amount (volume) and a lot (size).

Connected area plot  
Usually used to show the relationship between 2 variables that change over time.

Dot or scattered symbol  
Can often have big variables, where visualizing the difference between details is not so important.

Bubble  
A representation, but with additional detail because the circle contains a third variable.

XY heatmap  
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## Ranking

Use when an item's position is critical for its importance. More scores will emphasize the relationship than the raw score.

Example PT uses  
Multi-classification, results, constituency election results

### Scored bar

Standard way to display the relative values from their actual values.

Scored ratio  
A practice of showing the relationship between an amount (volume) and a lot (size).

Dot plot  
An simple way of showing the range or spread of data across multiple categories.

Dot or scattered symbol  
Good for showing individual rates in a distribution, can have a percentage, many dots from the same distribution.

Bubble  
Used for displaying the relationship between 2 variables that change over time.

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## Distribution

Show what's measured and how often they occur. The shape (or kind) of a distribution can be a remarkable way of highlighting the lack of uniformity or equality in the data.

Example PT uses  
Income distribution, consumer depth/decile distribution

### Histogram

The standard way to characterize distribution - bins the gaps between columns, similar to a histogram.

Dot plot  
An simple way of showing the range or spread of data across multiple categories.

Dot or scattered symbol  
Good for showing individual rates in a distribution, can have a percentage, many dots from the same distribution.

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## Change over Time

Show anything changing over time. This can be a discrete event, a continuous series, measuring discrete metrics. Change the metric/timestamp is integral to its previous variables context for relevance.

Example PT uses  
Sales since November, economic time series

### Line

The standard way to show a changing series over time, similar to a histogram.

Dot plot  
An simple way of showing change over time, but less commonly used than other methods.

Dot or scattered symbol  
Good for showing individual rates in a distribution, can have a percentage, many dots from the same distribution.

Bubble  
Used for displaying the relationship between 2 variables that change over time.

XY heatmap  
A practice of showing the patterns between 2 variables. A dot for each point of showing the difference between.

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## Magnitude

Show how a single value can be relative (length) or absolute (size). This can be a discrete event, a continuous series, measuring discrete metrics. Change the metric/timestamp is integral to its previous variables context for relevance.

Example PT uses  
Constituency election market capitalization

### Bar

The standard way to compare the size of different items, but don't start at 0 on the axis.

Stacked column  
A simple way of showing sum to whole, sometimes but can be different to visual sum than more than 4 items.

Marimekko  
A good way of showing the size and proportion rates in the categories - as the data are not homogenized.

Packed column  
A good way of showing the size and proportion rates in the categories - as the data are not homogenized.

Dot  
A common way of showing multiple dots - but be aware that it's difficult to accurately compare the heights of the segments.

Dot plot  
Similar to a bar chart - but the centre can be a great way of making data more visible when the data very small.

Dot whip plot  
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## Part-to-whole

Show how a single value broken down into its component pieces. If the major components smaller than the minor components.

Example PT uses  
Final average, component, national election results

### Stacked bar

The standard approach for summing up multiple items, but don't start at 0 on the axis.

Marimekko  
A good way of showing the size and proportion rates in the categories - as the data are not homogenized.

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## Spatial

Add from lateral, top-down and what places locations or geographic patterns in data are more important to understand the thing like.

Example PT uses  
Proximity, descriptive, resources, natural disaster, movement, communication, variation in election results

### Dot density

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## Flow

Show the reader relevant hierarchy of movement between various states or conditions. These might be logical sequences or geographical locations.

Example PT uses  
Movement of flows, trade, resources, location, interacting relationships, grids.

### Dot flow

The standard approach for summing up multiple items, but don't start at 0 on the axis.

Dot density  
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## Visual vocabulary

### Designing with data

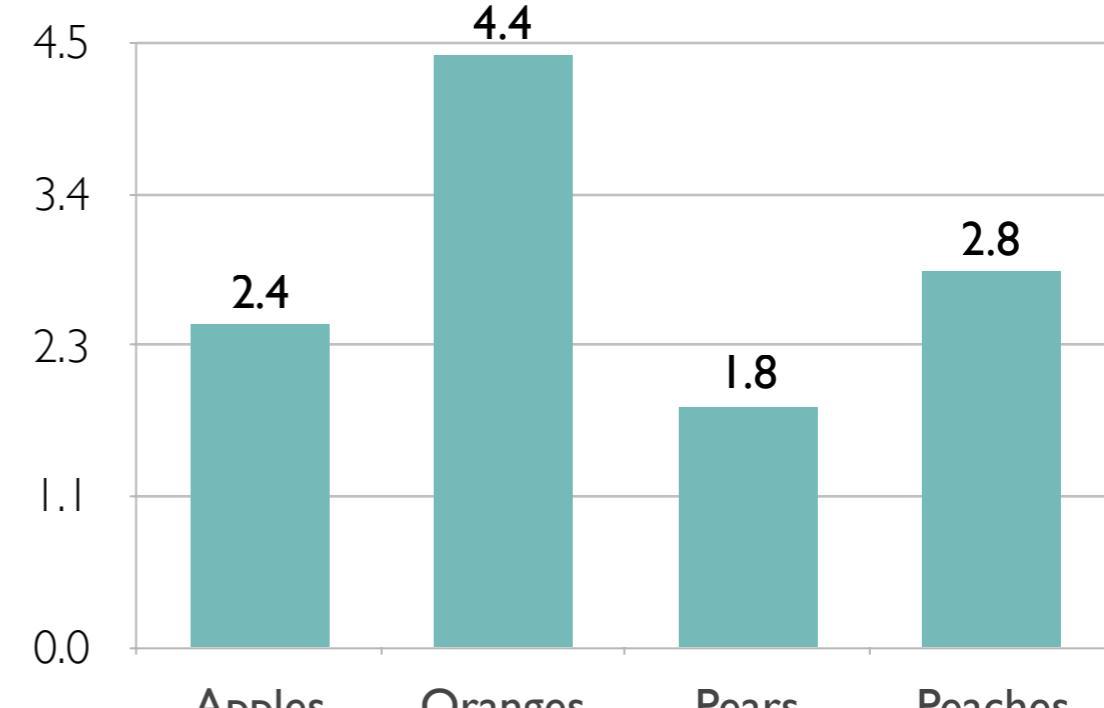
http://www.visualvocabulary.com

# Graph Basics

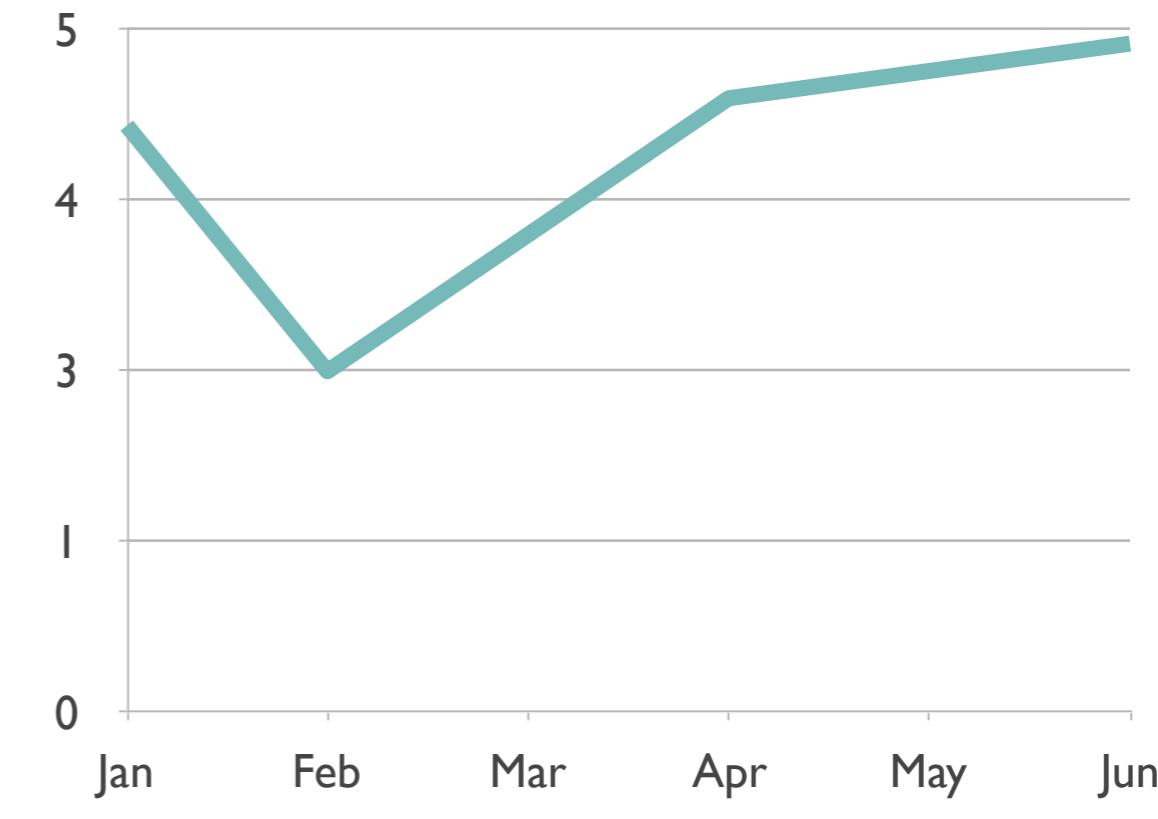
# Type of Data



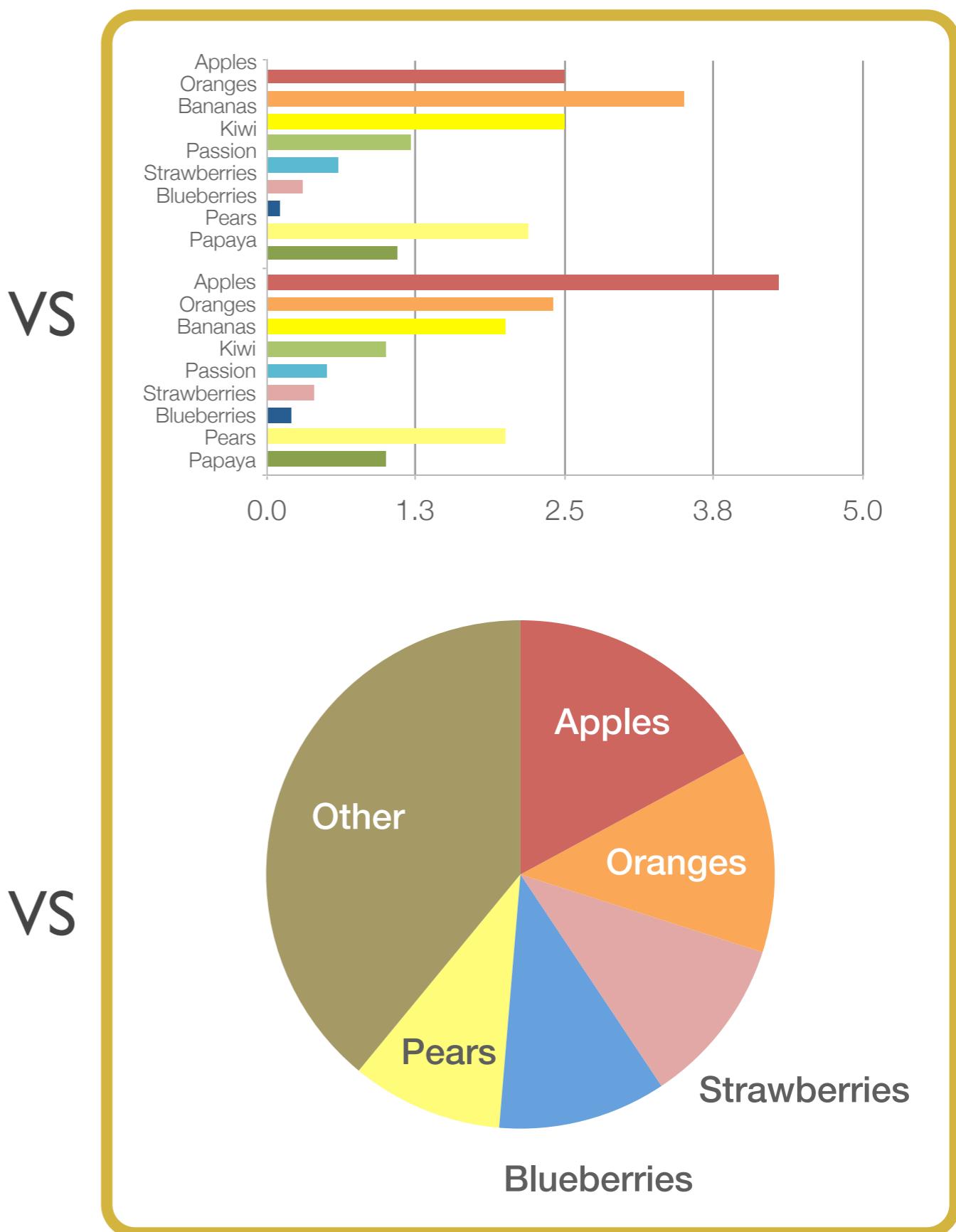
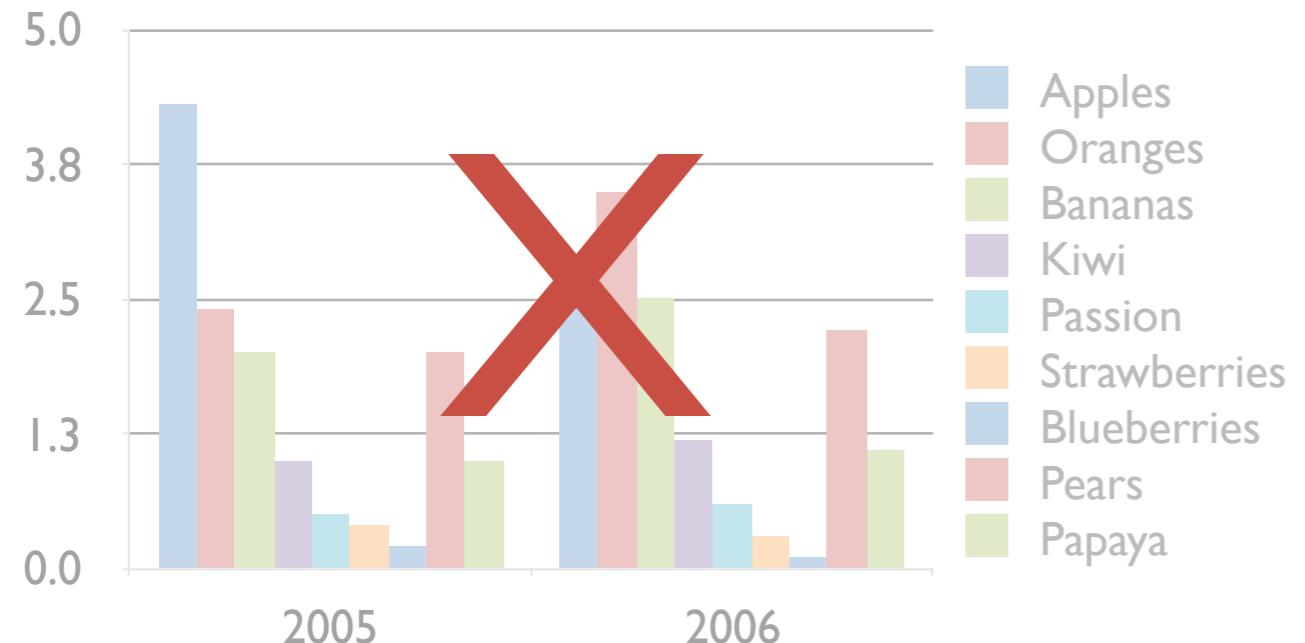
VS



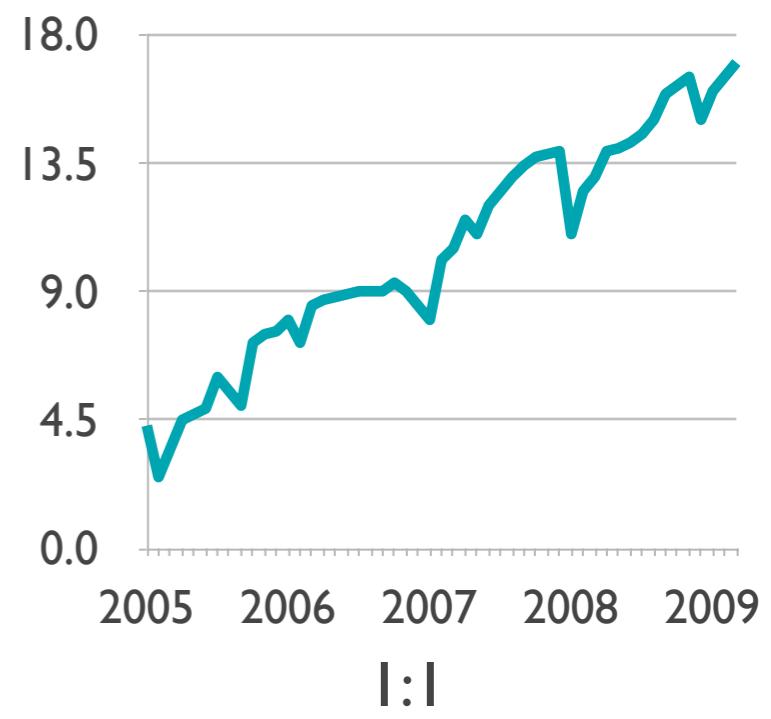
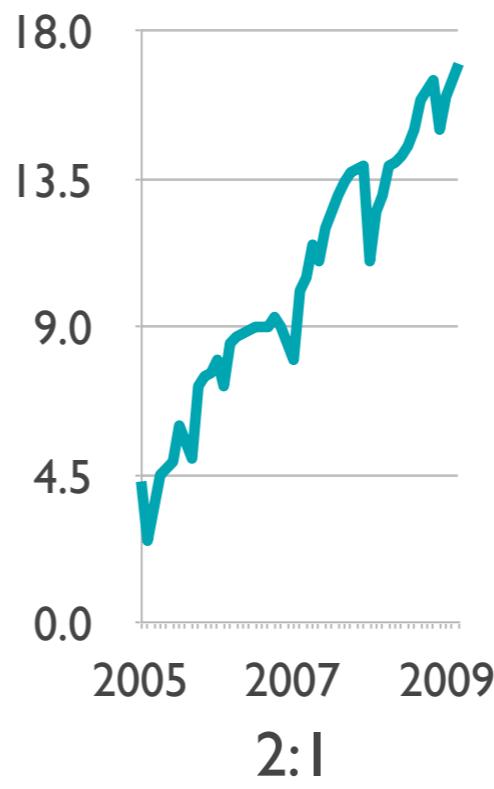
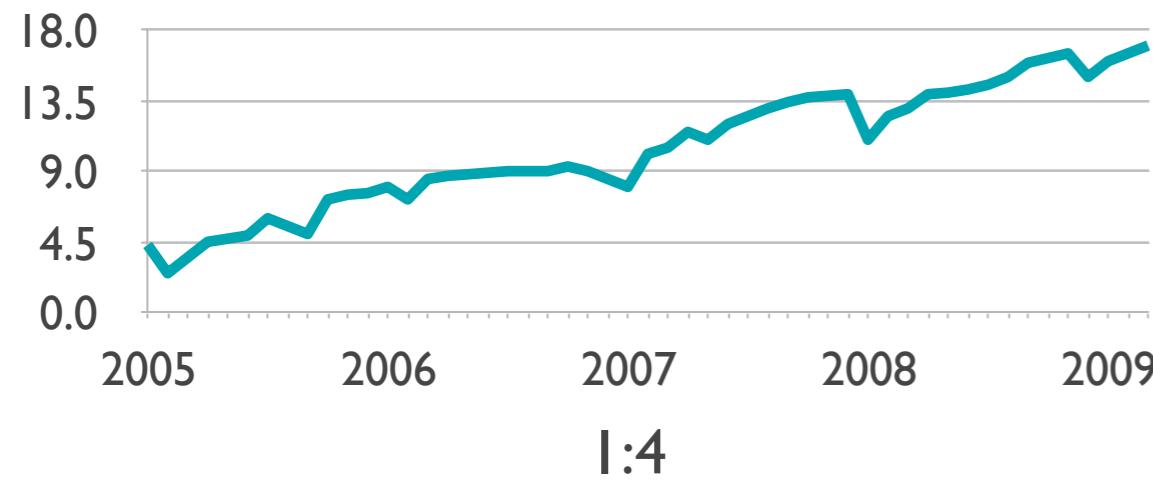
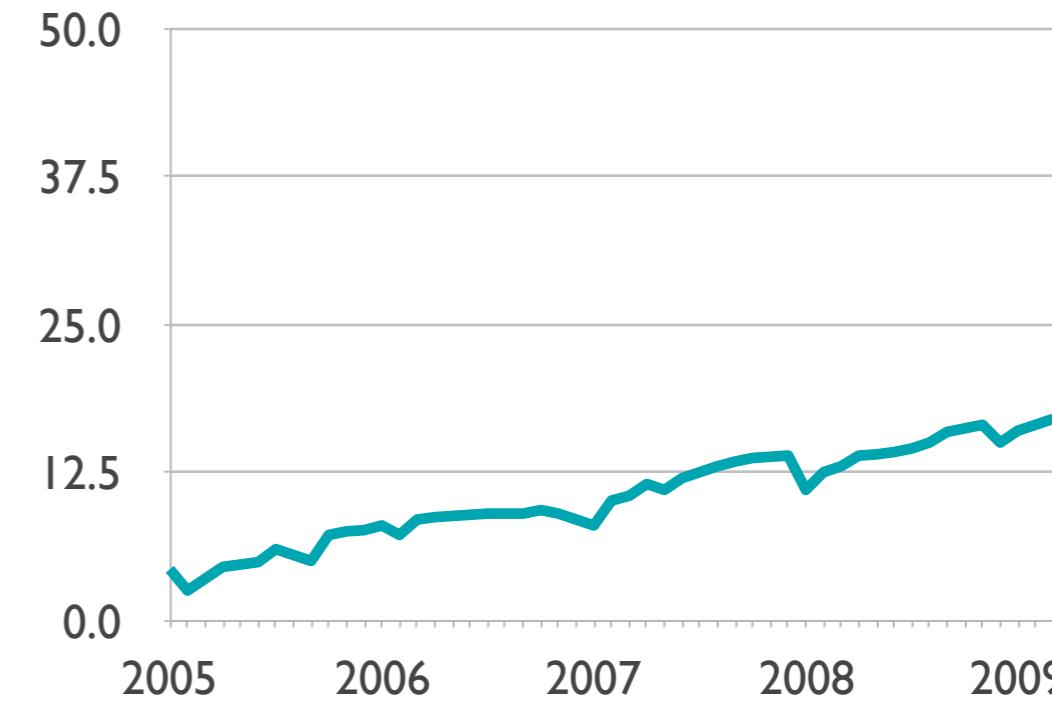
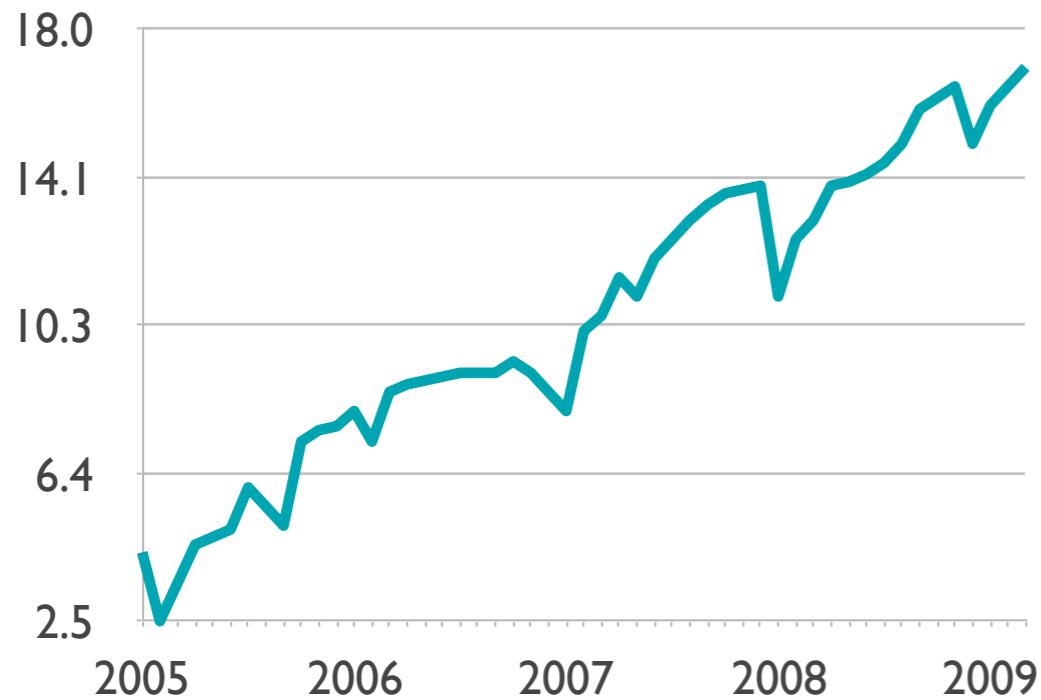
VS



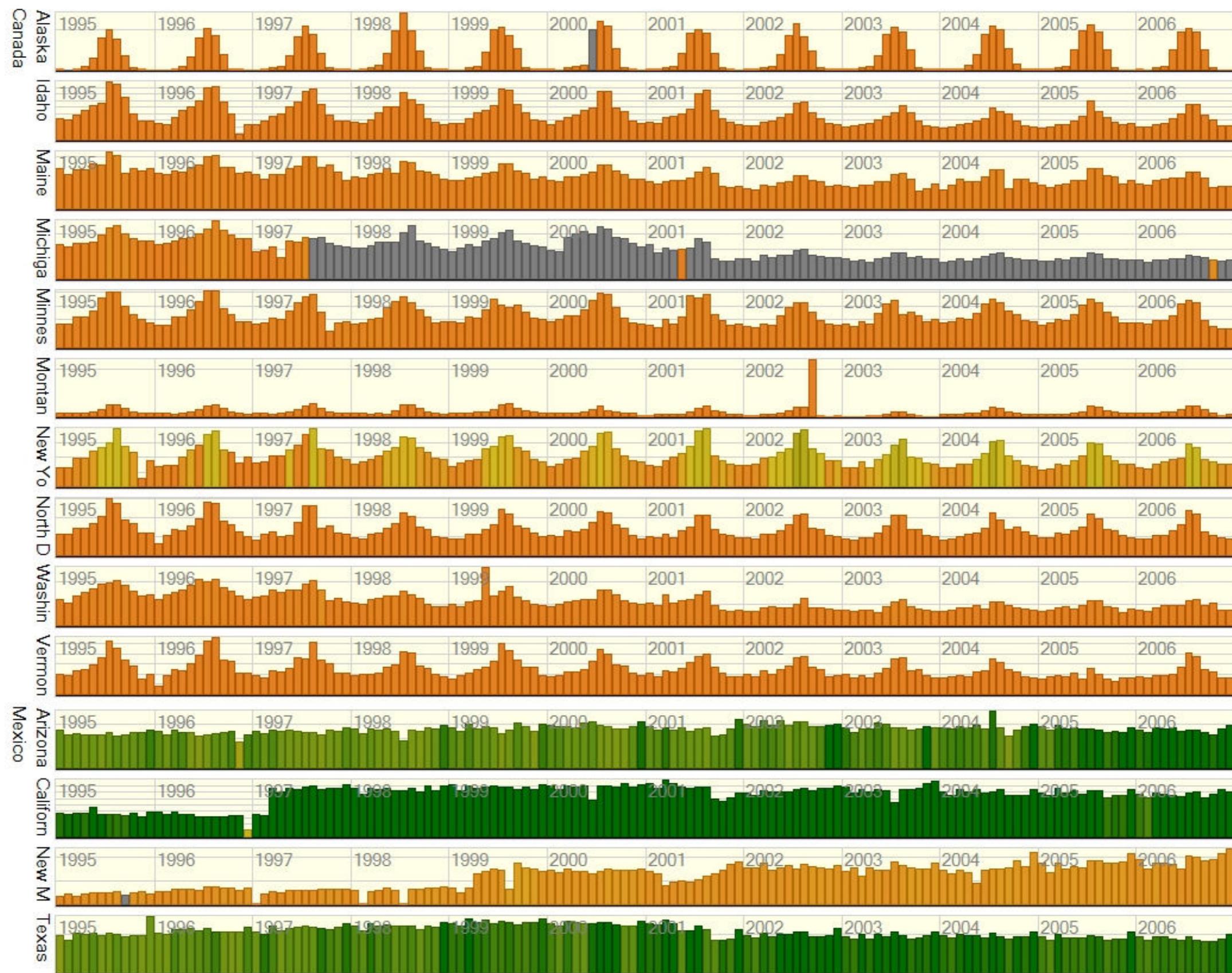
# Legends



# Range & Scale

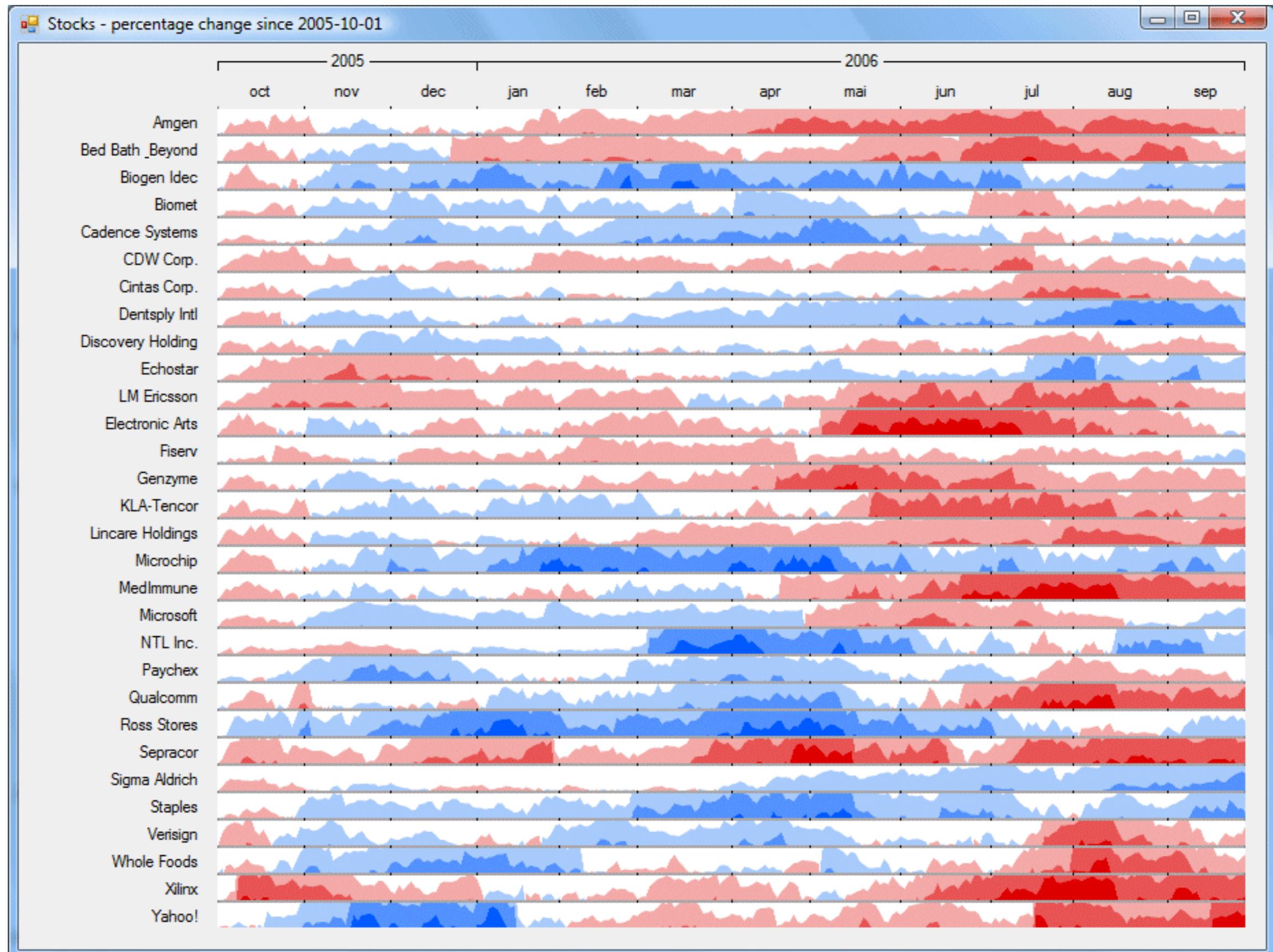


# Amount of Data



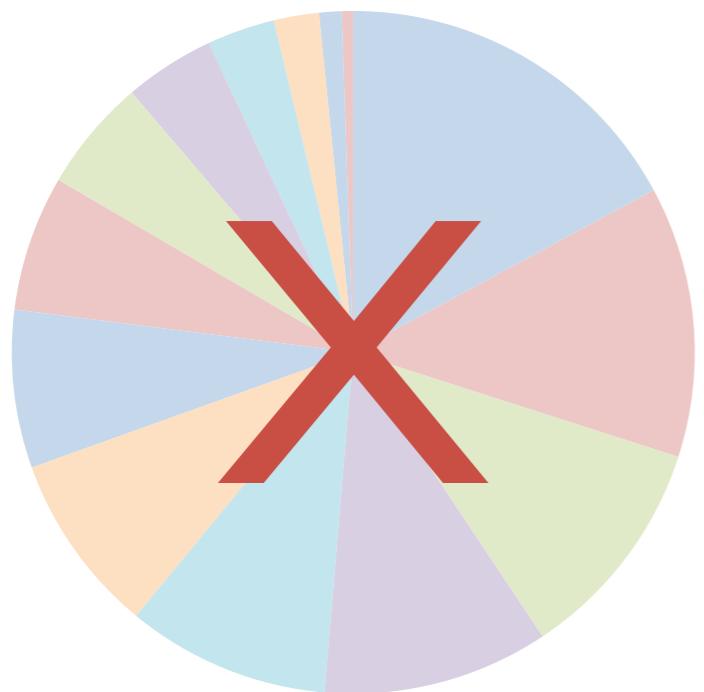
Source: Panopticon

# Amount of Data



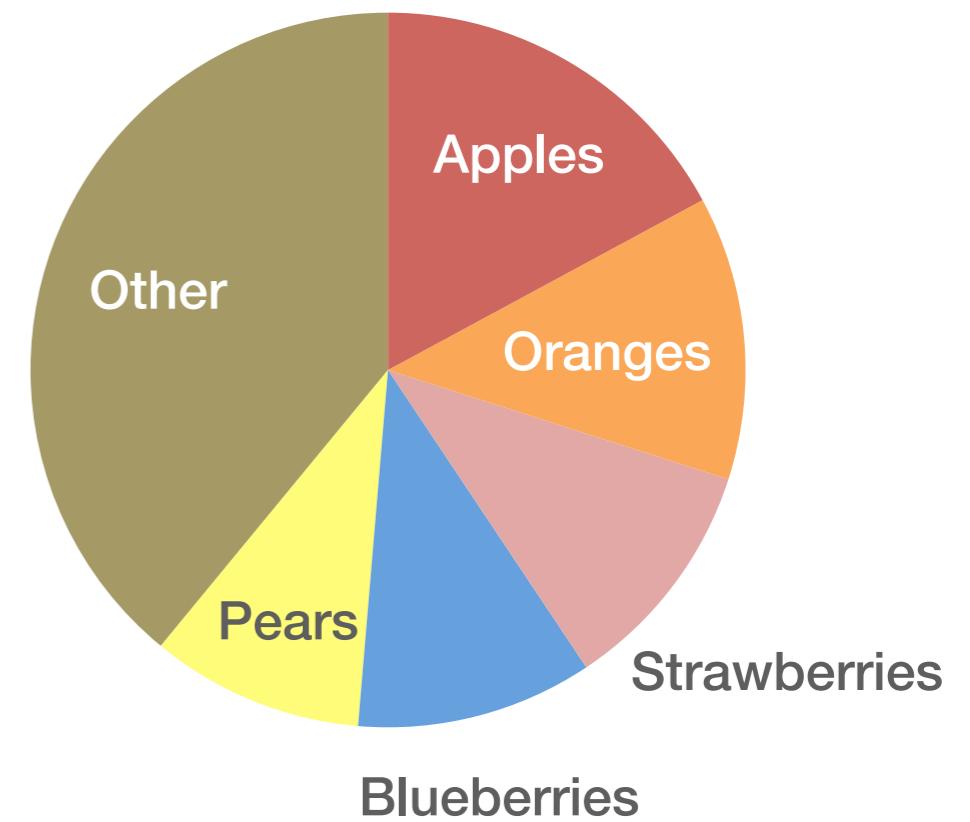
Source: Panopticon

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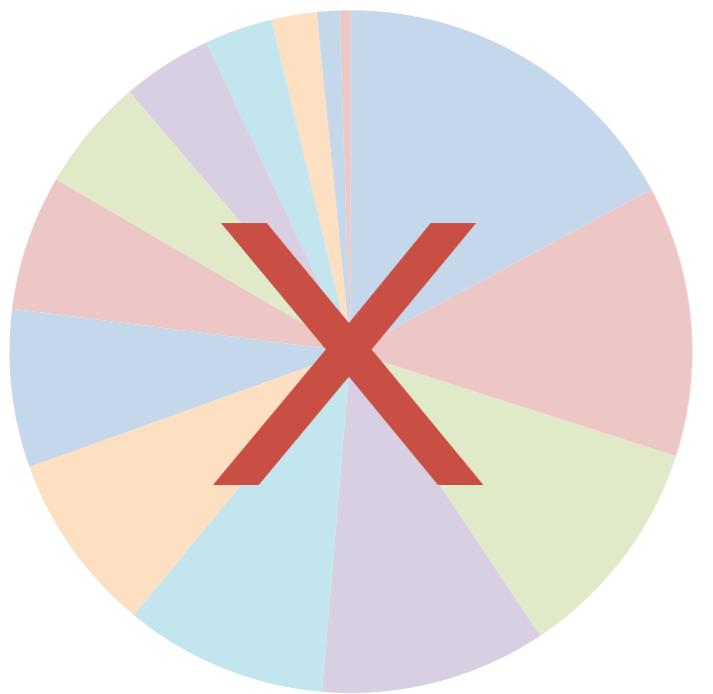


- Apples
- Oranges
- Strawberries
- Blueberries
- Pears
- Kiwi
- Passion
- Papaya
- Peaches
- Grapefruit
- Mango
- Lemon
- Lime
- Tomato

VS

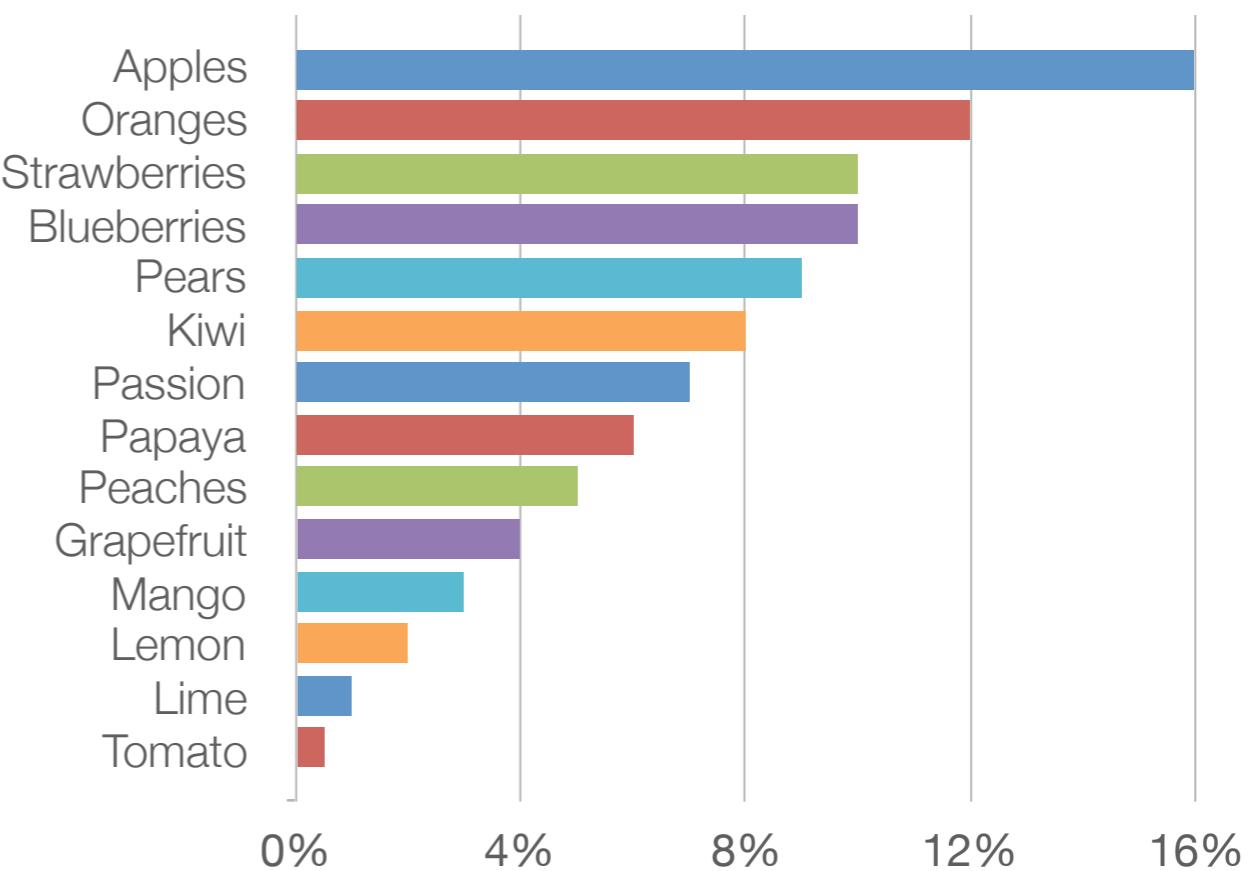


# Amount of Data



- Apples
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- Mango
- Lemon
- Lime
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VS



# Amount of Data

## [Health Statistics](#) > [Tobacco](#) > Adult male smokers (most recent) by country

VIEW DATA: [Totals](#)

[Definition](#)

[Source](#)

[!\[\]\(5e17ffbca1f899607873677550e81004\_img.jpg\) Printable version](#)

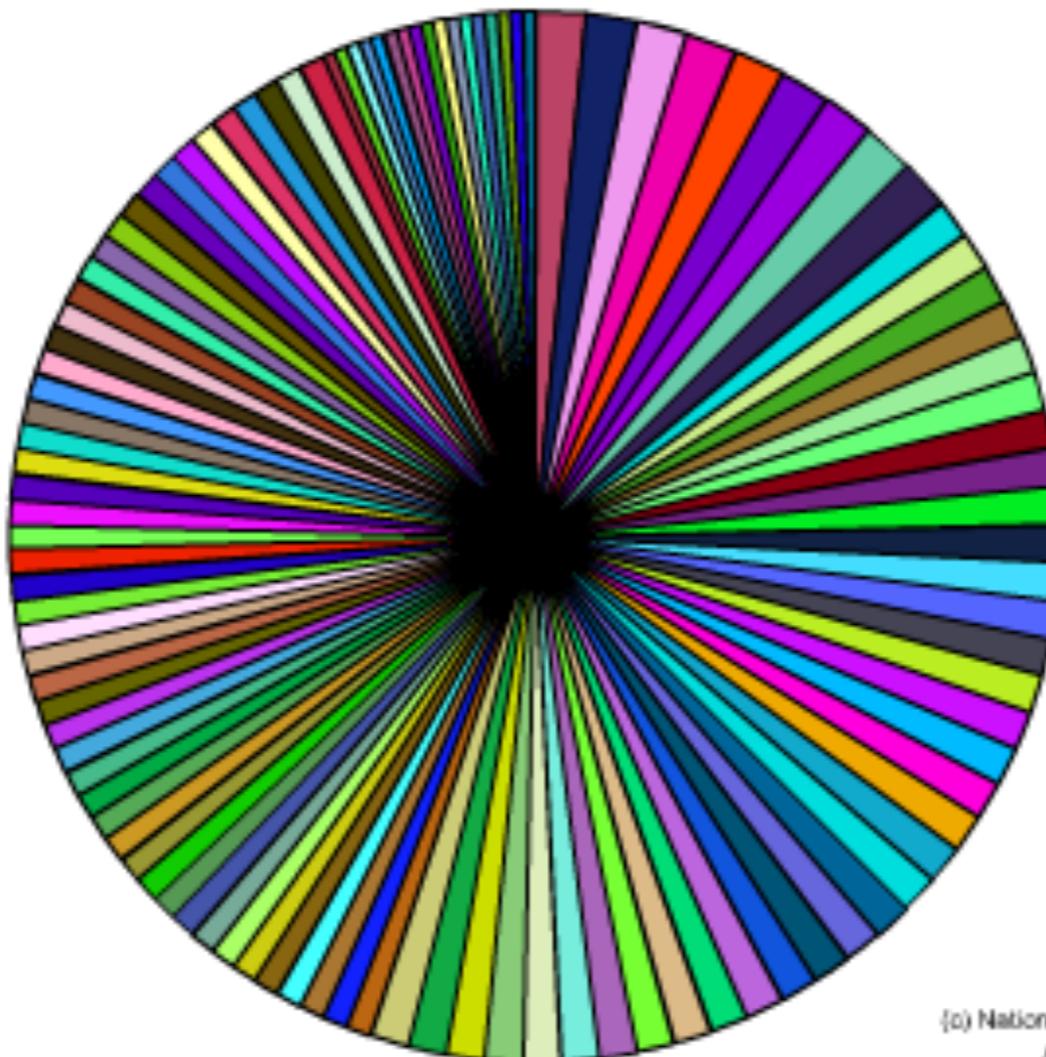
[Bar Graph](#)

[Pie Chart](#)

[Map](#)

[Correlations](#)

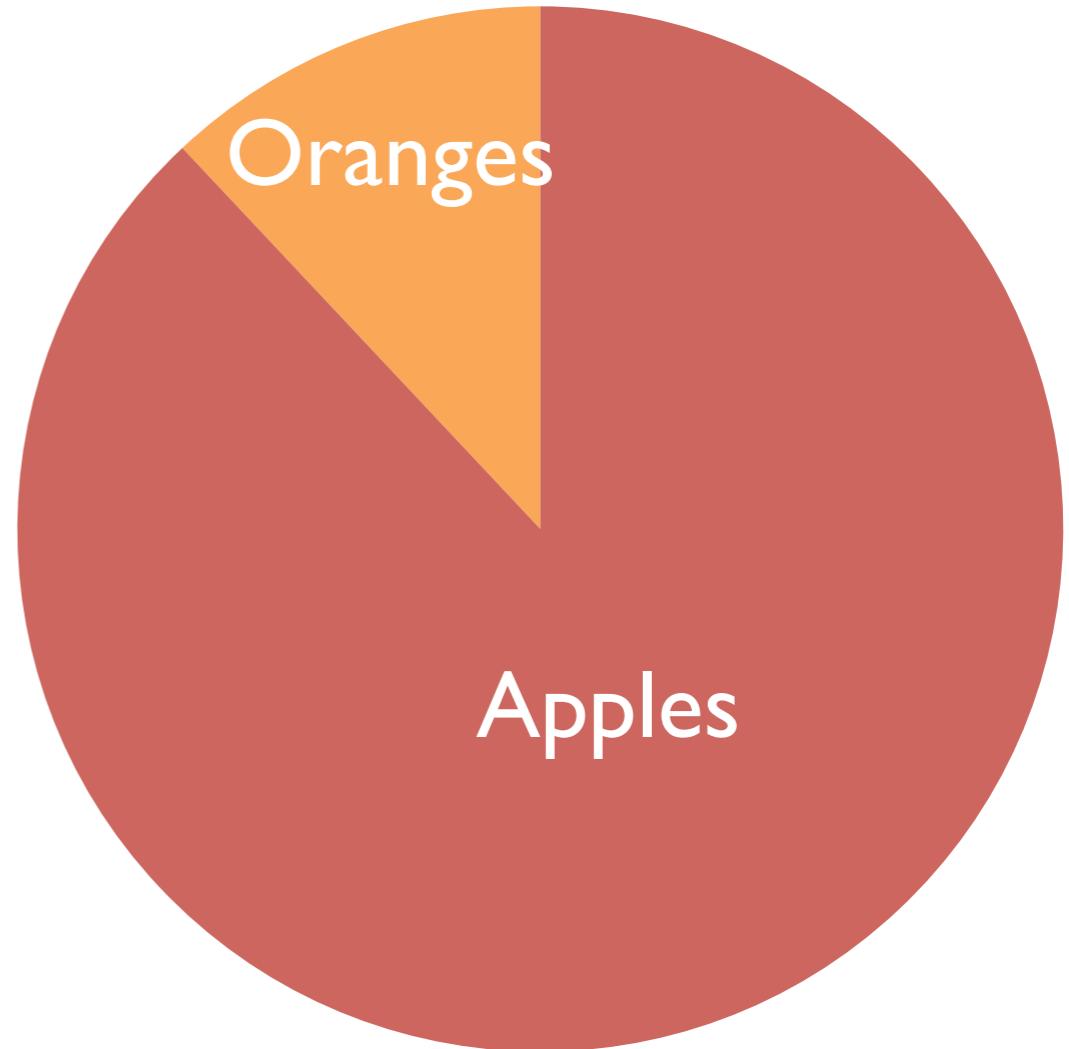
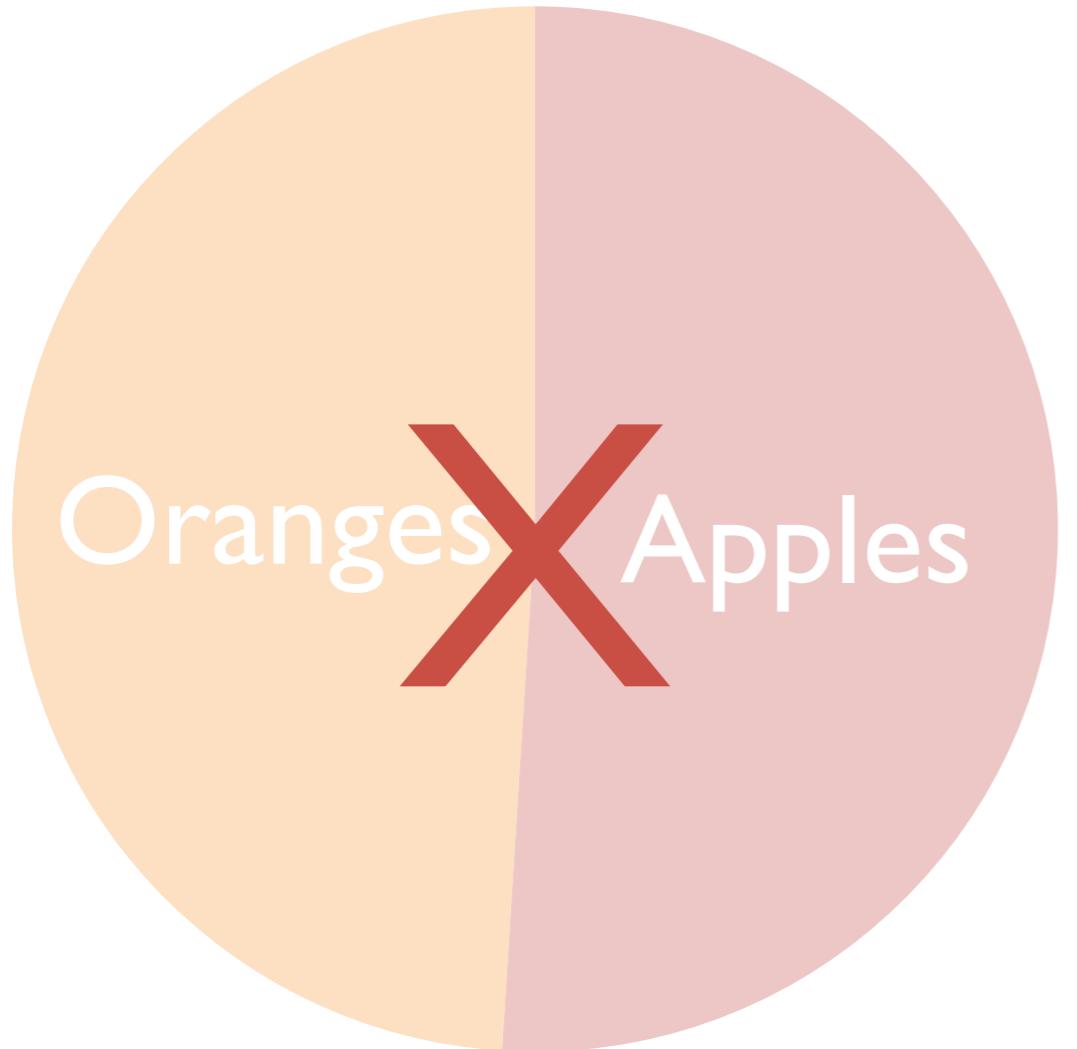
Showing latest available data.



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<a href="#">Mongolia</a>	1.5%
<a href="#">China</a>	1.4%
<a href="#">Kenya</a>	1.4%
<a href="#">Cambodia</a>	1.4%
<a href="#">Namibia</a>	1.4%
<a href="#">Armenia</a>	1.4%
<a href="#">Tonga</a>	1.3%
<a href="#">Romania</a>	1.3%
<a href="#">Tunisia</a>	1.3%
<a href="#">Nauru</a>	1.3%
<a href="#">Kazakhstan</a>	1.3%
<a href="#">Kyrgyzstan</a>	1.3%
<a href="#">Albania</a>	1.3%
<a href="#">Yemen</a>	1.3%
<a href="#">Turkey</a>	1.3%
<a href="#">Guinea</a>	1.3%
<a href="#">Indonesia</a>	1.3%
<a href="#">Niue</a>	1.3%
<a href="#">Djibouti</a>	1.2%
<a href="#">Kiribati</a>	1.2%

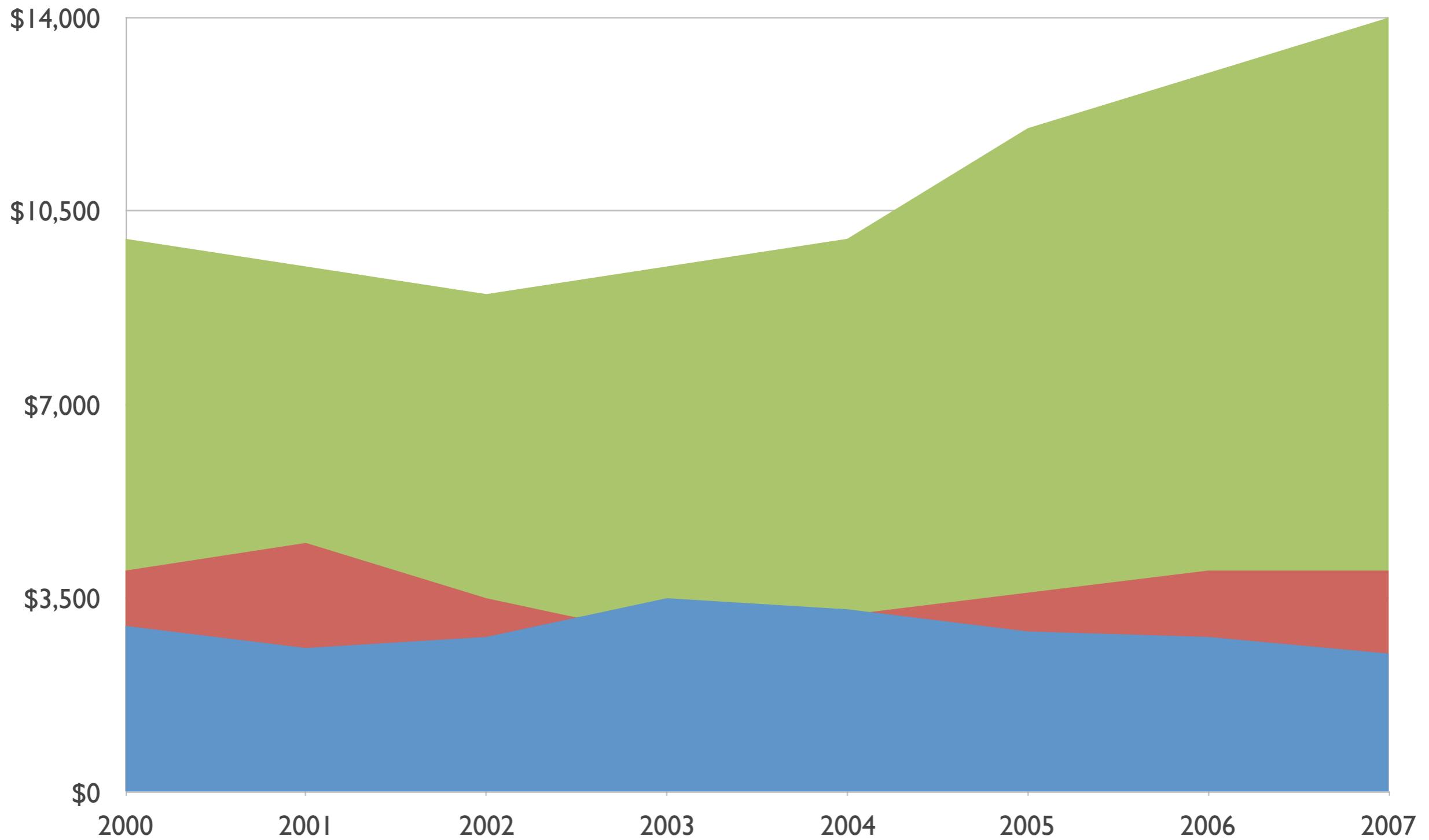
# Amount of Data



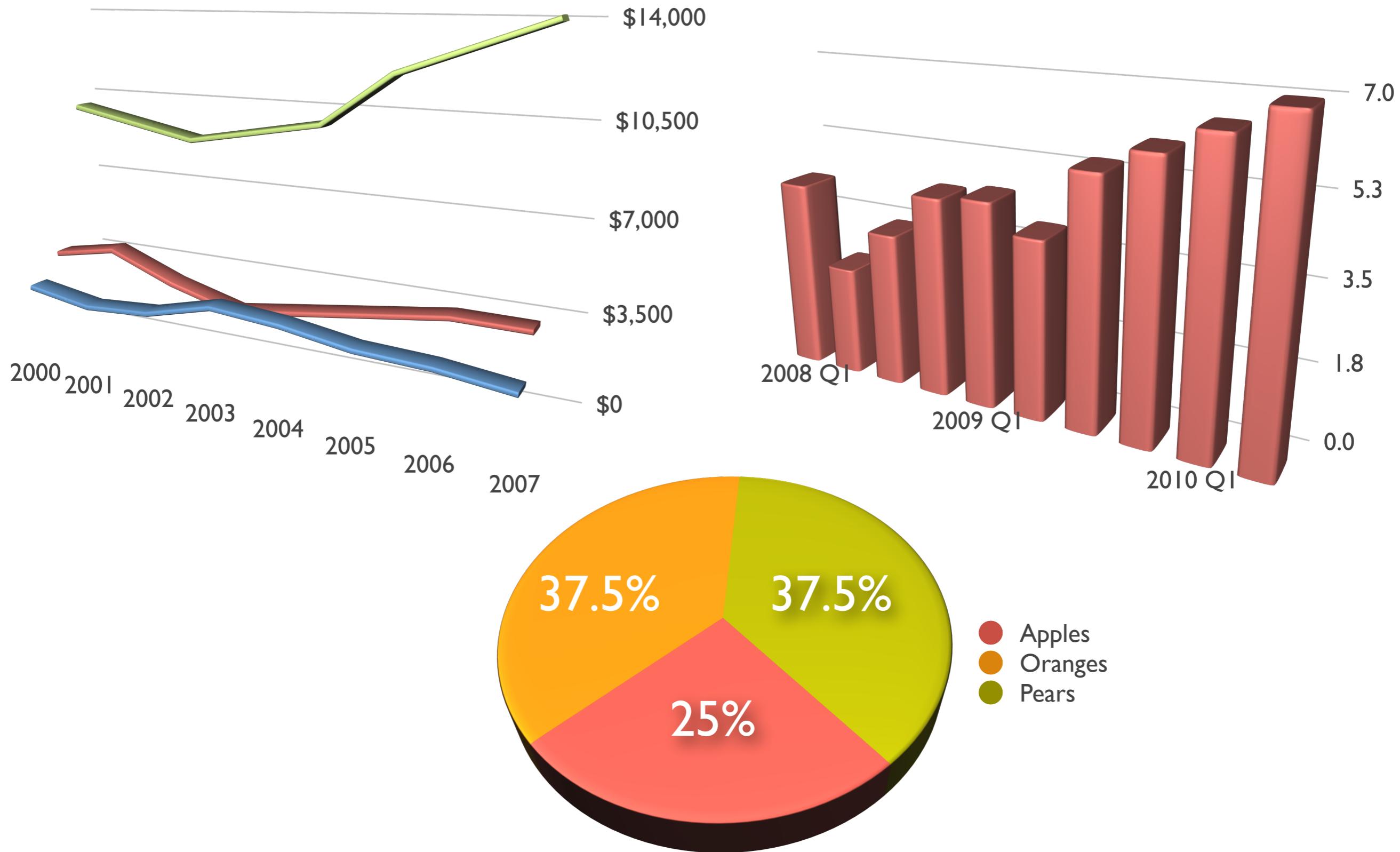
A large pile of ripe red apples with some green and yellow highlights, filling the entire background.

88%

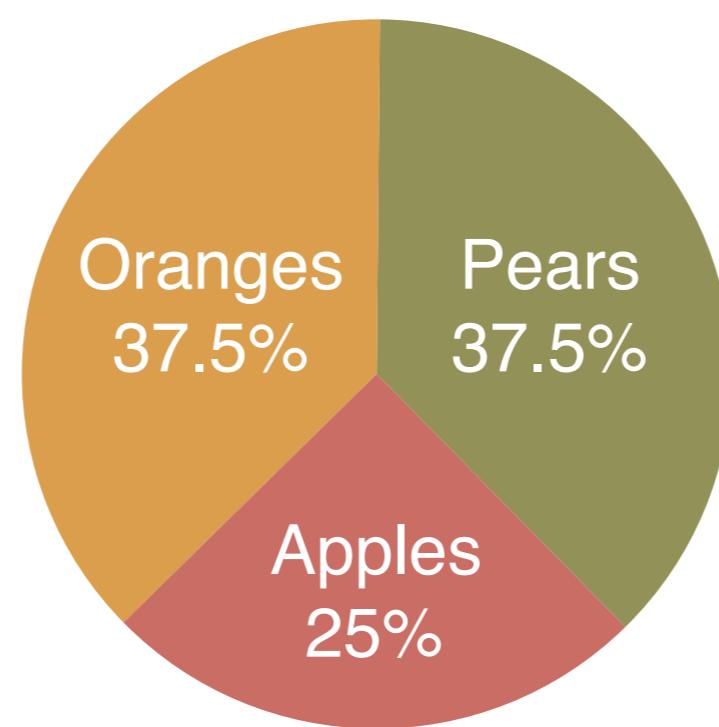
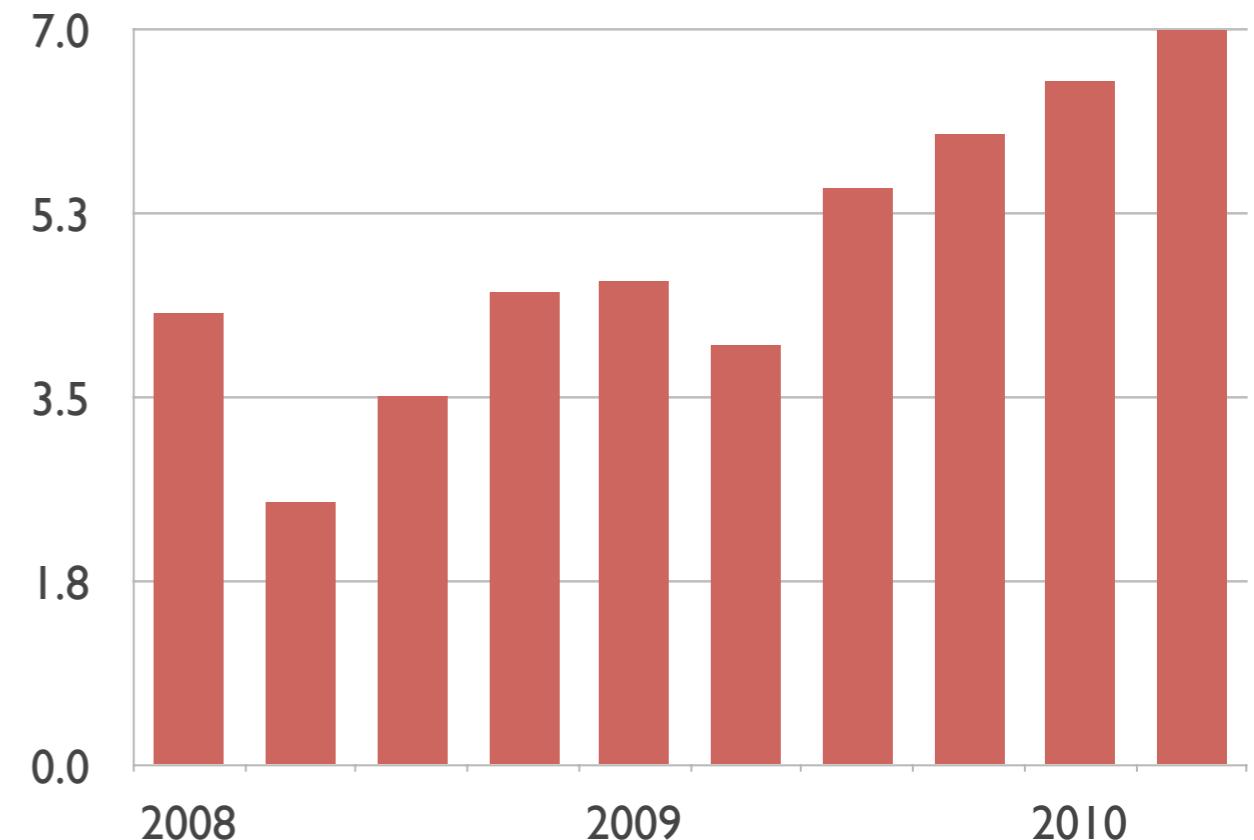
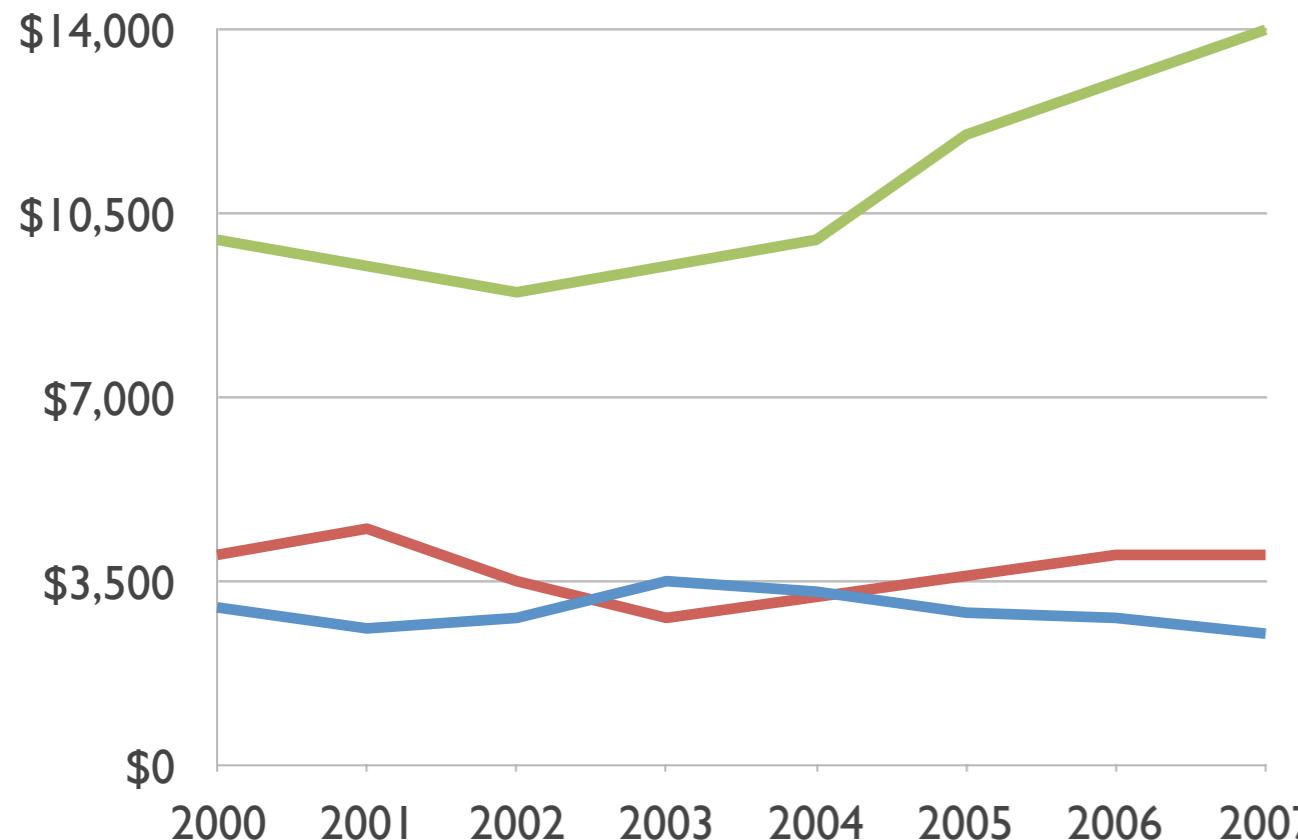
# Danger Area



# NEVER Use 3D



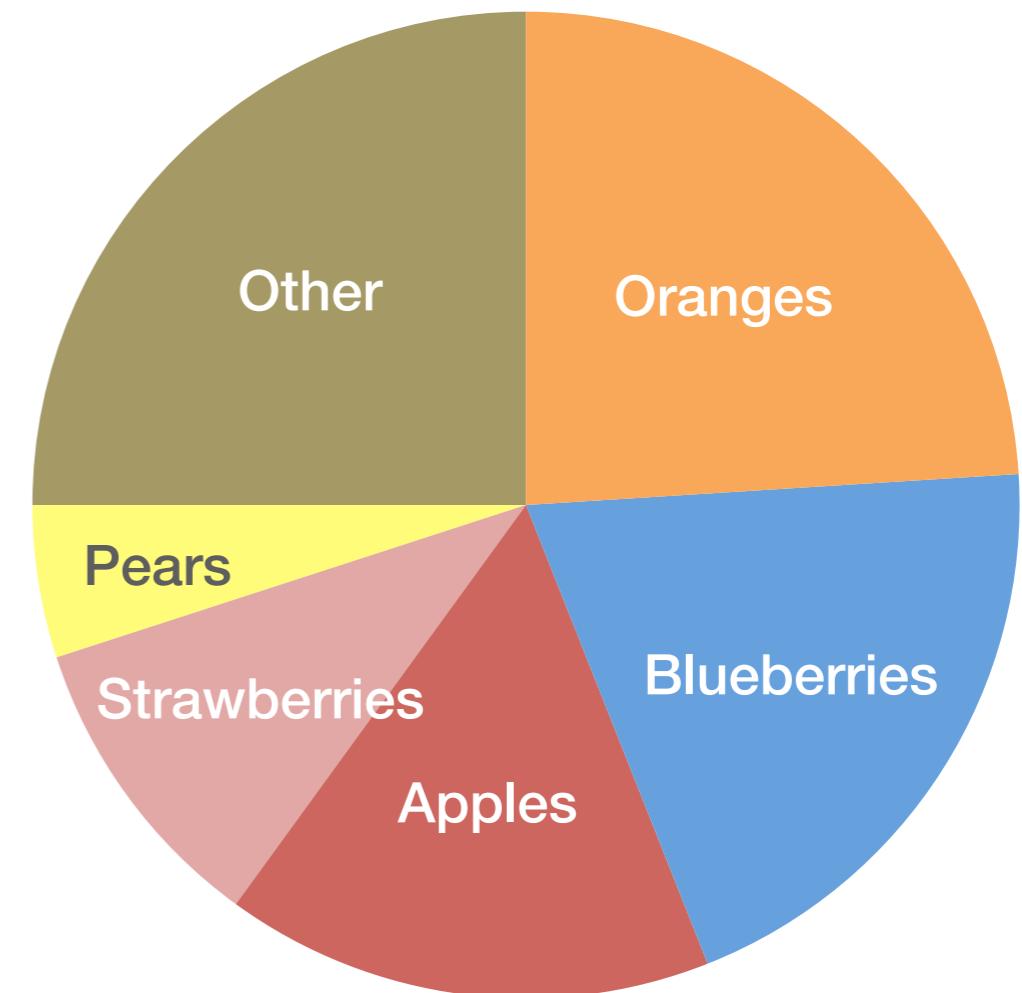
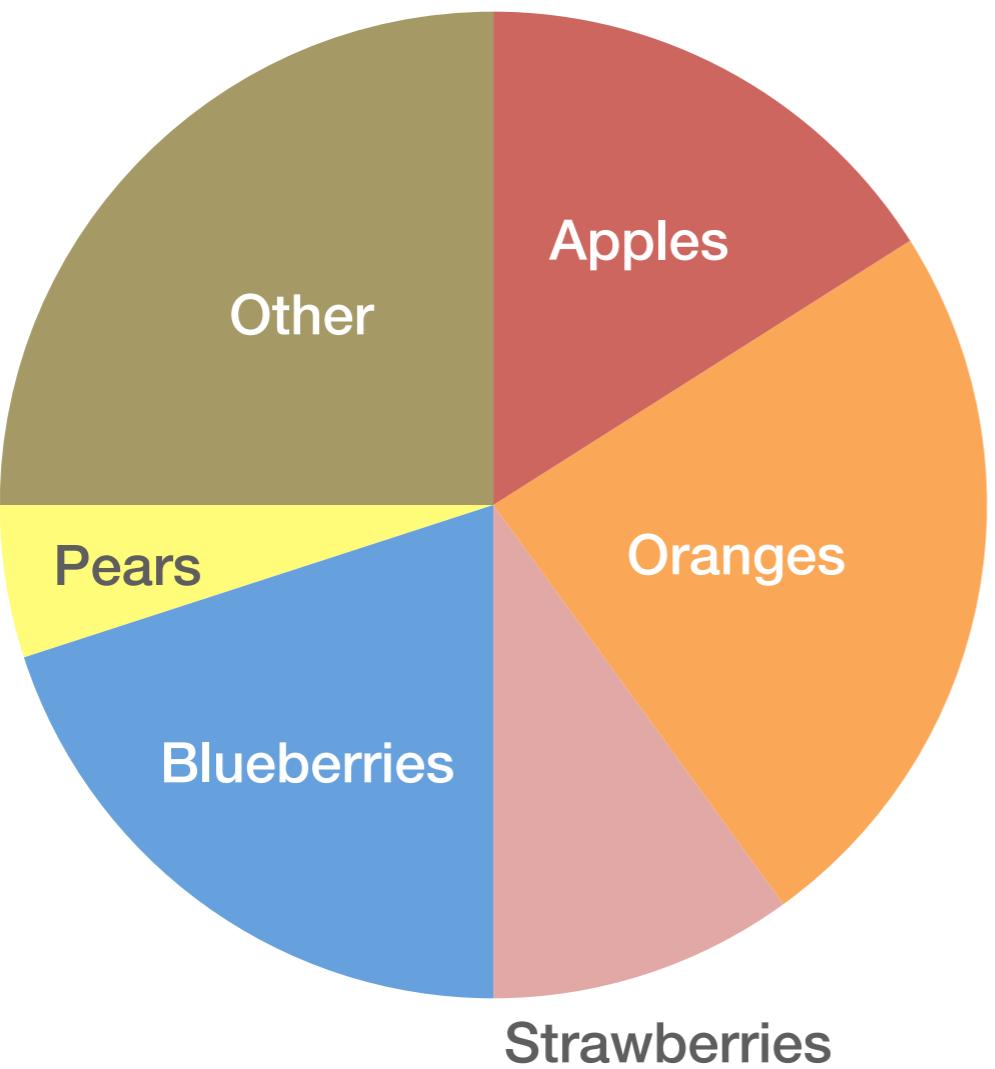
# NEVER Use 3D



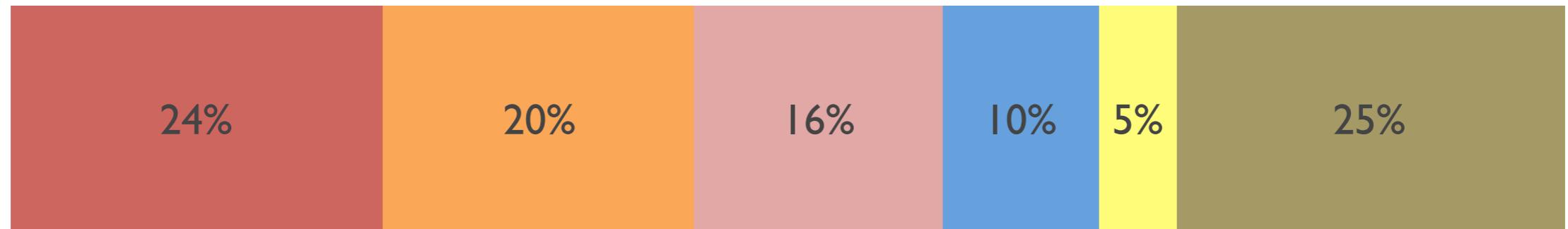
# Parts of the whole



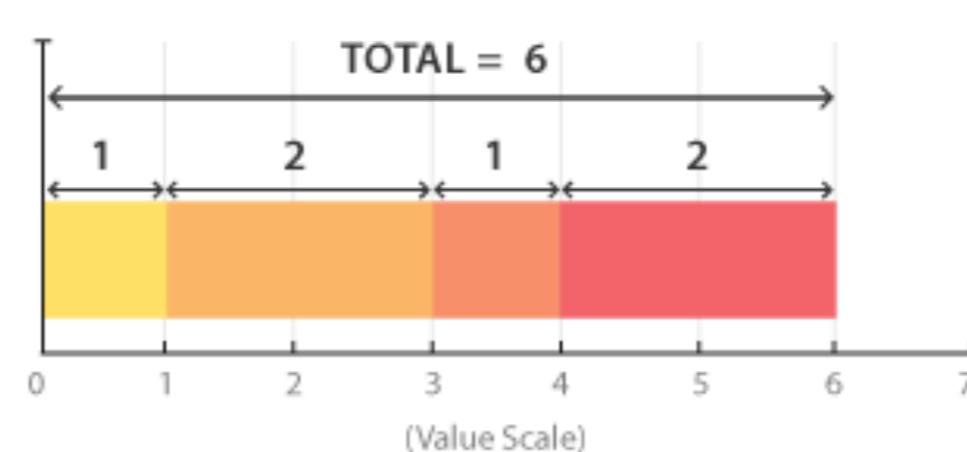
# Order



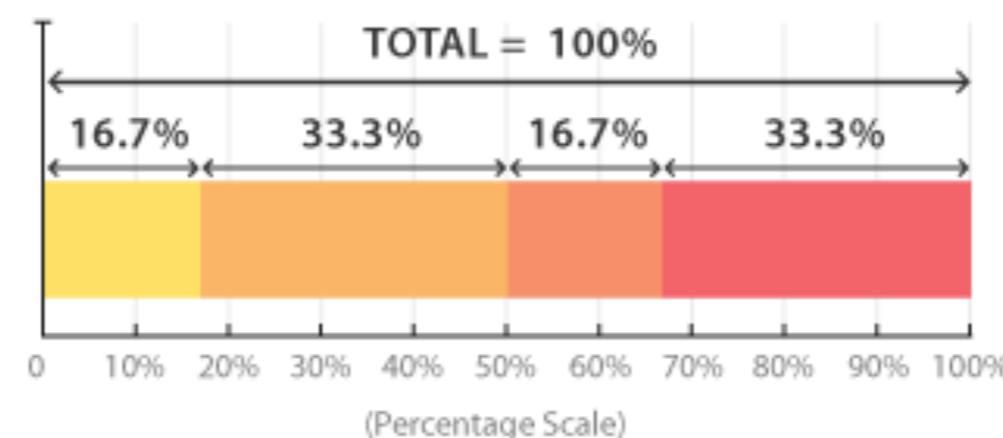
# Stacked Bar Graph



**Simple**

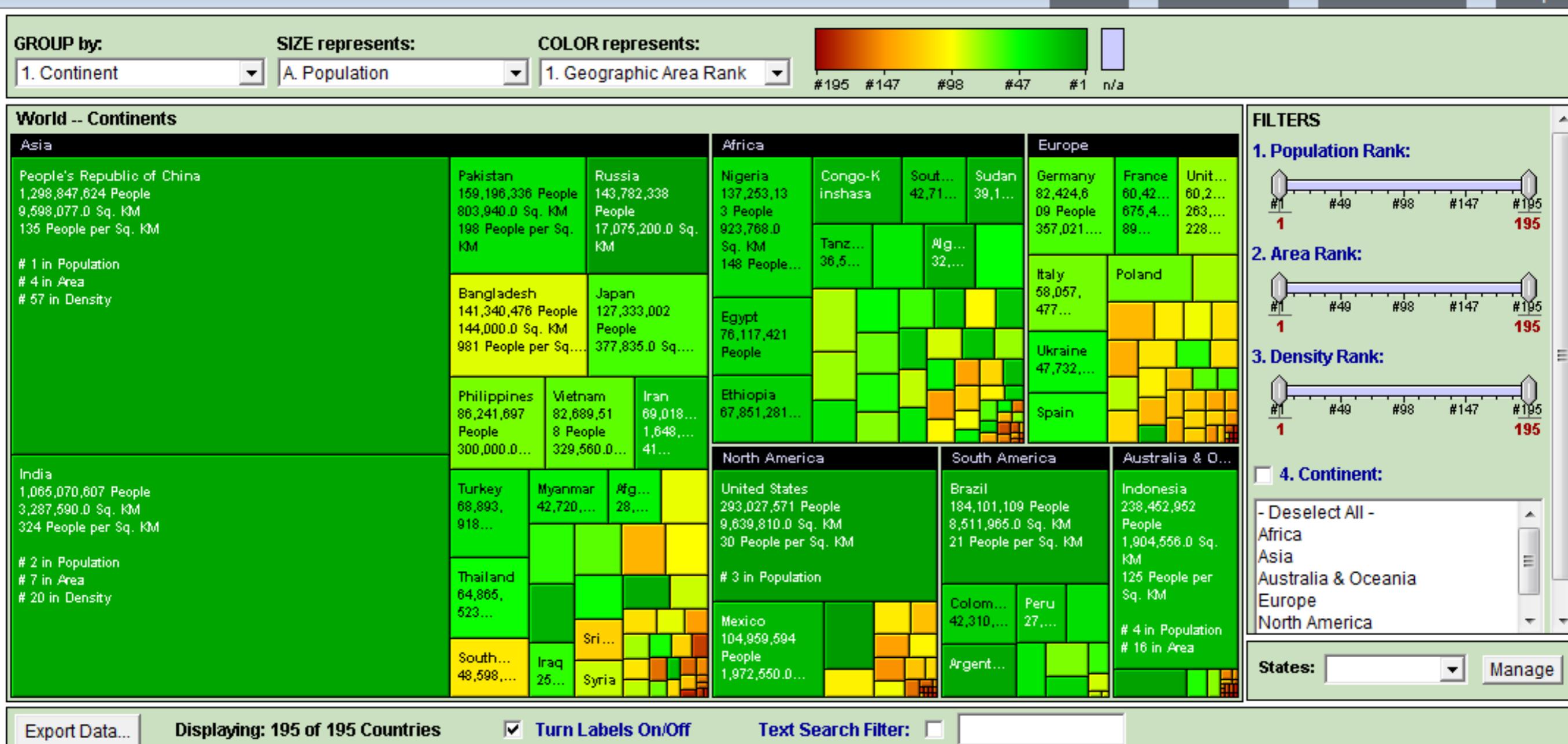


**100%**



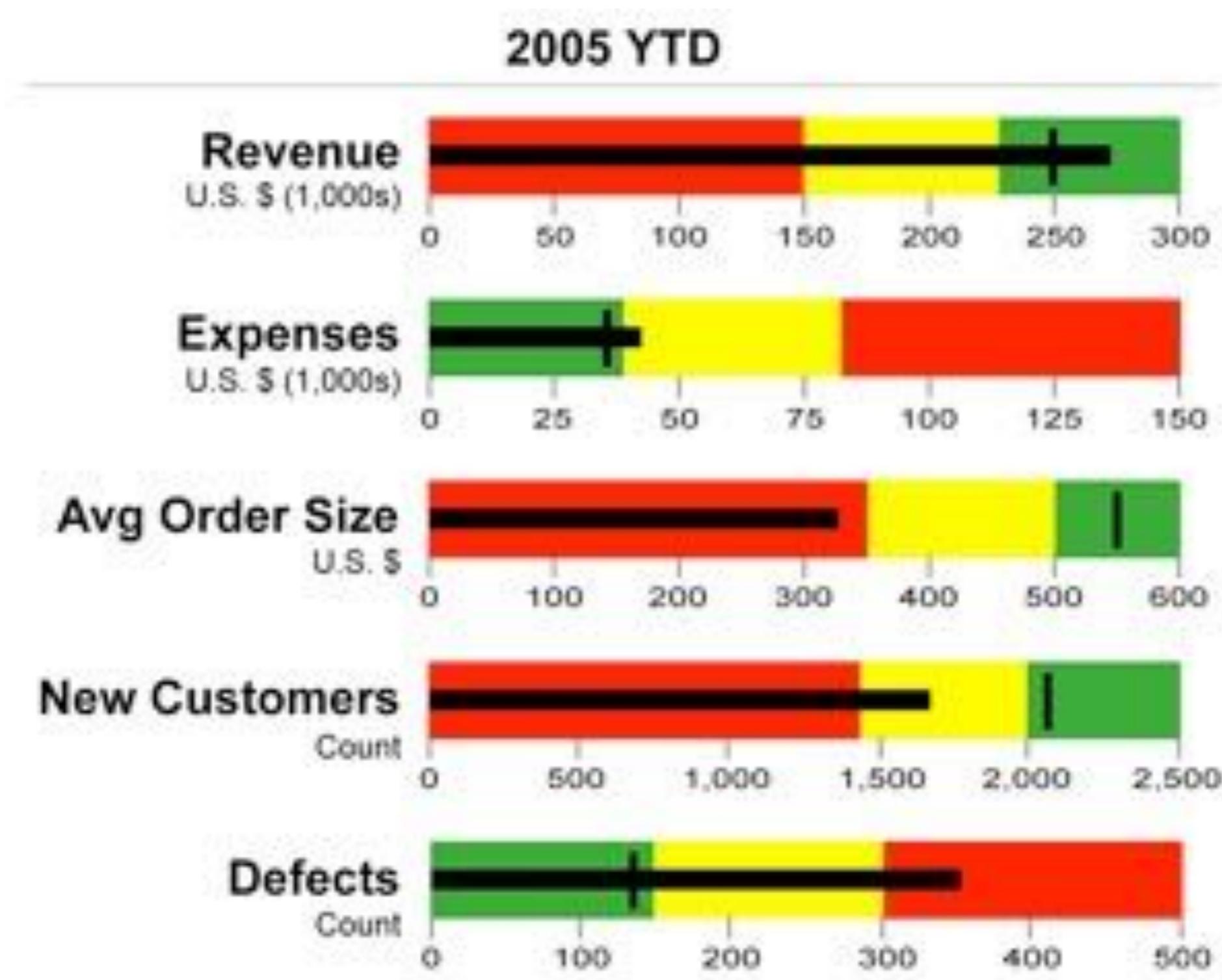
# Tree Maps

## World Population Statistics

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# Bullet Graphs

# Bullet Graphs



# Text Values

# I Know You Can't Read This, But...

## 2010 Tax Table



*See the instructions for line 44 on page 35 to see if you must use the Tax Table below to figure your tax.*

**Example.** Mr. and Mrs. Brown are filing a joint return. Their taxable income on Form 1040, line 43, is \$25,300. First, they find the \$25,300–25,350 taxable income line. Next, they find the column for married filing jointly and read down the column. The amount shown where the taxable income line and filing status column meet is \$2,961. This is the tax amount they should enter on Form 1040, line 44.

**Sample Table**

At least	But less than	Single	Married filing jointly	Married filing separately	Head of a household
<b>Your tax is—</b>					
25,200	25,250	3,365	2,946	3,365	3,186
25,250	25,300	3,373	2,954	3,373	3,194
25,300	25,350	3,380	2,961	3,380	3,201
25,350	25,400	3,388	2,969	3,388	3,209

If line 43 (taxable income) is—		And you are—			
At least	But less than	Single	Married filing jointly	Married filing separately	Head of a household
<b>Your tax is—</b>					
0	5	0	0	0	0
5	15	1	1	1	1
15	25	2	2	2	2
25	50	4	4	4	4
50	75	6	6	6	6
75	100	9	9	9	9
100	125	11	11	11	11
125	150	14	14	14	14
150	175	16	16	16	16
175	200	19	19	19	19
200	225	21	21	21	21
225	250	24	24	24	24
250	275	26	26	26	26
275	300	29	29	29	29
300	325	31	31	31	31
325	350	34	34	34	34
350	375	36	36	36	36
375	400	39	39	39	39
400	425	41	41	41	41

If line 43 (taxable income) is—		And you are—			
At least	But less than	Single	Married filing jointly	Married filing separately	Head of a household
<b>Your tax is—</b>					
1,300	1,325	131	131	131	131
1,325	1,350	134	134	134	134
1,350	1,375	136	136	136	136
1,375	1,400	139	139	139	139
1,400	1,425	141	141	141	141
1,425	1,450	144	144	144	144
1,450	1,475	146	146	146	146
1,475	1,500	149	149	149	149
1,500	1,525	151	151	151	151
1,525	1,550	154	154	154	154
1,550	1,575	156	156	156	156
1,575	1,600	159	159	159	159
1,600	1,625	161	161	161	161
1,625	1,650	164	164	164	164
1,650	1,675	166	166	166	166
1,675	1,700	169	169	169	169
1,700	1,725	171	171	171	171
1,725	1,750	174	174	174	174
1,750	1,775	176	176	176	176

If line 43 (taxable income) is—		And you are—			
At least	But less than	Single	Married filing jointly	Married filing separately	Head of a household
<b>Your tax is—</b>					
2,700	2,725	271	271	271	271
2,725	2,750	274	274	274	274
2,750	2,775	276	276	276	276
2,775	2,800	279	279	279	279
2,800	2,825	281	281	281	281
2,825	2,850	284	284	284	284
2,850	2,875	286	286	286	286
2,875	2,900	289	289	289	289
2,900	2,925	291	291	291	291
2,925	2,950	294	294	294	294
2,950	2,975	296	296	296	296
2,975	3,000	299	299	299	299
<b>3,000</b>					
3,000	3,050	303	303	303	303
3,050	3,100	308	308	308	308
3,100	3,150	313	313	313	313
3,150	3,200	318	318	318	318
3,200	3,250	322	322	322	322

# Now You Can Read This

## 2010 Tax Table



See the instructions for line 44 on page 35 to see if you must use the Tax Table below to figure your tax.

Example. Mr. and Mrs. Brown's taxable income is \$1,325. They file jointly. Their tax is \$131.

At least	But less than	Single	Married filing jointly	Married filing separately	Head of a household
0	5	0	0	0	0
5	15	1	1	1	1
15	25	2	2	2	2
25	50	4	4	4	4
50	75	6	6	6	6
75	100	9	9	9	9
100	125	11	11	11	11
125	150	14	14	14	14
150	175	16	16	16	16
175	200	19	19	19	19
200	225	21	21	21	21
225	250	24	24	24	24
250	275	26	26	26	26
275	300	29	29	29	29
300	325	31	31	31	31
325	350	34	34	34	34
350	375	36	36	36	36
375	400	39	39	39	39
400	425	41	41	41	41

1,325  
1,325  
1,350  
1,375  
1,375

131  
134  
136  
139

131  
134  
136  
139

131  
134  
136  
139

131  
134  
136  
139

Sample Table

At least	But less than	Single	Married filing jointly	Married filing separately	Head of a household
0	5	2700	2725	271	271
5	15	2725	2750	274	274
15	25	2750	2775	276	276
25	50	2775	2800	279	279
50	75	2800	2825	281	281
75	100	2825	2850	284	284
100	125	2850	2875	286	286
125	150	2875	2900	289	289
150	175	2900	2925	291	291
175	200	2925	2950	294	294
200	225	2950	2975	296	296
225	250	2975	3,000	299	299
250	275	3,000			
275	300	3,000	3,050	303	303
300	325	3,050	3,100	308	308
325	350	3,100	3,150	313	313
350	375	3,150	3,200	318	318
375	400	3,200	3,250	322	322
400	425	3,250	3,300	326	326

If line 43 (taxable income) is —	And you are —					Income is —					And you are —						
At least	But less than	Single	Married filing jointly	Married filing separately	Head of a household	At least	But less than	Single	Married filing jointly	Married filing separately	Head of a household	At least	But less than	Single	Married filing jointly	Married filing separately	Head of a household
0	5	0	0	0	0	1,300	1,325	131	131	131	131	2,700	2,725	271	271	271	271
5	15	1	1	1	1	1,325	1,350	134	134	134	134	2,725	2,750	274	274	274	274
15	25	2	2	2	2	1,350	1,375	136	136	136	136	2,750	2,775	276	276	276	276
25	50	4	4	4	4	1,375	1,400	139	139	139	139	2,775	2,800	279	279	279	279
50	75	6	6	6	6	1,400	1,425	141	141	141	141	2,800	2,825	281	281	281	281
75	100	9	9	9	9	1,425	1,450	144	144	144	144	2,825	2,850	284	284	284	284
100	125	11	11	11	11	1,450	1,475	146	146	146	146	2,850	2,875	286	286	286	286
125	150	14	14	14	14	1,475	1,500	149	149	149	149	2,875	2,900	289	289	289	289
150	175	16	16	16	16	1,500	1,525	151	151	151	151	2,900	2,925	291	291	291	291
175	200	19	19	19	19	1,525	1,550	154	154	154	154	2,925	2,950	294	294	294	294
200	225	21	21	21	21	1,550	1,575	156	156	156	156	2,950	2,975	296	296	296	296
225	250	24	24	24	24	1,575	1,600	159	159	159	159	2,975	3,000	299	299	299	299
250	275	26	26	26	26	1,600	1,625	161	161	161	161						
275	300	29	29	29	29	1,625	1,650	164	164	164	164						
300	325	31	31	31	31	1,650	1,675	166	166	166	166						
325	350	34	34	34	34	1,675	1,700	169	169	169	169						
350	375	36	36	36	36	1,700	1,725	171	171	171	171						
375	400	39	39	39	39	1,725	1,750	174	174	174	174						
400	425	41	41	41	41	1,750	1,775	176	176	176	176						



# Now You Can Really Read This

## 2010 Tax Table



See the instructions for line 44 on page 35 to see if you must use the Tax Table below to figure your tax.

Example: Mr. and Mrs.

<b>1,325</b>	<b>1,350</b>
<b>1,350</b>	<b>1,375</b>

<b>134</b>	<b>134</b>
<b>136</b>	<b>136</b>

Sample Table

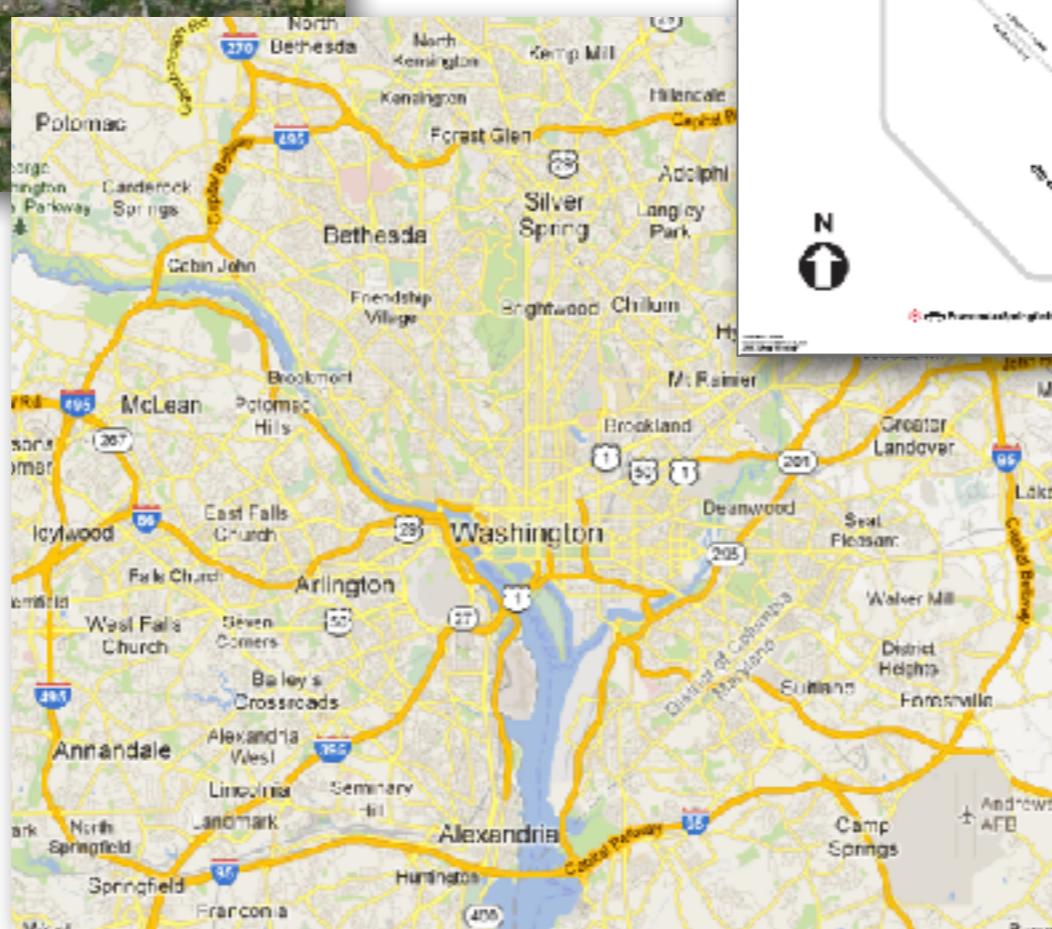
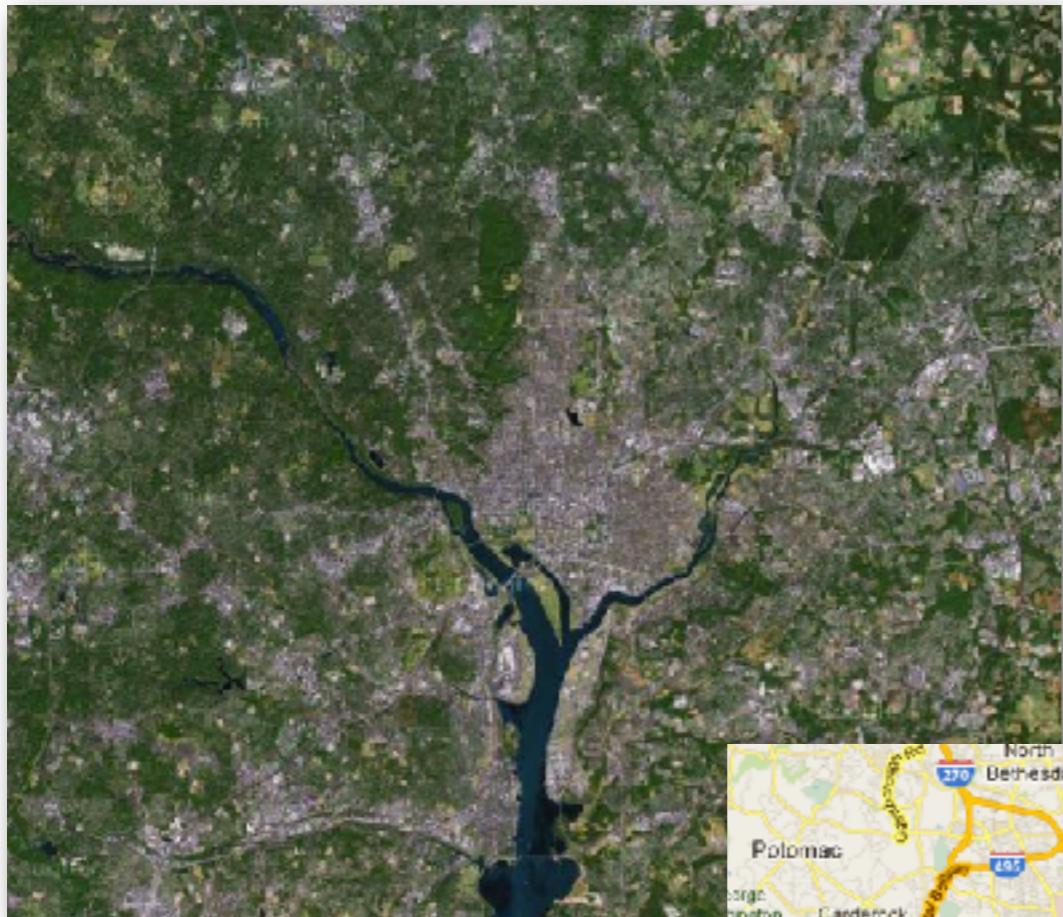
At least	But less than	Single	Married filing jointly	Married filing separately	Head of a household

If line 43 (taxable income) is —		And you are —				Income —				And you are —				Income —			
At least	But less than	Single	Married filing jointly	Married filing separately	Head of a household	At least	But less than	Single	Married filing jointly	Married filing separately	Head of a household	At least	But less than	Single	Married filing jointly	Married filing separately	Head of a household
0	5	0	0	0	0	1,300	1,325	131	131	131	131	2,700	2,725	271	271	271	271
5	15	1	1	1	1	1,325	1,350	134	134	134	134	2,725	2,750	274	274	274	274
15	25	2	2	2	2	1,350	1,375	136	136	136	136	2,750	2,775	276	276	276	276
25	50	4	4	4	4	1,375	1,400	139	139	139	139	2,775	2,800	279	279	279	279
50	75	6	6	6	6	1,400	1,425	141	141	141	141	2,800	2,825	281	281	281	281
75	100	9	9	9	9	1,425	1,450	144	144	144	144	2,825	2,850	284	284	284	284
100	125	11	11	11	11	1,450	1,475	146	146	146	146	2,850	2,875	286	286	286	286
125	150	14	14	14	14	1,475	1,500	149	149	149	149	2,875	2,900	289	289	289	289
150	175	16	16	16	16	1,500	1,525	151	151	151	151	2,900	2,925	291	291	291	291
175	200	19	19	19	19	1,525	1,550	154	154	154	154	2,925	2,950	294	294	294	294
200	225	21	21	21	21	1,550	1,575	156	156	156	156	2,950	2,975	296	296	296	296
225	250	24	24	24	24	1,575	1,600	159	159	159	159	2,975	3,000	299	299	299	299
250	275	26	26	26	26	1,600	1,625	161	161	161	161						
275	300	29	29	29	29	1,625	1,650	164	164	164	164						
300	325	31	31	31	31	1,650	1,675	166	166	166	166						
325	350	34	34	34	34	1,675	1,700	169	169	169	169						
350	375	36	36	36	36	1,700	1,725	171	171	171	171						
375	400	39	39	39	39	1,725	1,750	174	174	174	174						
400	425	41	41	41	41	1,750	1,775	176	176	176	176						

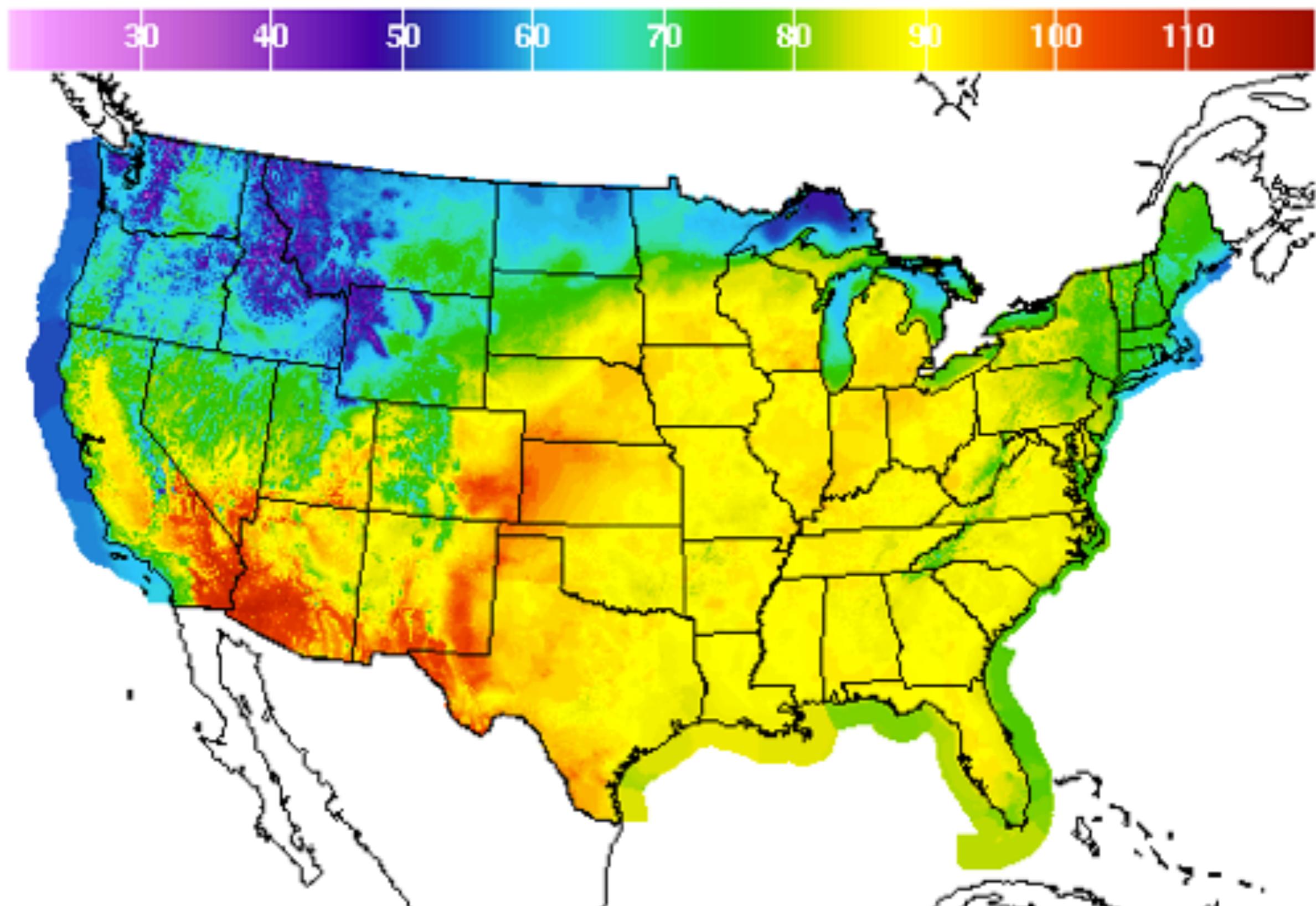


# Geographic Data

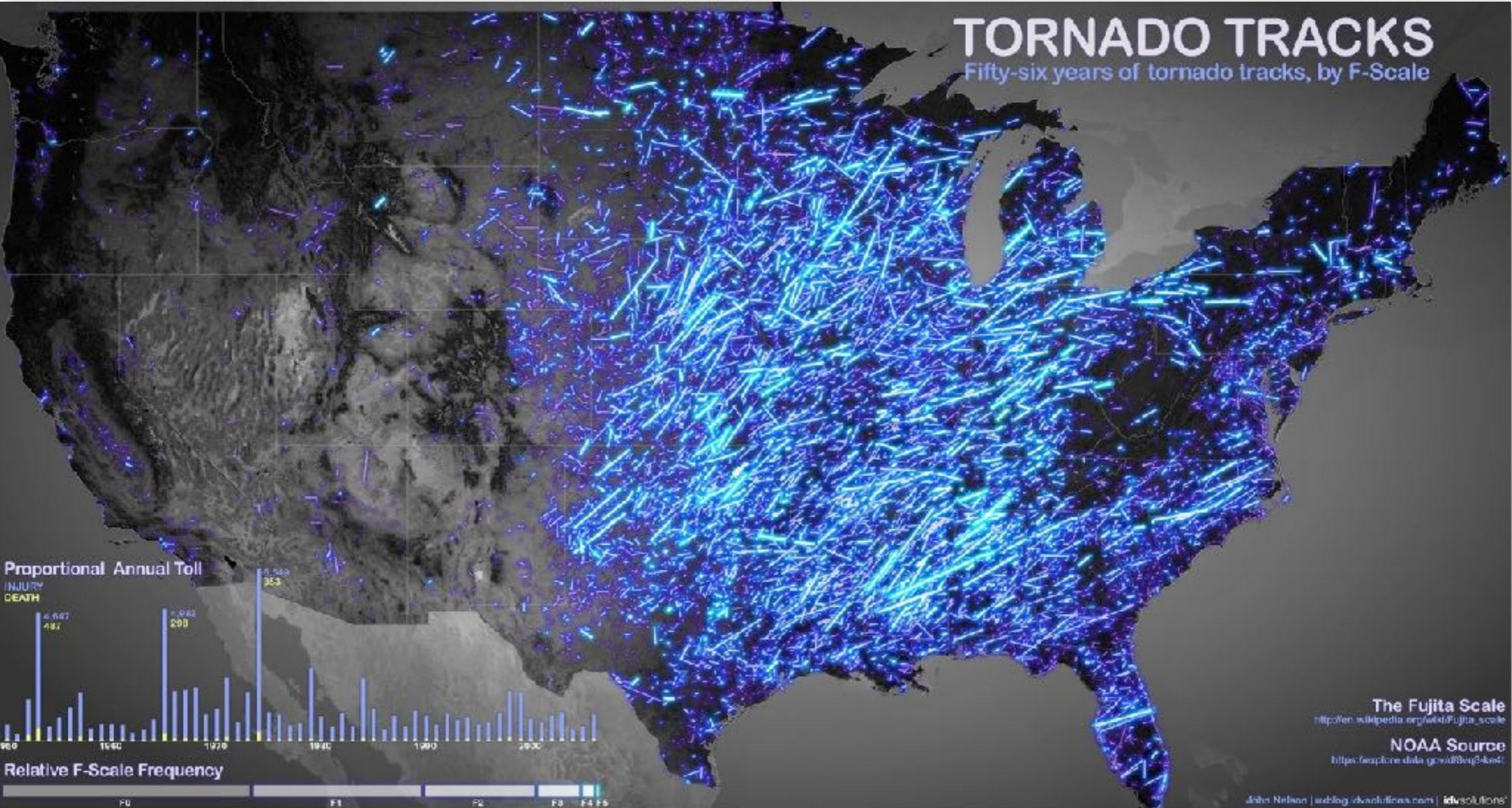
# What Accuracy is Needed?



# Spatial Data



# Spatial Data



# Spatial Data

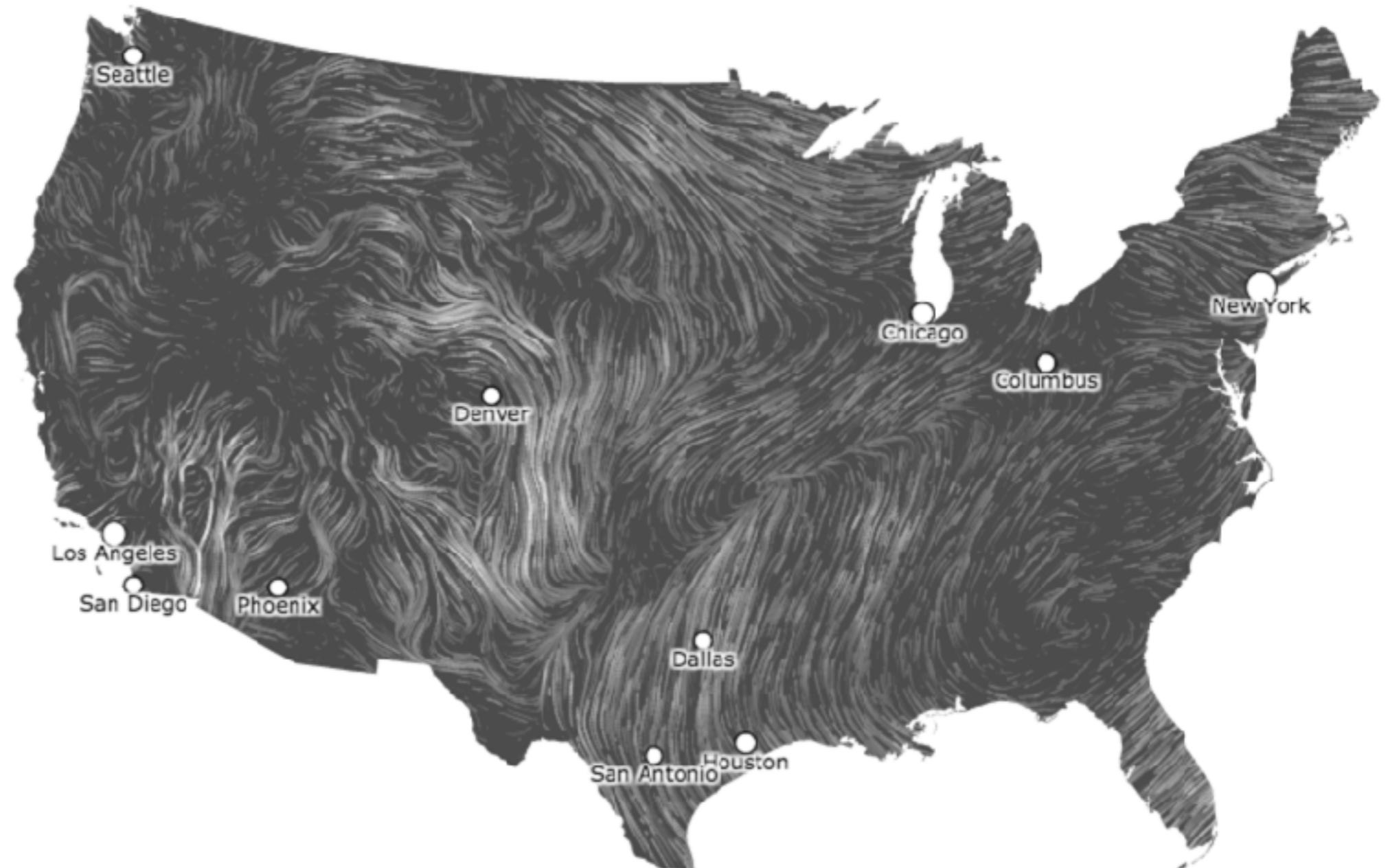
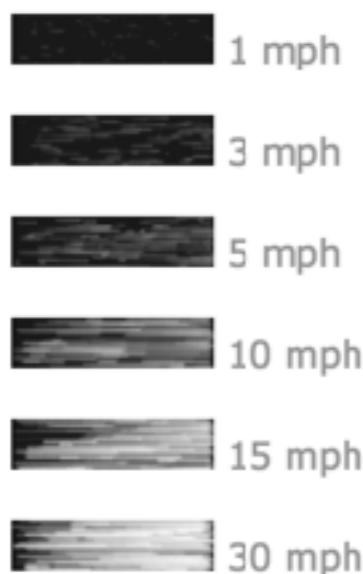
## wind map

October 19, 2016

12:36 pm EST

(time of forecast download)

top speed: **31.3 mph**  
average: **7.9 mph**



[All Shots](#)[3-Pointers](#)[Midrange](#)[Close Range](#)

Number of attempts

Low

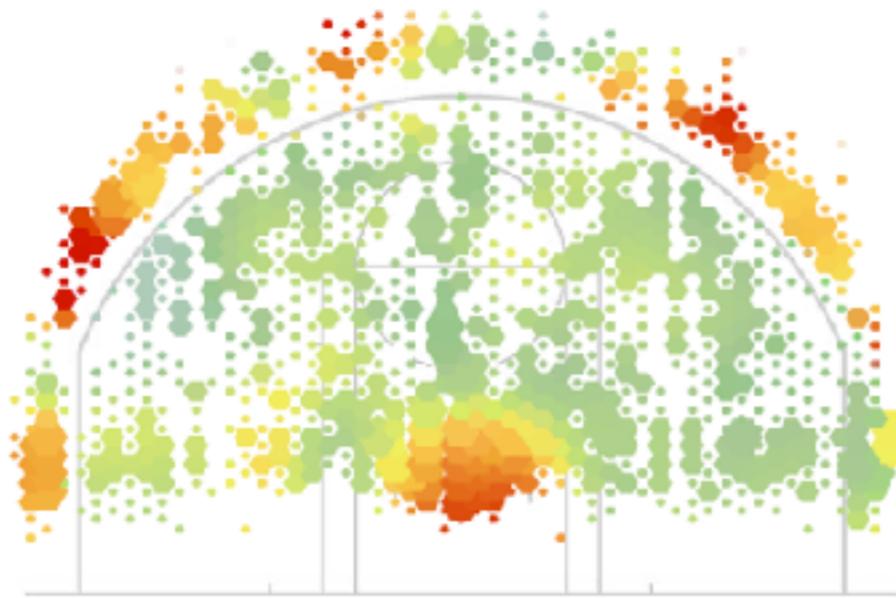
High

Points per region

Low

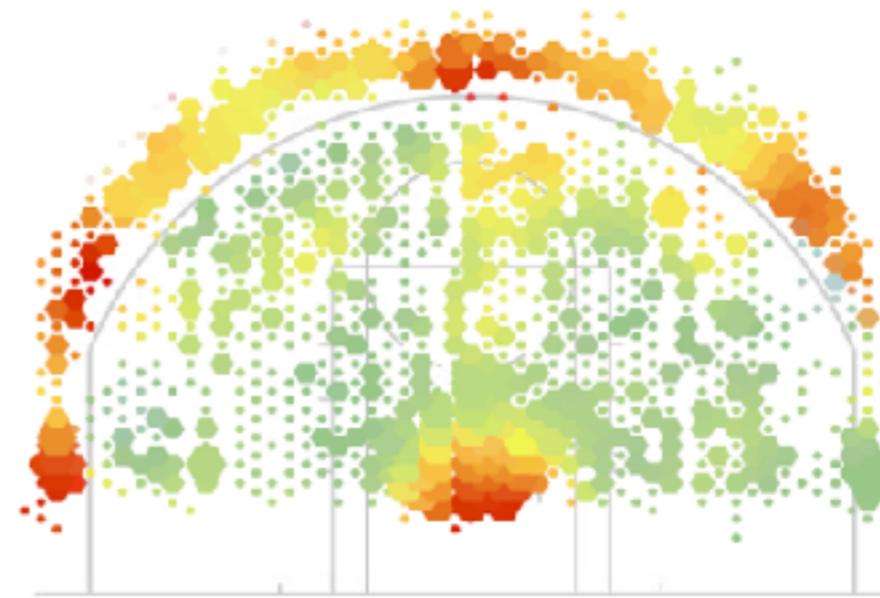
High

## Miami Heat

TOTAL SHOTS **5,209** | POINTS PER SHOT **1.01** | F.G. PERCENT **47%**

The Heat rely on player positioning to create isolation plays for LeBron James and Dwyane Wade, often on the left side. The Heat take many fewer 3-point shots than the Thunder.

## Oklahoma City Thunder

TOTAL SHOTS **5,228** | POINTS PER SHOT **1.03** | F.G. PERCENT **47.1%**

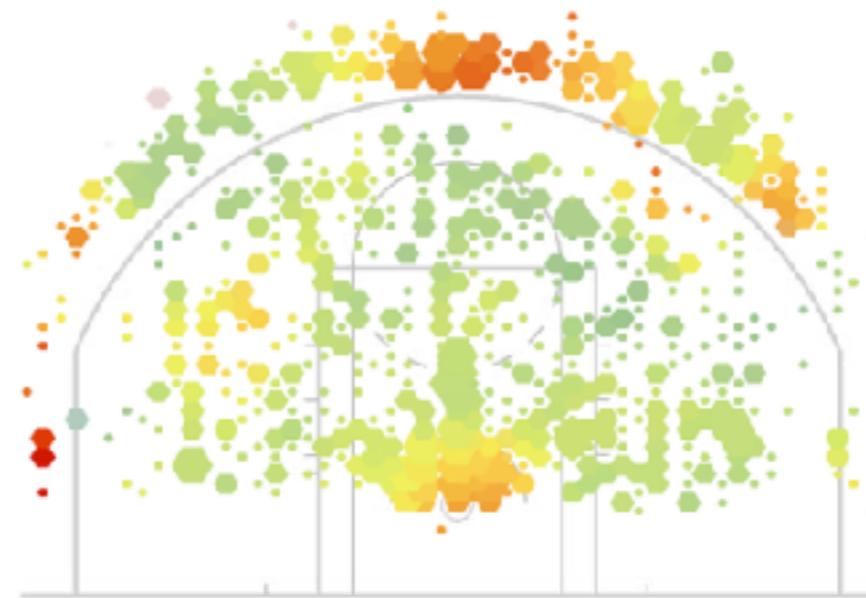
The Thunder are effective from almost any area on the court and shoot many more 3-point shots than the league average. Kevin Durant and James Harden are potent from the top of the arc.

## LeBron James

[VIEW: PHOTO](#) | [GRAPH](#)TOTAL SHOTS **1,169** | POINTS PER SHOT **1.1** | F.G. PERCENT **53.1%**

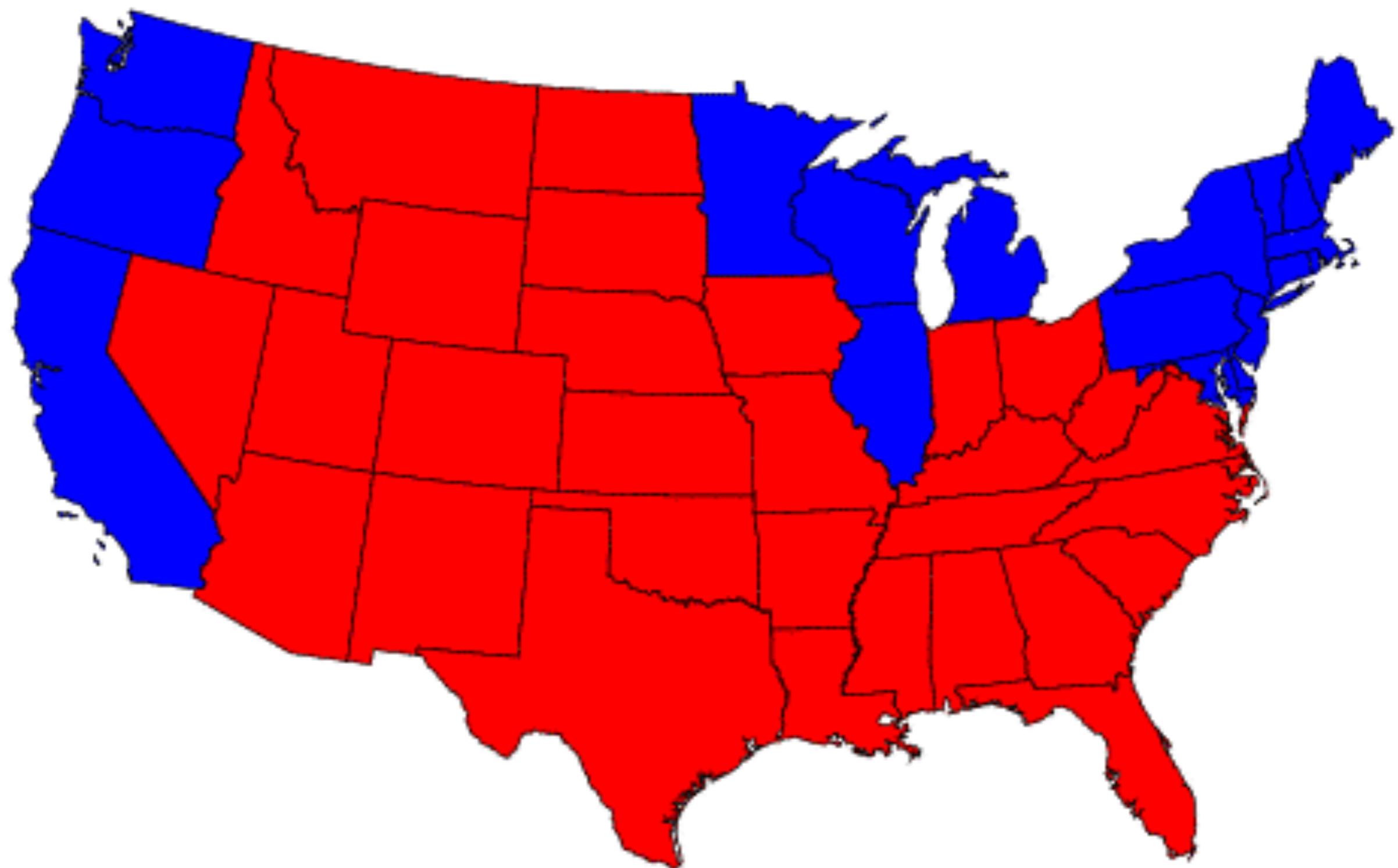
His athleticism and ball-handling create a lot of high-percentage shots near the basket. He prefers the wing locations beyond the 3-point line. His

## Kevin Durant

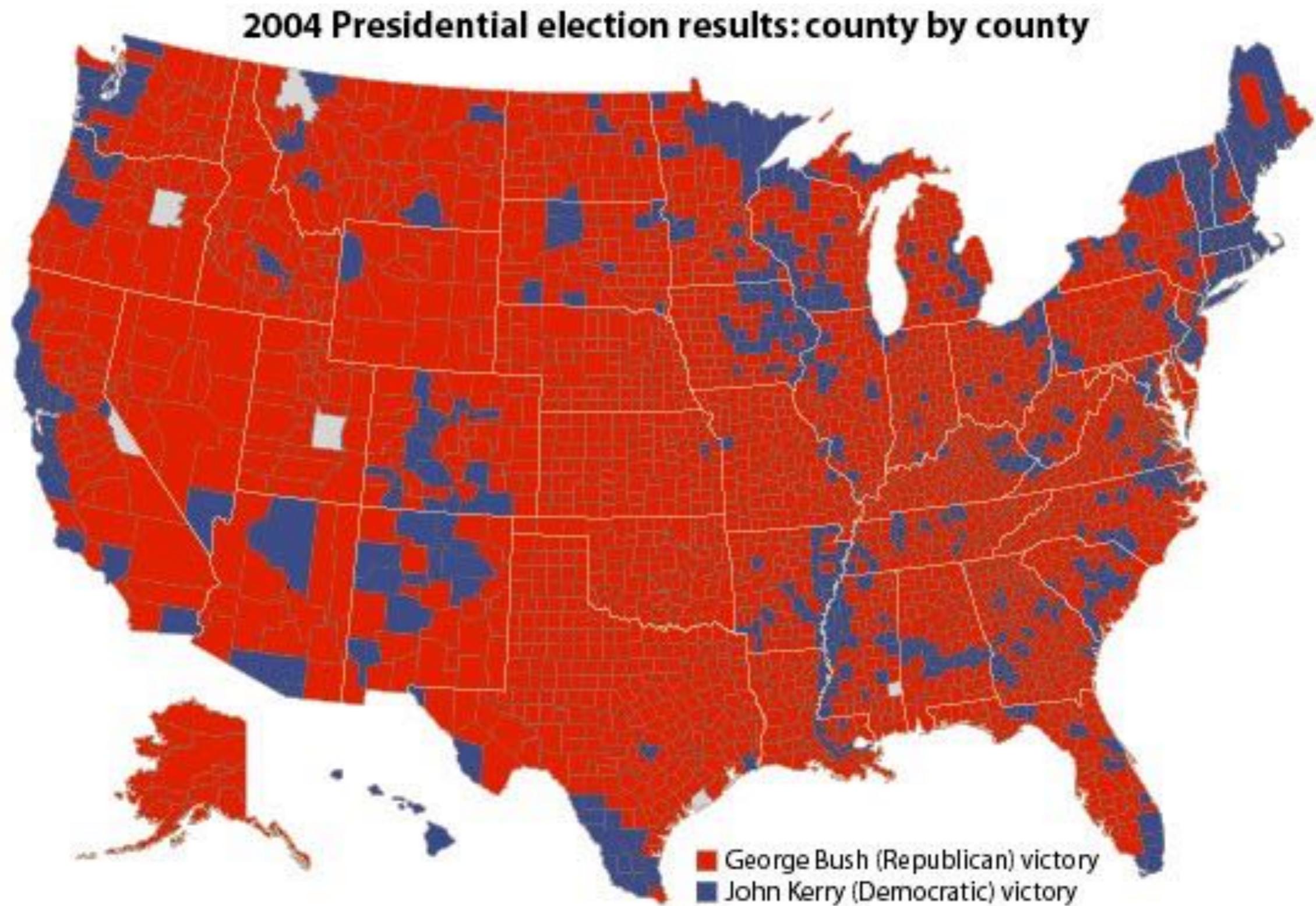
[VIEW: PHOTO](#) | [GRAPH](#)TOTAL SHOTS **1,296** | POINTS PER SHOT **1.09** | F.G. PERCENT **49.6%**

Despite his size, he is a very effective midrange shooter, taking nearly half his shots from that zone and another 25 percent from beyond the 3-point arc.

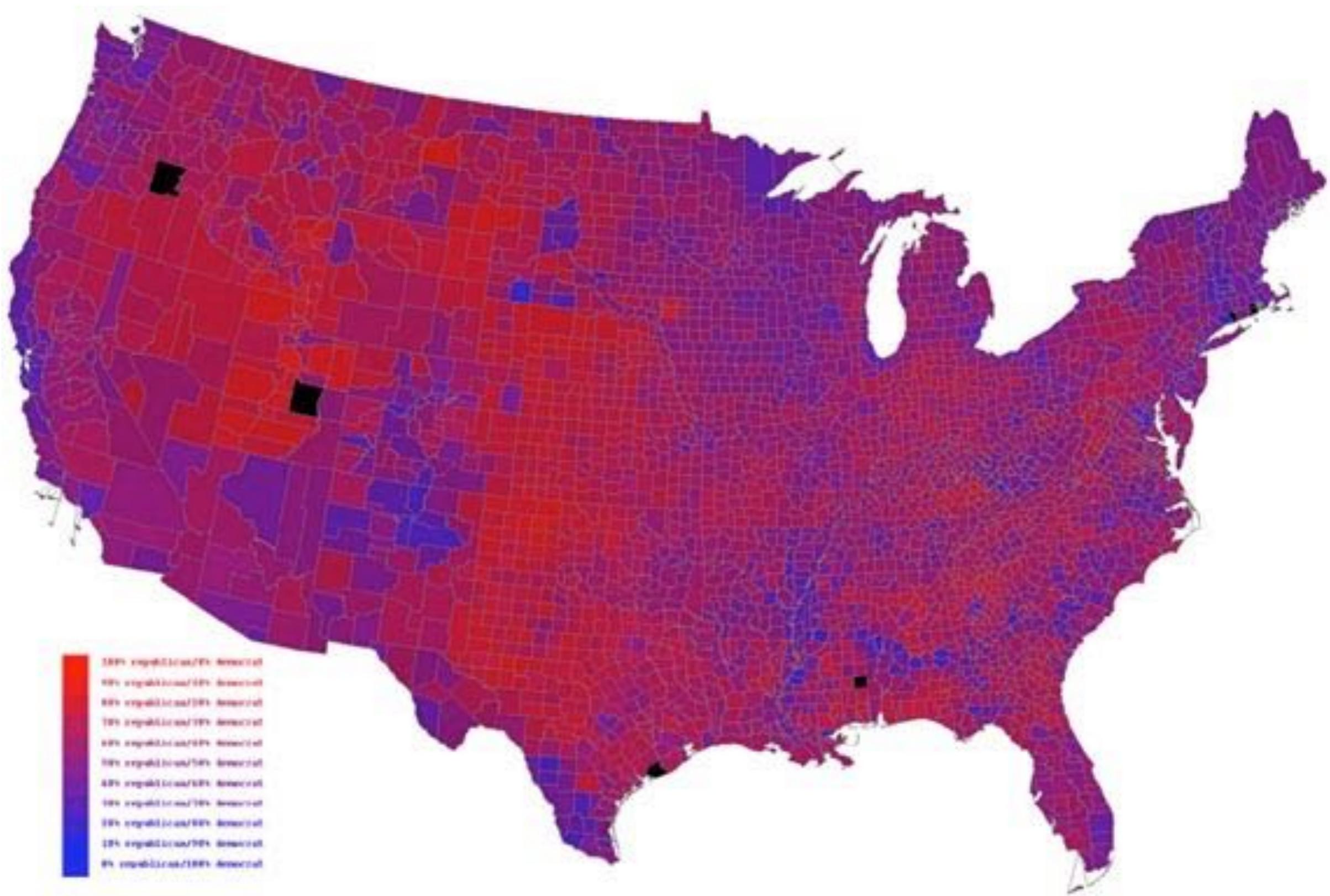
# Non-Spatial Data



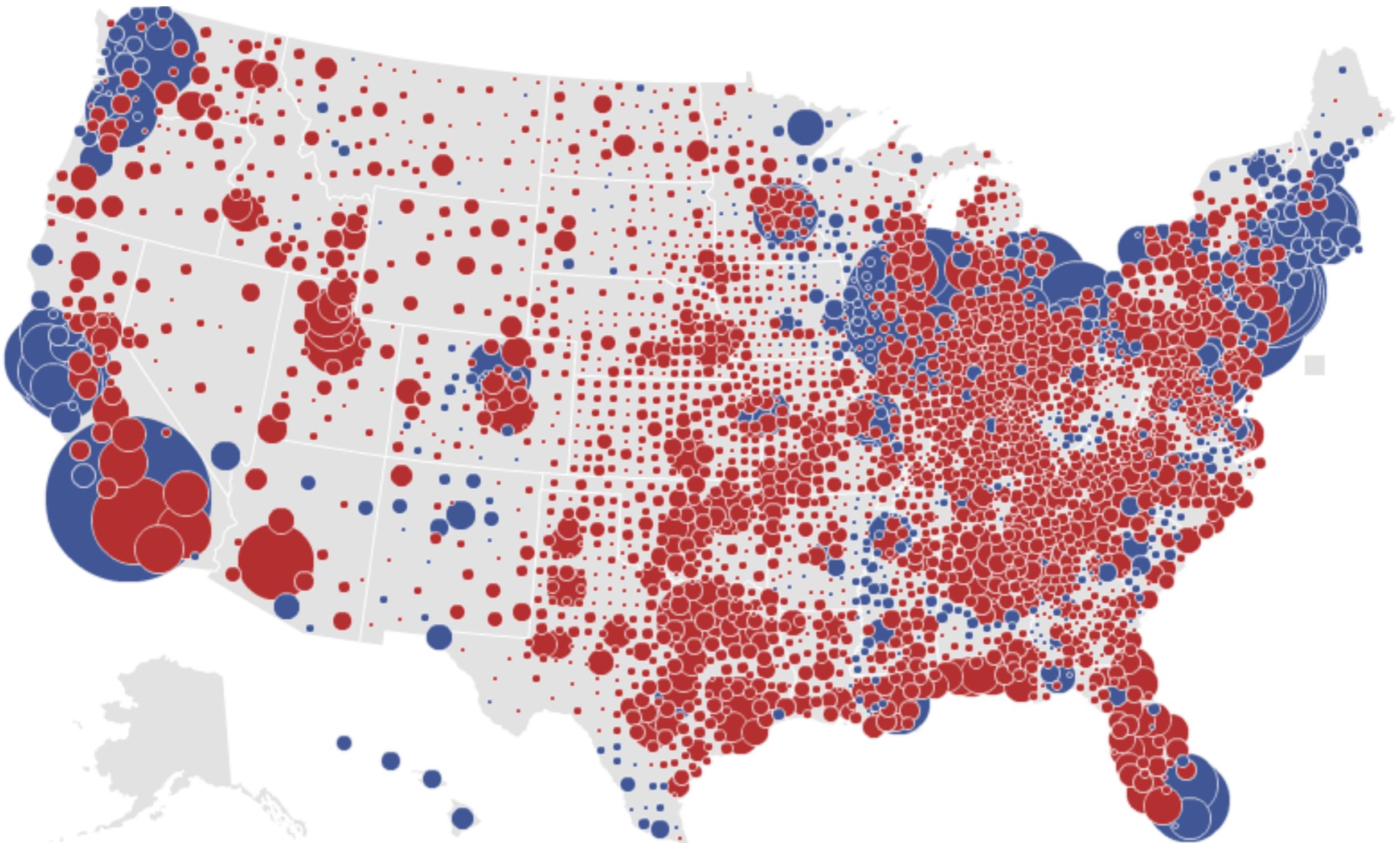
# Non-Spatial Data



# Non-Spatial Data

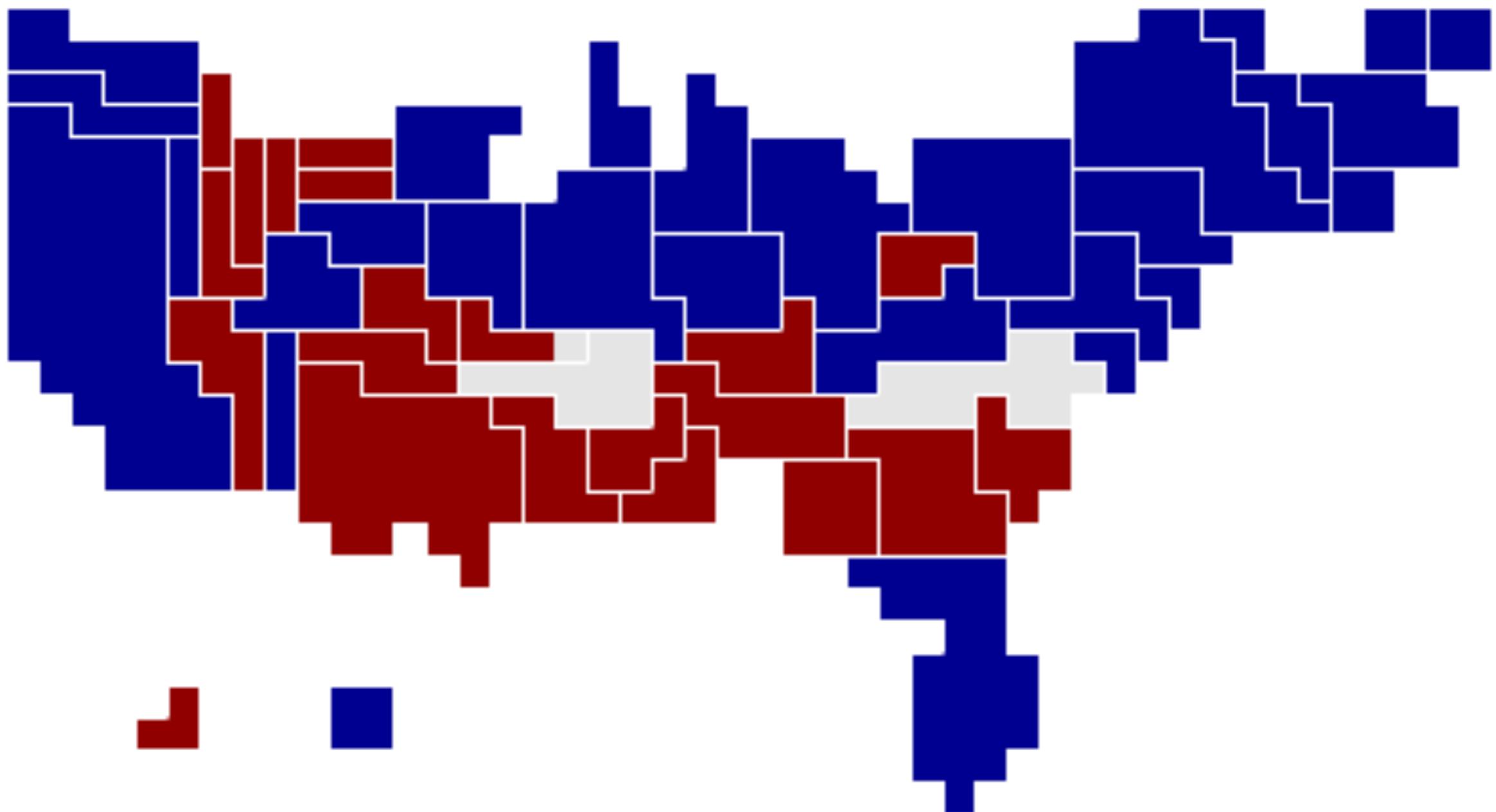


# Non-Spatial Data



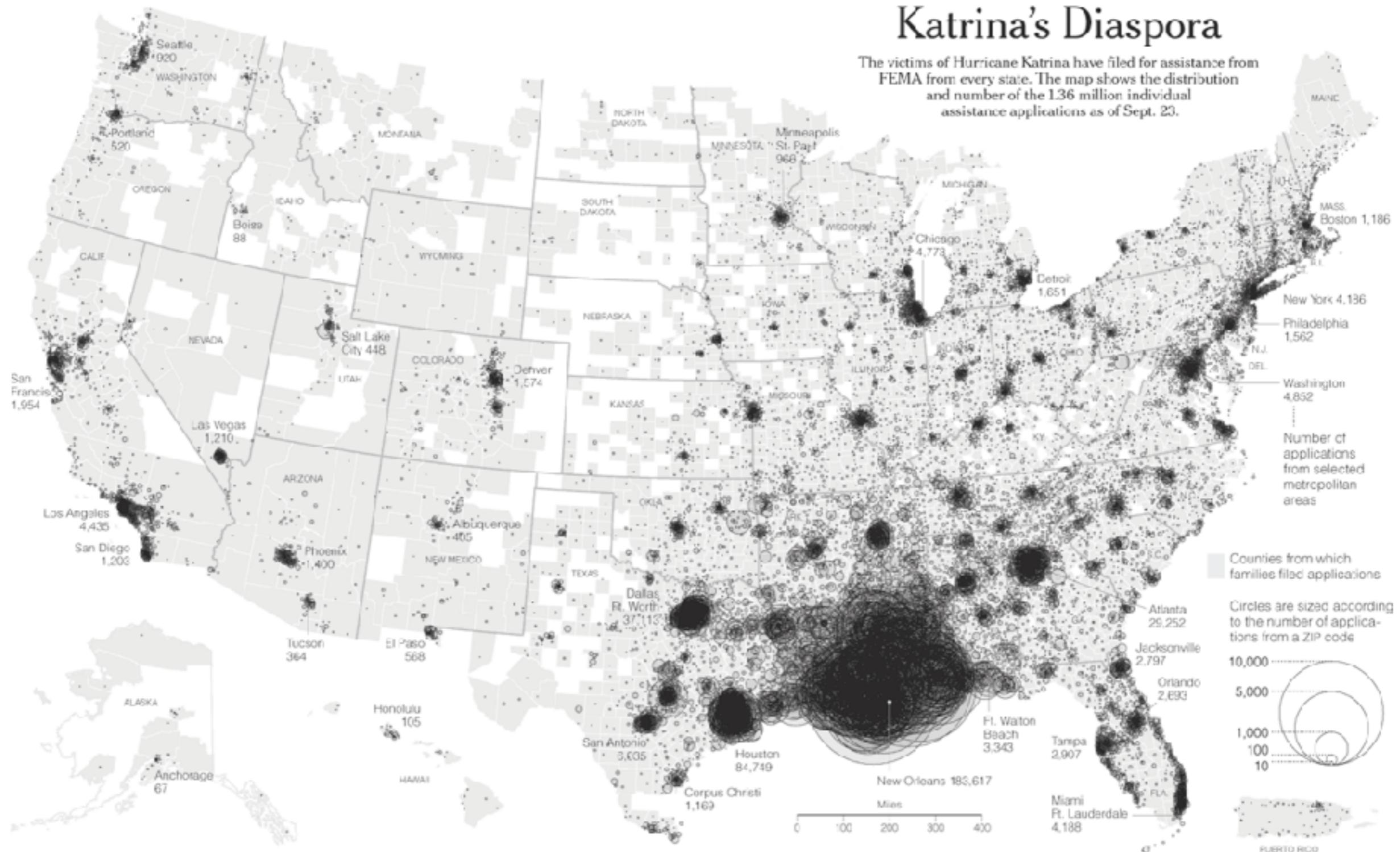
# Non-Spatial Data

■ Rep ■ Dem ■ 3rd Party ■ Partial Result ○ % precincts counted



# Katrina's Diaspora

The victims of Hurricane Katrina have filed for assistance from FEMA from every state. The map shows the distribution and number of the 1.36 million individual assistance applications as of Sept. 23.



They are scattered through all 50 states, the District of Columbia and Puerto Rico — 523 in Utah, 1,114 in Kansas, 101 way out in Alaska. They are clustered by the thousands in large Southern cities like Dallas, Atlanta and Memphis, and huddled in handfuls in unlikely hamlets like Shell Knob, Mo. (pop. 1,393) and Fountain Run, Ky. (pop. 236).

Evacuees fled Hurricane Katrina and the floods that followed in caravans of cars and fleets of buses, on helicopters and chartered planes, by boat and, a few, on foot. A month after the storm, a map

emerges of where they landed, based on ZIP codes from which applications for aid were submitted to the Federal Emergency Management Agency as of Sept. 23.

Of 1,367,04 applications, 86 percent came from Louisiana, Mississippi, Texas and Alabama. But 35,519 families were more than 1,000 miles from the Gulf — among the farthest: one in Nome, Alaska, 5,931 miles from the French Quarter and another in Lihue, Hawaii, 4,279 miles away.

Residents of New Orleans, a city that was two-thirds black, seem to have flocked to the nation's African-American population

centers. On average, the applicants came from counties where blacks were 28 percent of the population, more than twice the national average.

Baton Rouge, La., appears to be temporary home to 10 percent of evacuees, Houston 6.25 percent. But after the top 18 hubs, applicants are spread like the wind that whipped through their old neighborhoods: none of the other \$100-plus metropolitan areas has even 1 percent of the total.

Some 4,000 ZIP codes — among them Pocahontas, Miss.; Fremont City, Iowa; and Hope, Mich. — had just one applicant.

## Applications by state

State	Applications	Percent
Louisiana	523,149	38.6%
Mississippi	383,340	23.3%
Texas	156,895	11.6%
Alabama	109,469	8.1%
Georgia	35,342	2.6%
Florida	31,005	2.3%
Tennessee	15,529	1.1%
Arkansas	11,027	0.8%
California	10,963	0.8%
Illinois	8,430	0.6%
Others	73,065	5.4%

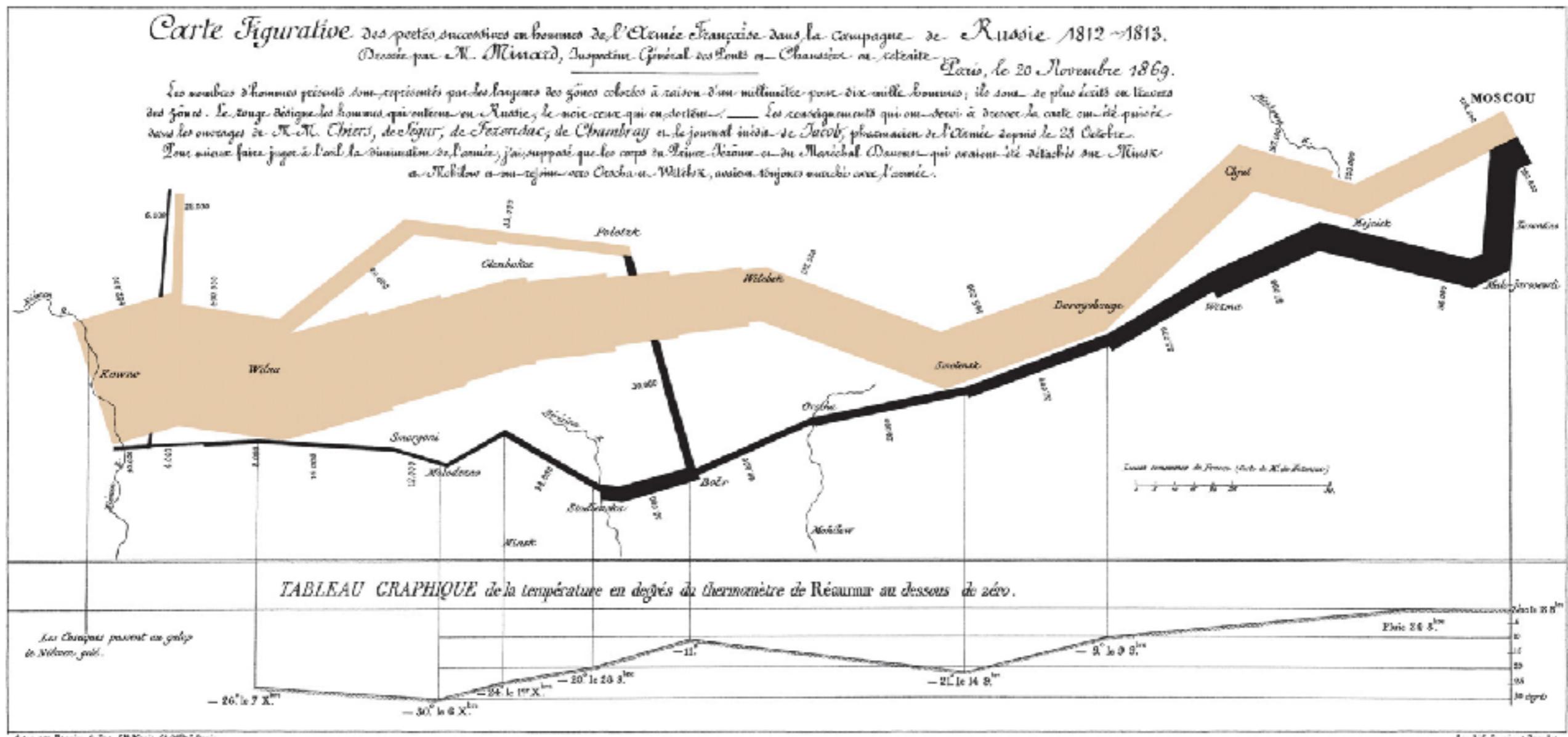
## Applications by distance from New Orleans

Miles	Applicants	Percent
0-100	626,232	46.2%
100-200	338,080	24.9%
200-400	184,169	13.6%
400-800	143,497	10.6%
800-1,800	45,371	3.3%
1,600-3,200	13,403	1.0%
3,200+	232	0.0%

Distances could not be calculated for 0.4 percent of applications

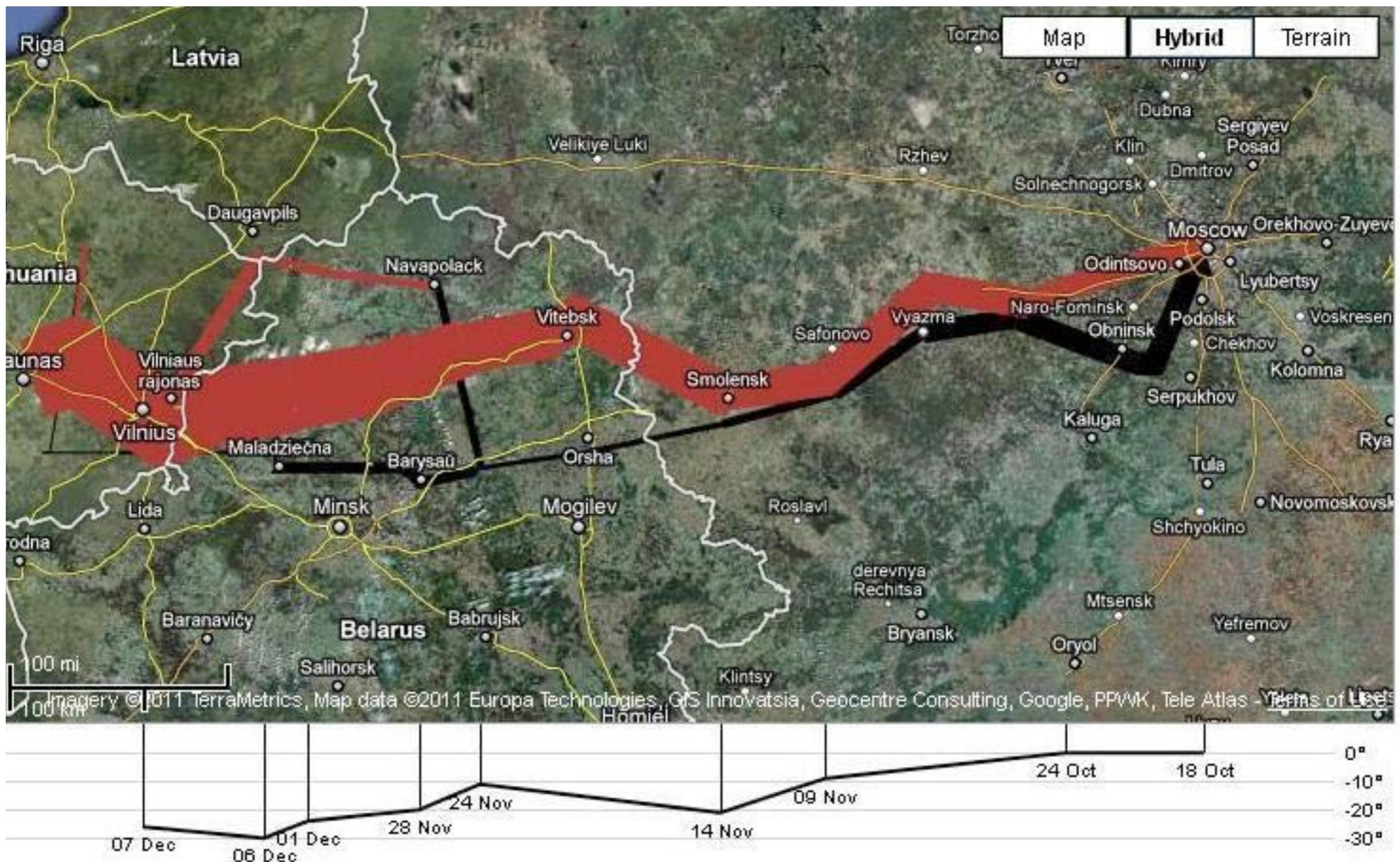
Sources: FEMA; Census Bureau; Queens College Sociology Department  
Matthew Ericson, Archie Tse and Jedi Wiggon/The New York Times

# Time Series Data

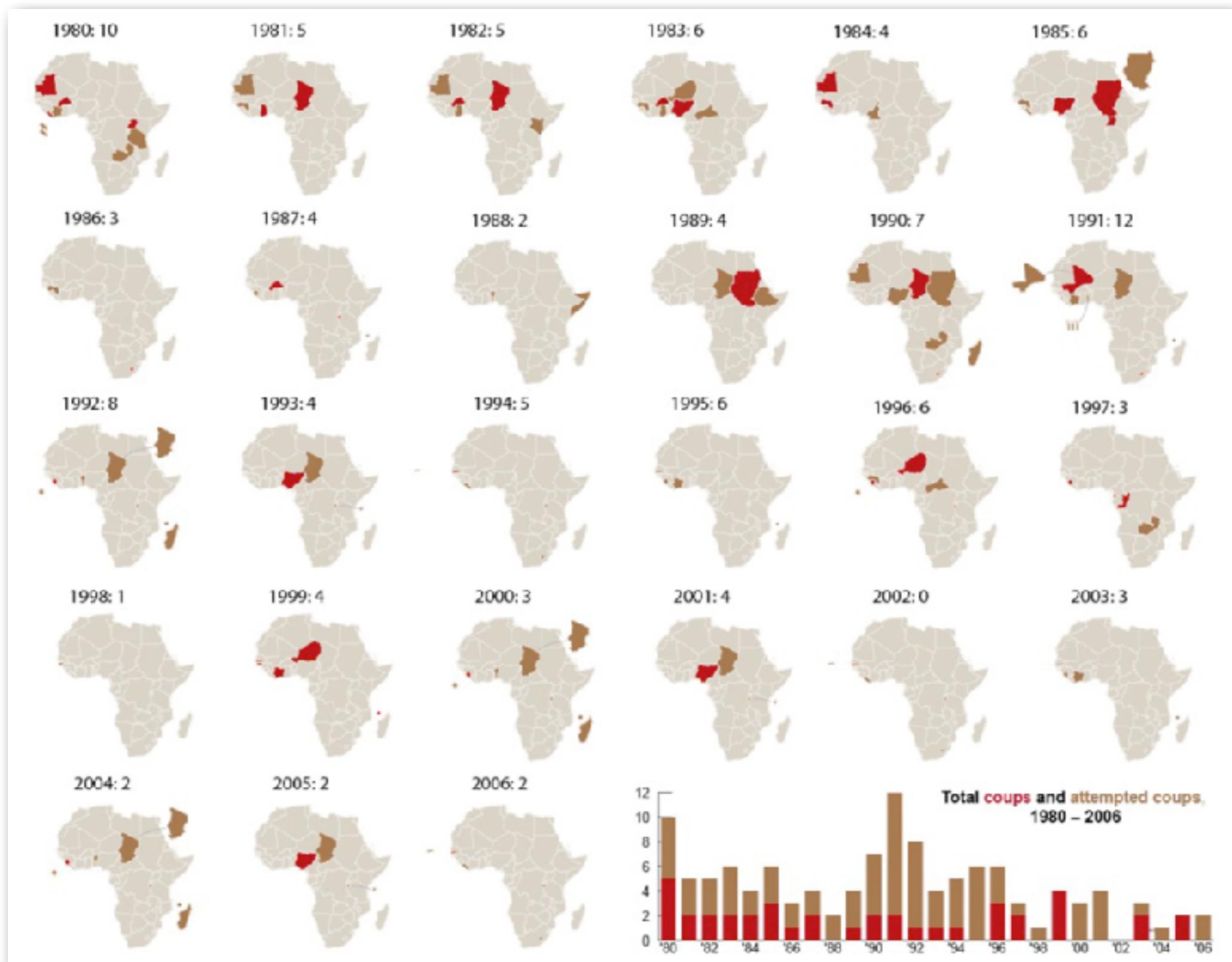


Source: Minard

# Time Series Data

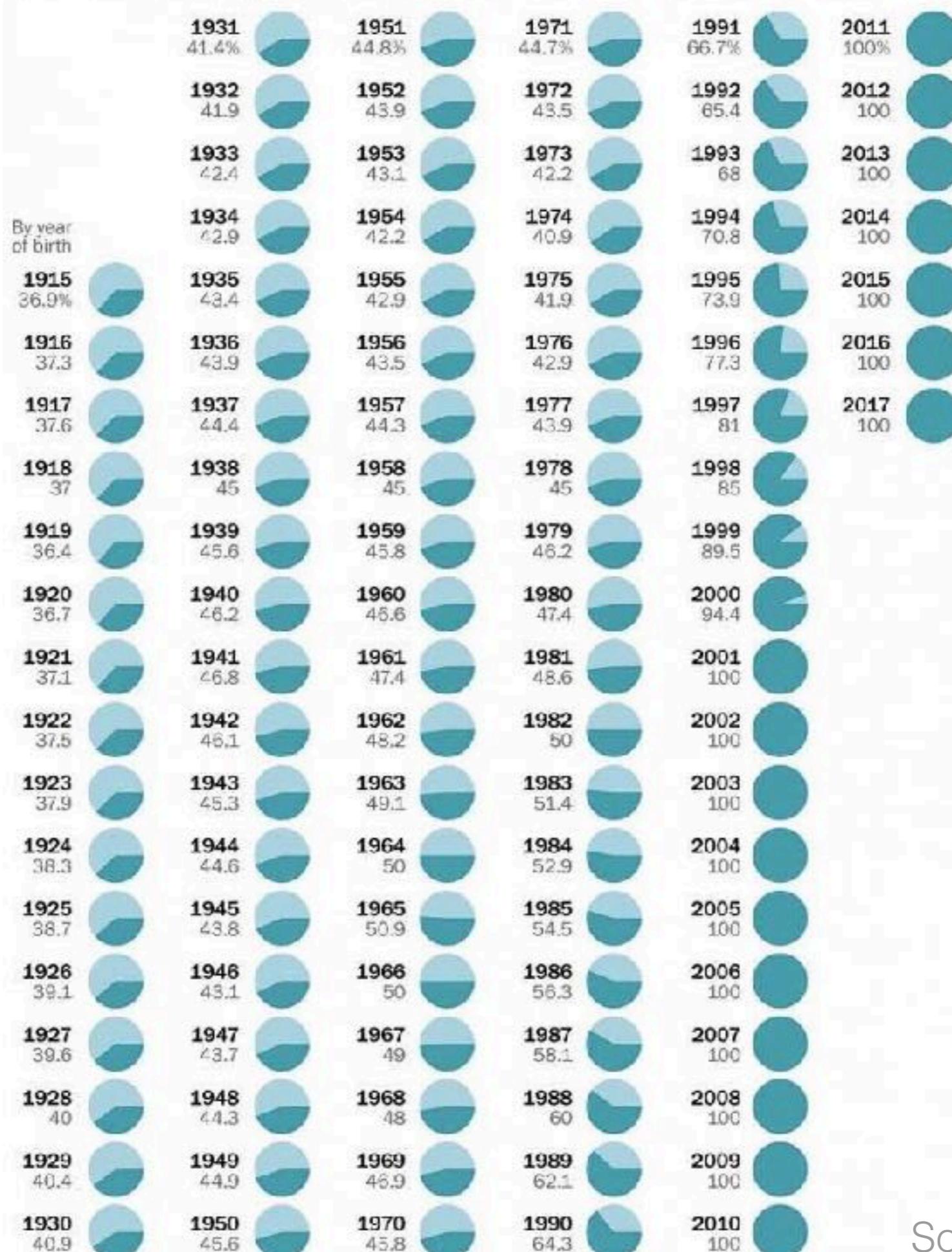


# Time Series Data



Source: Karl Gude

## How much of your life the U.S. has been at war

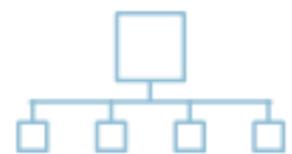


Source: Washington Post

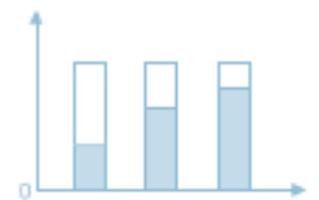
# Concepts

# Diagrams

## Abstract Concepts



## Realistic Concepts



### Flow

Linear  
Circular  
Divergent/Convergent  
Multidirectional

### Structure

Matrices  
Trees  
Layers

### Cluster

Overlapping  
Closure  
Enclosed  
Linked

### Radiate

From a point  
With a core  
Without a core

### Pictorial

Direction  
Location  
Reveal  
Process  
Influence

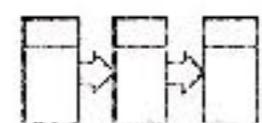
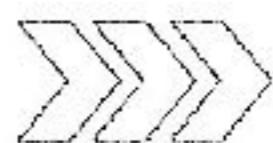
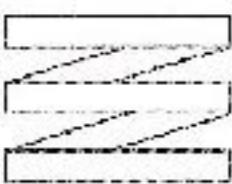
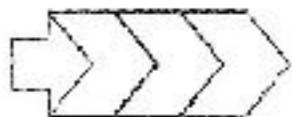
### Display Data

Comparison  
Trend  
Distribution

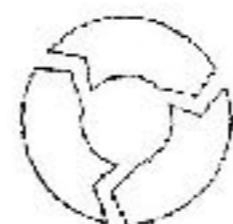
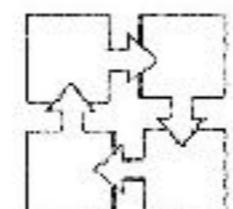
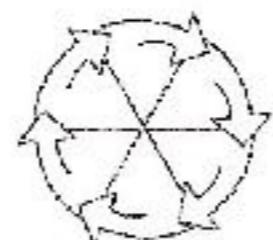
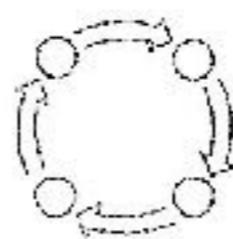
# Flow Diagrams

## Flow

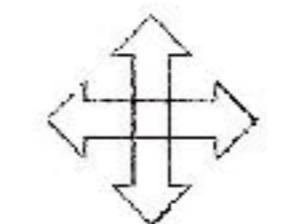
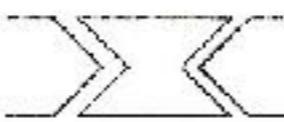
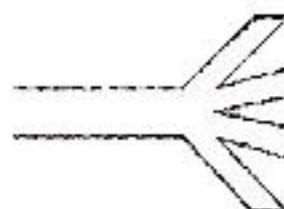
Linear



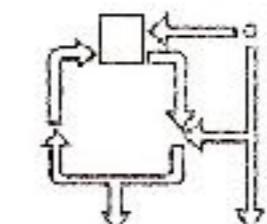
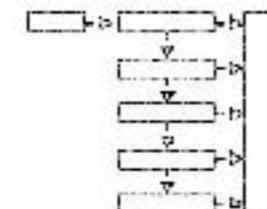
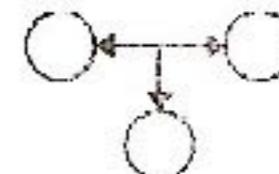
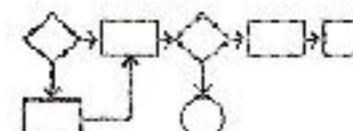
Circular



Convergent  
Divergent



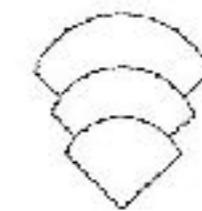
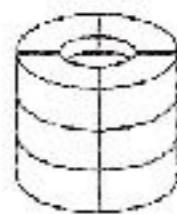
Multi-  
directional



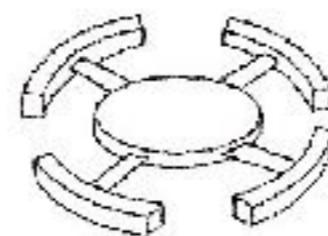
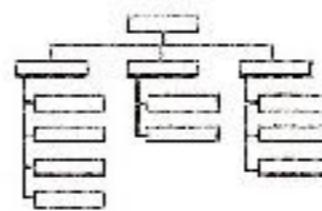
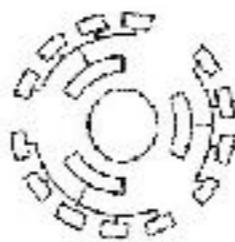
# Structure Diagrams

## Structure

Layers



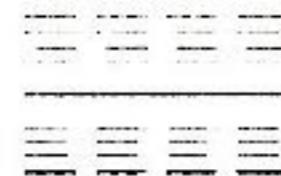
Trees



Matrices

-	-	-	-	-
-	*	*	*	*
-	*	*	*	*
-	*	*	*	*
-	*	*	*	*

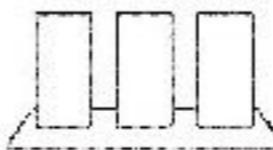
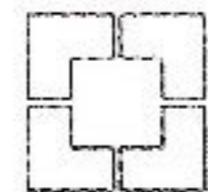
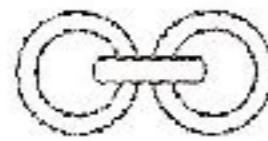
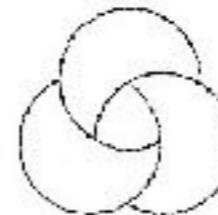
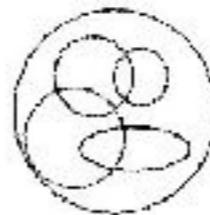
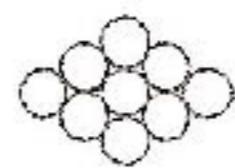
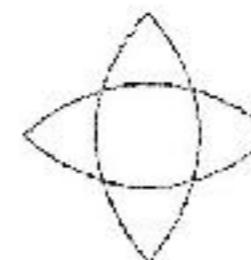
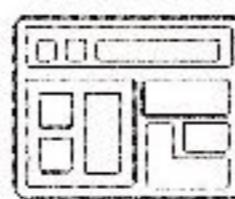
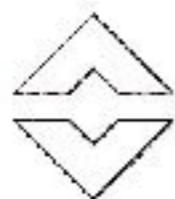
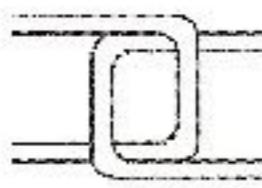
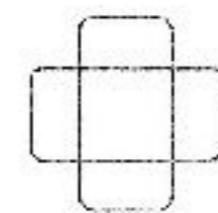
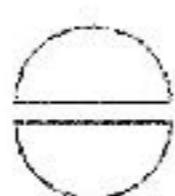
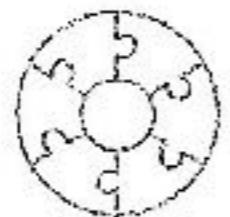
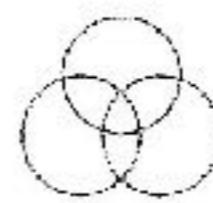
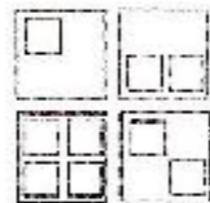
- Verticalized grid
- Flat
- Depth dimension
- End-of-dimension
- Margins



# Cluster Diagrams

## Cluster

Linked      Closure      Enclosed      Overlapping

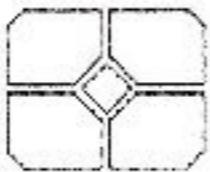
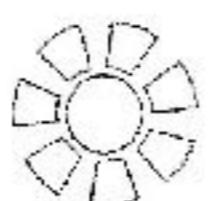
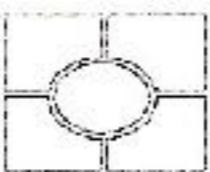
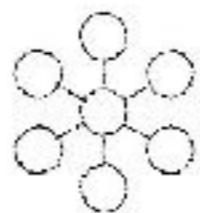


Source: slide:ology

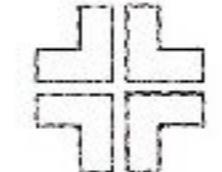
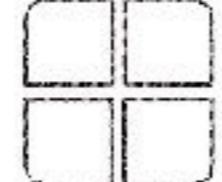
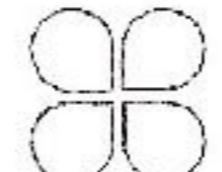
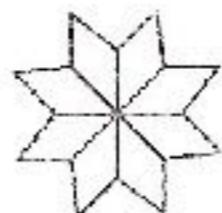
# Radiate Diagrams

## Radiate

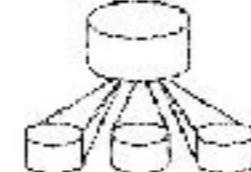
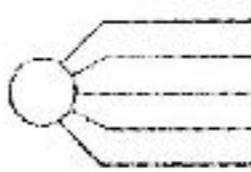
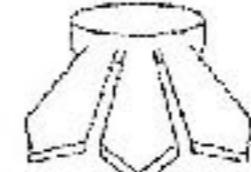
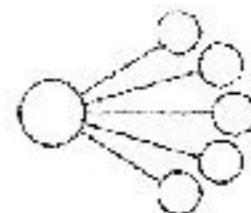
With  
a Core



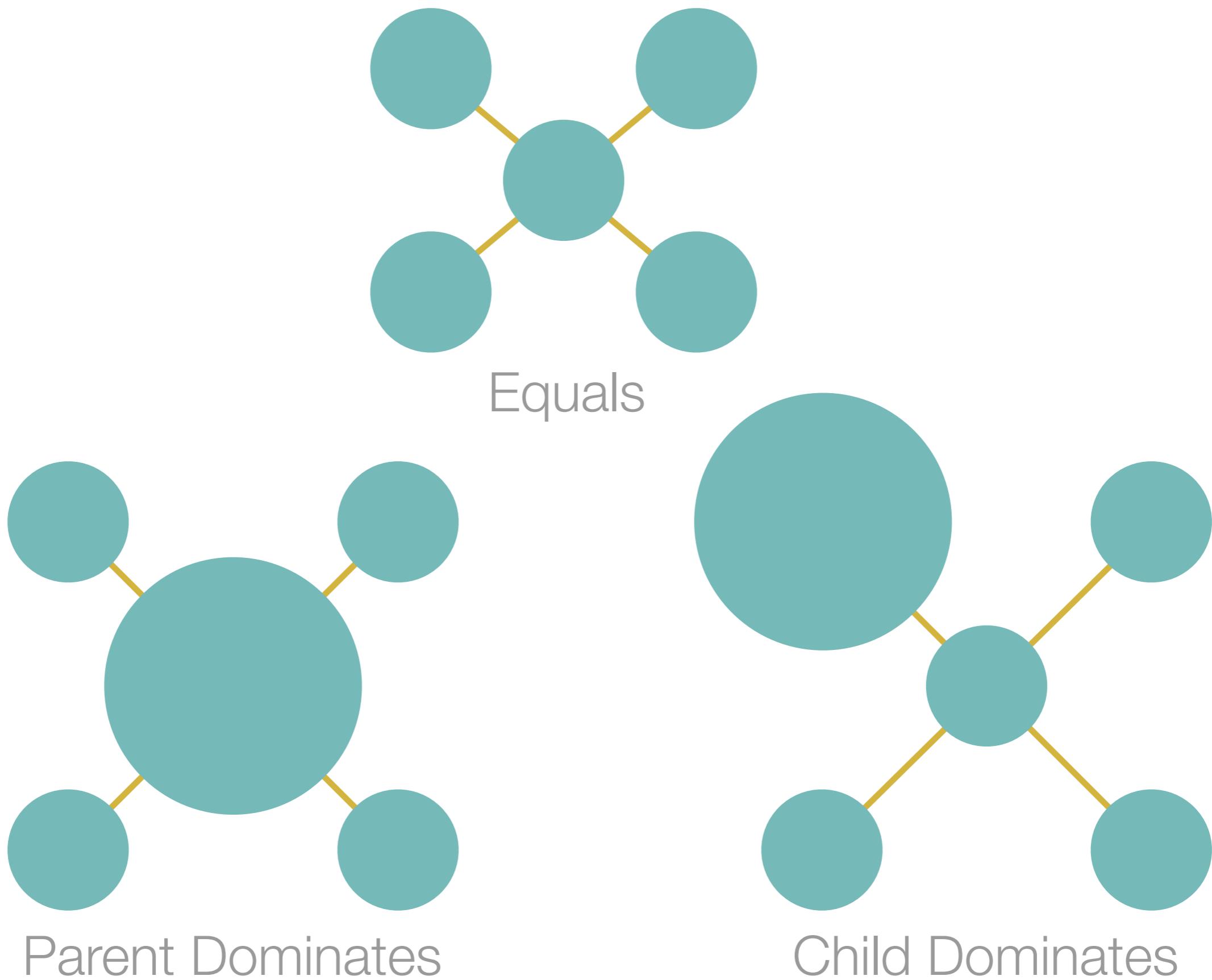
Without  
a Core



From  
a Point



# Change the Story



# Diagramming Tool

## Identify the relationship.

Choose from five categories.

### Flow >

Join

Network

Segment

Stack

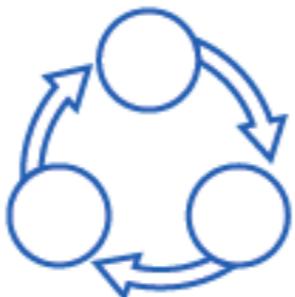
## Represent the relationship.

Select the subcategory that fits best.



Linear

Shapes flow linearly but not necessarily straight



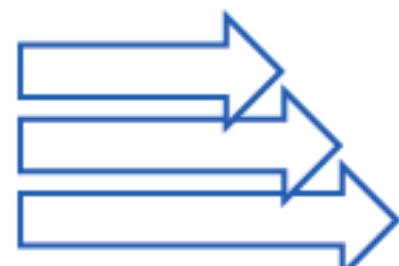
Loop

Shapes flow creating a closed loop



Merge/Divide

Shape separates from or combines with other shapes



Parallel

Shapes flow in a parallel direction where no shape intersects

## Pick a number.

Each node is one piece of data.

View as: **Grid** List

Items per page: 16

1 Node (6)



2 Nodes (278)



3 Nodes (292)



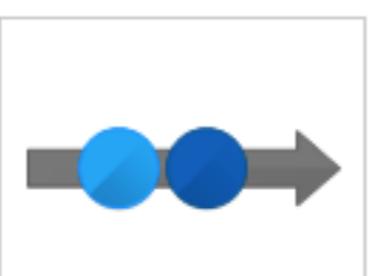
4 Nodes (280)



5 Nodes (274)



6 Nodes (255)



7 Nodes (0)



8 Nodes (2)



# **Words & Relationships**

# Word Cloud

# Word Cloud

## Visualizations : Obama's Speech to Congress, 022409 Tag Cloud of Two Words

Creator: VictoriaLHerring

Tags: speech obama

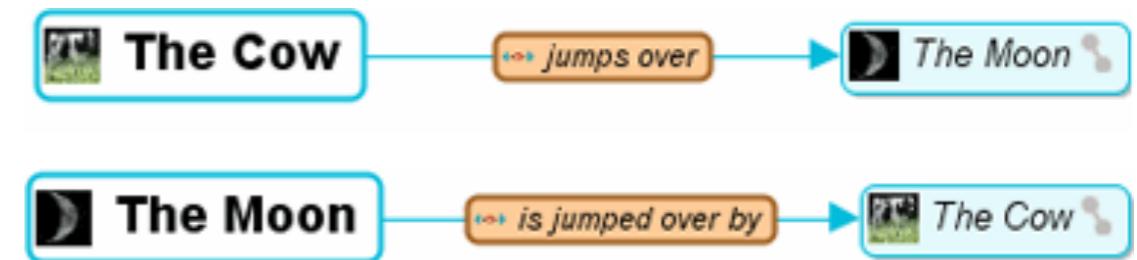
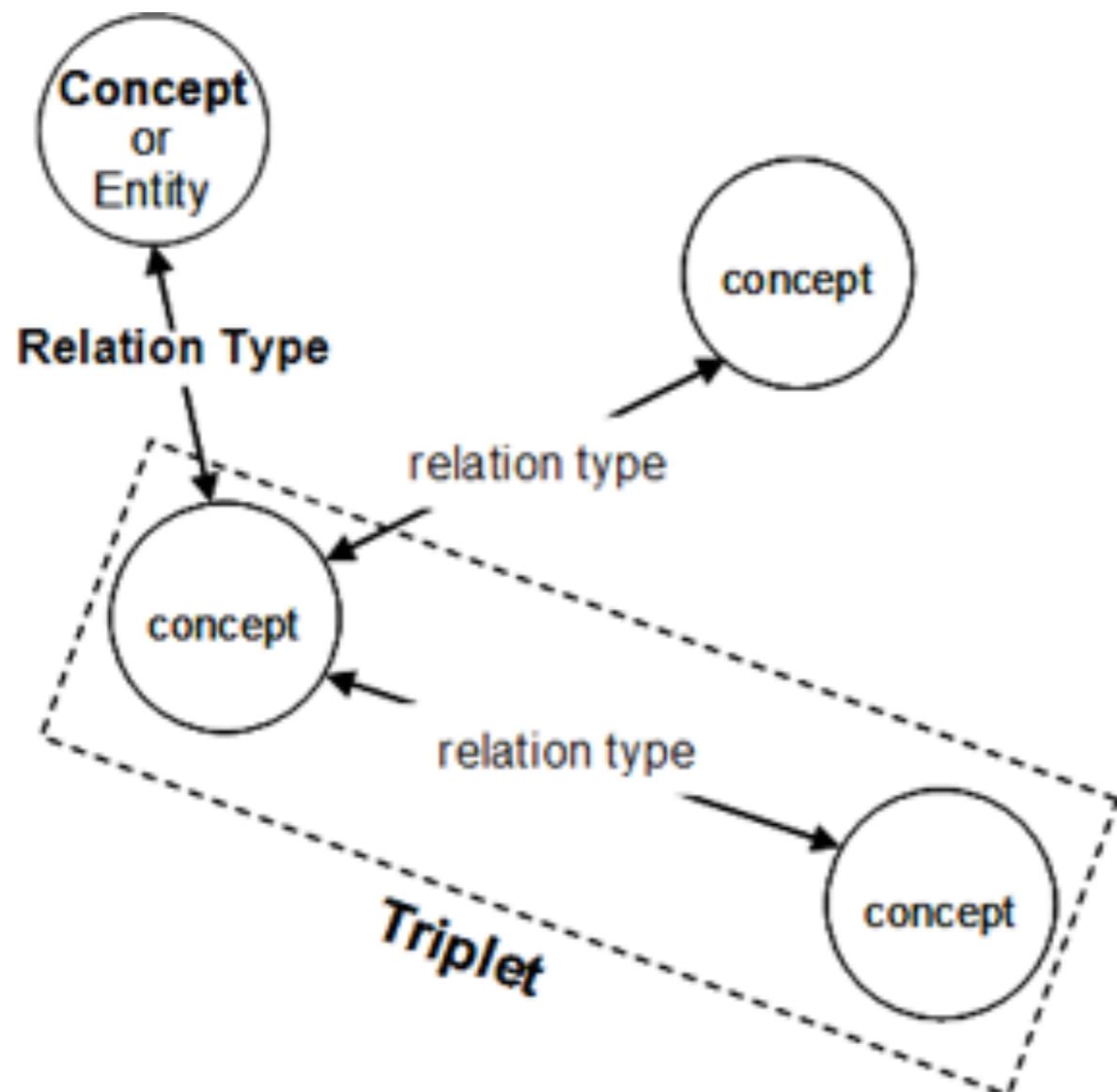
1 word  2 word  Compare

Search:

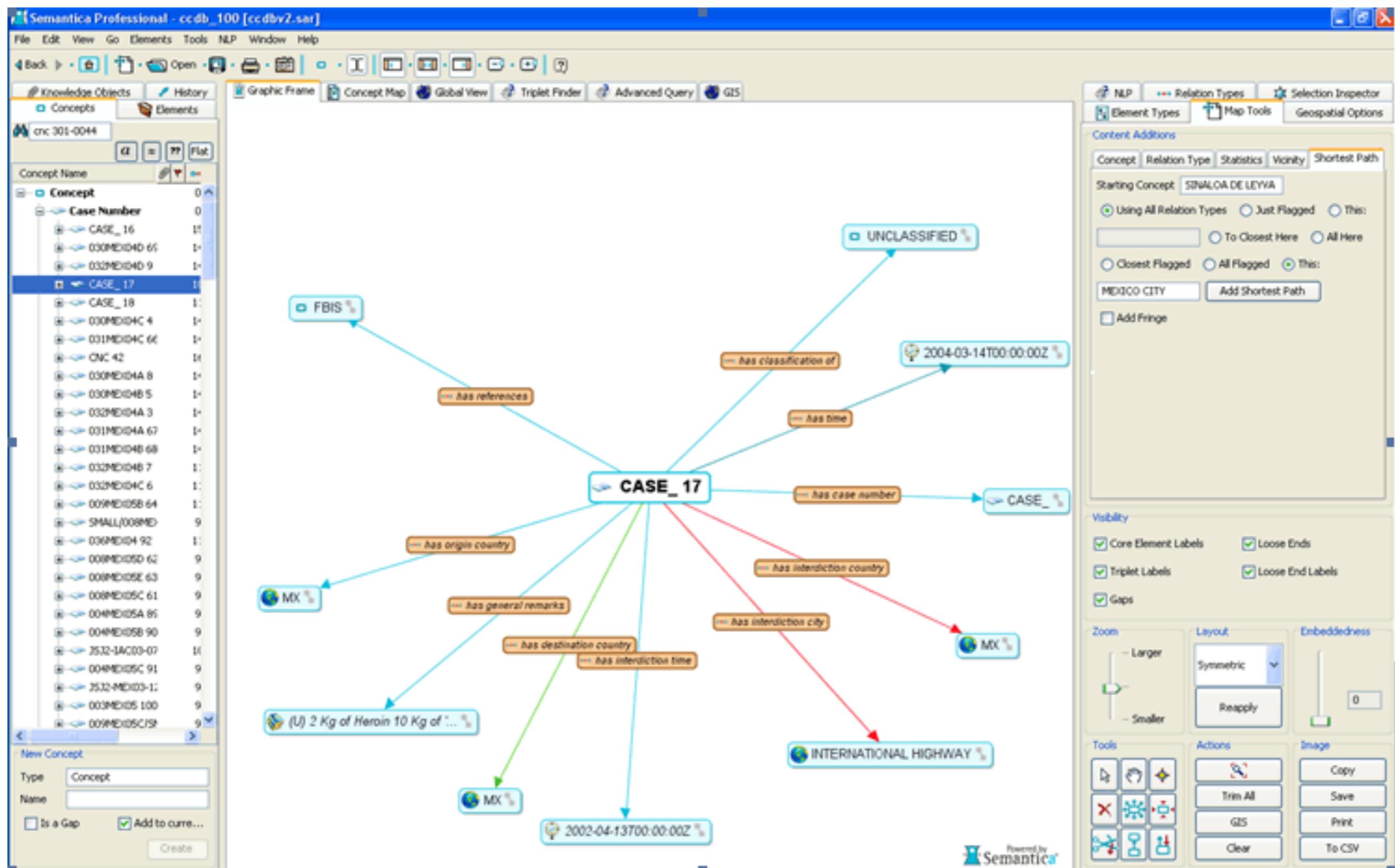
Showing 200 out of 1204

ability accountable act action address administration afford **america american americans** asked back bad banks begin begins bring budget build business businesses buy called **Care** century challenges chamber children clean college community compete comprehensive concern confidence confront congress cost costs **country** created credit **crisis** cut day days debt decade decisions **deficit** democrats depends difficult dollar dollars easy **economic economy education** effort end **energy** ensure entrepreneurs fact families family federal finally financial force forward foundation **future** global goal govern government great half **health** helping high higher history hold home homes hope housing inherited insurance invest investment iraq issue job **jobs** largest lay layoffs lead lending letter life loans long long-term longer lost made major **make** makes market medicare meet men million moment **money nation** national **new** opportunity part passed pay **people** place plan power president price private problem programs promise prosperity provide pushed **put** re-start receive recession **recovery reform** renewable republicans resources **responsibility** restore return **save school schools** sense serve simply single small solar solve speak **spend** spirit stand states step street struggling students support system **tax** taxpayer teacher technology **time times** today **tonight** training understand **united values** watching ways women words **work** workers working **world**

# Concept Cloud

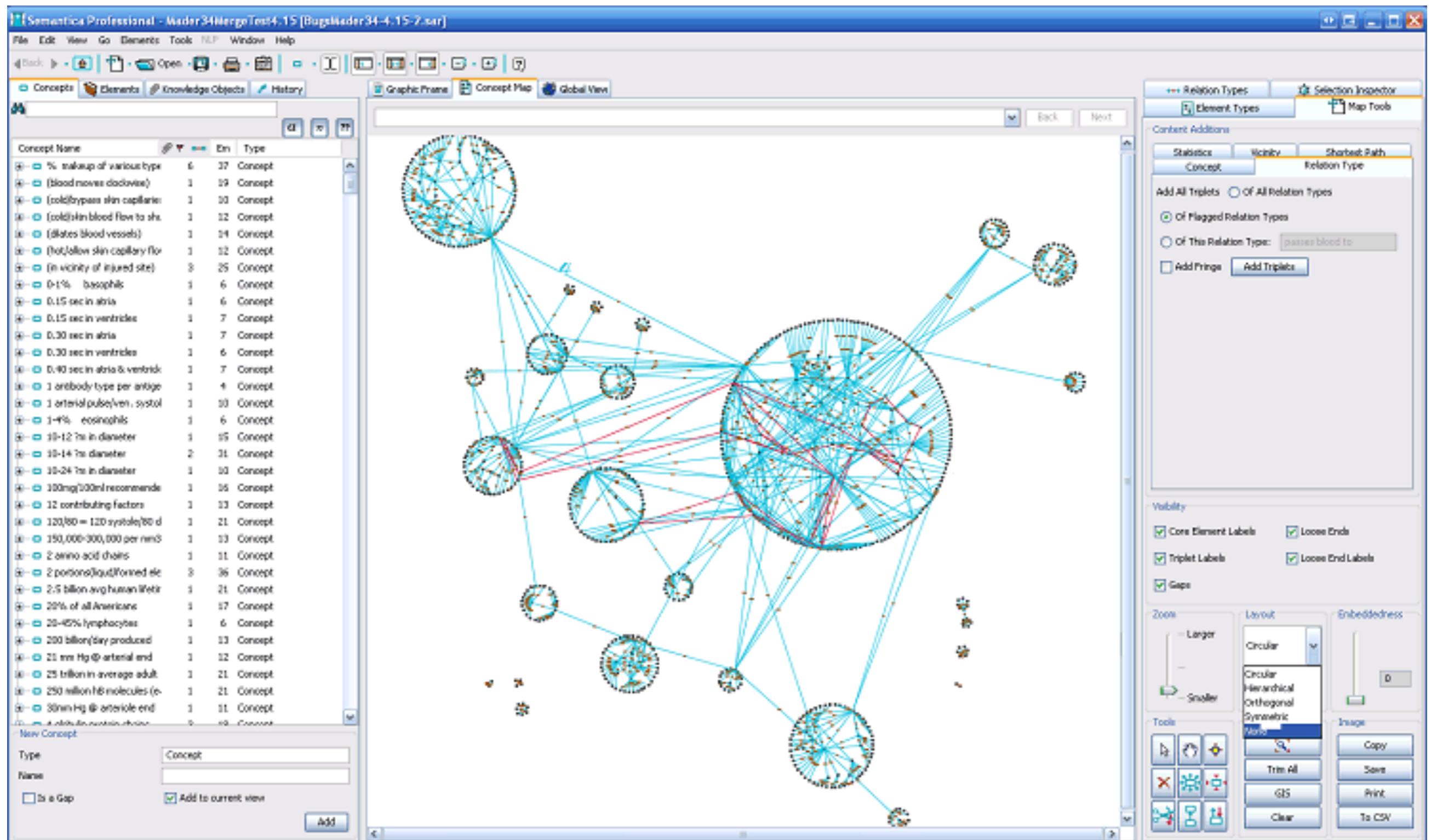


# Concept Cloud



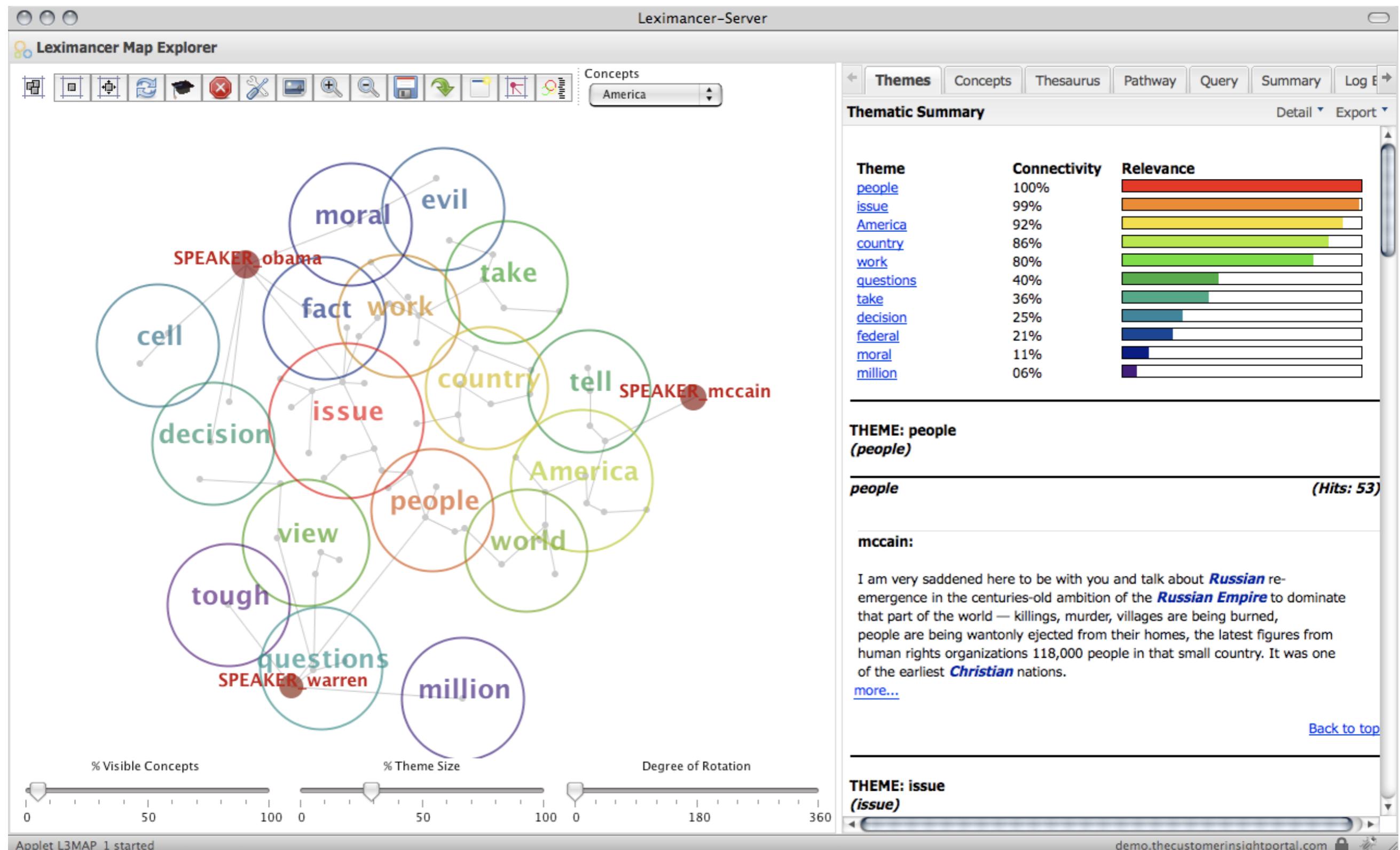
Source: Semantica

# Concept Cloud



Source: Semantica

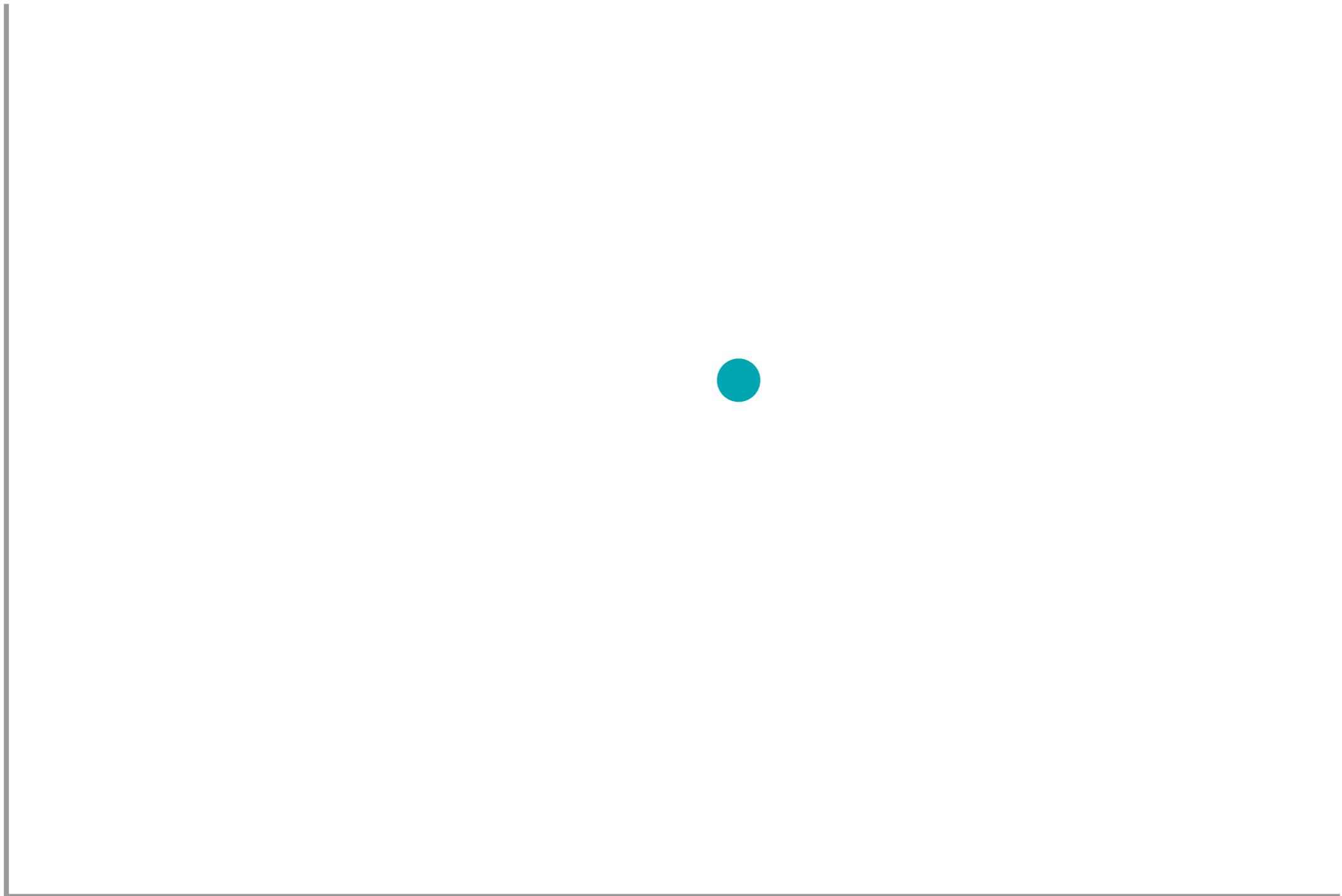
# Concept Cloud



Source: Leximancer

# Encoding Data

# Position



Variables: 1-4

Values: Infinite

Ordered: Yes

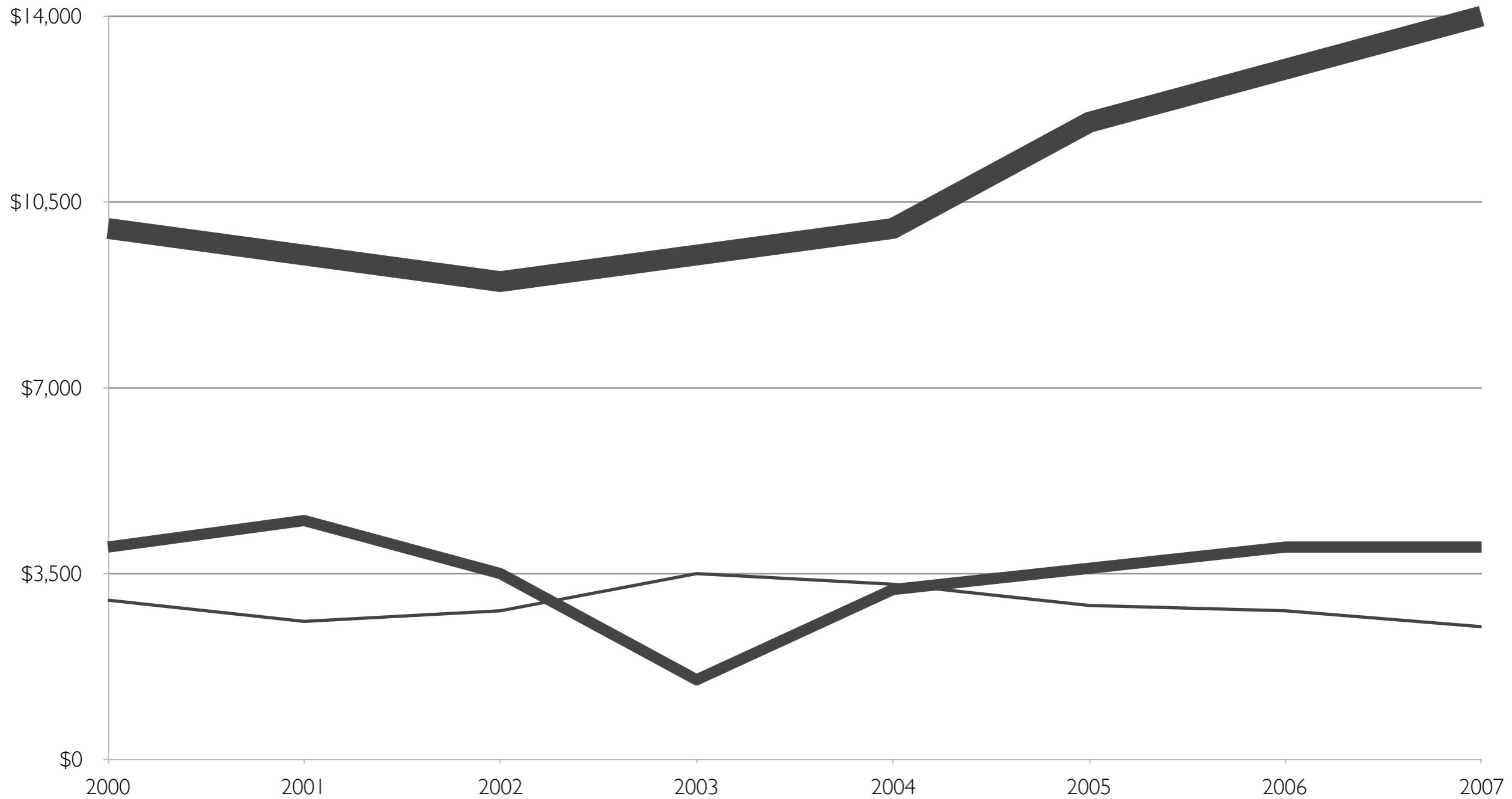
# Length



Values: Infinite

Ordered: Yes

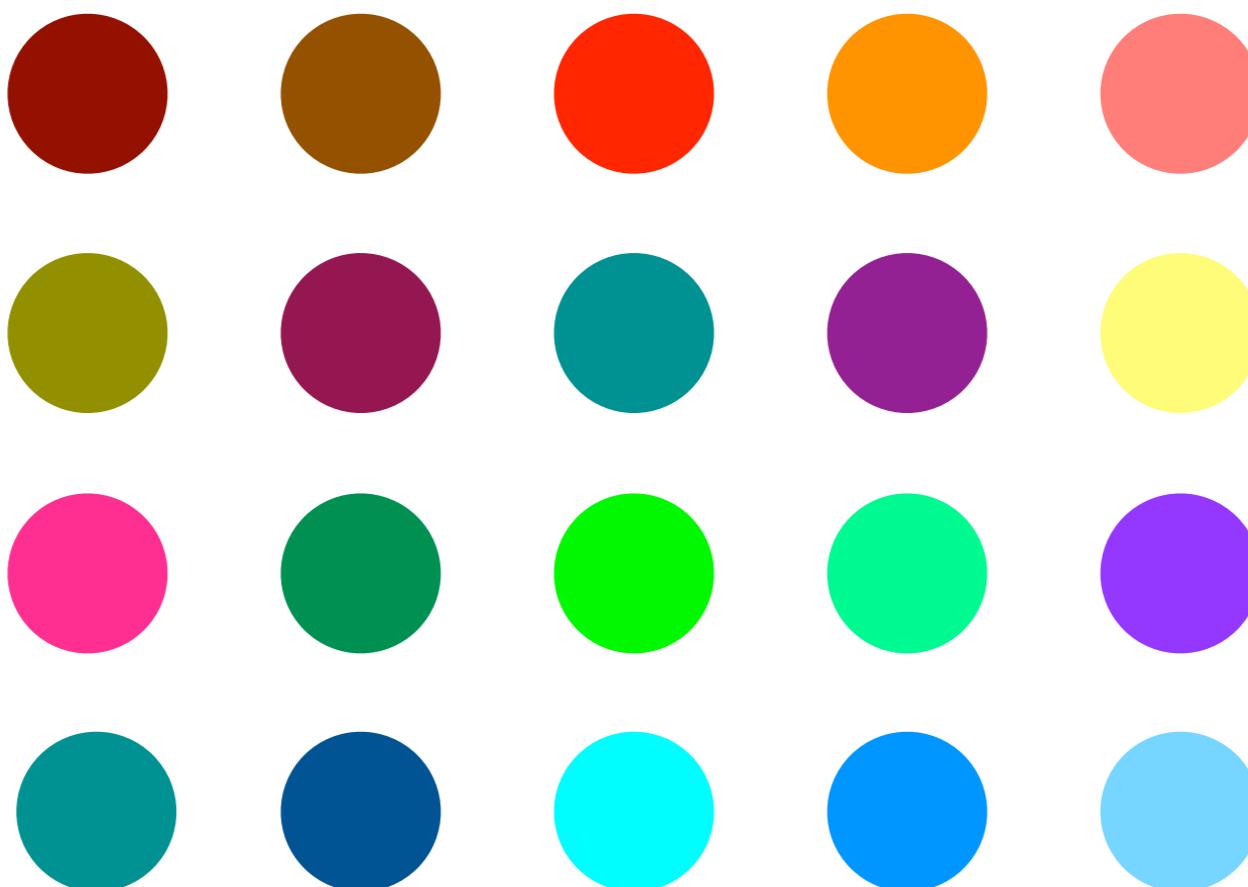
# Width



Values: Practically Limited

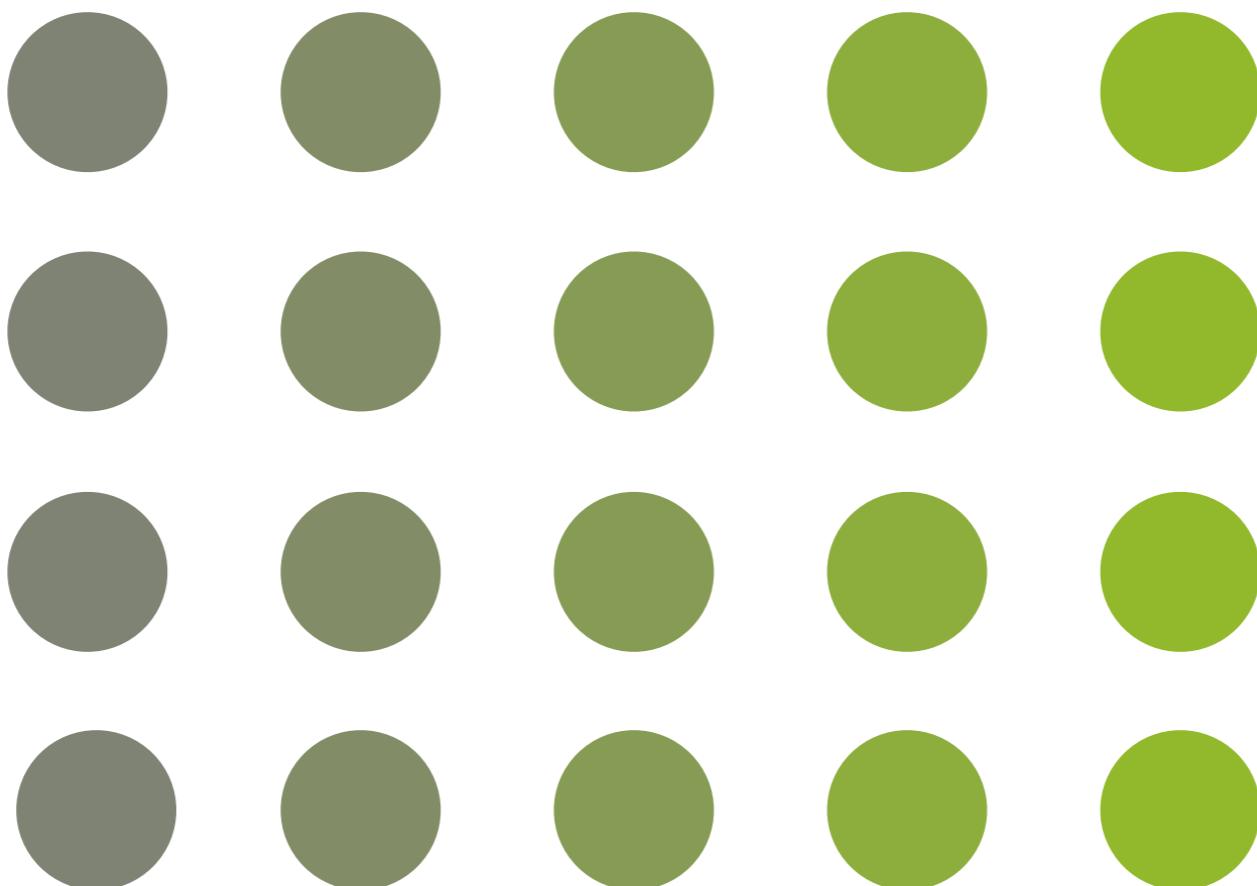
Ordered: Yes

# Hue (Color)



Values: Practically Limited  
Ordered: Not really

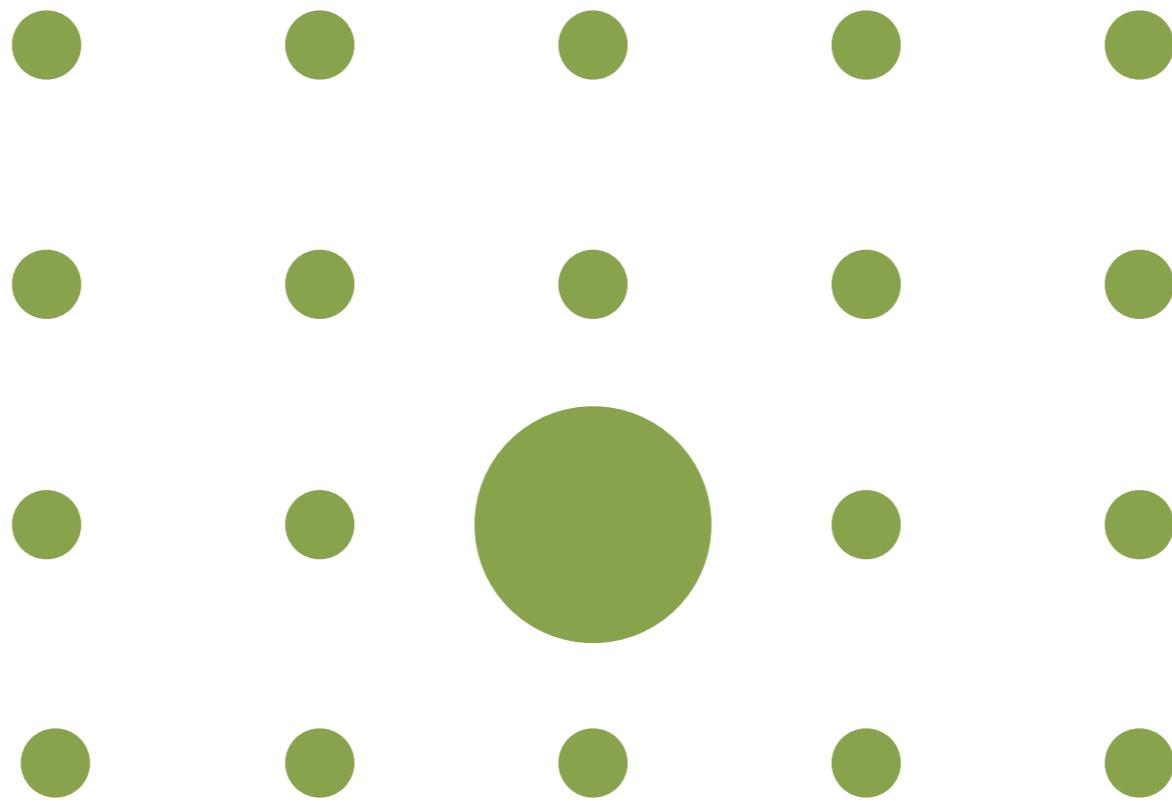
# Saturation/Intensity



Values: Practically Limited

Ordered: Yes

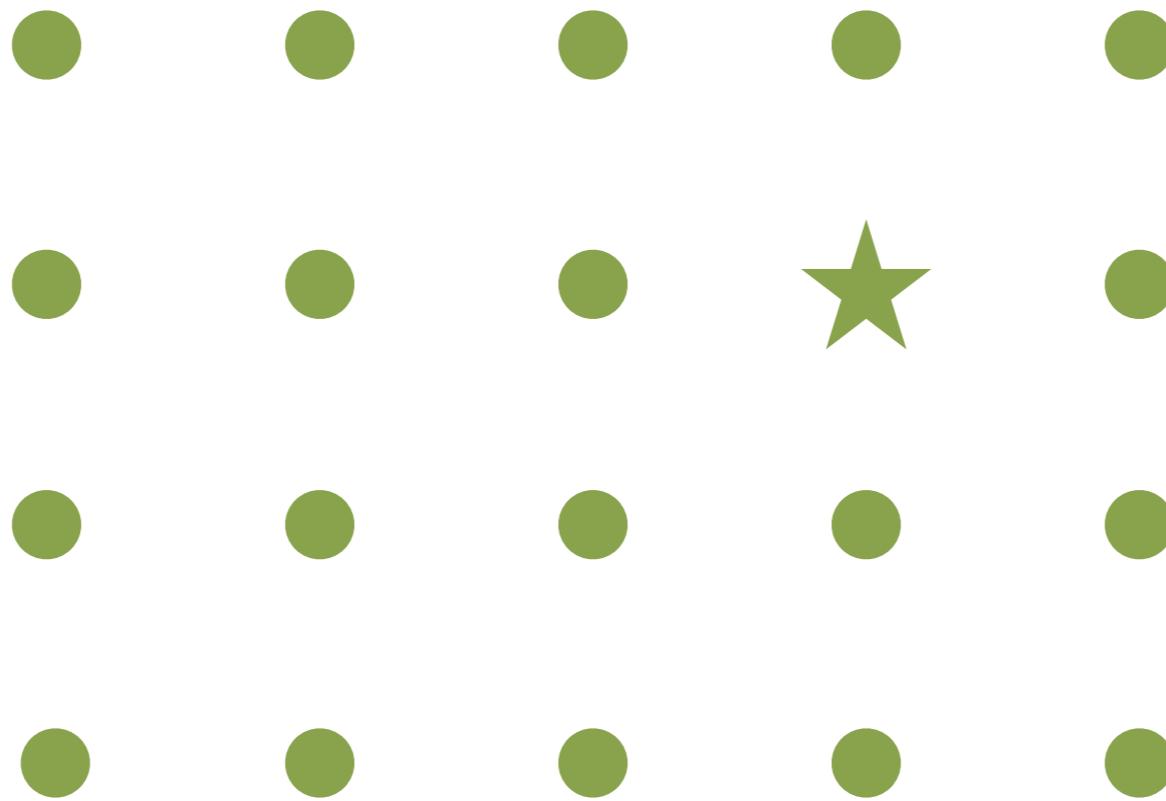
# Size



Values: Practically Limited

Ordered: Yes

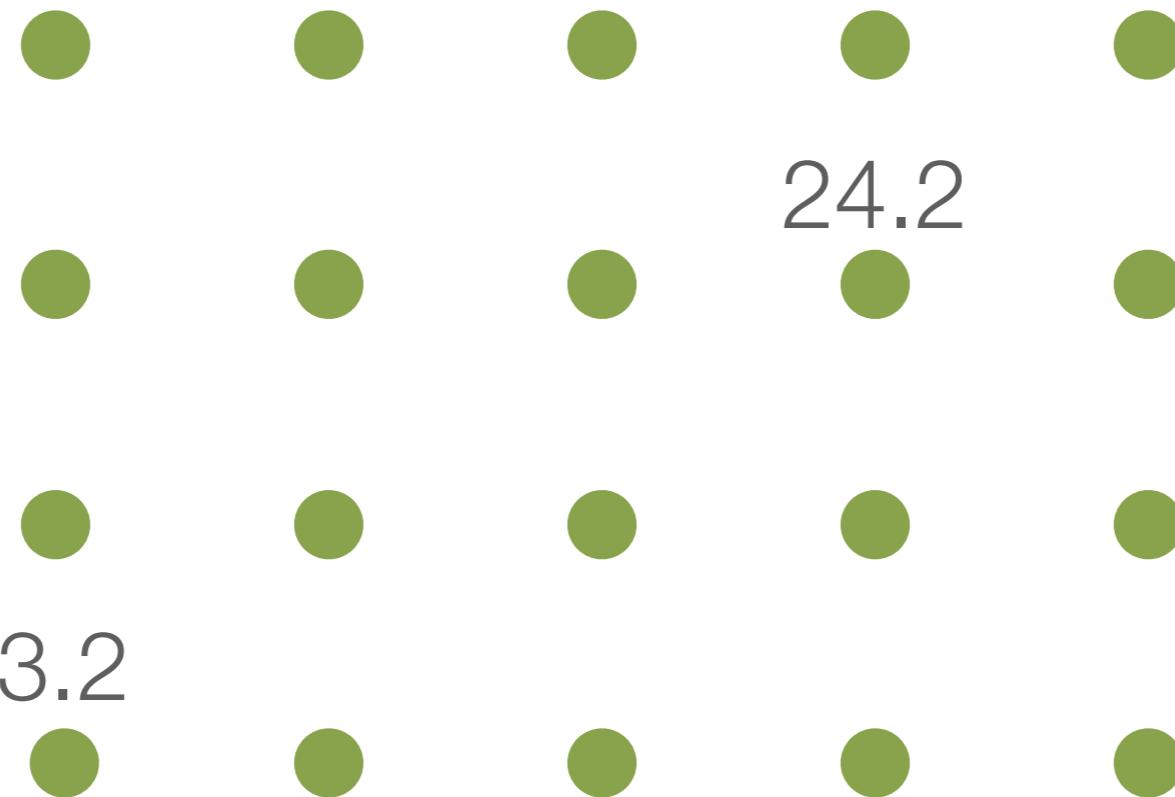
# Shape



Values: Practically Limited

Ordered: No

# Labels



Values: Infinite

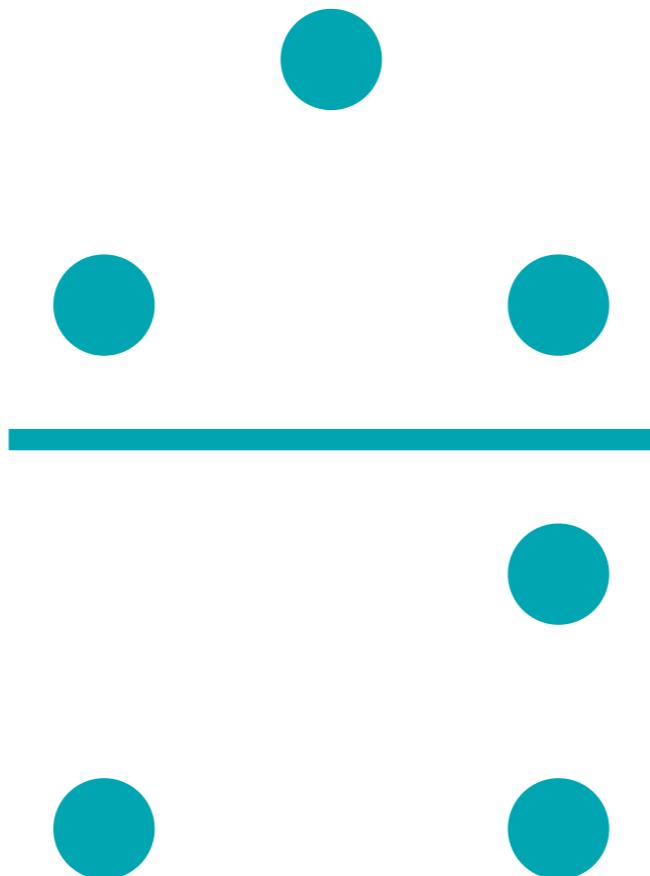
Ordered: Yes

# Orientation



Values: Practically Limited    Ordered: Possibly

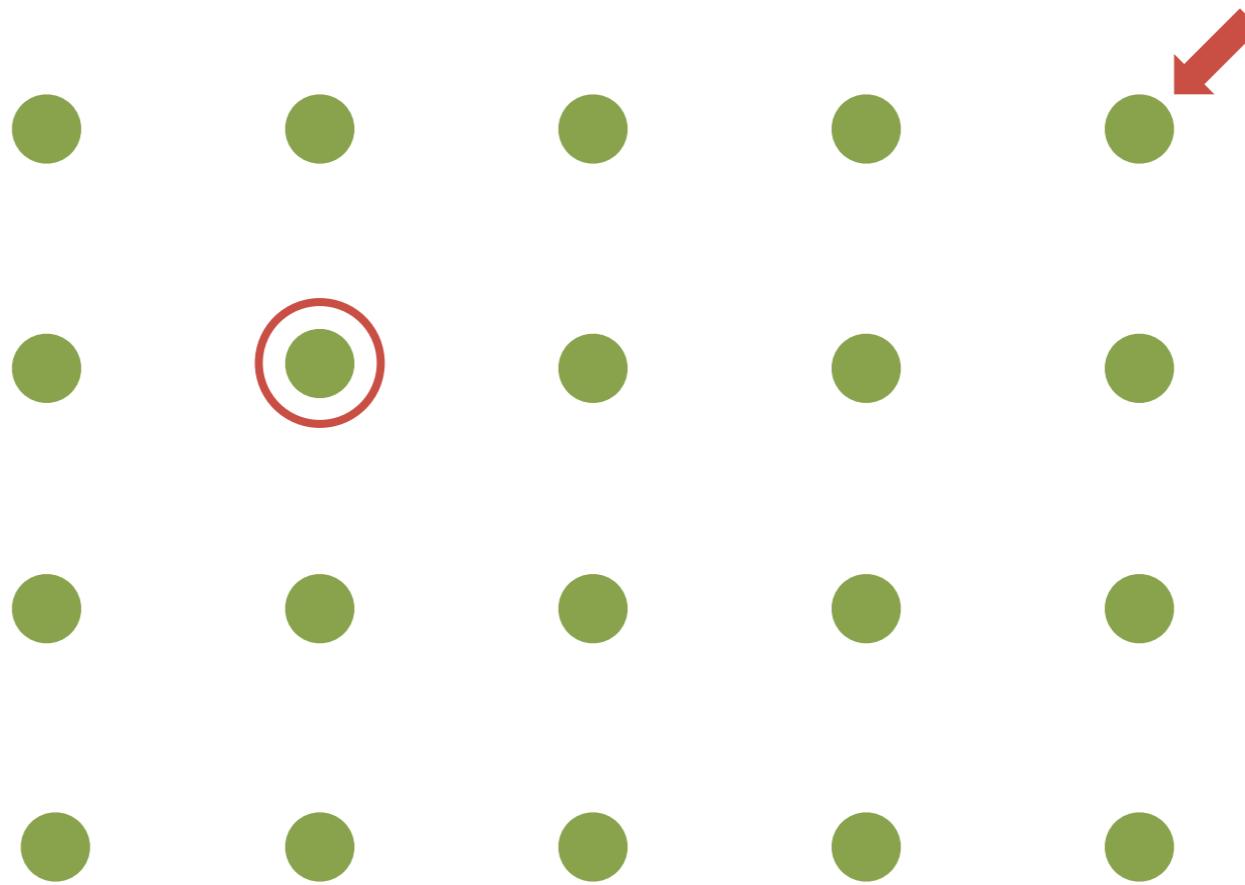
# Grouping



Values: Infinite

Ordered: Possibly

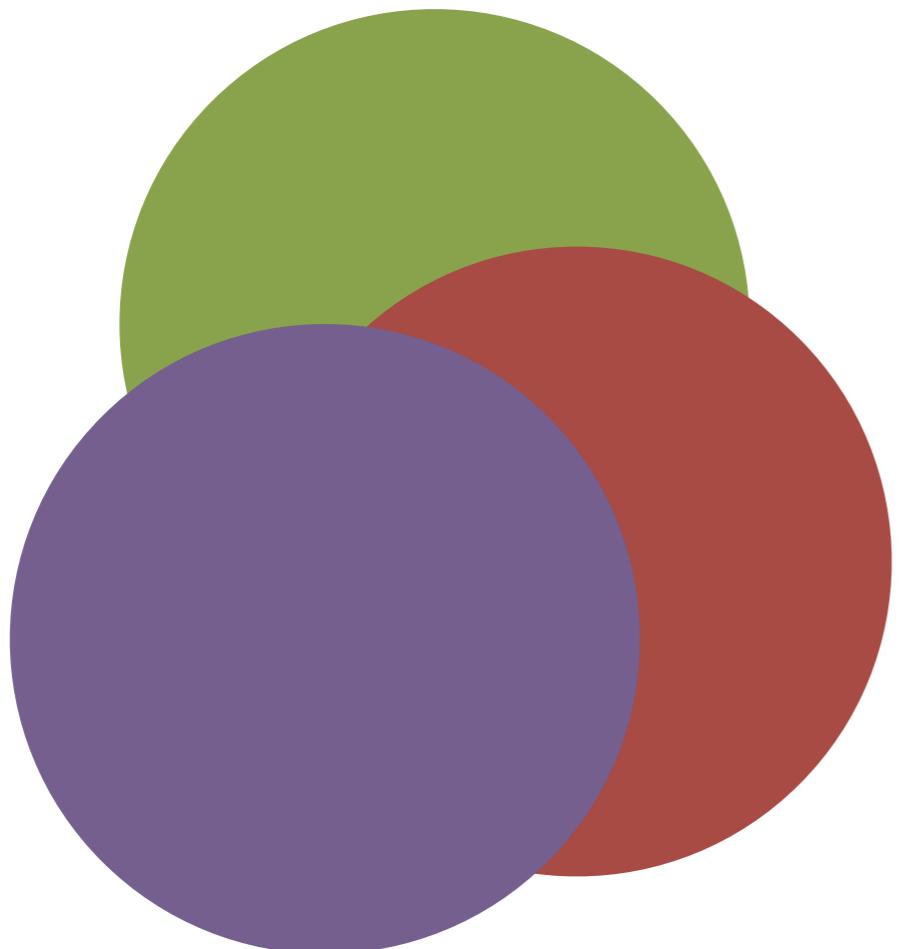
# Highlighting



Values: Very Limited

Ordered: No

# Layers

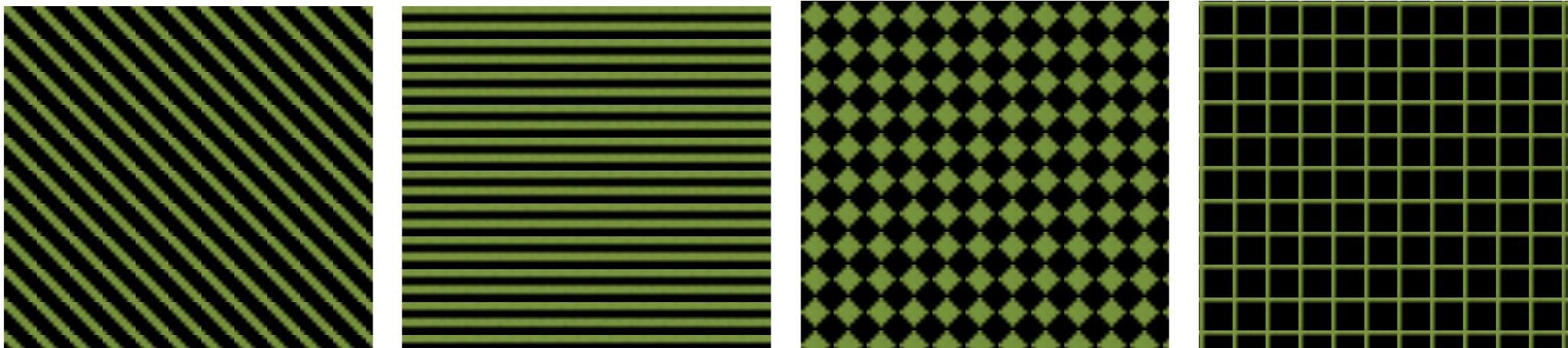
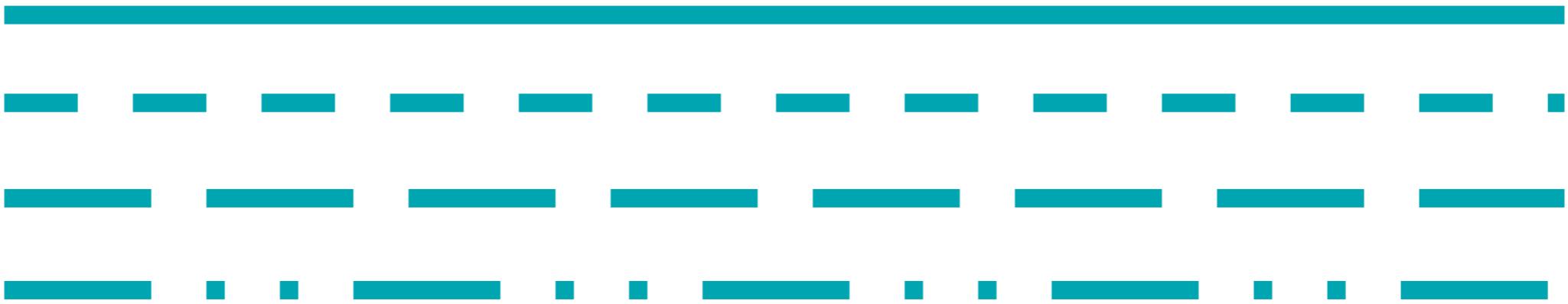


Values: Limited



Ordered: Yes

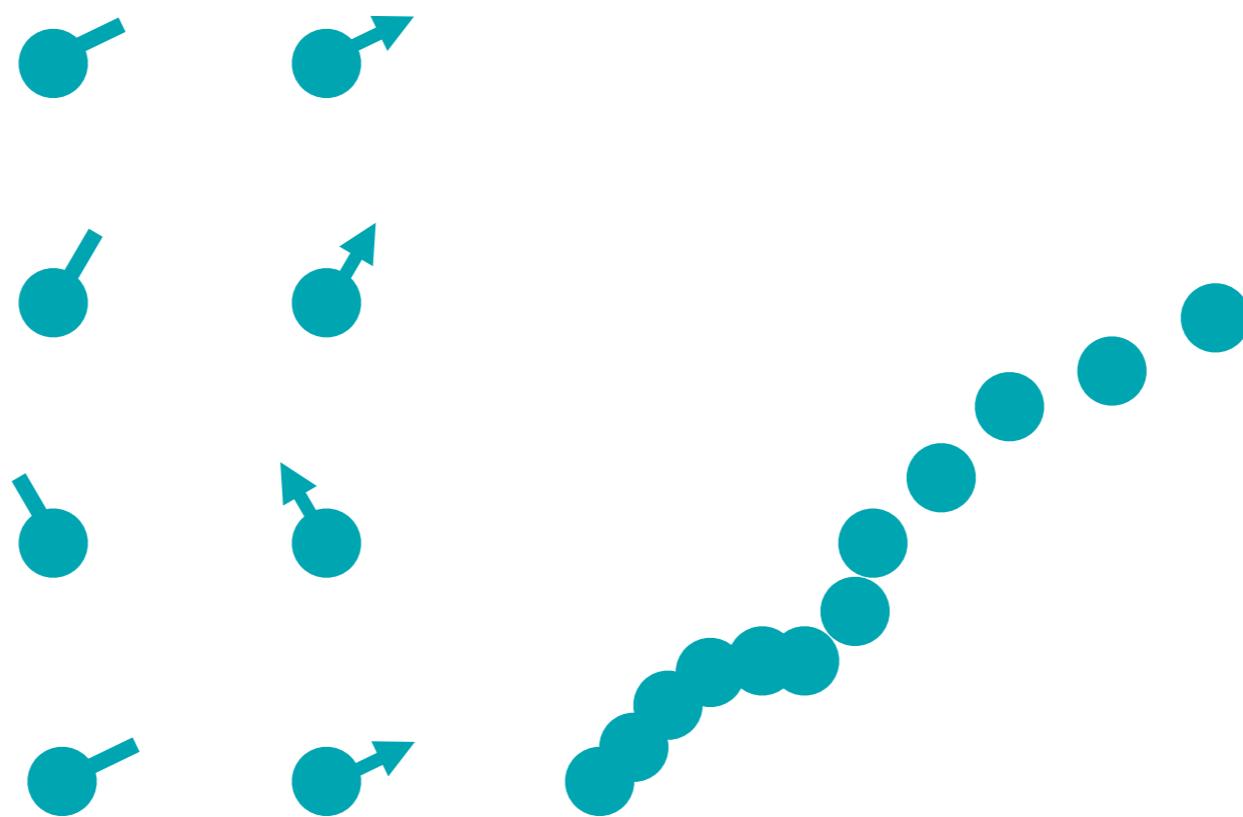
# Patterns



Values: Practically Limited

Ordered: No

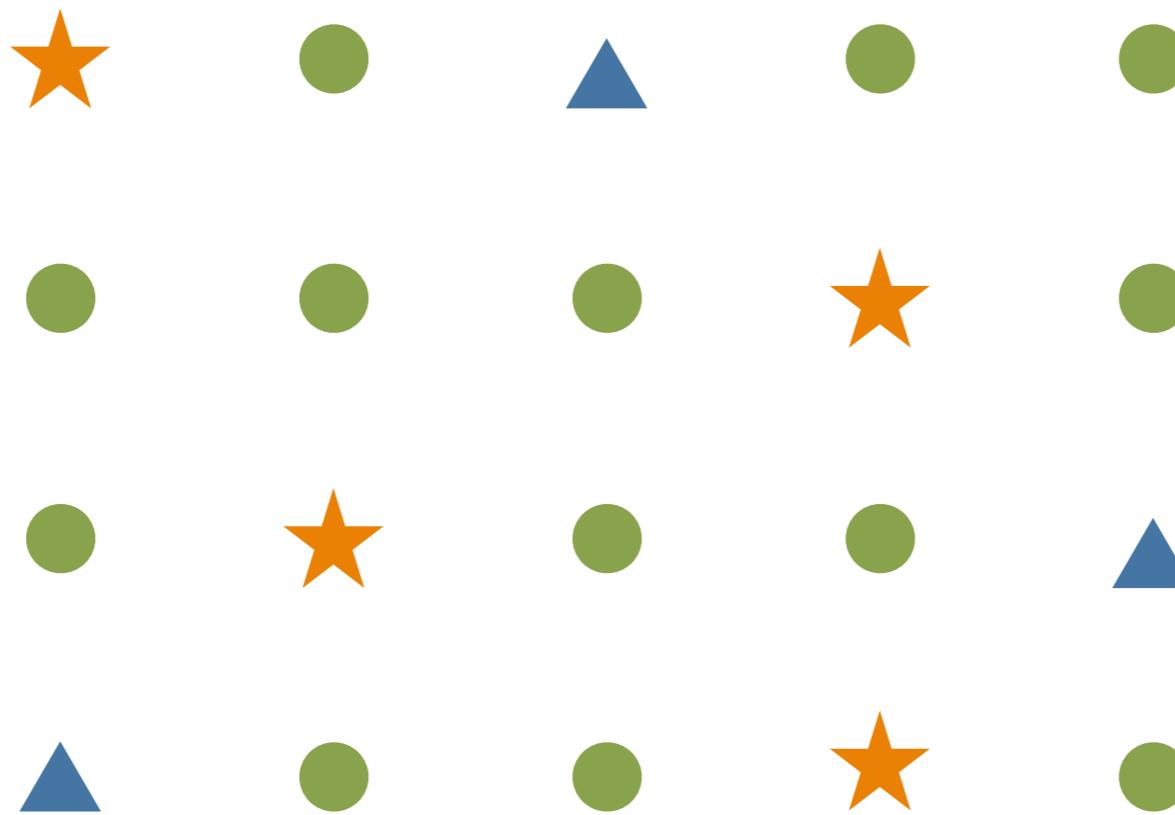
# Motion



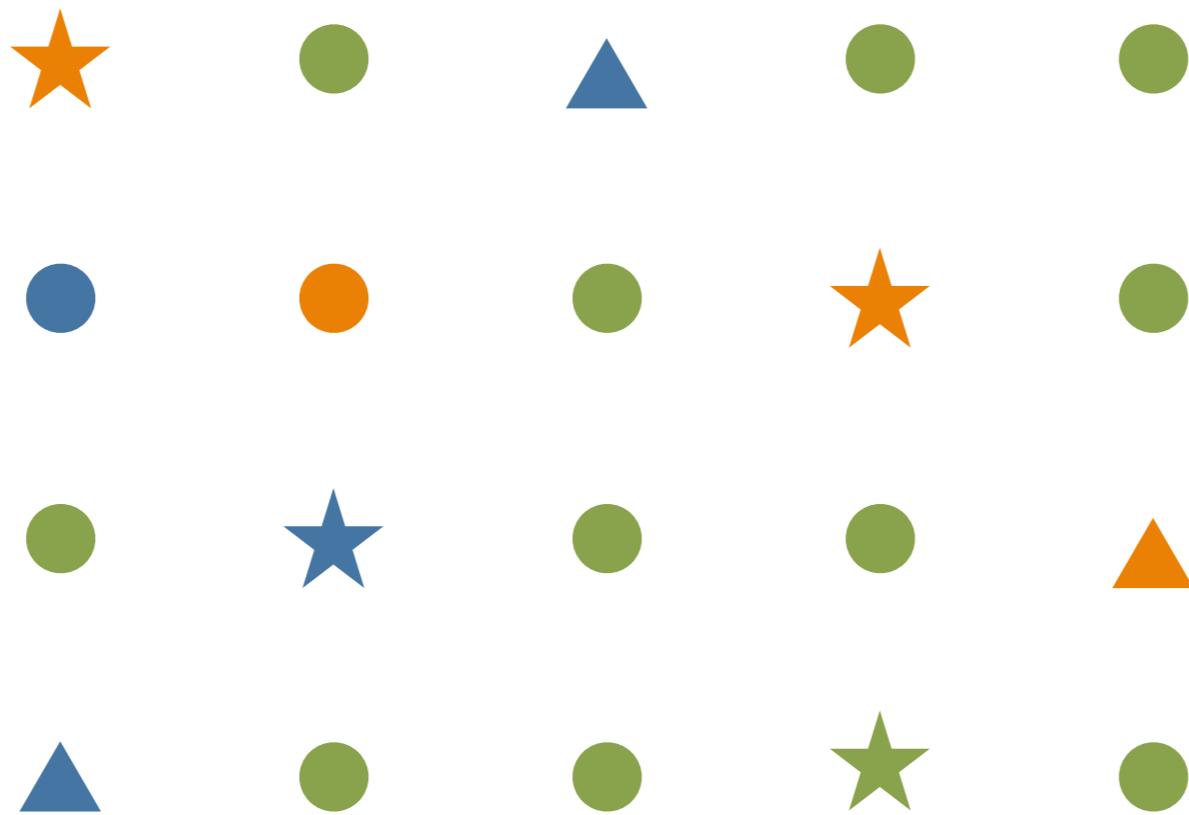
Values: Somewhat Limited

Ordered: Yes

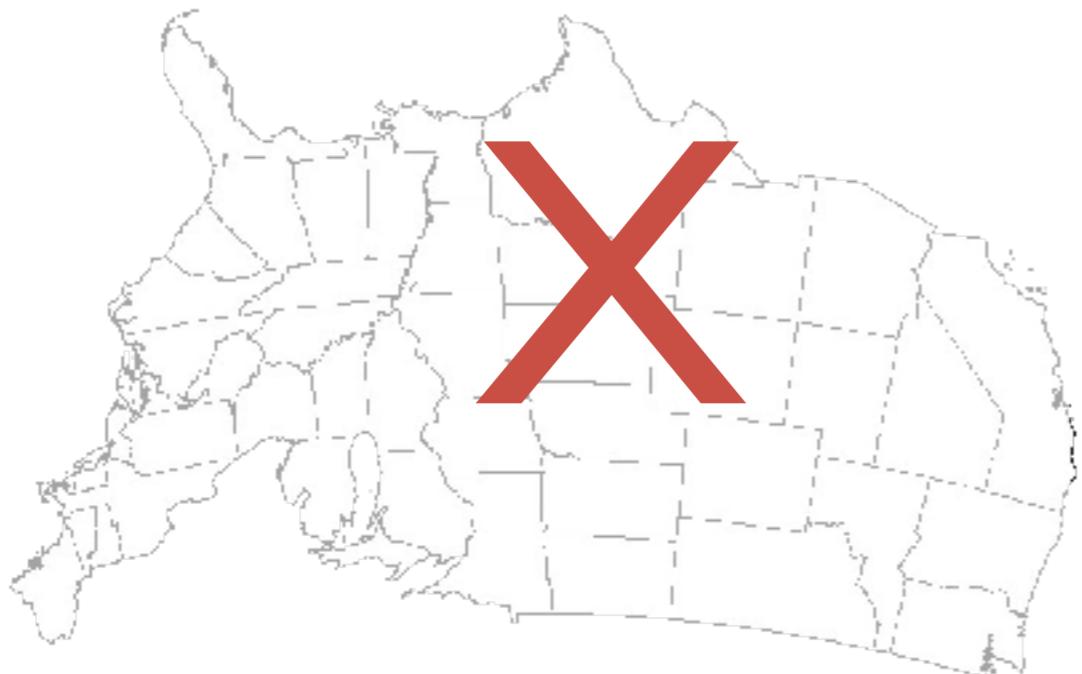
# Redundant Encoding



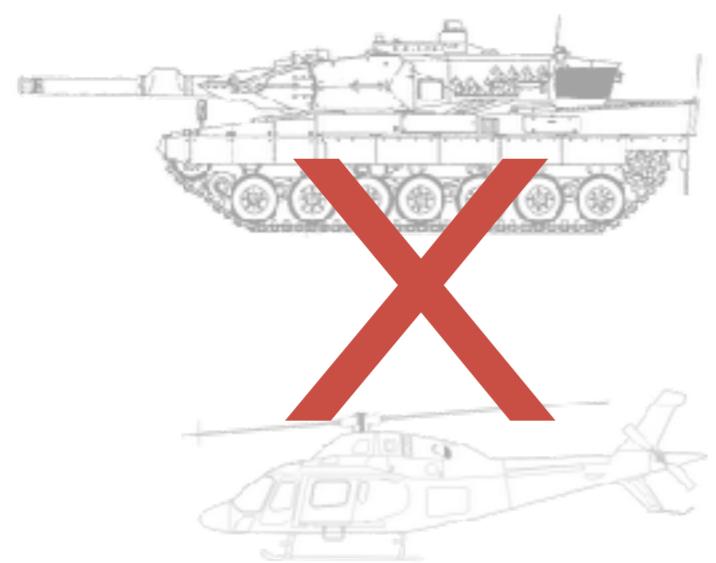
# Consistency



# Natural Encoding



VS

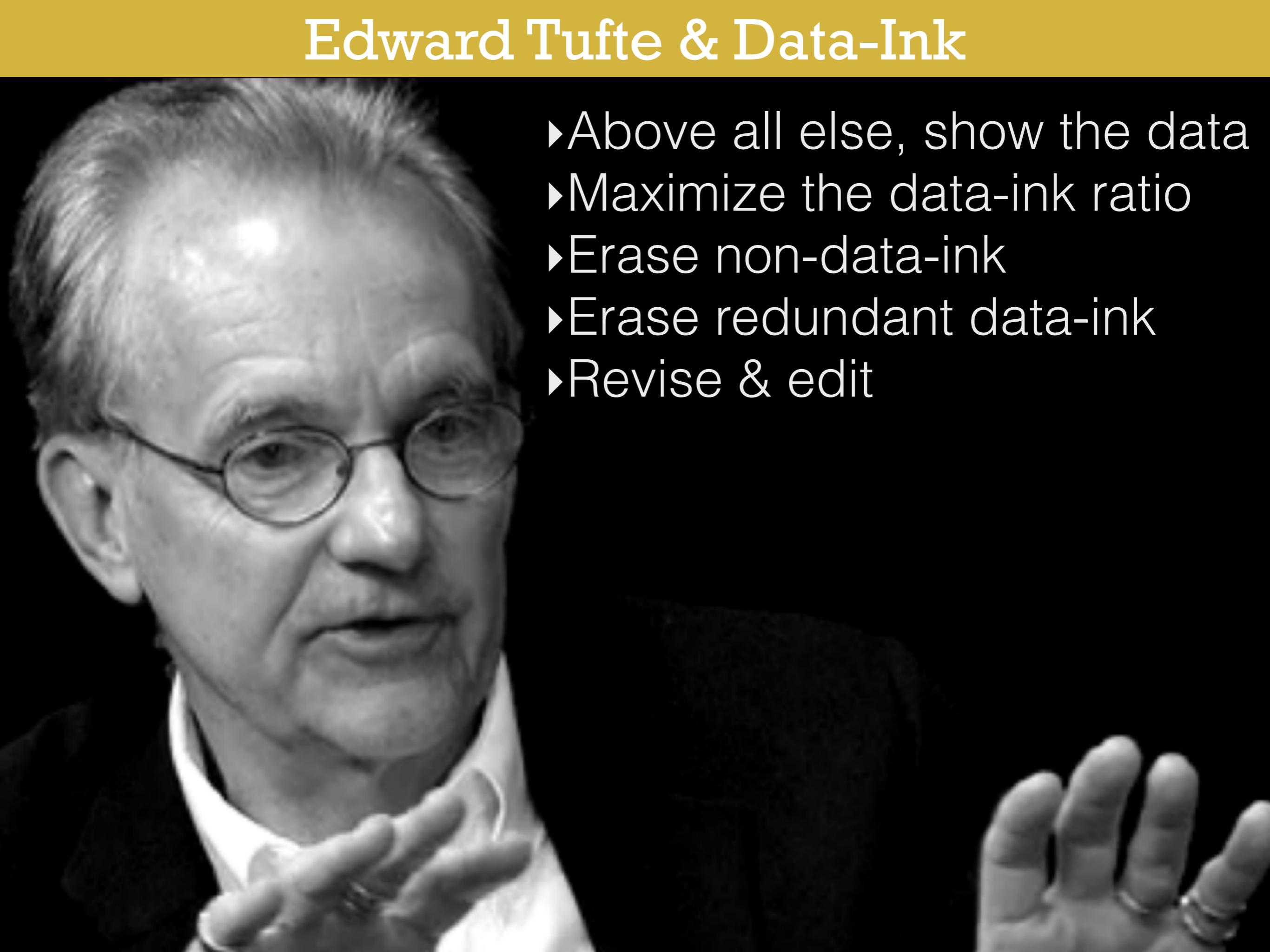


VS

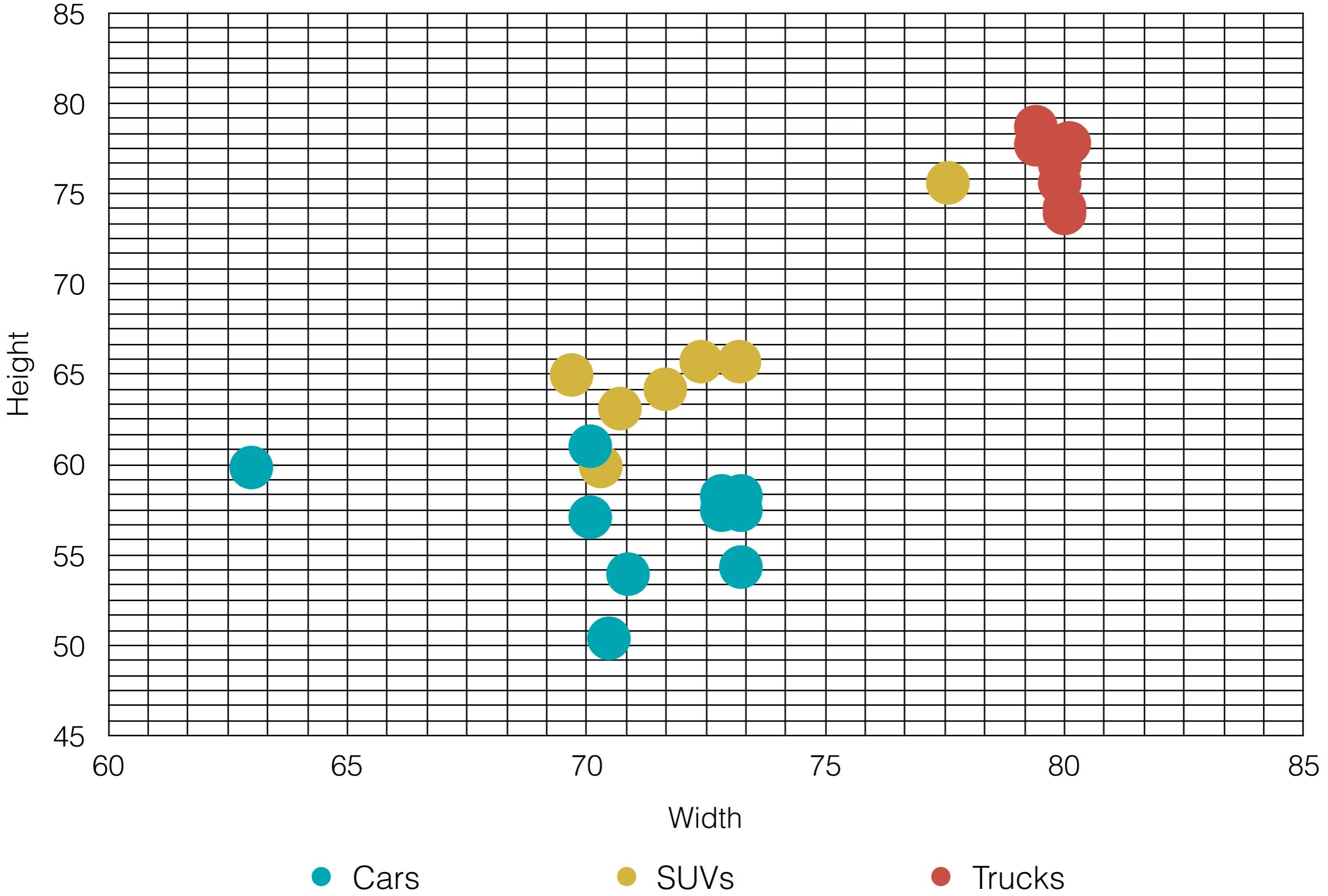


Data-Ink

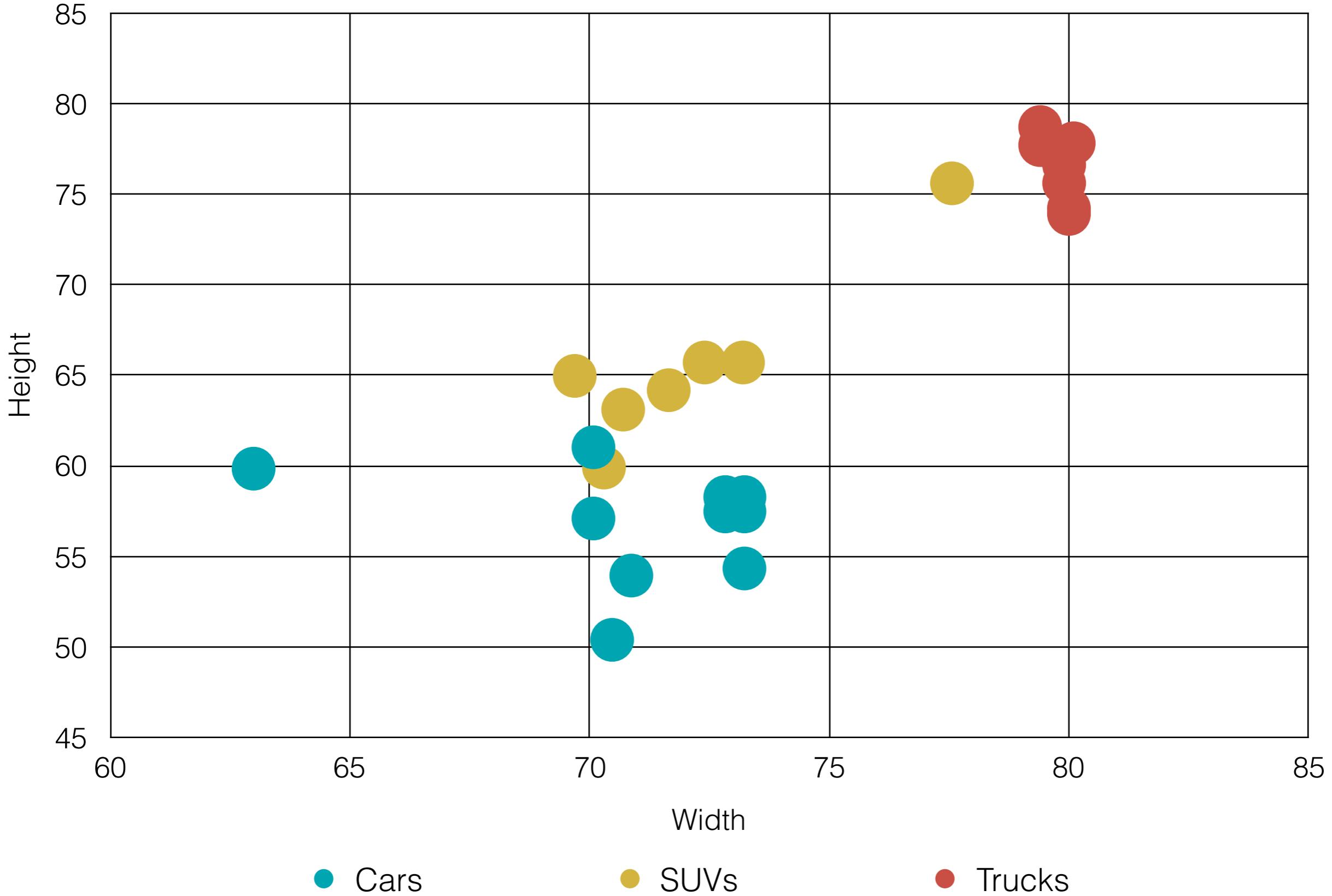
# Edward Tufte & Data-Ink

- 
- A black and white photograph of Edward Tufte, an elderly man with glasses and a suit, gesturing with his hands.
- ▶ Above all else, show the data
  - ▶ Maximize the data-ink ratio
  - ▶ Erase non-data-ink
  - ▶ Erase redundant data-ink
  - ▶ Revise & edit

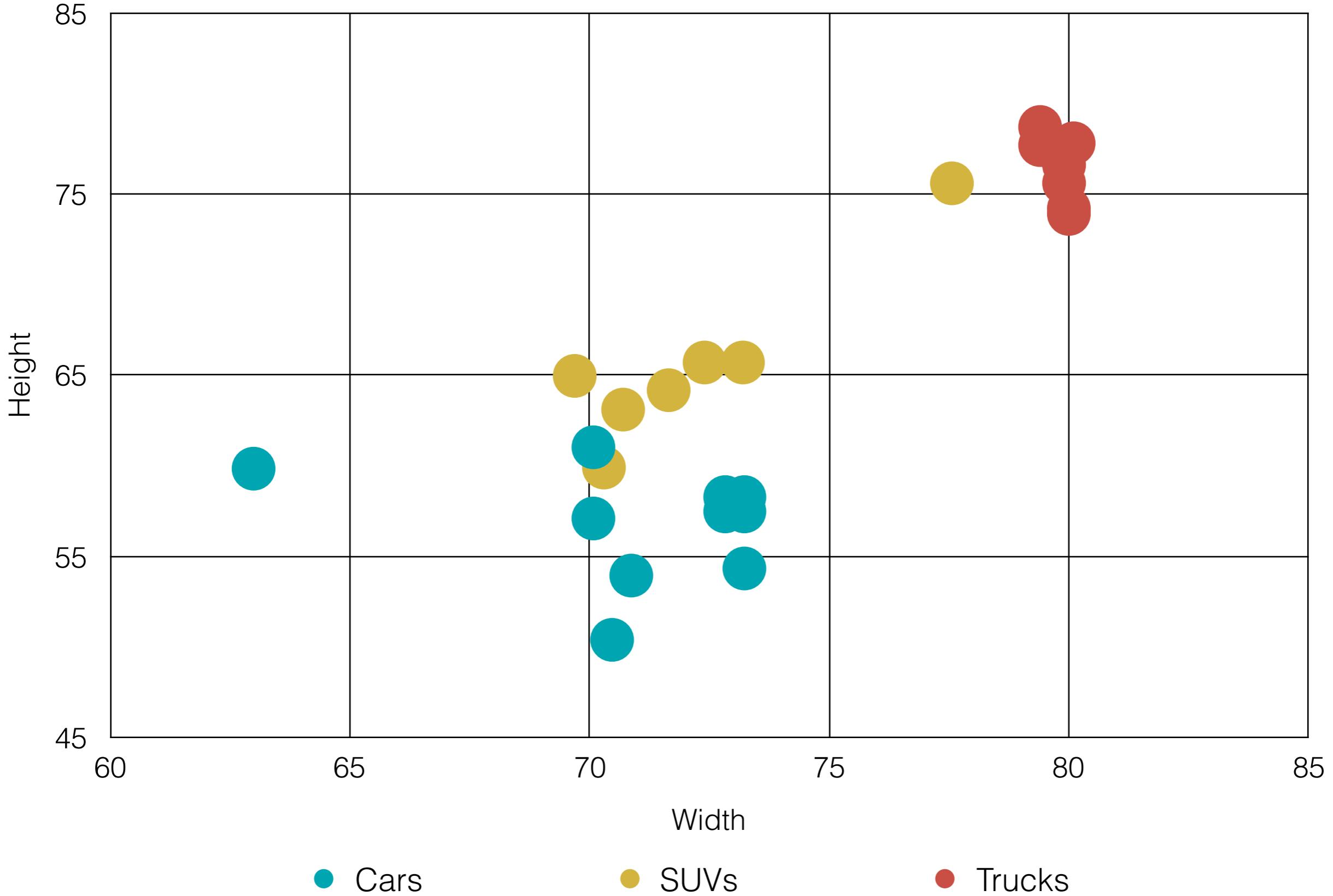
# Vehicle Heights & Widths



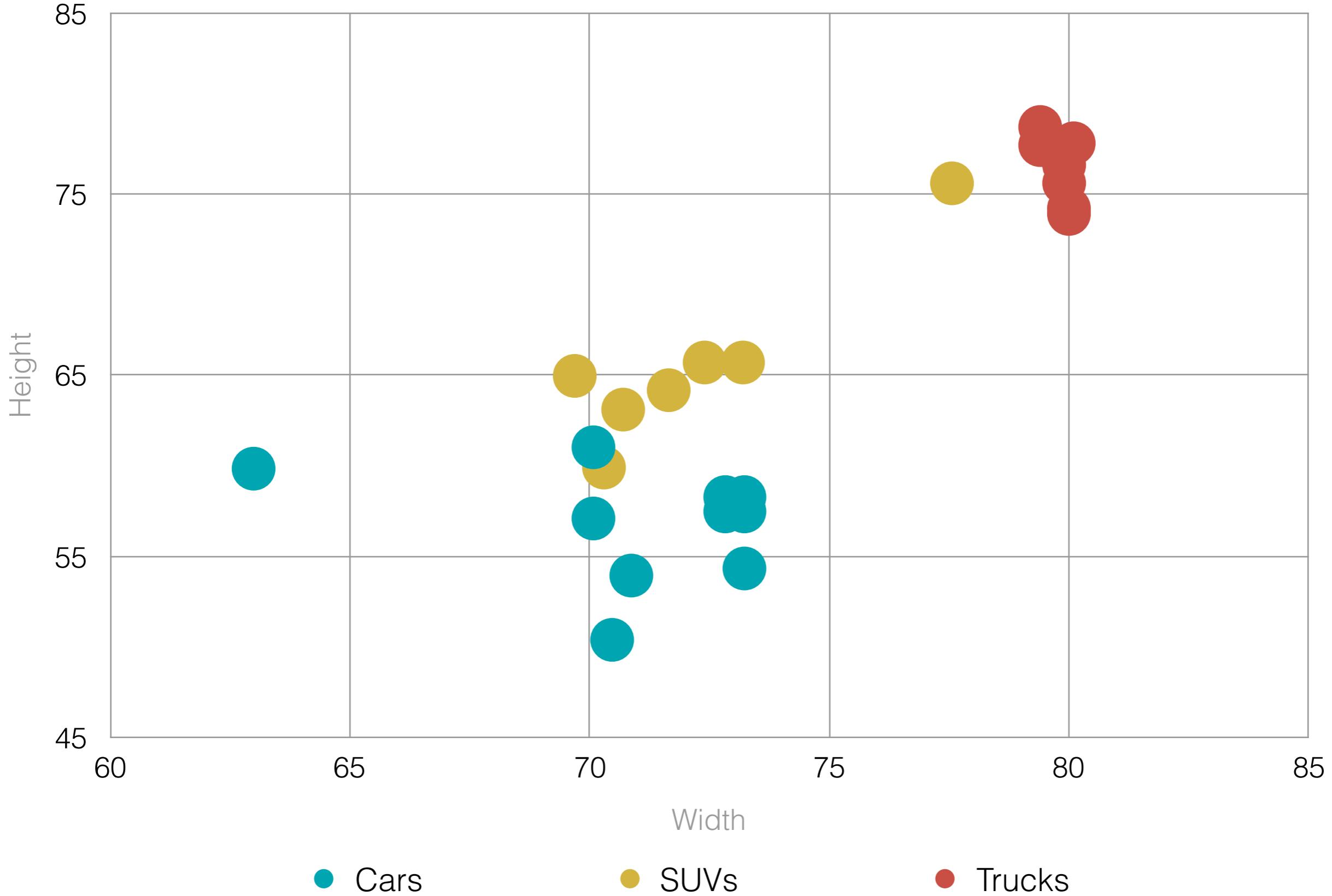
# Vehicle Heights & Widths



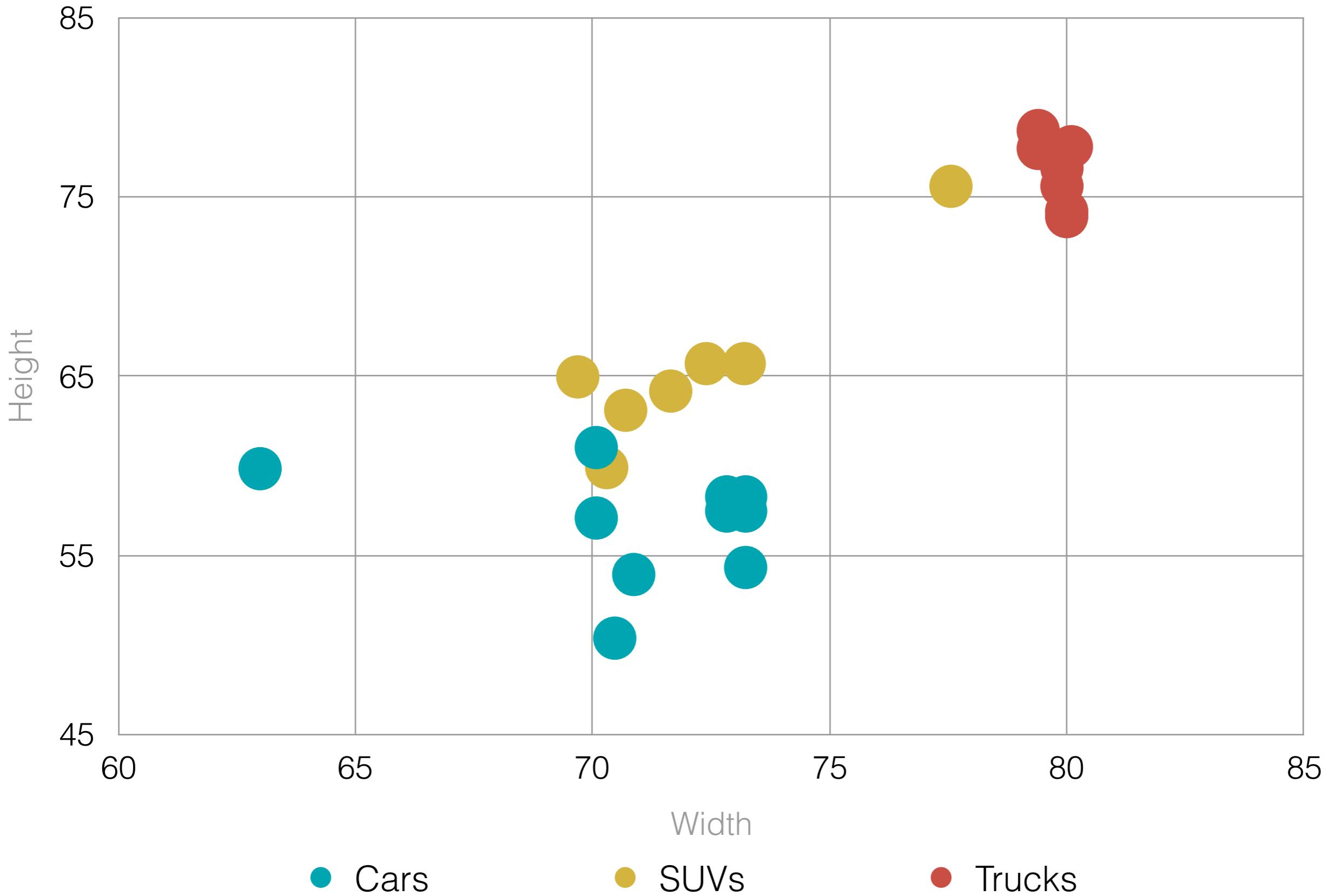
# Vehicle Heights & Widths



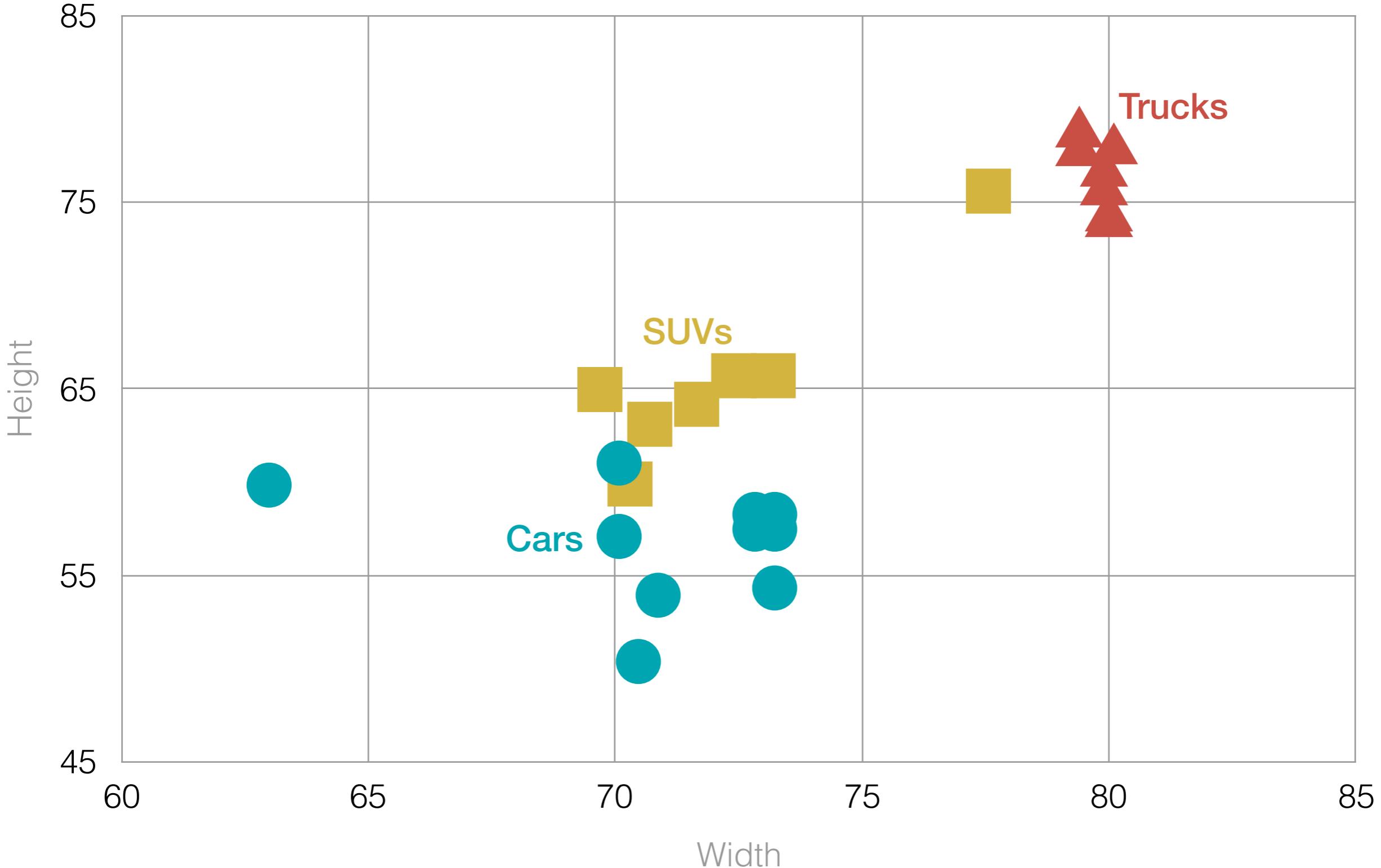
# Vehicle Heights & Widths



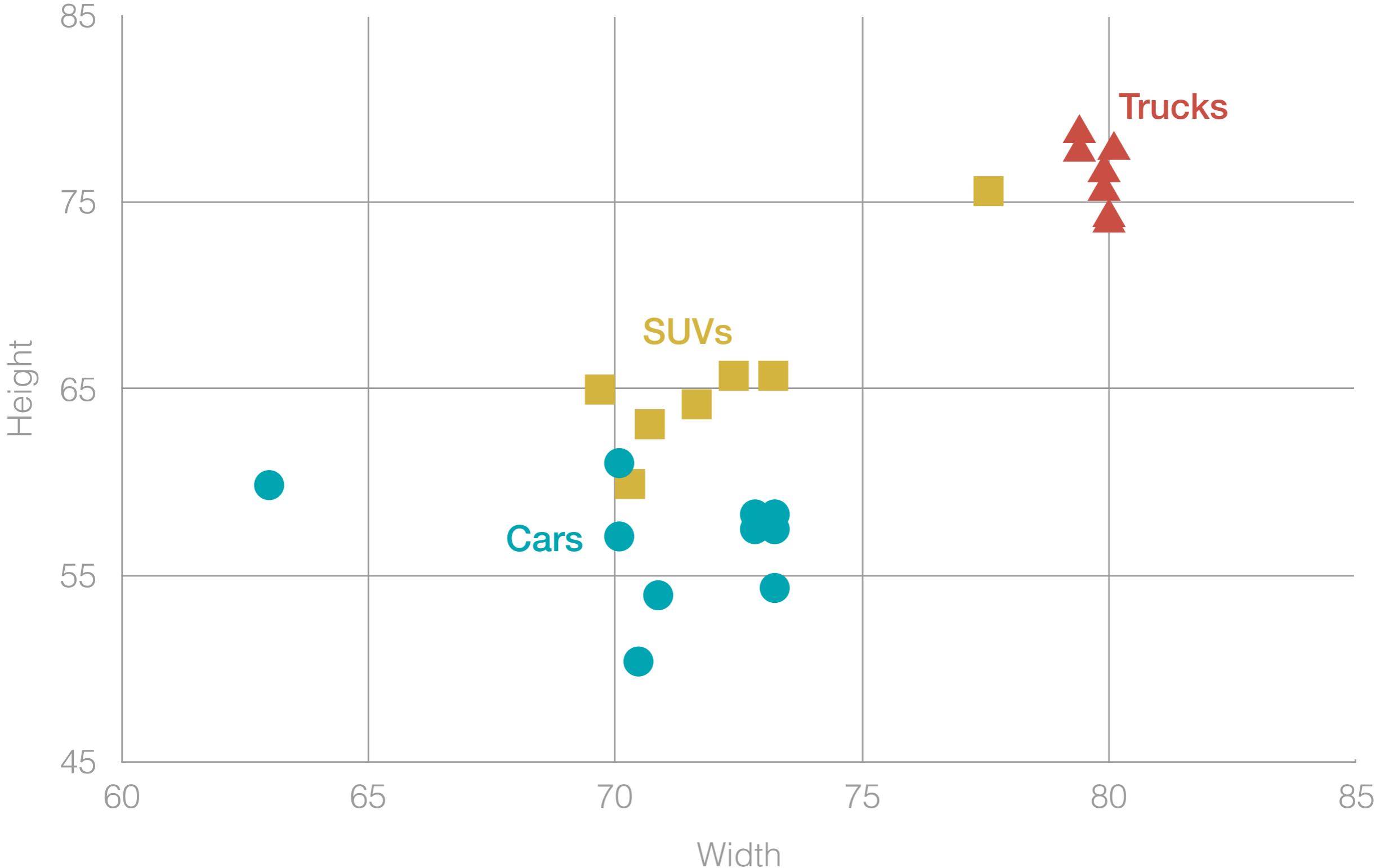
# Vehicle Heights & Widths



# Vehicle Heights & Widths



# Vehicle Sizes



# Storytelling

# Tell Your Story

Search in Sheet

Home Layout Tables Charts SmartArt Formulas Data Review

Font Alignment Number Format Cells Themes

Fill Conditional Formatting Insert Delete Format Themes

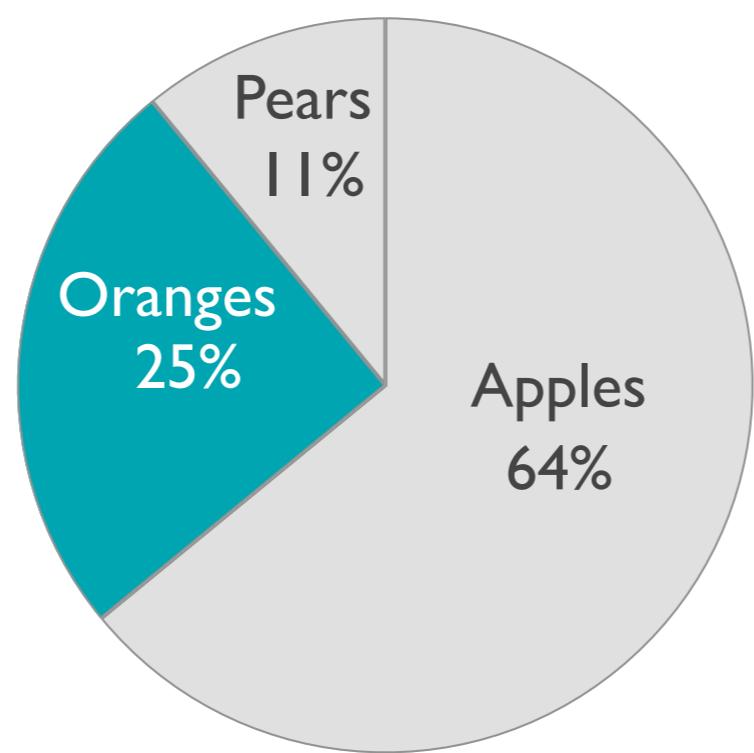
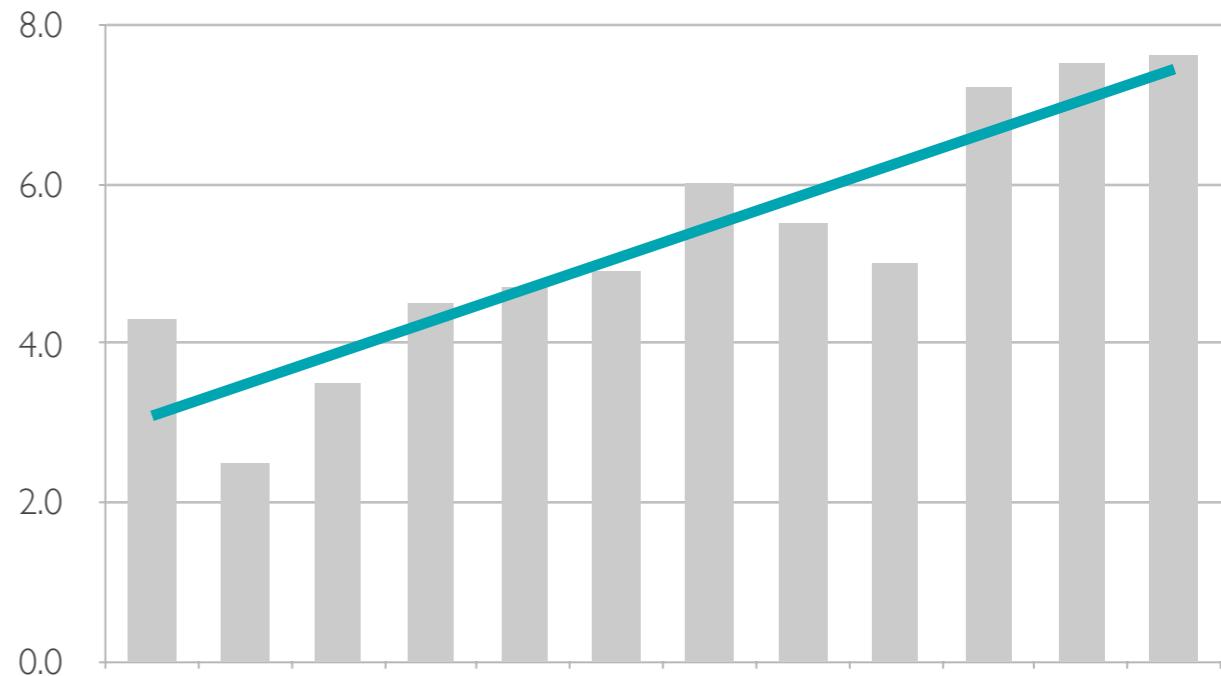
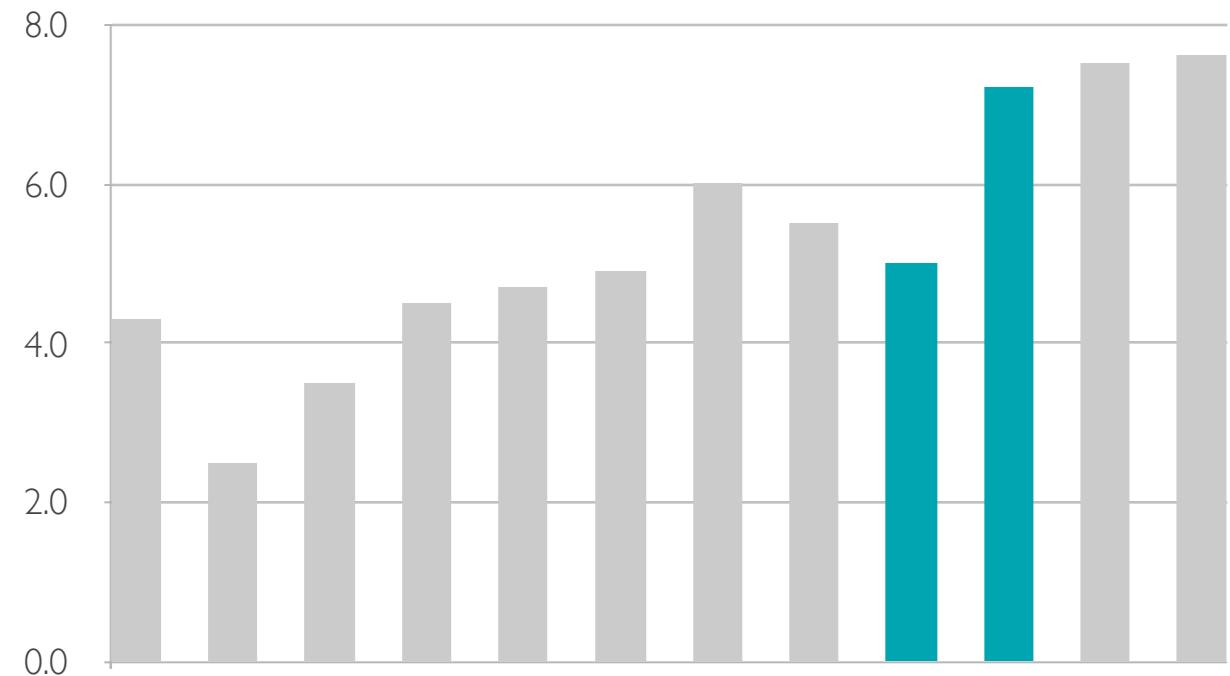
A B C D E F G H I J K L M N O P Q R

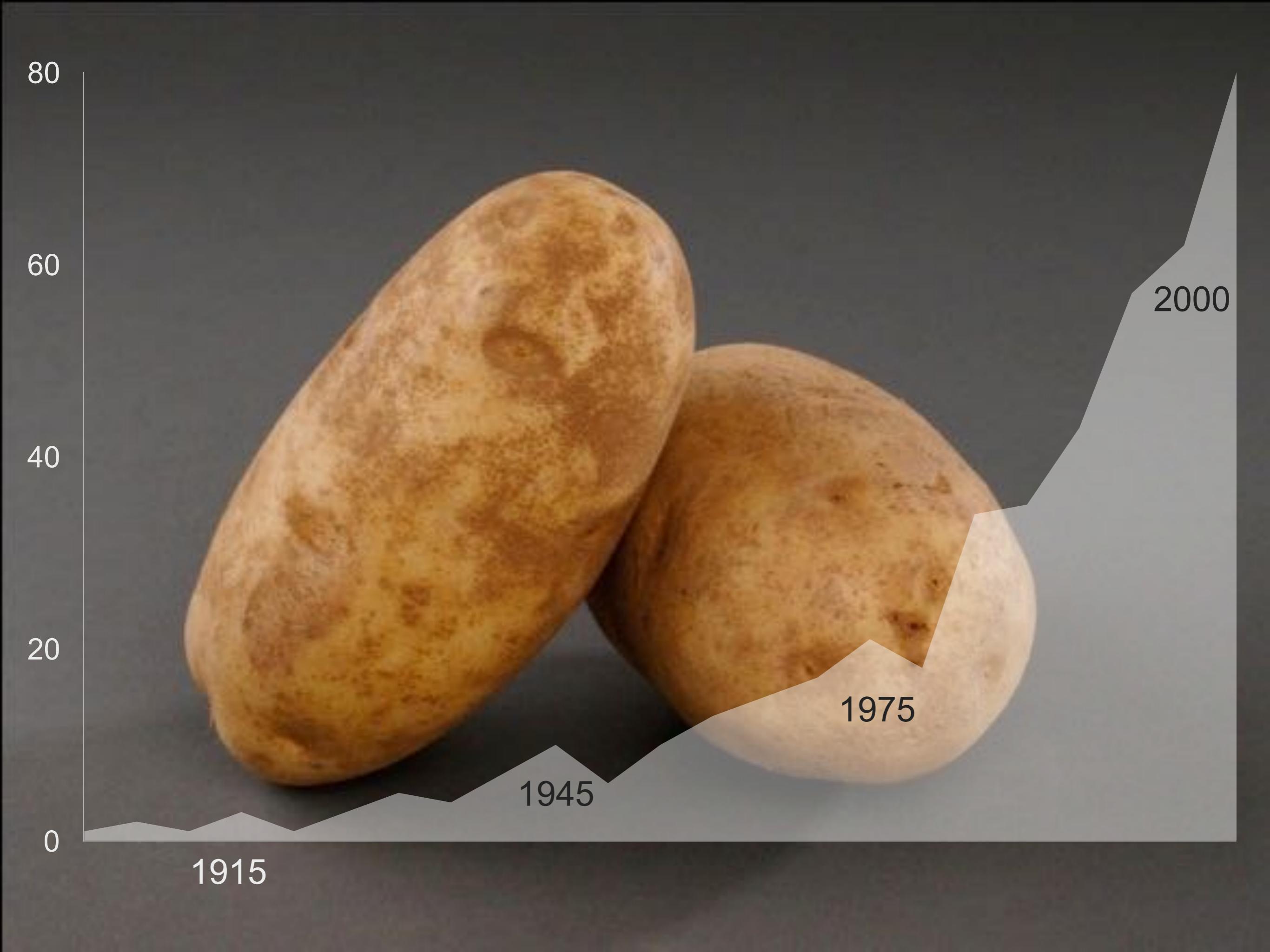
**Ratio Analysis**

Company Name	BURGER KING WORLDWIDE INC																	
Fiscal Year End Date	Actual 2006/06/01	Actual 2007/06/01	Actual 2008/06/01	Actual 2009/06/01	Actual 2010/06/01	Forecast 2011/06/01	Forecast 2012/06/01	Forecast 2013/06/01	Forecast 2014/06/01	Forecast 2015/06/01	Forecast 2016/06/01	Forecast 2017/06/01	Forecast 2018/06/01	Forecast 2019/06/01	Forecast 2020/06/01	Forecast 2021/06/01	Forecast 2022/06/01	
<b>Annual Growth Rates</b>																		
Sales	9.1%	9.9%	3.4%	-1.4%	-1.0%	-0.8%	-0.2%	0.2%	0.8%	1.0%	1.4%	1.8%	2.2%	2.8%	3.0%	3.0%		
Assets	-1.4%	6.8%	0.7%	1.6%	-1.0%	-0.6%	-0.2%	0.2%	0.6%	1.0%	1.4%	1.8%	2.2%	2.8%	3.0%	3.0%		
Common Equity	26.3%	18.0%	15.4%	15.8%	-1.0%	-0.6%	-0.2%	0.2%	0.6%	1.0%	1.4%	1.8%	2.2%	2.6%	3.0%	3.0%		
Earnings	448.1%	28.4%	5.3%	-8.6%	-0.3%	-0.5%	-0.1%	0.3%	0.7%	1.1%	1.5%	1.9%	2.3%	2.7%	3.1%	3.0%		
Free Cash Flow to Investors	-48.0%	54.1%	-17.5%	120.6%	-3.8%	-3.5%	-3.2%	-2.9%	-2.6%	-2.4%	-2.1%	-1.8%	-1.5%	-1.3%	-1.3%	3.0%		
Sustainable Growth Rate	20.0%	18.2%	14.5%	13.5%	13.6%	13.6%	13.7%	13.7%	13.8%	13.8%	13.9%	13.9%	13.9%	14.0%	14.0%	14.0%		
<b>Profitability</b>																		
Return on Equity	0.231	0.243	0.220	0.170	0.100	0.100	0.107	0.107	0.108	0.109	0.109	0.170	0.170	0.171	0.171	0.171		
Return on Equity (b4 non-recurring)	0.225	0.239	0.222	0.176	0.104	0.104	0.105	0.105	0.106	0.107	0.107	0.169	0.169	0.169	0.169	0.169		
Return on Net Operating Assets	0.119	0.135	0.131	0.115	0.112	0.112	0.112	0.113	0.113	0.113	0.114	0.114	0.114	0.115	0.115	0.115		
<b>Basic Dupont Model</b>																		
Net Profit Margin	0.013	0.066	0.077	0.079	0.075	0.075	0.075	0.075	0.076	0.076	0.076	0.073	0.073	0.073	0.073	0.073		
x Total Asset Turnover		0.861	0.844	0.941	0.918	0.908	0.908	0.910	0.912	0.914	0.916	0.917	0.919	0.921	0.923	0.924	0.000	
x Total Leverage		3.951	3.334	2.964	2.593	2.435	2.435	2.435	2.435	2.435	2.435	2.435	2.435	2.435	2.435	2.435	2.435	
= Return on Equity		0.231	0.243	0.220	0.178	0.100	0.100	0.107	0.107	0.108	0.109	0.109	0.170	0.170	0.171	0.171	0.000	
<b>Advanced Dupont Model</b>																		
Net Operating Margin	0.027	0.068	0.095	0.095	0.088	0.088	0.088	0.088	0.088	0.088	0.088	0.083	0.083	0.083	0.083	0.083		
x Net Operating Asset Turnover		1.358	1.423	1.388	1.311	1.274	1.274	1.281	1.284	1.286	1.289	1.292	1.294	1.297	1.299	1.299	1.299	
= Return on Net Operating Assets		0.119	0.135	0.131	0.115	0.112	0.112	0.113	0.113	0.113	0.113	0.114	0.114	0.114	0.115	0.115	0.115	
Net Borrowing Cost (NBC)		0.048	0.046	0.044	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.033	0.033	0.033	0.033	0.033	0.033	
Spread (RNOA - NBC)		0.071	0.089	0.088	0.077	0.074	0.074	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	
Financial Leverage (LEV)		1.565	1.211	1.009	0.818	0.732	0.732	0.732	0.732	0.732	0.732	0.732	0.732	0.732	0.732	0.732	0.732	
RDE = RNOA + LEV*Spread		0.231	0.243	0.220	0.178	0.100	0.100	0.107	0.107	0.108	0.109	0.109	0.170	0.170	0.171	0.171	0.171	
<b>Margin Analysis</b>																		
Gross Margin	0.362	0.364	0.398	0.376	0.383	0.383	0.383	0.383	0.383	0.383	0.383	0.383	0.383	0.383	0.383	0.383	0.383	
EBITDA Margin	0.161	0.162	0.194	0.183	0.184	0.184	0.184	0.184	0.184	0.184	0.184	0.184	0.184	0.184	0.184	0.184	0.184	
EBIT Margin	0.118	0.120	0.146	0.136	0.132	0.132	0.132	0.132	0.132	0.133	0.133	0.133	0.133	0.133	0.133	0.133	0.133	
Net Operating Margin (b4 non-rec.)	0.040	0.066	0.094	0.096	0.087	0.087	0.087	0.087	0.087	0.087	0.087	0.087	0.087	0.087	0.087	0.087	0.087	
Net Operating Margin	0.027	0.068	0.095	0.095	0.088	0.088	0.088	0.088	0.088	0.088	0.088	0.088	0.088	0.088	0.088	0.088	0.088	
<b>Turnover Analysis</b>																		
Net Operating Asset Turnover	1.358	1.423	1.388	1.311	1.274	1.274	1.279	1.281	1.284	1.286	1.289	1.292	1.294	1.297	1.299	1.299	1.299	
Net Working Capital Turnover	(75.729)	(70.143)	(56.892)	495.485	45.852	45.945	46.037	45.126	46.220	46.312	46.402	46.493	46.583	46.673	45.752	45.762		
Avg Days to Collect Receivables	19.116	19.825	22.174	23.792	23.001	22.955	22.908	22.833	22.818	22.773	22.729	22.685	22.641	22.597	22.554	22.554		
Avg Inventory Holding Period	3.309	3.828	3.666	3.686	3.657	3.640	3.642	3.336	3.827	3.620	3.613	3.605	3.609	3.592	3.586	3.586		
Avg Days to Pay Payables	27.745	29.121	29.634	27.638	25.385	25.333	25.291	25.230	25.179	25.128	25.078	25.028	24.979	24.930	24.881	24.881		
PP&E Turnover	2.531	2.868	2.571	2.469	2.455	2.400	2.465	2.470	2.475	2.400	2.485	2.493	2.494	2.498	2.504	2.504		
<b>Analysis of Leverage</b>																		
- Long-Term Capital Structure																		

Intro Financial Statements Ratio Analysis Cash Flow Analysis Credit Analysis Forecasting Assumptions Valuation Parameters Residual Income Valuations DCF Valuations EPS

# Tell Your Story





80

60

40

20

0

1915

1945

1975

2000

# Tell Your Story: Before

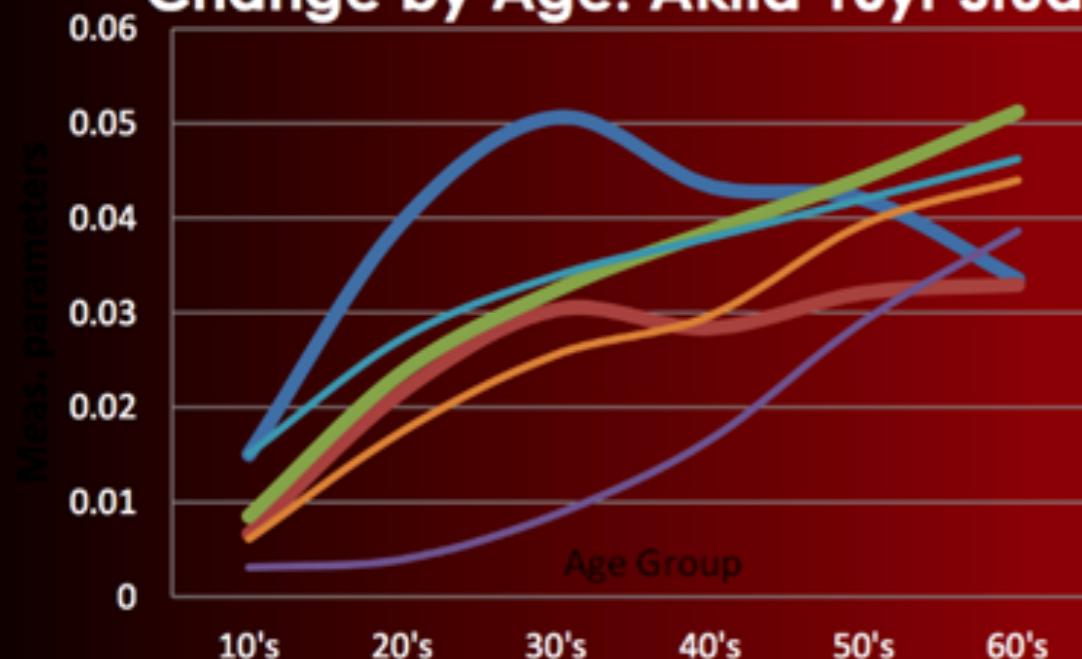
## TOP 3 FEATURES WITH BIGGEST SKIN DEVIATION

TEXTURE

VISIBLE  
PORES

INNER  
RESILIENCE

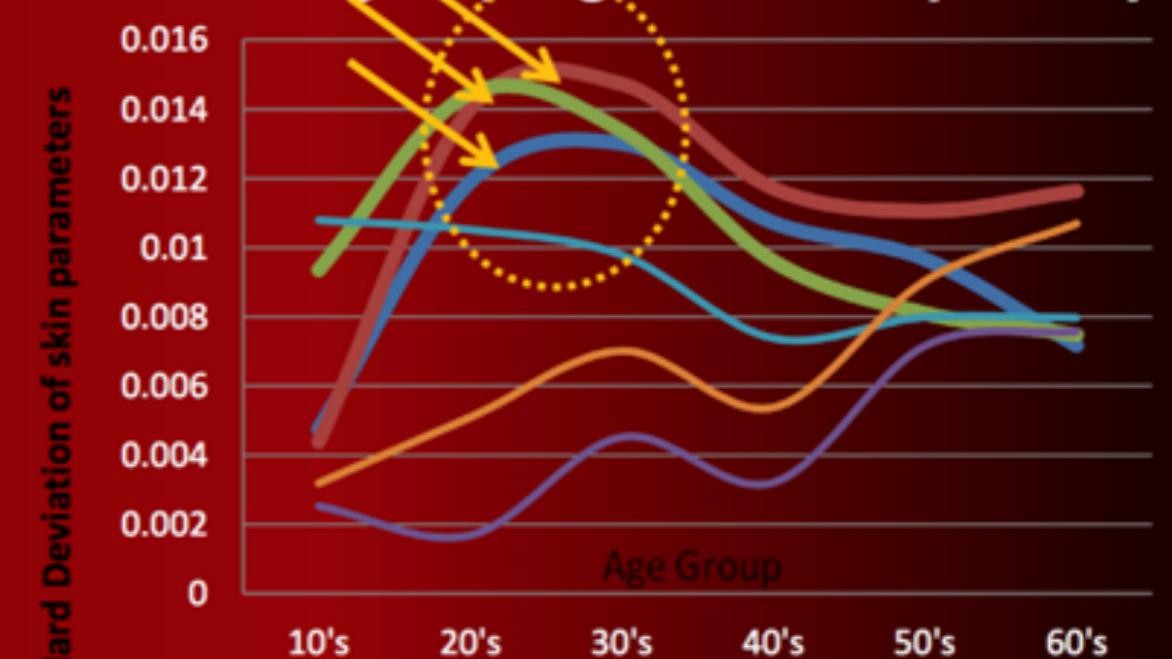
1) Skin Appearance Average Change by Age: Akita 10yr Study



Pore Area Fract.  
Inner Resilience  
Radiance (0-6)

Texture Area Fraction  
Wrinkle Area Fraction  
Spot Area Frac.

2) Skin Appearance Deviation Change by Age: Akita 10yr Study



Pore Area Fract.  
Inner Resilience  
Radiance

Texture Area Fraction  
Wrinkle Area Fraction  
Spot Area Frac.

# Tell Your Story: After

Her skin looks  
like she's

**20**

AFTER 10 YEARS  
OF USING SK-II  
PRODUCTS



40  
year  
old



40  
year  
old

Her skin looks  
like she's

**45**

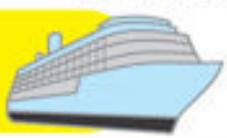
AFTER NOT  
USING SK-II  
PRODUCTS

# Icons

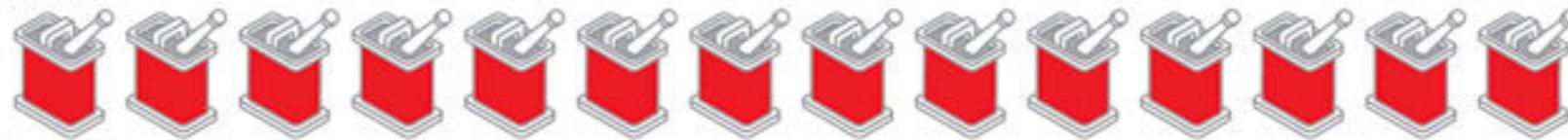
## GETTING AROUND: FUEL USE OF VARIOUS MODES OF TRANSPORTATION

HOW MANY GALLONS OF FUEL PER PASSENGER DOES IT TAKE TO COVER A DISTANCE OF 350 MILES?

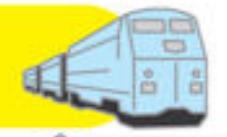
### Cruise Ship



2915 Capacity  
.009 Miles per gallon  
121 Gallons per mile  
10:56 Time to travel 350 miles at 32 mph



### Amtrak



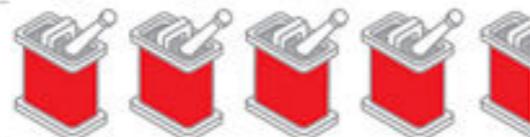
300 Capacity  
.46 Miles per gallon  
2.17 Gallons per mile  
04:22 Time to travel 350 miles at 80 mph



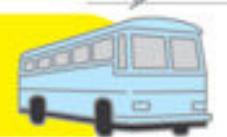
### Boeing 737



175 Capacity  
.42 Miles per gallon  
2.4 Gallons per mile  
00:37 Time to travel 350 miles at 566 mph



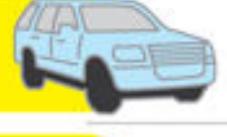
### Motor Coach



50 Capacity  
5 Miles per gallon  
.2 Gallons per mile  
05:50 Time to travel 350 miles at 60 mph



### Average SUV



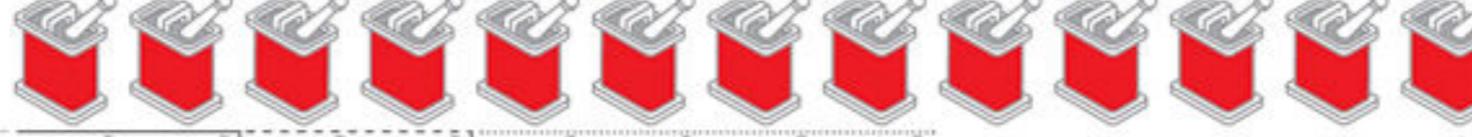
5 Capacity  
21 Miles per gallon  
.048 Gallons per mile  
05:50 Time to travel 350 miles at 60 mph



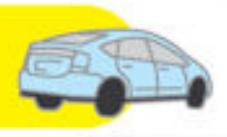
### Average Sedan



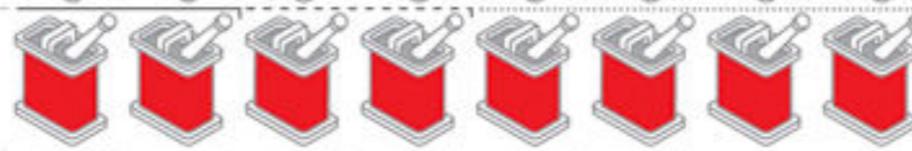
4 Capacity  
27 Miles per gallon  
.037 Gallons per mile  
05:50 Time to travel 350 miles at 60 mph



### Average Hybrid



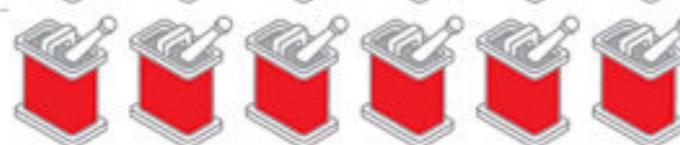
4 Capacity  
46 Miles per gallon  
.022 Gallons per mile  
05:50 Time to travel 350 miles at 60 mph



### Motorcycle



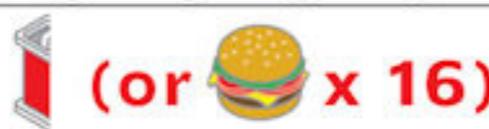
1 Capacity  
56 Miles per gallon  
.017 Gallons per mile  
05:50 Time to travel 350 miles at 60 mph



### Bicycle



1 Capacity  
912 Miles per gallon (caloric conversion)  
.001 Gallons per mile (caloric conversion)  
23:20 Time to travel 350 miles at 15 mph



### Walking



1 Capacity  
211 Miles per gallon (caloric conversion)  
.005 Gallons per mile (caloric conversion)  
100 Time to travel 350 miles at 3.5 mph



-----: FUEL USAGE for driver alone

- - -: FUEL USAGE for driver plus one passenger

—: FUEL USAGE for driver plus three passengers

WHOPPER with cheese is 770 calories.  
EATMEN neither endorses or denounces the  
consumption of Whoppers.

WE'RE EFFICIENT One gallon of gas equals  
approximately 31,000 calories. We only need  
about 2,000 calories a day.

CYCLIST A 175-pound rider, biking 15 miles  
per hour, and burning .049 calories per  
pound per minute.

WALKER A 175-pound pedestrian, walking at  
3.5 miles per hour, and burning .035 calories  
per pound per minute.

NOTE Capacity, fuel economy, and speed  
numbers are, in some cases, averages or  
estimates.

good.is  
Transparency

# REBUILDING PROGRESS IN NEW ORLEANS

BEFORE  
HURRICANE KATRINA

1 YEAR  
LATER

2 YEARS  
LATER

## Households

Actively receiving mail in Orleans Parish



## Labor force

In Orleans Parish



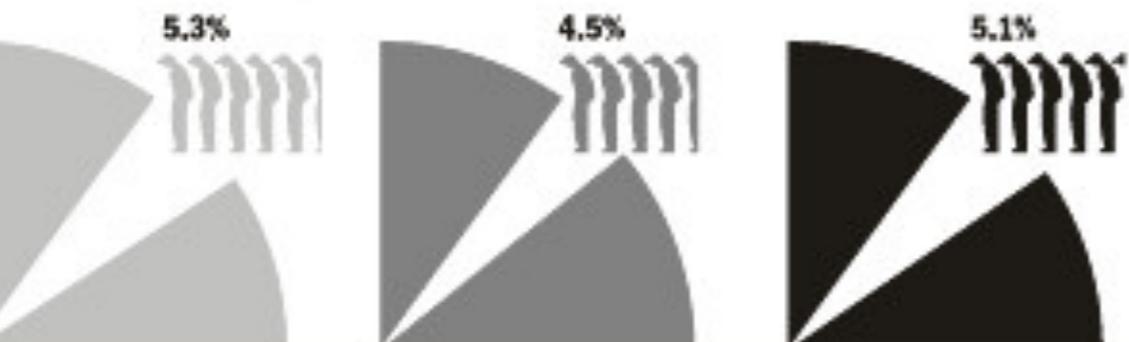
## Buses

Operational in Orleans Parish



## Unemployment

Rate in New Orleans metropolitan area



## House prices

Average sale price, June, in Orleans Parish



## Air passenger traffic

Arriving & departing at Louis Armstrong International Airport, June



## Libraries

Open in Orleans Parish



## Hospitals

Operational in Orleans Parish



## NO ESCAPE FOR TENANTS

Average Manhattan rents in October

Non-doorman buildings

Doorman buildings

\$2,151

Studio

\$2,751

\$2,991

One-bedroom

\$3,787

\$4,069

Two-bedroom

\$5,627

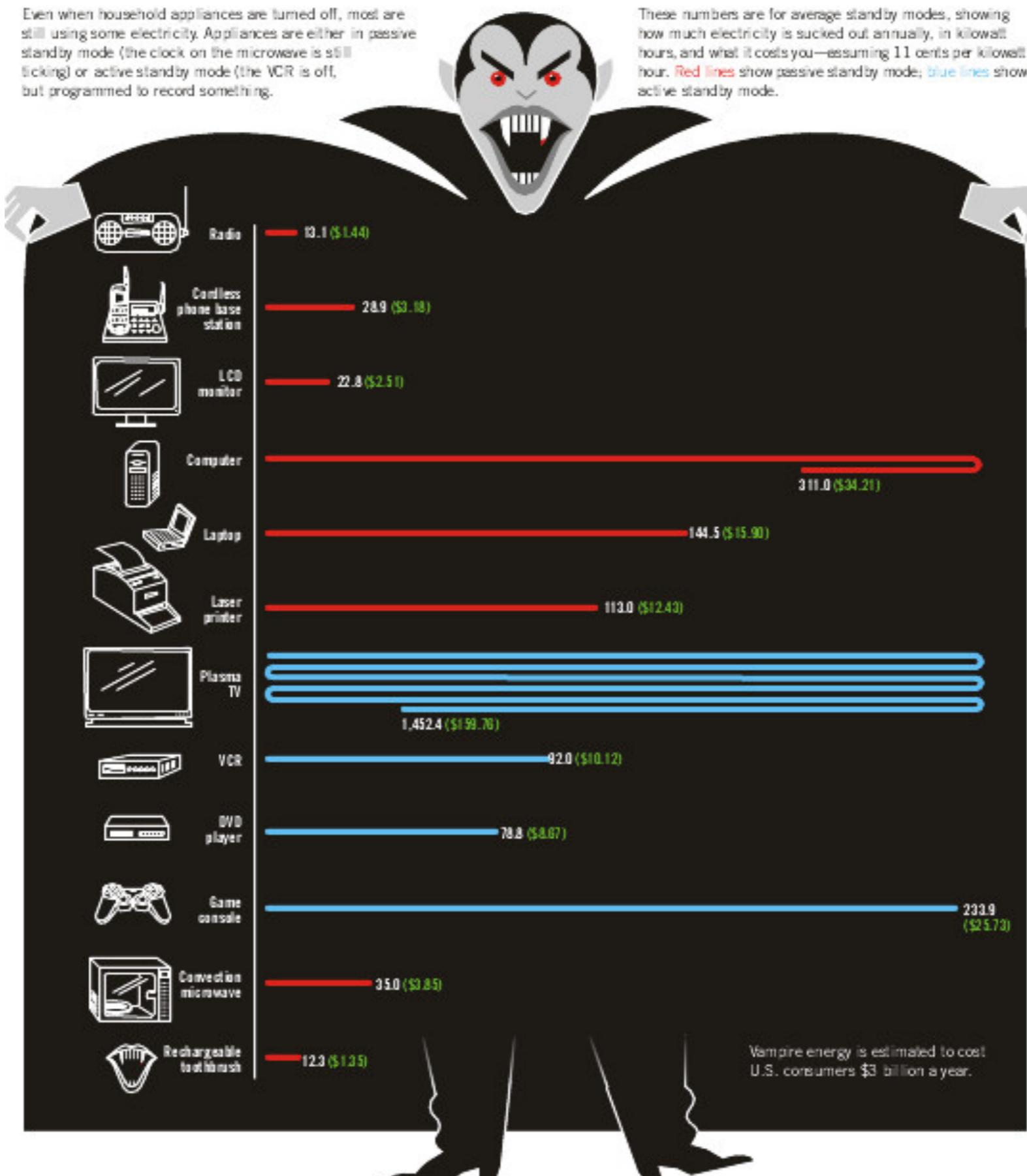


Source: Nigel Holmes

## Vampire Energy

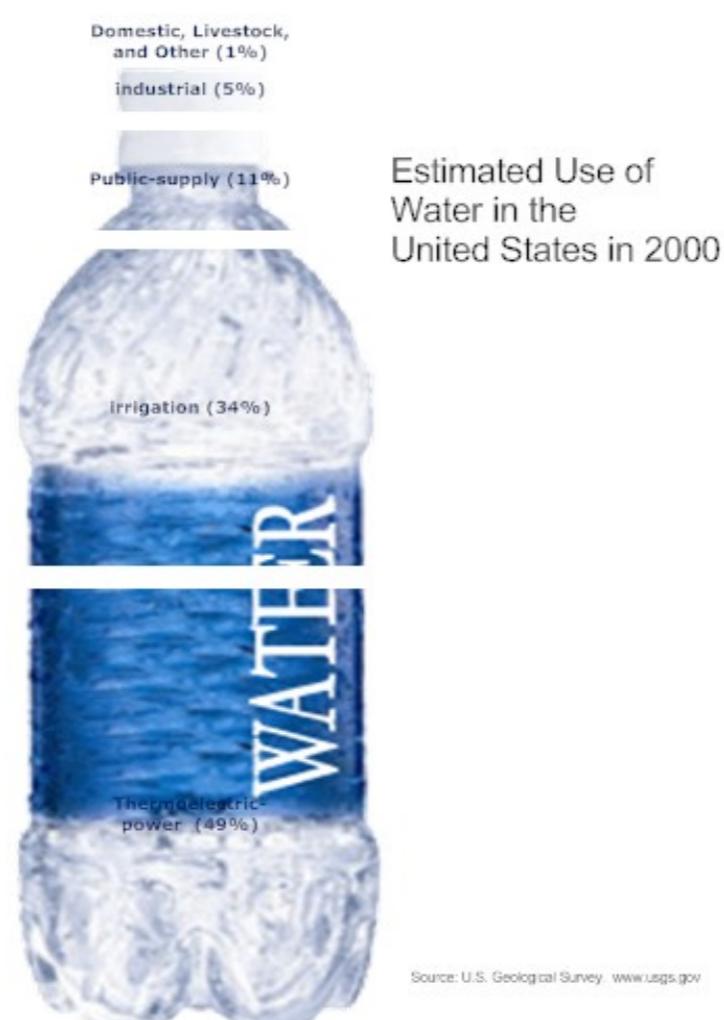
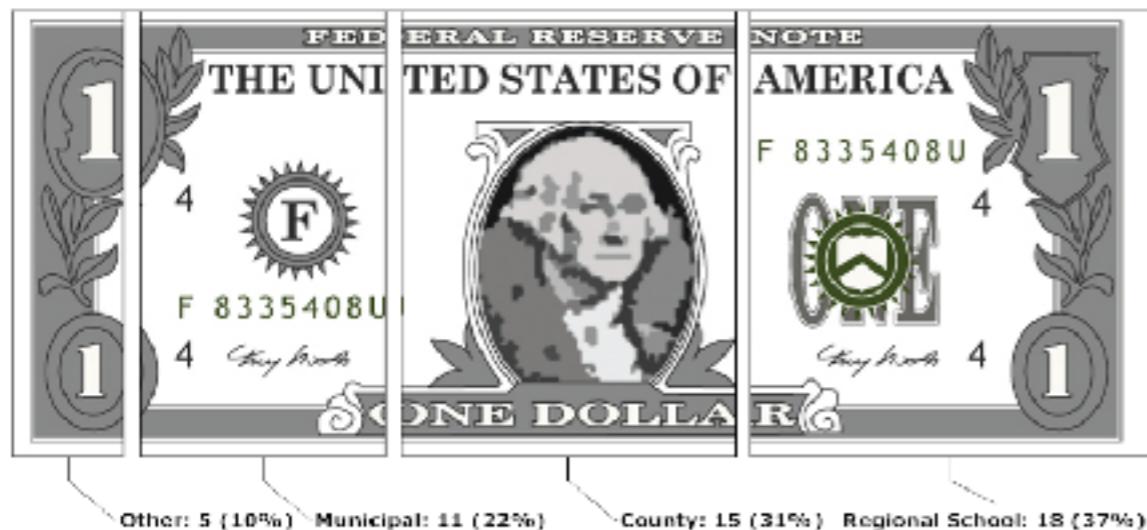
Even when household appliances are turned off, most are still using some electricity. Appliances are either in passive standby mode (the clock on the microwave is still ticking) or active standby mode (the VCR is off, but programmed to record something).

These numbers are for average standby modes, showing how much electricity is sucked out annually, in kilowatt hours, and what it costs you—assuming 11 cents per kilowatt hour. Red lines show passive standby mode; blue lines show active standby mode.



Source: Nigel Holmes

## How Your Tax Dollars Are Spent

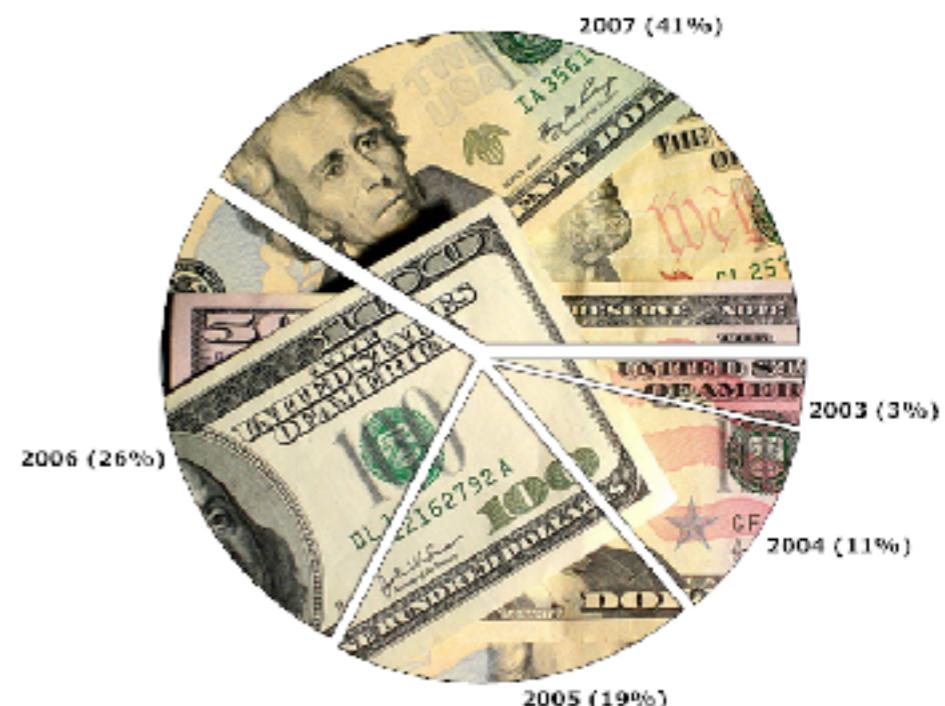


Dropout Rates of 15- through 24-year-olds who dropped out of grades 10–12, by background characteristics: October 2001



Source: National Center for Education Statistics. [nces.ed.gov](http://nces.ed.gov)

## Assets Under Management



Source: SmartDraw

# Color

# Visual Cues: Color for Search



# Visual Cues: Color for Emotion



# Identity

(colourlovers.com)



# Symbolism

(montyne.com)



# Metaphor



## Mood

# High Contrast Colors

Very High  
Contrast

Very High  
Contrast

Medium  
Contrast

Medium  
Contrast

Low Contrast

Very Low  
Contrast

# Pay Attention to Color Blindness



Courtesy: Gregor Aisch

# Selecting Colors



# Selecting Colors

English ▾

Like it? ▾

Paletton Live Colorizer

Mobile [scheduled]

More apps [scheduled]



< UNDO

REDO >

RESET

RANDOMIZE...

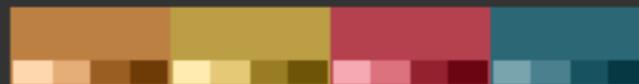
MORE INFO ▾



Adjacent colors (4-colors)

with complement

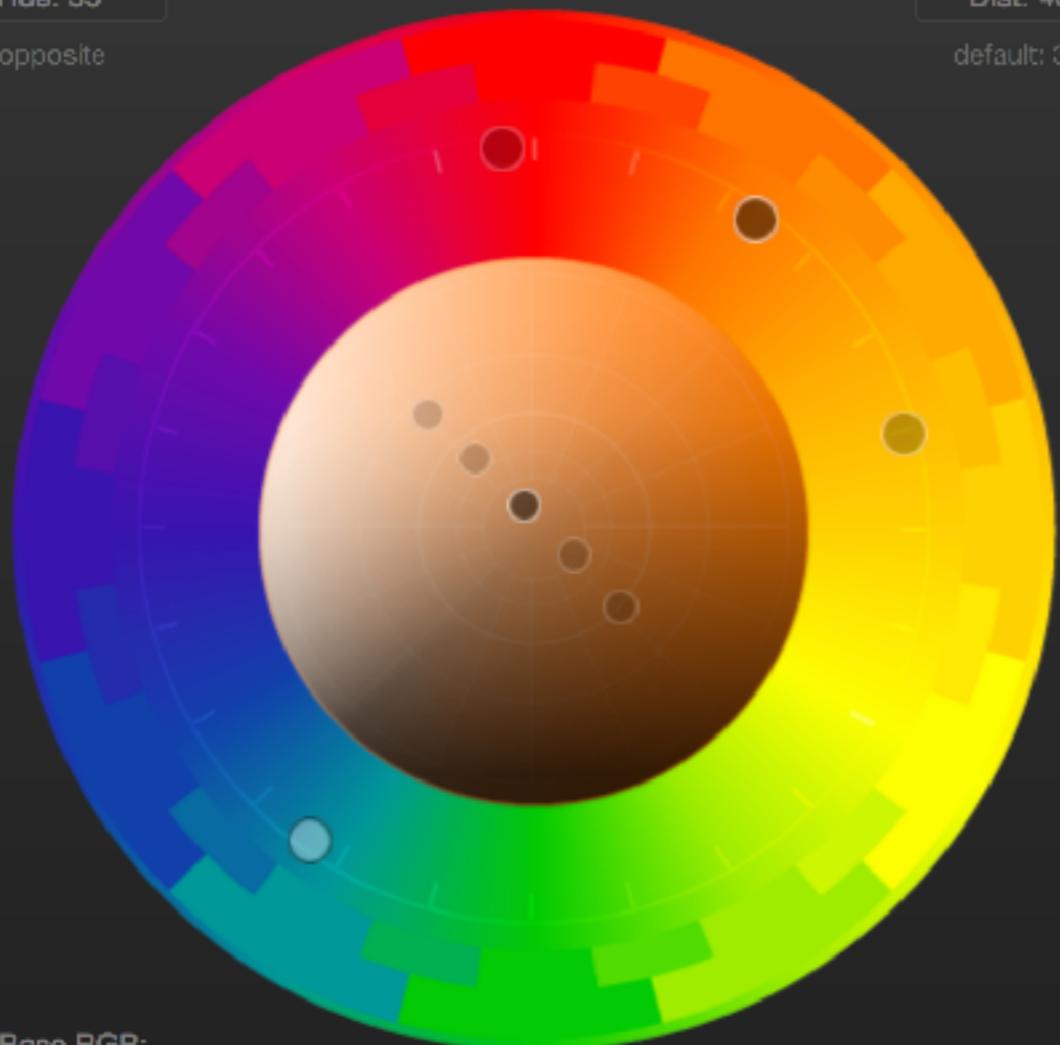
My Palette:



Share palette ▾

Hue: 35°

opposite



Dist: 40°

default: 30°

Fine Tune...

Base RGB:

BC8044



COLORS

PRESETS

PREVIEW ▾

EXAMPLES...

TABLES / EXPORT...

# Selecting Colors

Adobe Color CC

Create

Explore

My Themes

SIGN IN

Save

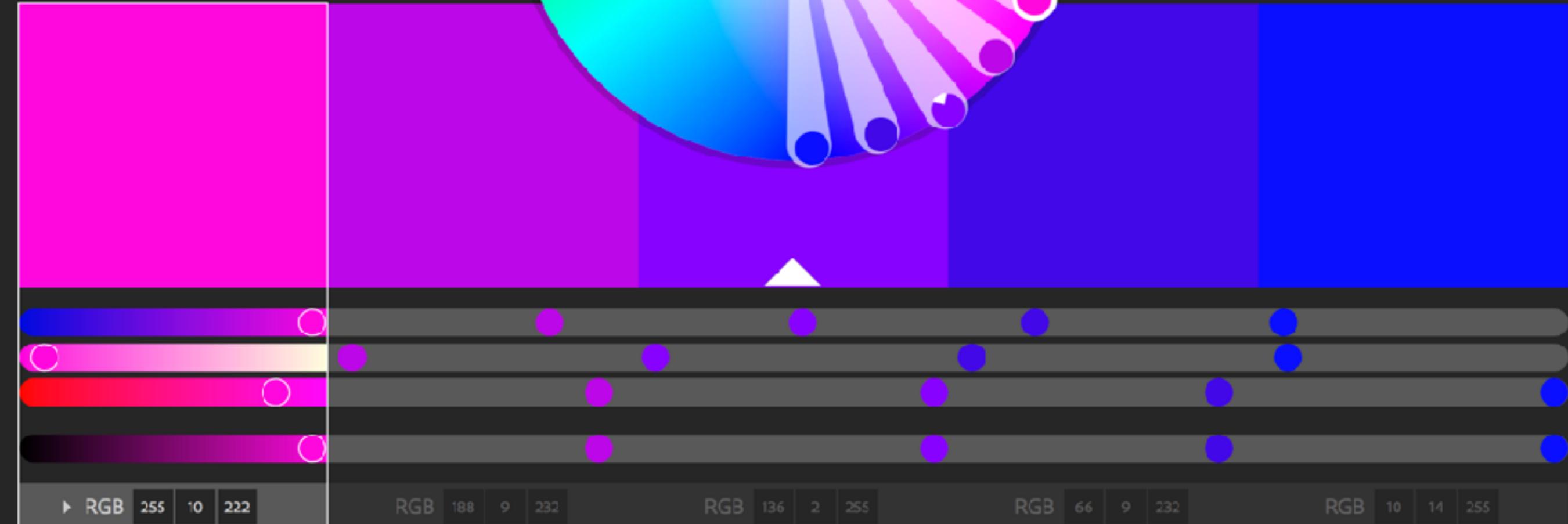
My Color Theme 



Color Rule



Analogous



# Fonts

Slide Titles

Major Point

Minor point

If in doubt, use the monitor size rule

# Font Type Face

Major Point

Major Point

Major Point

Major Point

Major Point

# Font Type Face

*Major Point*

Major Point

Major Point

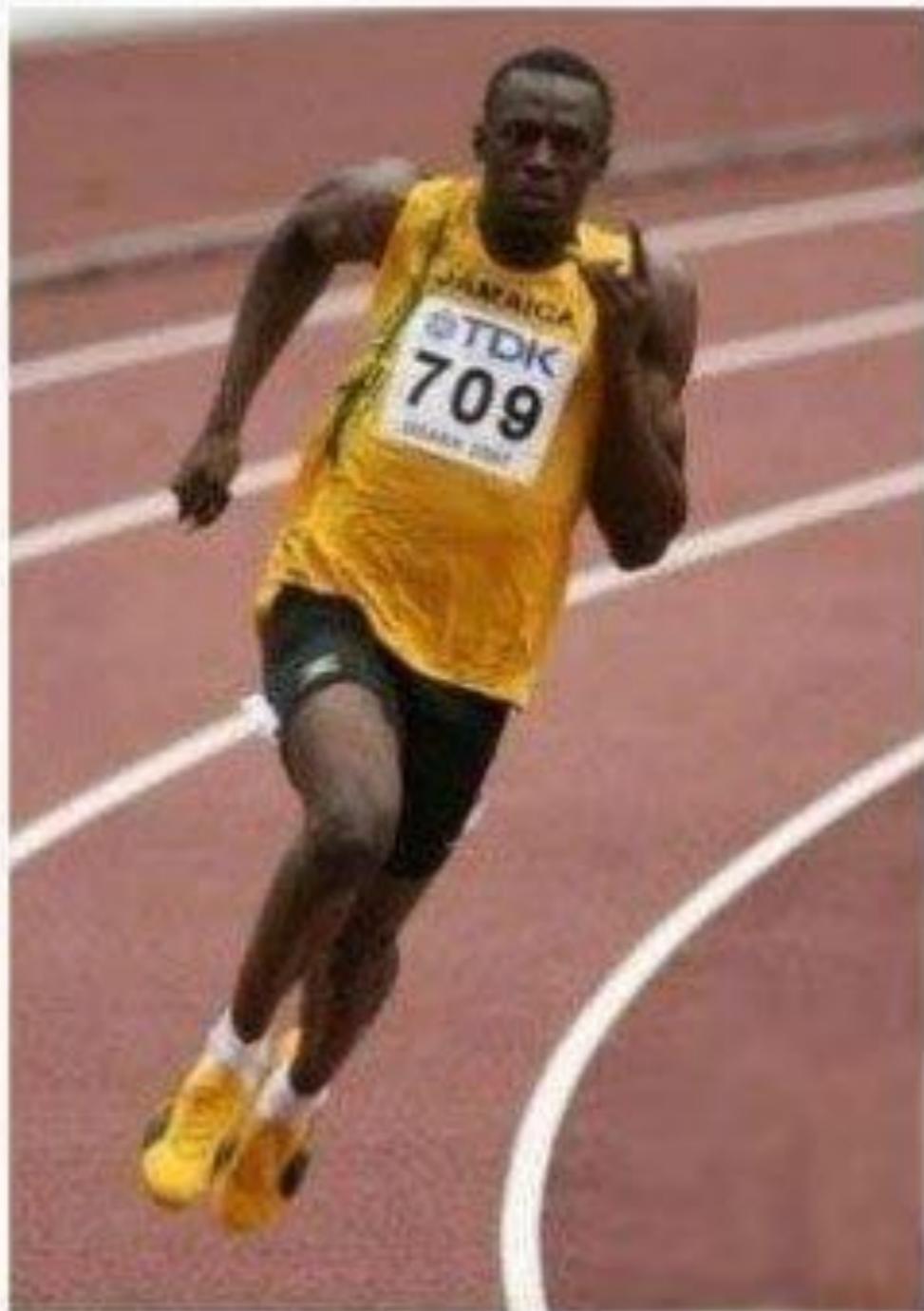
Major Point

Major Point

# Font Type Face



USAIN **BOLD**



USAIN *ITALIC*

# Font Combination



**Find the perfect font combo  
for your next project.**

Select a starter font



# Font Inspiration

type&spiration

// treating typography with respect

[home](#) / [about](#) / [request invite](#) / [login](#) /  [rss](#)

[most recent](#) / [featured](#) / [designers](#)

51

824

78

537

18

## Lorem Ipsum

FEBRUARY 18, 2013

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Mauris facilisis, odio eget iaculis mattis, nullam volutpat metus mi ac arcu. Nunc fermentum id fermentum. Ut ac fringilla.

## Snow White

White is her skin, not hint of sun  
Black is her hair; that's coming undone  
Green is her eyes; brighter than safaris  
Red as a rose is her lips. Sweet as nectar

hy and Sweet, Innocent to the core

She will mark you for shore.  
The queen of the realm.

— by LEXIE NIGHT

## Anti-wrinkle Inje

Dermal Filler is an injection that gently restore structure to the skin. As facial tissue loss is one of the key factors of aging, fillers can help to rejuvenate the skin.

Fix the detective, had been sent to which Passepartout had been sent to, delaying his departure from Paris. He consulted the priests of St. Sulpice.

Owing to the delay caused by the arrival of the detective, Fix and the priests reached the church at the same time, and his servant, the magistrate.

In old times, there was a man who helped on his farm, whose daughter was very beautiful. But the youngest was so ugly that she had never seen anyone like her.

But the youngest was so ugly that she had never seen anyone like her.

MY DEAR, MY DEAR, MY DEAR  
YOU DO NOT KNOW ME BUT I KNOW YOU  
  
NOW LET ME TELL YOU ABOUT THE FEELINGS  
WHEN I TRY, OR MAKE SOME SORT OF ATTEMPT  
  
DAMN I WISH I WASN'T SUCH A HELL  
'CAUSE THEN I WOULD LET YOU KNOW THAT  
AND IF I WAS YOUR MAN THEN I WOULD  
THE ONLY LYING I WOULD DO IS IN THE END  
THEN I SIGNED SINCEBLY THE ONE WHO LOVED ME  
PS LOVE ME TENDER  
  
THE LETTER CAME BACK THREE DAYS  
RETURN TO SENDER... DAMN

8  
MAY

Maecenas a orci sit amet i  
sagittis vestibulum

Ut tellus nunc, laoreet auctor vestibulum ut, vestibulum vel lorem. Curabitur a augue enim. Quisque tristique lectus et fermentum. Integer semper risus non mauris ornare imperdiet. Dignissim sagittis vestibulum in, varius porta nisi. Fusce quis mauris eros. Praesent aliquet fermentum. Curius enim sit amet porta. Sed quis nisi nisi. Nullam colo  
vivuntur auctor fermentum. Sed non ante non diam consequat tempus. Vivamus porttitor nulla dictum ac pretium non adipiscing. Nulla convallis viverra placerat. Fer  
mibus troque semper et netus et malesuada fames ac turpis egosita. [Read more](#)

AUTHOR  
JESSICA KENNEDY

CATEGORIES  
INK & PAPER, DESIGN

COMMENTS  
1 COMMENT

The best and  
most beautif  
things in the

# Animation

> 3,600 years old



1600BC

0AD

Today



Today

1440

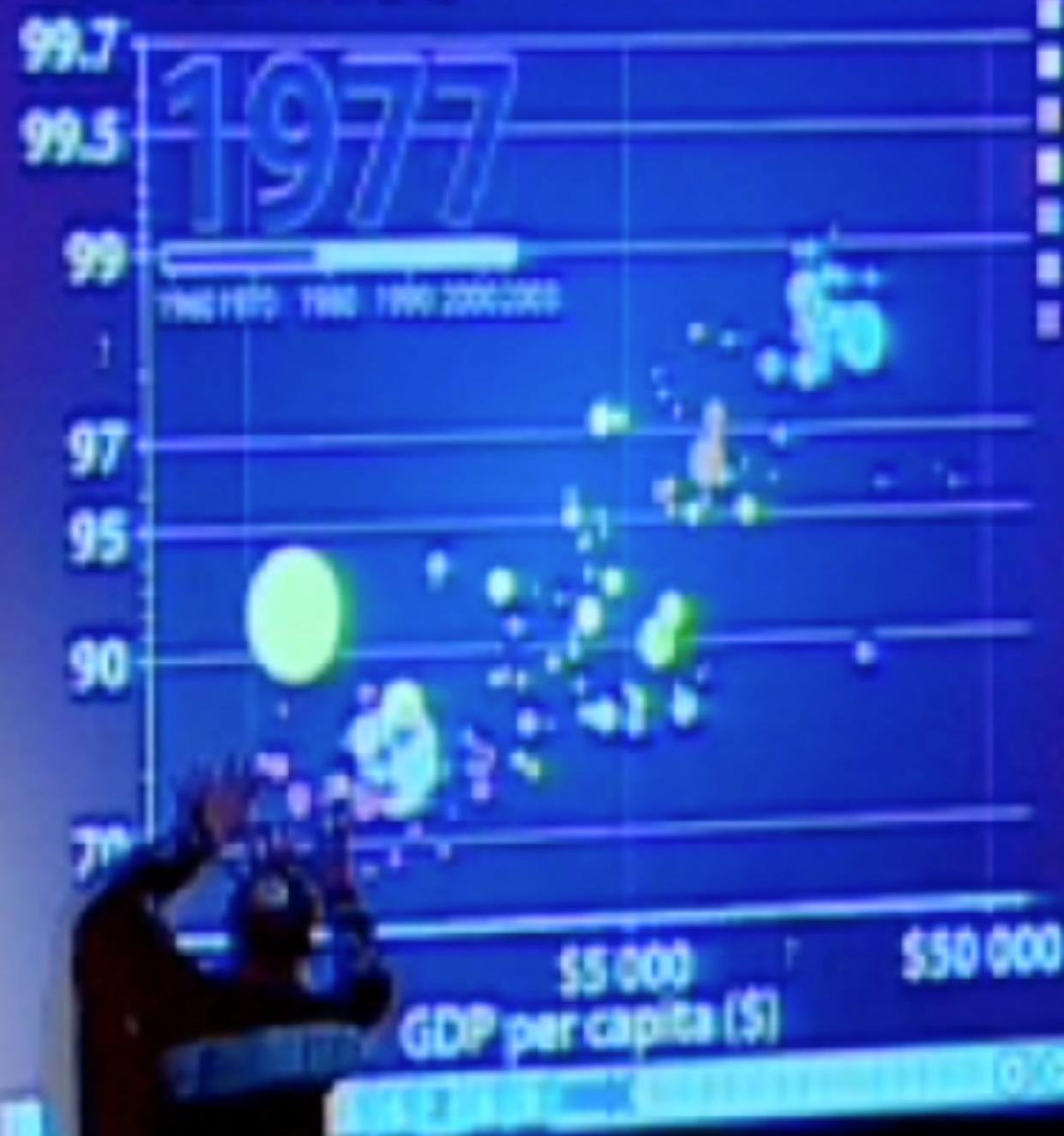


0AD

> 3,600 years old

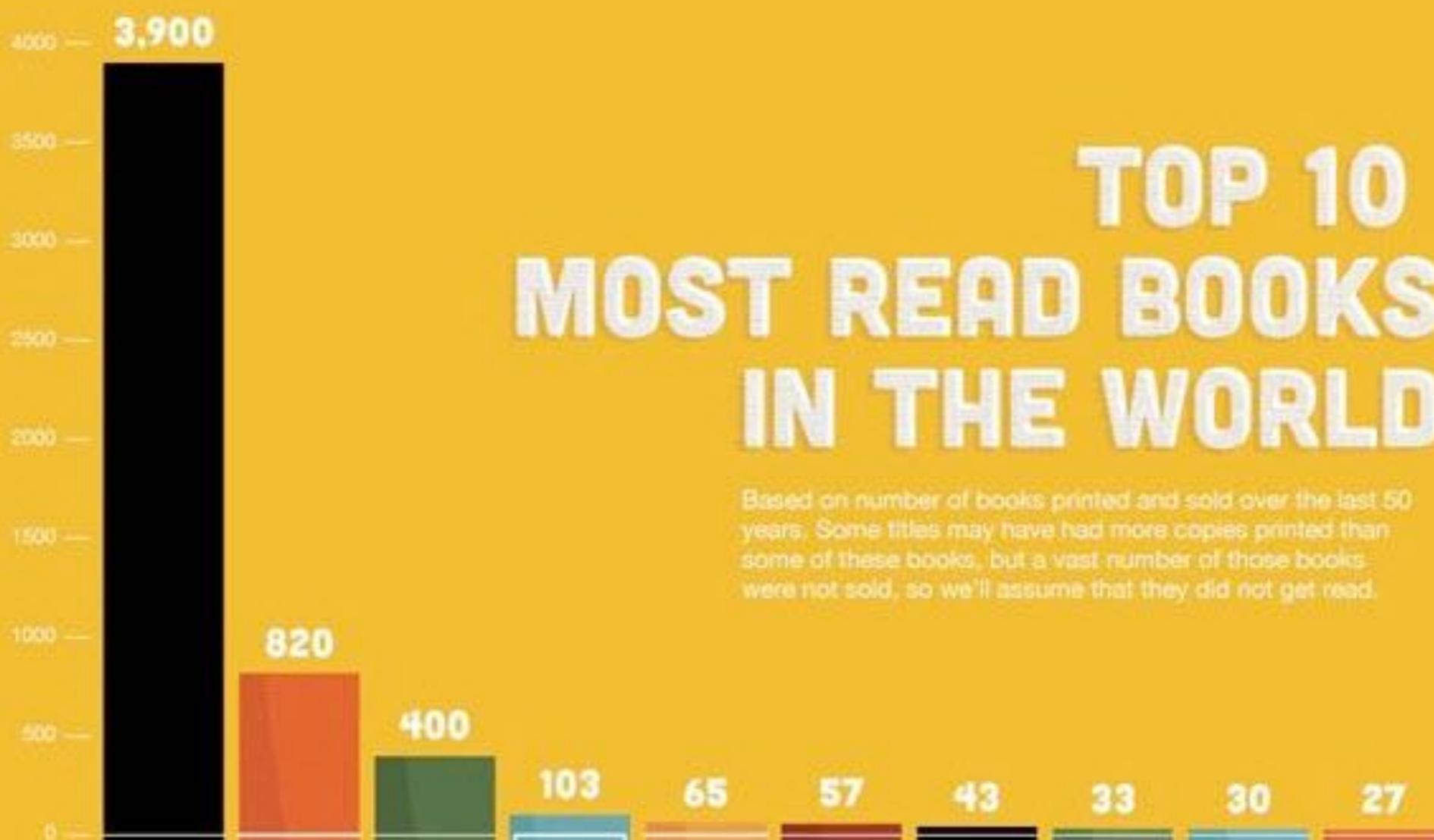
1600BC

### Child survival (%)



TED

# How to Lie with Charts & Graphs





NFL / Mountain Dew

From Heinz' wiener dogs to Ryan Reynolds' Hyundai ad to Puppymonkeybaby, this year's ads were upbeat and, at times, hysterical.



Here are 10 of the most talked-about ads of the night. Vote for which one you like in our poll (and watch all the ads below)!

Thank You Kate Hudson - We  
Felt So Comfortable  
Fabletics

## Poll Results - What was your favorite Super Bowl ad?

[More from TODAY.com](#)

Audi – David Bowie

**1062**  
Votes



Mountain Dew – Puppymonkeybaby

**1311**  
Votes

Marilyn Dafoe? Marilyn Monroe?  
Snickers' hilarious Super Bowl a

Doritos – Ultrasound

**5815** Votes

advertisement

Budweiser – The Bud Light Party

**517**  
Votes

IT'S CASH BACK  
WITH A CASH BACK  
ENCORE.

Hyundai – Ryan Reynolds

**1209**  
Votes

THE CITI®  
DOUBLE CASH CARD.

1% ON YOUR PURCHASES + 1% AS YOU PAY FOR THEM



# **Headline News**

**Headline News**

**25,255,000\*\***

**MSNBC**

**24,933,000\*\***

**Fox News**

**24,278,000\*\***

**Headline News is watched by more Adults 25-54 each month than MSNBC or Fox News.**

**Headline News**

25,255,000

**MSNBC**

24,933,000

**Fox News**

24,278,000

**Headline News**

25,255,000

**MSNBC**

24,933,000

**Fox News**

24,278,000

# OBAMACARE ENROLLMENT

7,100,000

ACTUAL  
ENROLLMENT

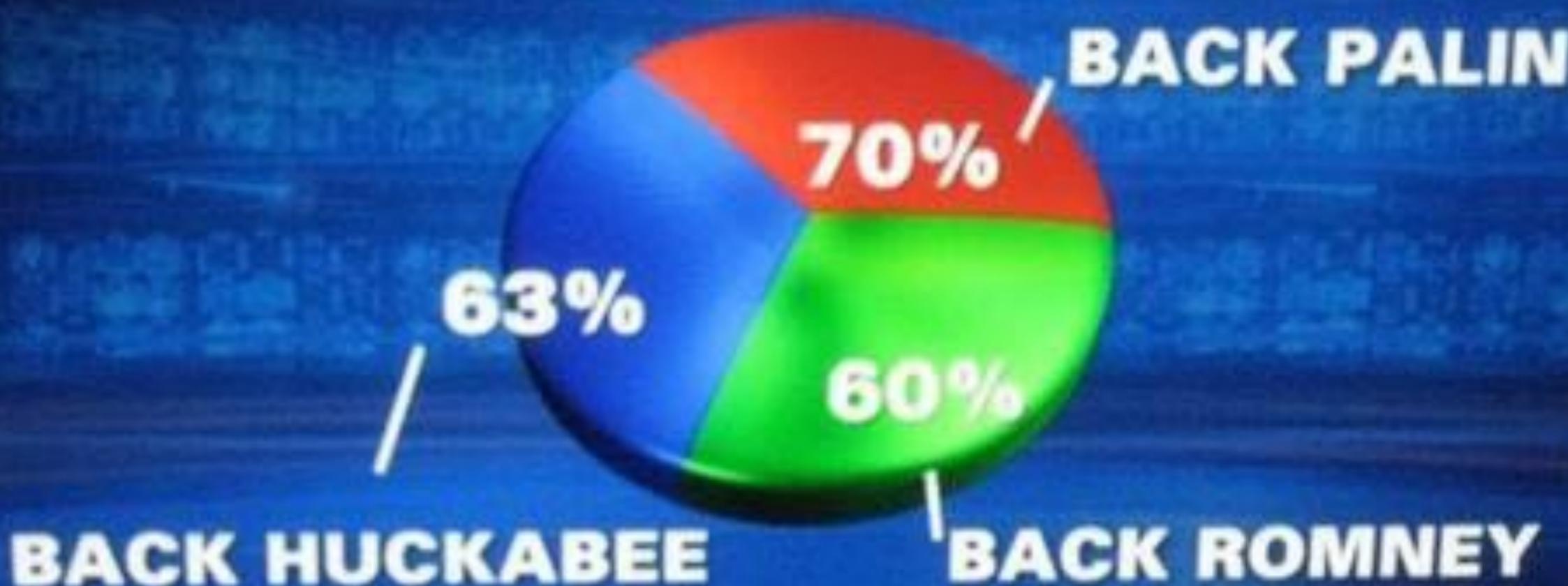
7,000,000

GOAL



# 2012 PRESIDENTIAL RUN

GOP CANDIDATES



SOURCE: OPINIONS  
DYNAMIC



# WHO DO YOU TRUST MORE?

CNN  
MSNBC  
FOX NEWS

NETWORK

48%

45%

30%

TRUMP

35%

32%

20%

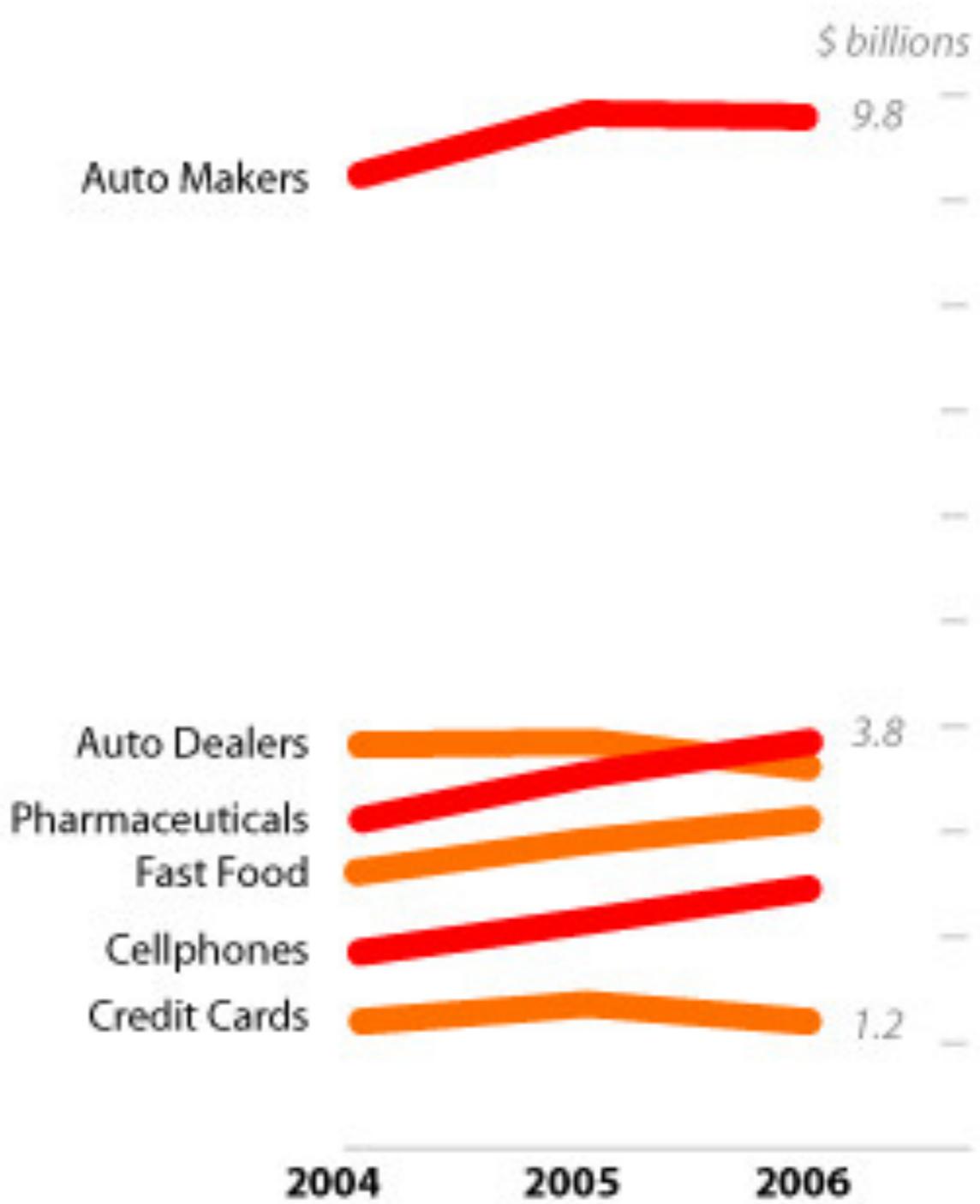
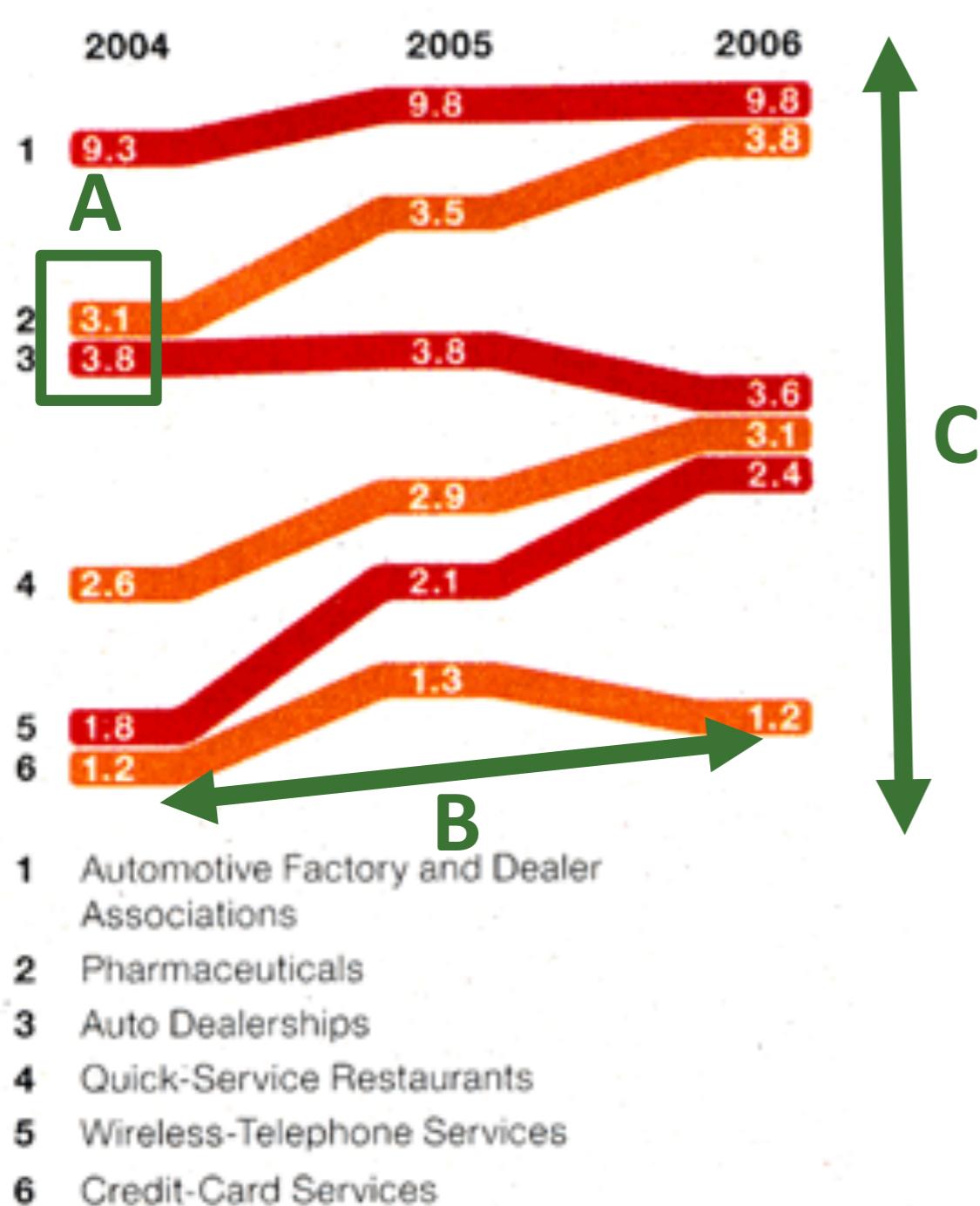
MONMOUTH UNIVERSITY  
MARCH 2-5  
603 ADULTS +/- 3.5%

TIGHT SHOT



## THE AD BUYERS

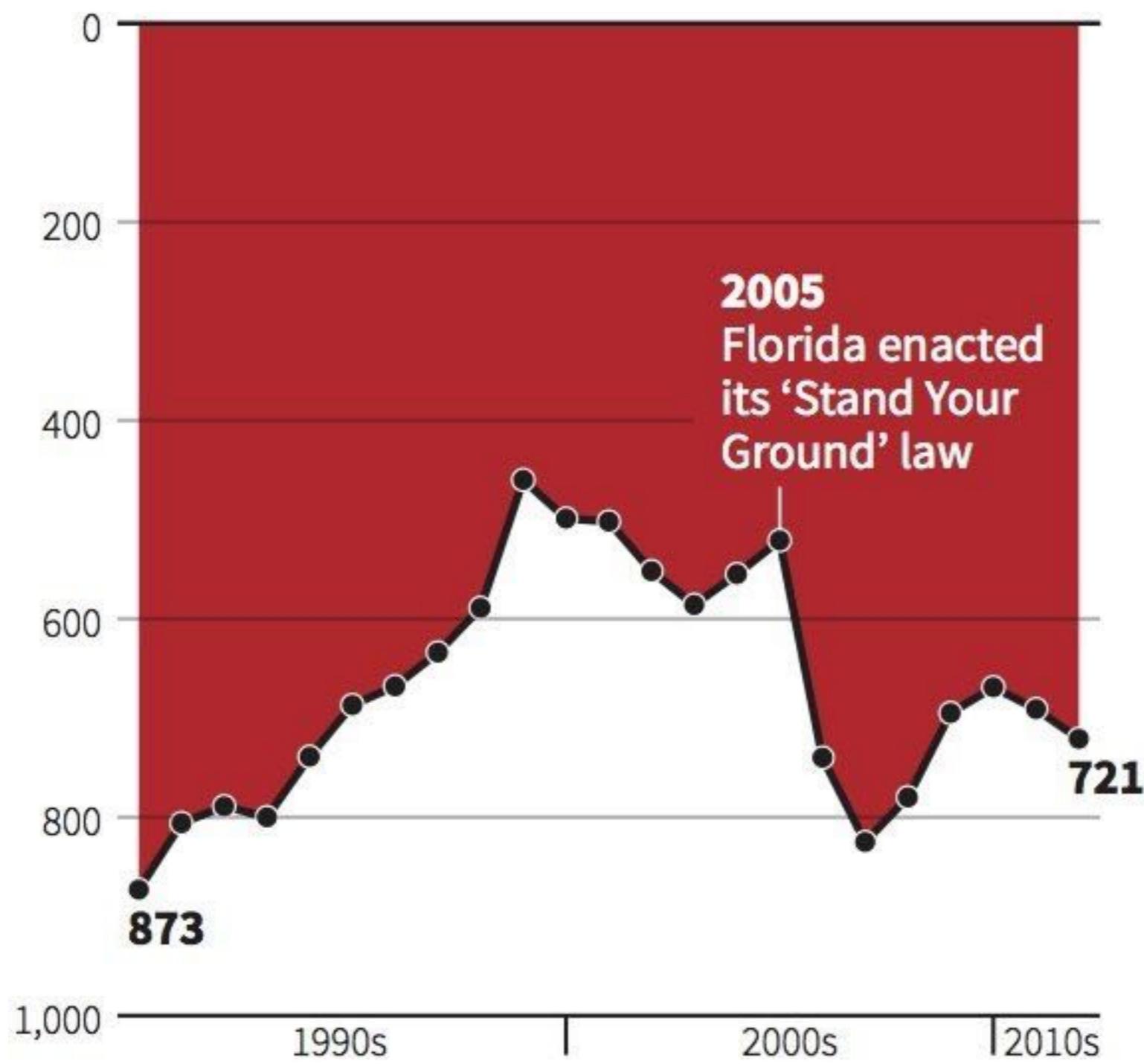
Advertising spending by selected major industries, in billions.



Source: Nielsen Monitor-Plus, a service of  
Nielsen Media Research  
Chart by Catalogtree

# Gun deaths in Florida

Number of murders committed using firearms

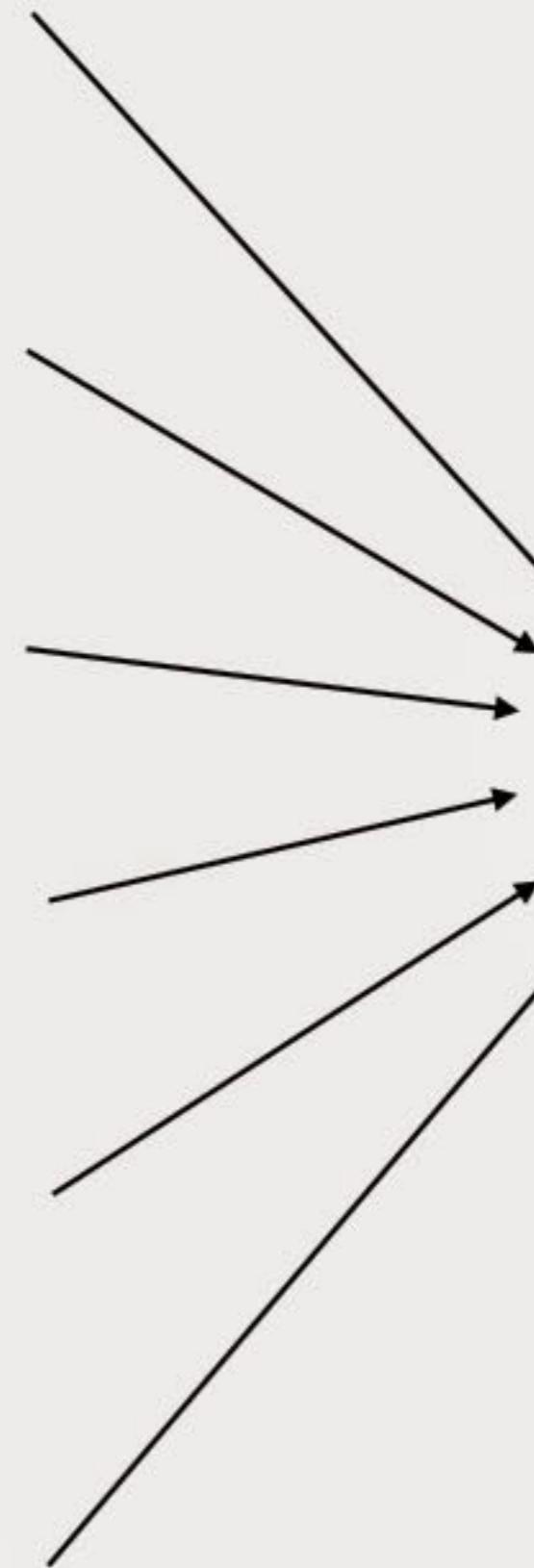


Source: Florida Department of Law Enforcement

MAP



REDUCE



# WTF Visualizations

Visualizations that make no sense.

For a discussion of what is wrong with a particular visualization, tweet at us [@WTFViz](#).

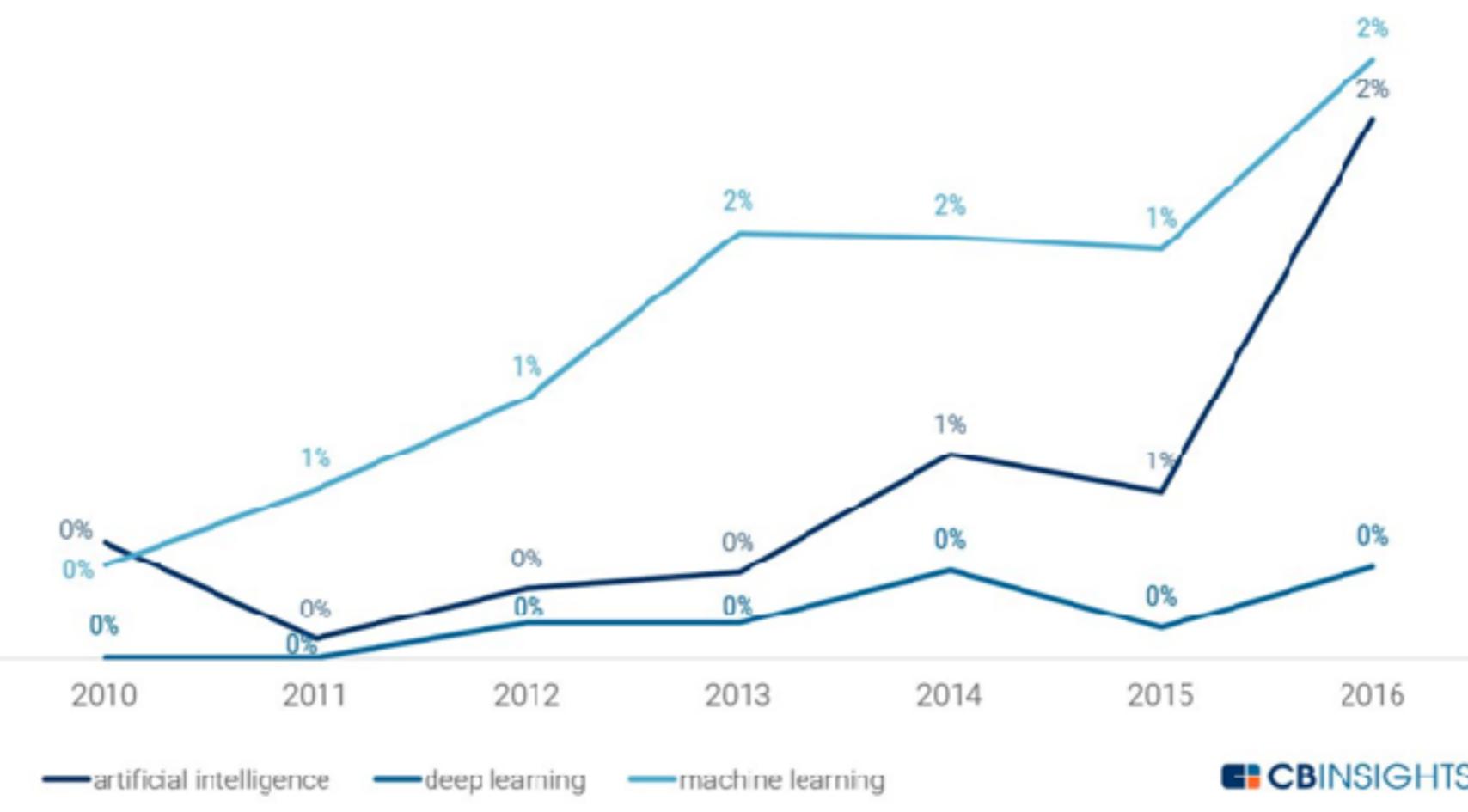
[Submit a WTFViz you found.](#)

[SUBMIT](#)    [ARCHIVE](#)



## LEARNING HOW TO LEARN

Percentage of VC-backed companies with certain words in their company description over time



The largest 0% ... (from [@minamaxlr](#))

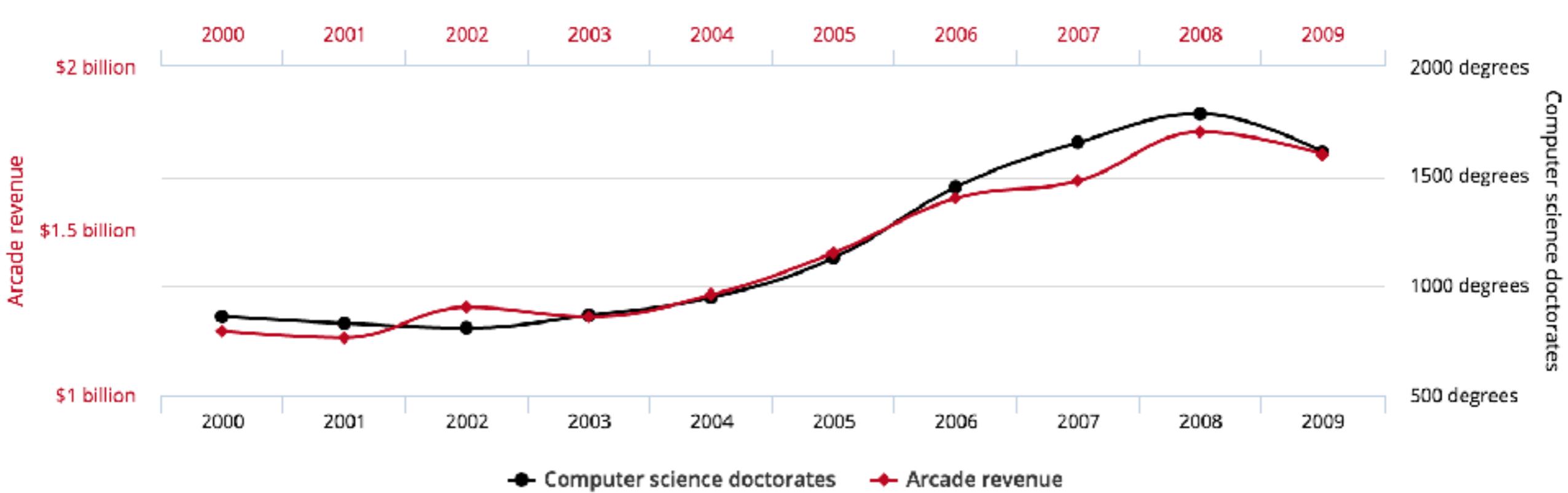
Submit a Viz that makes you go WTF?!

Source: [viz.wtf](#)

# Total revenue generated by arcades correlates with Computer science doctorates awarded in the US



Correlation: 98.51% ( $r=0.985065$ )



Data sources: U.S. Census Bureau and National Science Foundation

[tylervigen.com](http://tylervigen.com)

Source: [tylervigen.com/spurious-correlations](http://tylervigen.com/spurious-correlations)

# Exercises

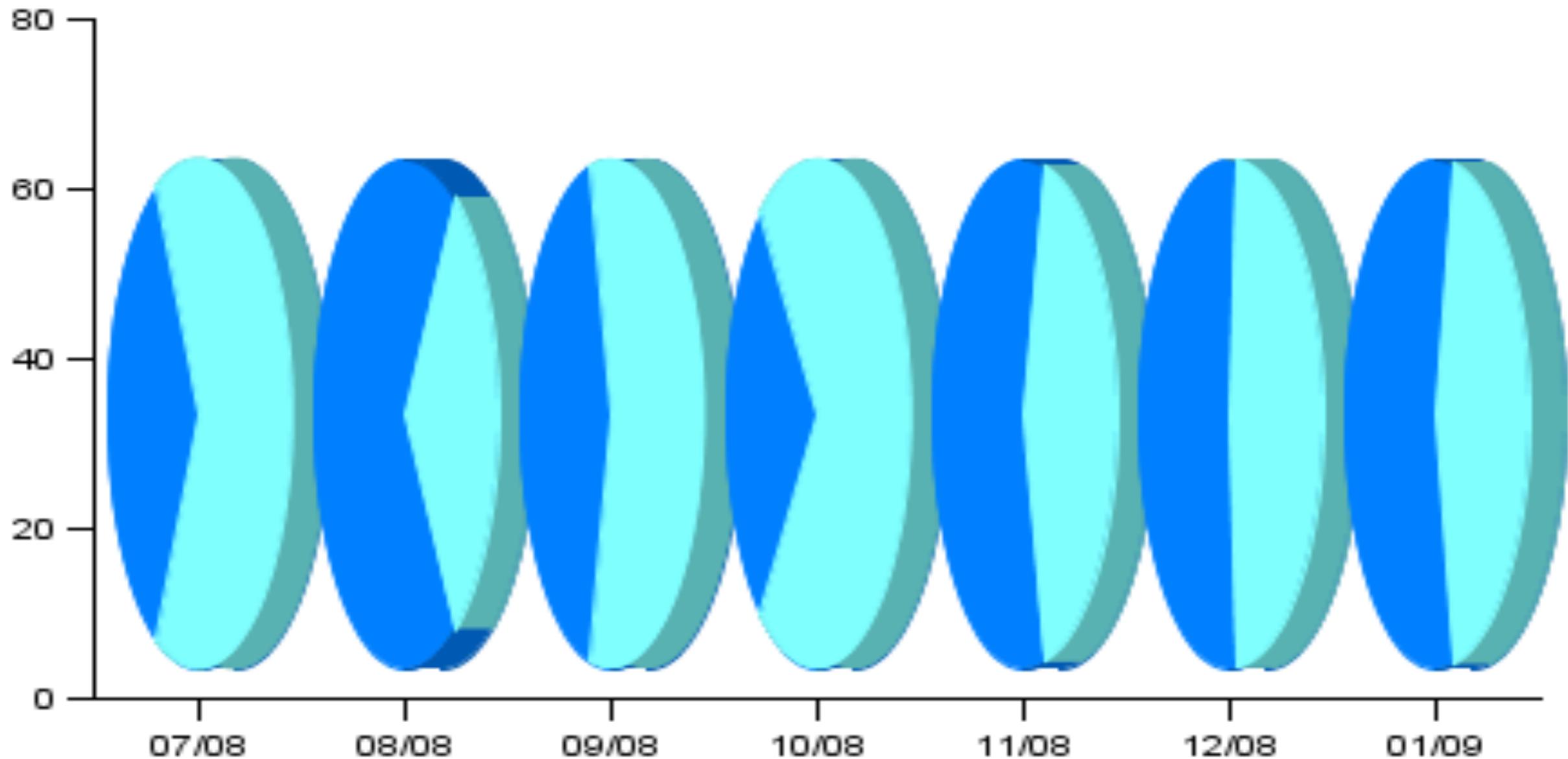
# Exercise

Country  
Corruption Ranking  
Coups – Successful  
Coups – Attempted  
Debt % of GDP  
College Graduates as % of Population  
Health as % of Population  
% Millionaires

...over 20 Years, all data is available,  
accurate, and consistent

# Exercise

**Single Series - Vertical - 10 Pixel Depth w/Pie Vertical Bars**



# Tom Crawford

 thcrawford

 @thcrawford  
@viznetwork

 viznetwork.com

