DATA VISUALISATION: WHAT'S IT ALL ABOUT?
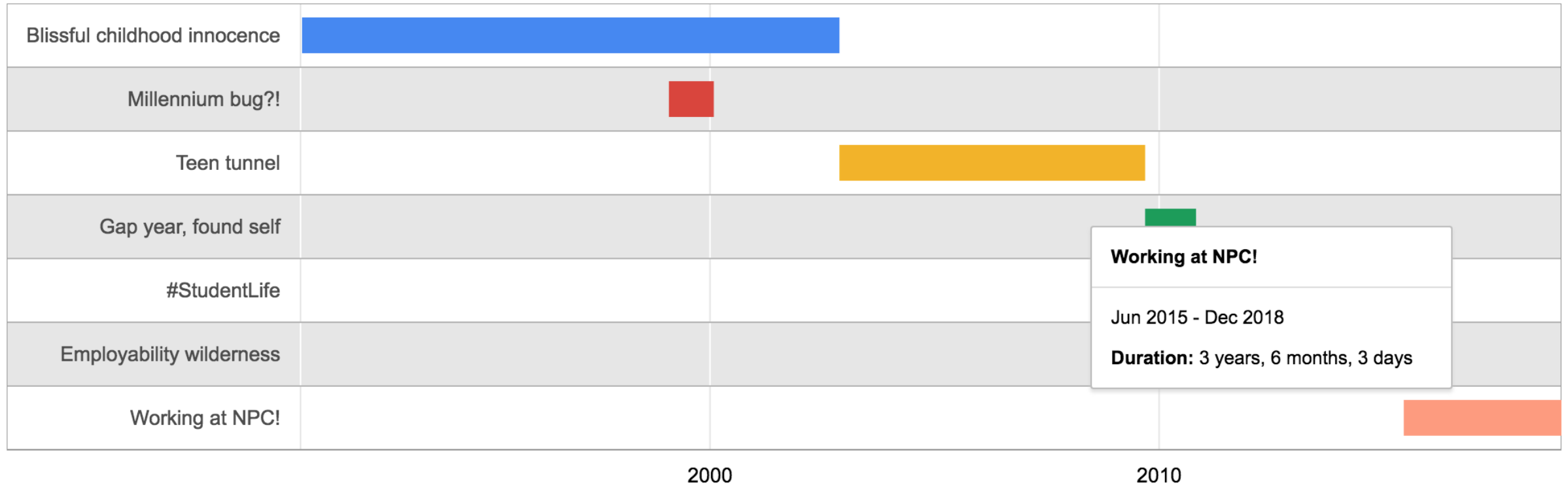
Katy Murray, Communications Manager, NPC

Impact Aloud 2018

QUICK ABOUT ME

Made (very messily) with https://developers.google.com/chart/

WE HELP THE CHARITY SECTOR ACHIEVE THE GREATEST IMPACT

NPC

Support individuals and organisations

Challenge and inspire the sector

Create the conditions for impact

QUICK ABOUT ME

Small comms team

Learning on the job

Still learning!

Hopefully I can save you a bit of time

WHAT I'LL COVER

Key questions to consider in your approach

What?	Why?	Who?	How?

Signposting tools and resources

WHAT IS DATA VISUALISATION?

CLUE IS IN THE NAME?

Presenting your **data** in a **visual** way

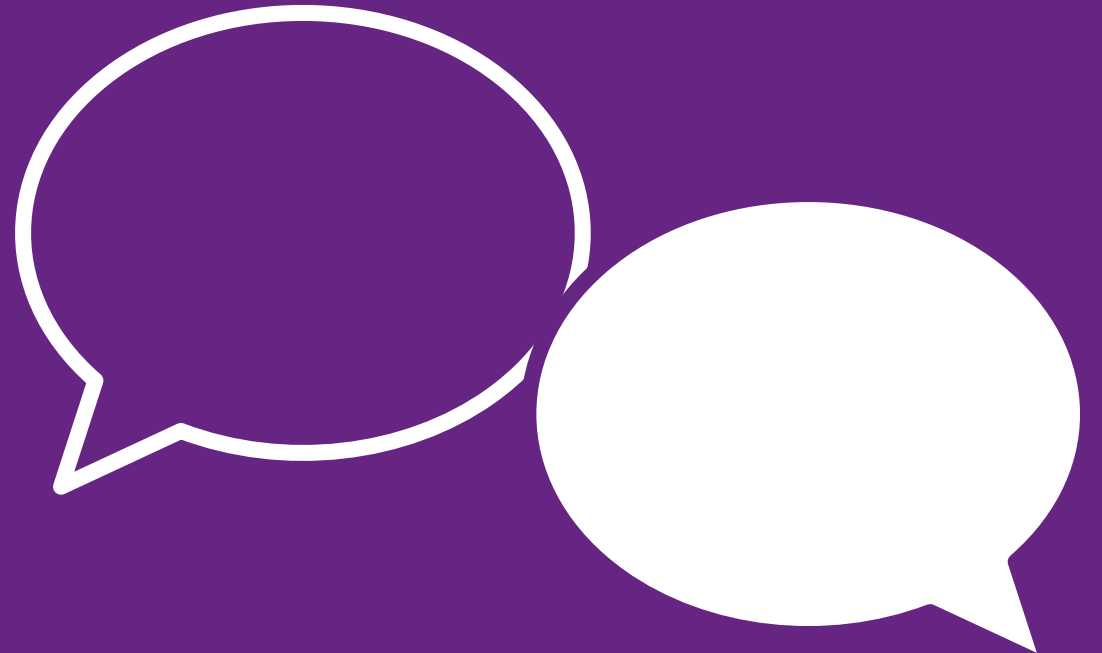# …BUT DOES THIS ALWAYS HELP?

…BUT DOES THIS ALWAYS HELP?

A BETTER QUESTION…

WHY VISUALISE YOUR DATA?

Q1: Why would anyone visualise data?

Q2: Why would your charity/org visualise its data?

A BETTER DEFINITION?

*'Data visualisation is a general term that describes any effort to **help people understand the significance of data** by placing it in a visual context. Patterns, trends and correlations that might go undetected in text-based data can be exposed and recognised easier with data visualisation software.'*

searchbusinessanalytics.techtarget.com

LET PEOPLE EXPLORE…?

1 4 8 2 5 9 4 2 1 6 8 0 5 3

3 5 4 3 6 5 7 6 3 5 6 7 4 6

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

1 0 9 6 2 4 5 6 7 8 9 3 3 2

3 4 3 6 7 4 6 4 6 5 6 1 2 5

HELP PEOPLE EXPLORE

1 4 8 2 5 9 4 2 1 6 8 0 5 3

3 5 4 3 6 5 7 6 3 5 6 7 4 6

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

1 0 9 6 2 4 5 6 7 8 9 3 3 2

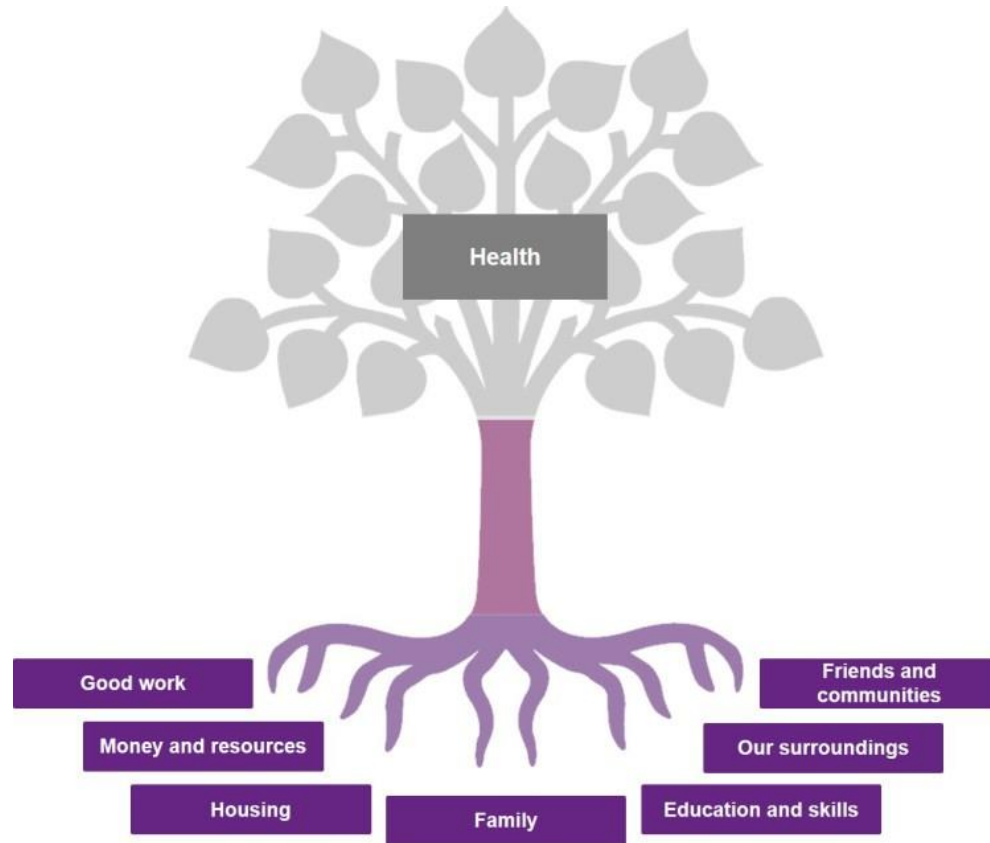3 4 3 6 7 4 6 4 6 5 6 1 2 5

DATA VIZ VS 'INFOGRAPHICS'

'An infographic is a type of data visualisation, but has a distinct story or editorialised narrative.'

Mollett etc al (2017: 116)

DATA VISUALISATION? OR VISUAL STORY-TELLING

Story =   plot   +   narrative

what's happening   why what's happening matters

BROADENS THE SCOPE

COMMUNICATING COMPLEX IDEAS

@NPCthinks #KeepUsWell

www.thinknpc.org/publications/keeping-us-well/

WHATEVER WE'RE CALLING IT…

'It looks nice' or 'it sounds nice' is no excuse for a boring, confusing or misleading people

You still need clarity and intention to what you're saying. You need a 'why'…

WHY ARE WE DOING THIS?

ASK YOURSELVES…

Why are we doing this? What do we want to achieve?

Voicing that reason will help you focus your mind and tailor your approach.

TWO BROAD REASONS WHY

1. Find the story: To understand your own data better

2. Tell the story: Helping others to understand what your data means

FINDING THE STORY
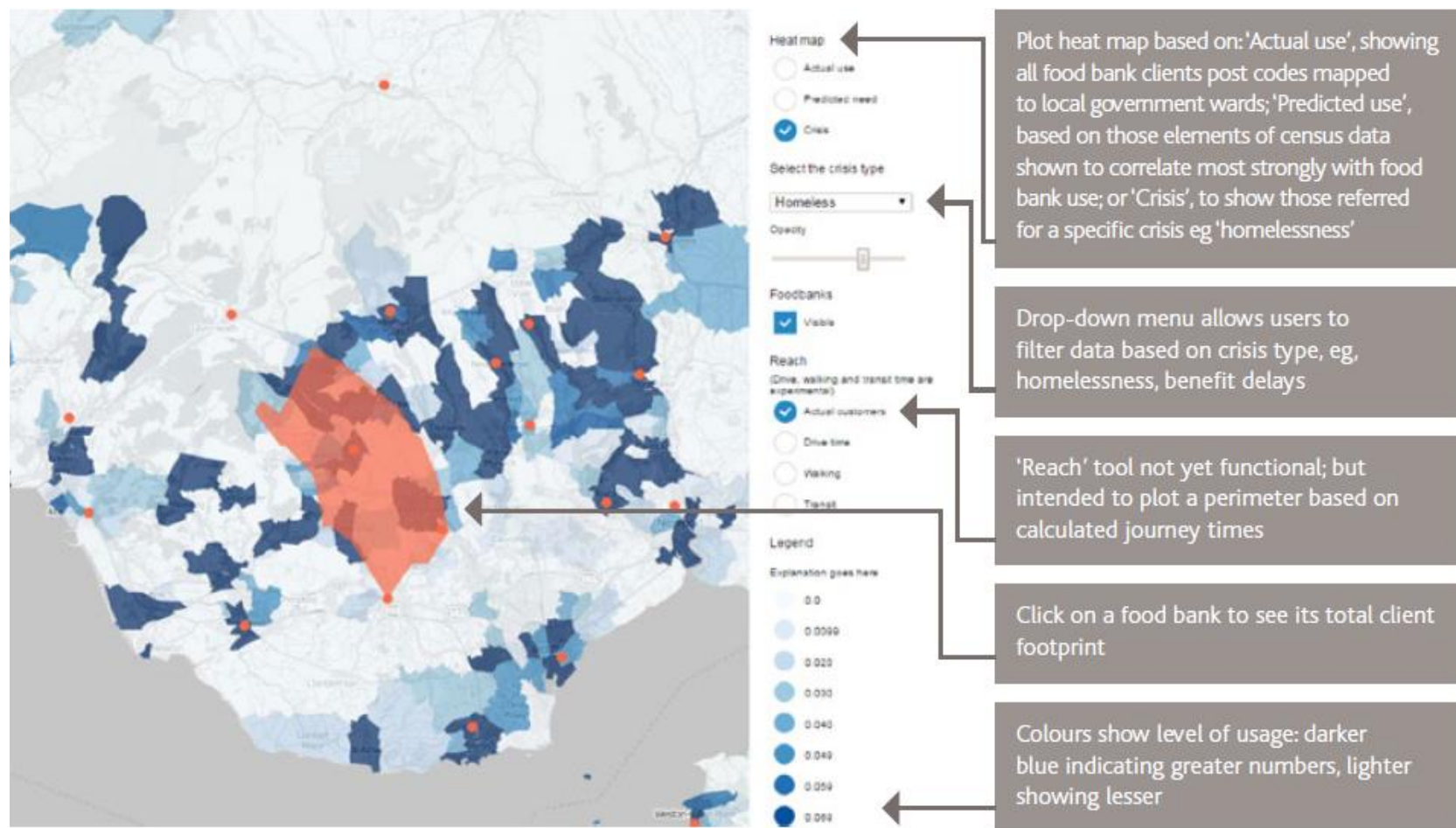
The Trussell Trust Mapping Hunger tool

Annotations from NPC's thinkNPC.org/8innovations
www.trusselltrust.org/wp-content/uploads/sites/2/2016/04/Mapping-Hunger-Report.pdf

TELLING THE STORY

Primary reasons for referral to Trussell Trust foodbanks

2015-2016 · 2014-2015 · 2013-2014

Benefit Delays 27.95%, Low Income 23.31%, Benefit Changes 13.50%, Other 11.86%, Debt 6.75%, Homeless 5.10%, Unemployed 5.03%, Sickness 2.67, Domestic Violence 1.52, Delayed Wages 1.12%, Child Holiday Meals 0.84%, Refused STBA 0.33%, Refused Crisis Loan 0.02%
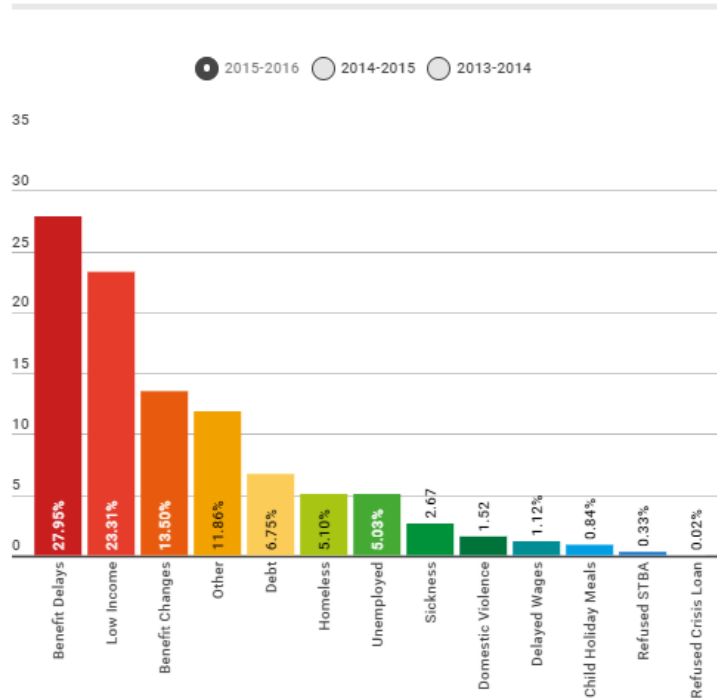
Number of 3 day emergency food supplies given by Trussell Trust foodbanks in 2015-2016
Regional breakdown

NUMBER OF 3 DAY EMERGENCY FOOD SUPPLIES GIVEN TO PEOPLE IN CRISIS BY TRUSSELL TRUST FOODBANKS

the trussell trust
Stop UK Hunger

April 2015 - April 2016
1,109,309

www.trusselltrust.org/news-and-blog/latest-stats/end-year-stats

TELLING YOUR STORY

'Who' is the best friend of 'why'

WHO ARE WE TRYING TO REACH?

KEEP YOUR AUDIENCE FRONT AND CENTRE

What do you want them to **know, feel, do**?

How will they be consuming/interacting with the information?

TAILORING FOR AUDIENCE
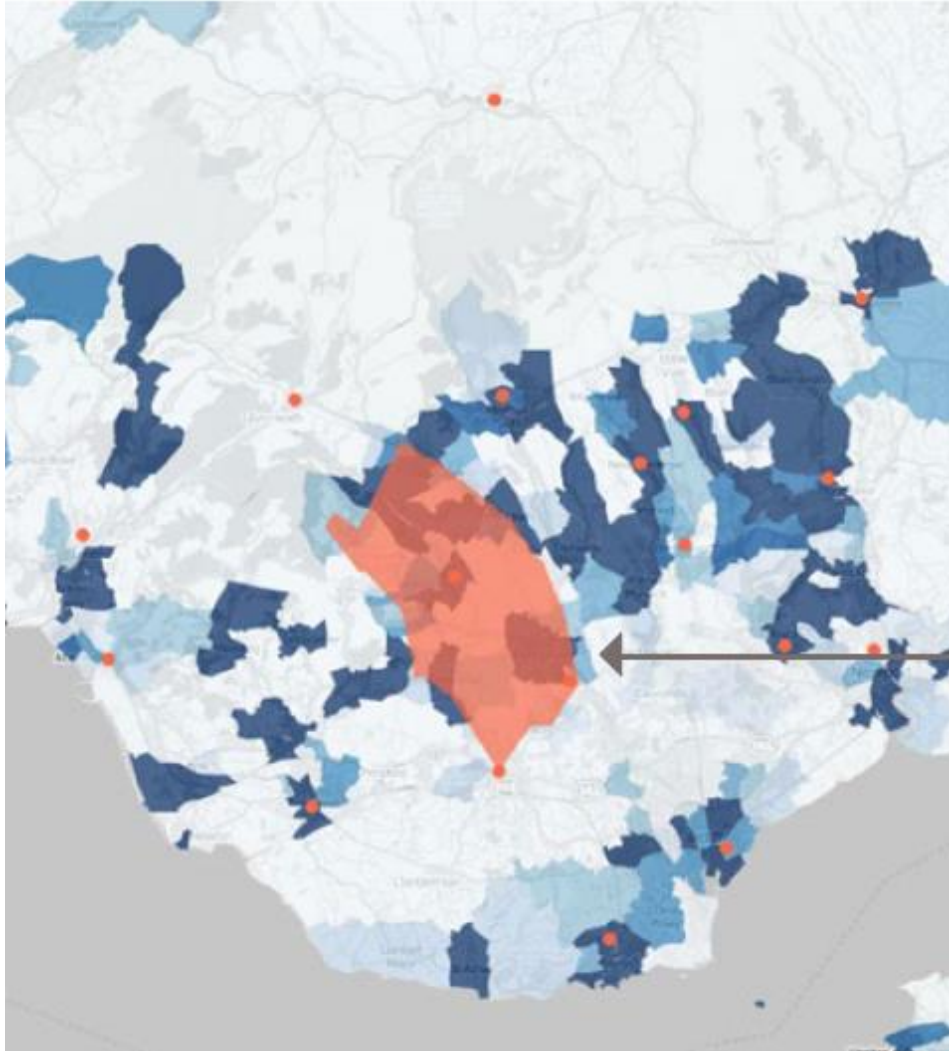
Better for internal use/external expert audience eg, researchers, policy makers

TAILORING FOR AUDIENCE

NPC

Primary reasons for referral to Trussell Trust foodbanks

● 2015-2016   ○ 2014-2015   ○ 2013-2014

Reason	Value
Benefit Delays	27.95%
Low Income	23.31%
Benefit Changes	13.50%
Other	11.86%
Debt	6.75%
Homeless	5.10%
Unemployed	5.03%
Sickness	2.67
Domestic Violence	1.52
Delayed Wages	1.12%
Child Holiday Meals	0.84%
Refused STBA	0.33%
Refused Crisis Loan	0.02%
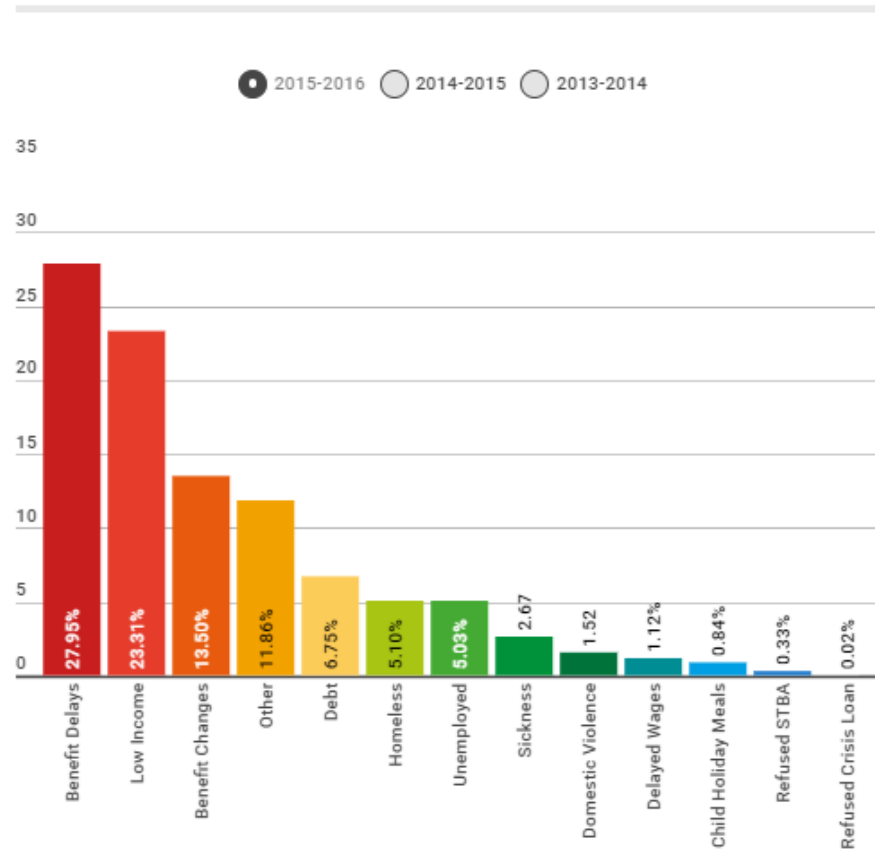
Journos, campaigning and policy change groups

Some interested supporters/general public

TAILORING FOR AUDIENCE

General public, beneficiaries and donors

ALWAYS KEEP IN MIND WHO YOU COULD BE EXCLUDING

Visualisation can make information more accessible for some people, but less accessible for others.

Always consider sight loss and visual impairment, cognitive impairment and how to supplement your visualisations.

More on this in a bit…

HOW ARE WE DOING TO DO IT?

PLAN

Think visually from the start including when collecting your data/story

Visual story-telling is not one person or one team's job

Do some research, including 'bad examples'

Work with a framework…
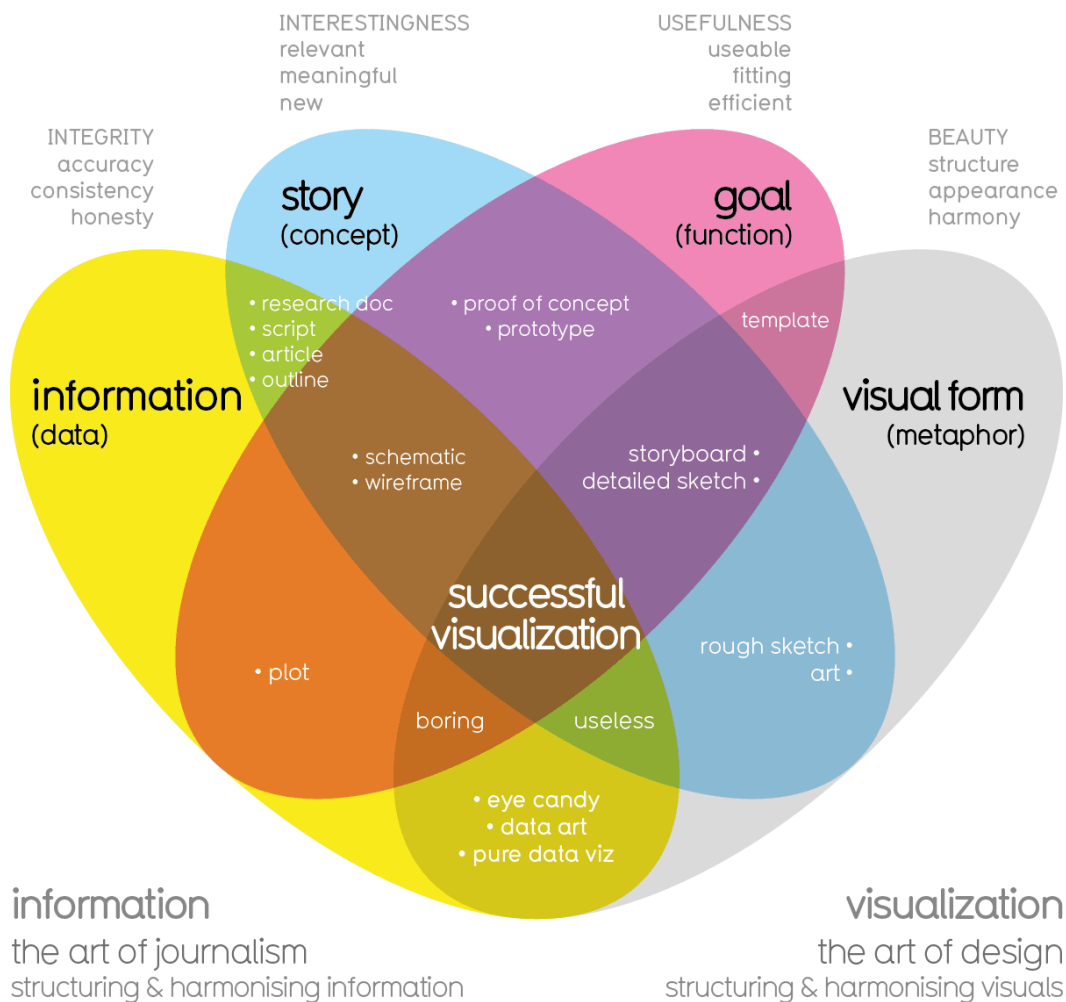
informationisbeautiful.net/visualizations/what-makes-a-good-data-visualization/

DO

Prioritise: what's your message?

Think about how text and image work together…

VISUAL *ONLY* STORY-TELLING?
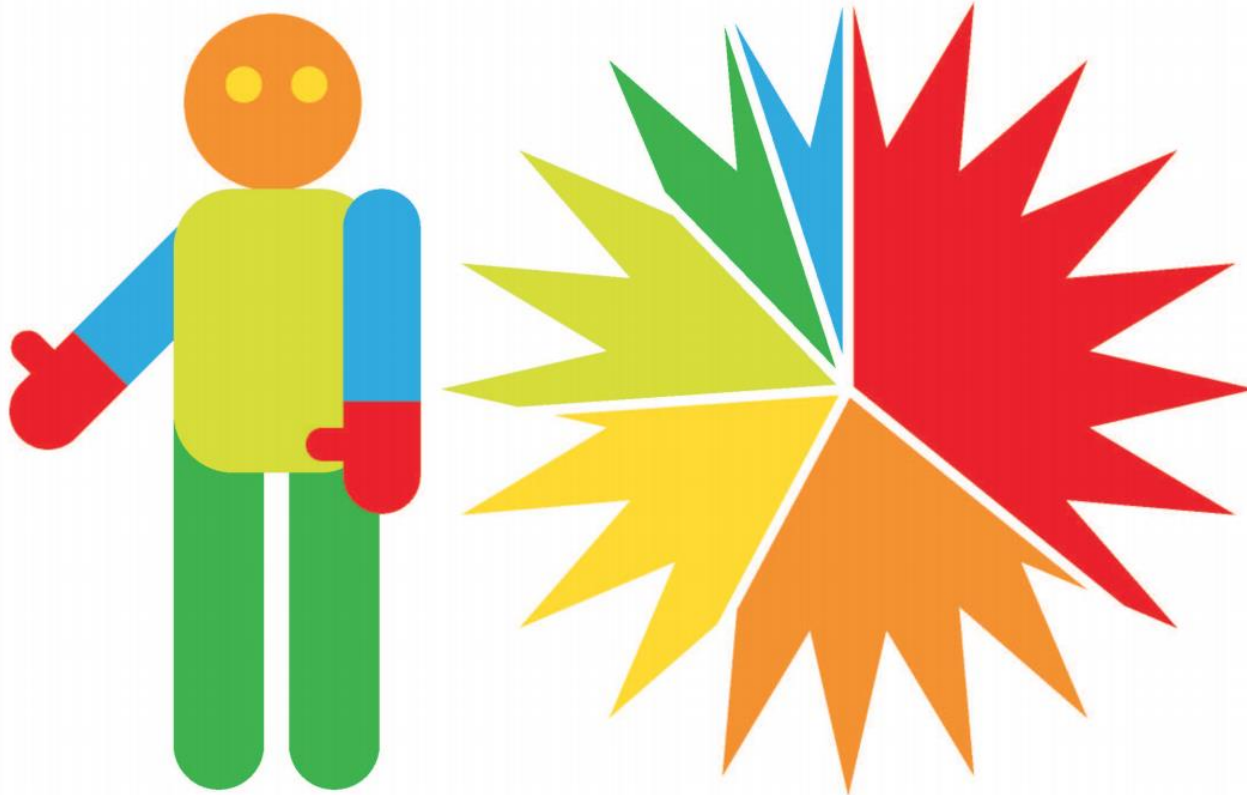
From Delayed Gratification
https://www.slow-journalism.com/filter/events-and-classes

OVER TO YOU: DATA PICTIONARY!

Pair/team up

Try communicate your data 'story' using no words, visuals only

Try at all costs to avoid writing numbers, but you can if you're desperate

Finished? Turn to the team next to you and see if you can work each others' out
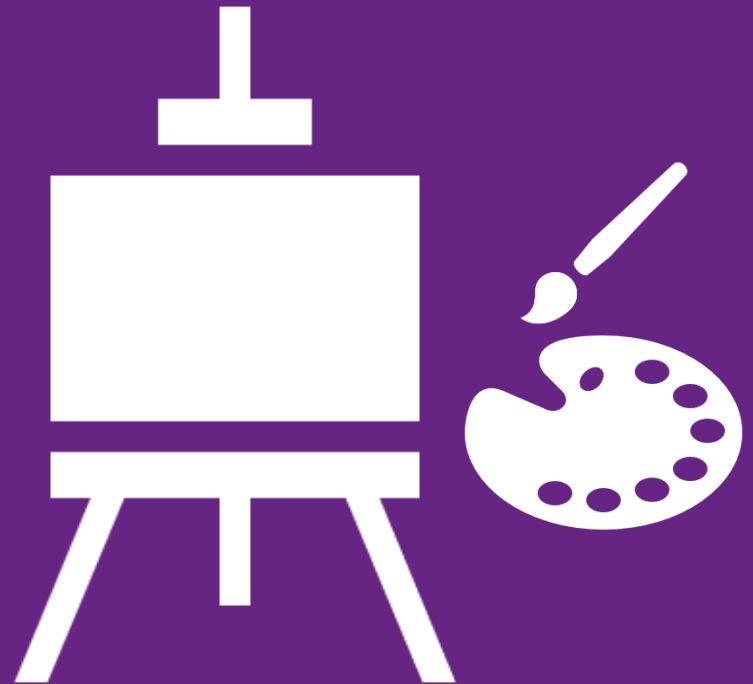
IT DOESN'T HAVE TO BE DONE DIGITALLY

Earliest data viz was done by hand

Fun and a bit different
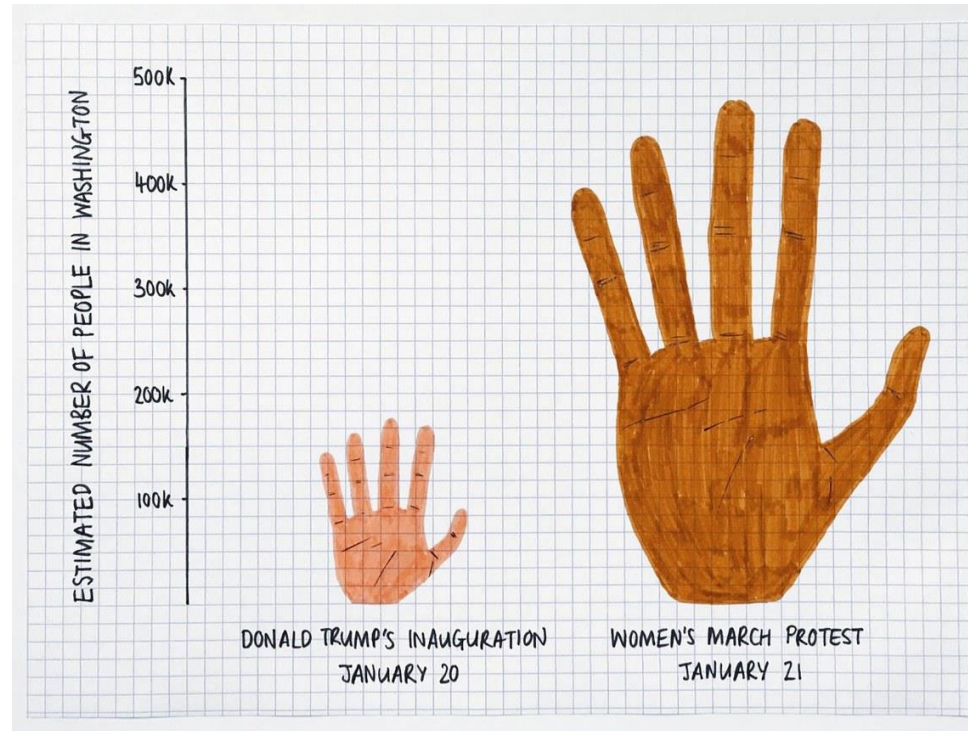
Mona Chalabi, The Guardian US

https://www.wired.com/2017/02/nerdy-charm-artisanal-hand-drawn-infographics

W. E. B. Du Bois, World's Fair

https://www.brainpickings.org/2017/10/09/w-e-b-du-bois-diagrams/

DO

Prioritise: what's your message?

Think about how text and image work together

Choose the right form for this message

# DIFFERENT CHARTS FOR DIFFERENT STORIES

Comparison

Hierarchy

Concept

Time

Scale/proportion

Space/proximity

YOUR BIBLE FOR CHOOSING A CHART TYPE

datavizproject.com

YOUR BIBLE FOR CHOOSING A CHART TYPE

datavizproject.com

Sunburst Diagram Also called: Ring chart, Multi-level Pie Chart, Sunburst partition

A Sunburst Diagram is used to visualize hierarchical data, depicted by concentric circles. The circle in the centre represents the root node, with the hierarchy moving outward from the center. A segment of the inner circle bears a hierarchical relationship to those segments of the outer circle which lie within the angular sweep of the parent segment.

A sunburst chart without any hierarchical data (one level of categories), looks similar to a doughnut chart. However, a sunburst chart with multiple levels of categories shows how the outer rings relate to the inner rings.

FAMILY

Chart

FUNCTION

Comparison

SHAPE

●

INPUT

Level 1	Level 2	Level 3
Fruit	Citrus	Orange
Fruit	Citrus	Lemon
Meat	Pork	Chop

EXAMPLES

INFOGRAPHICS WHEEL
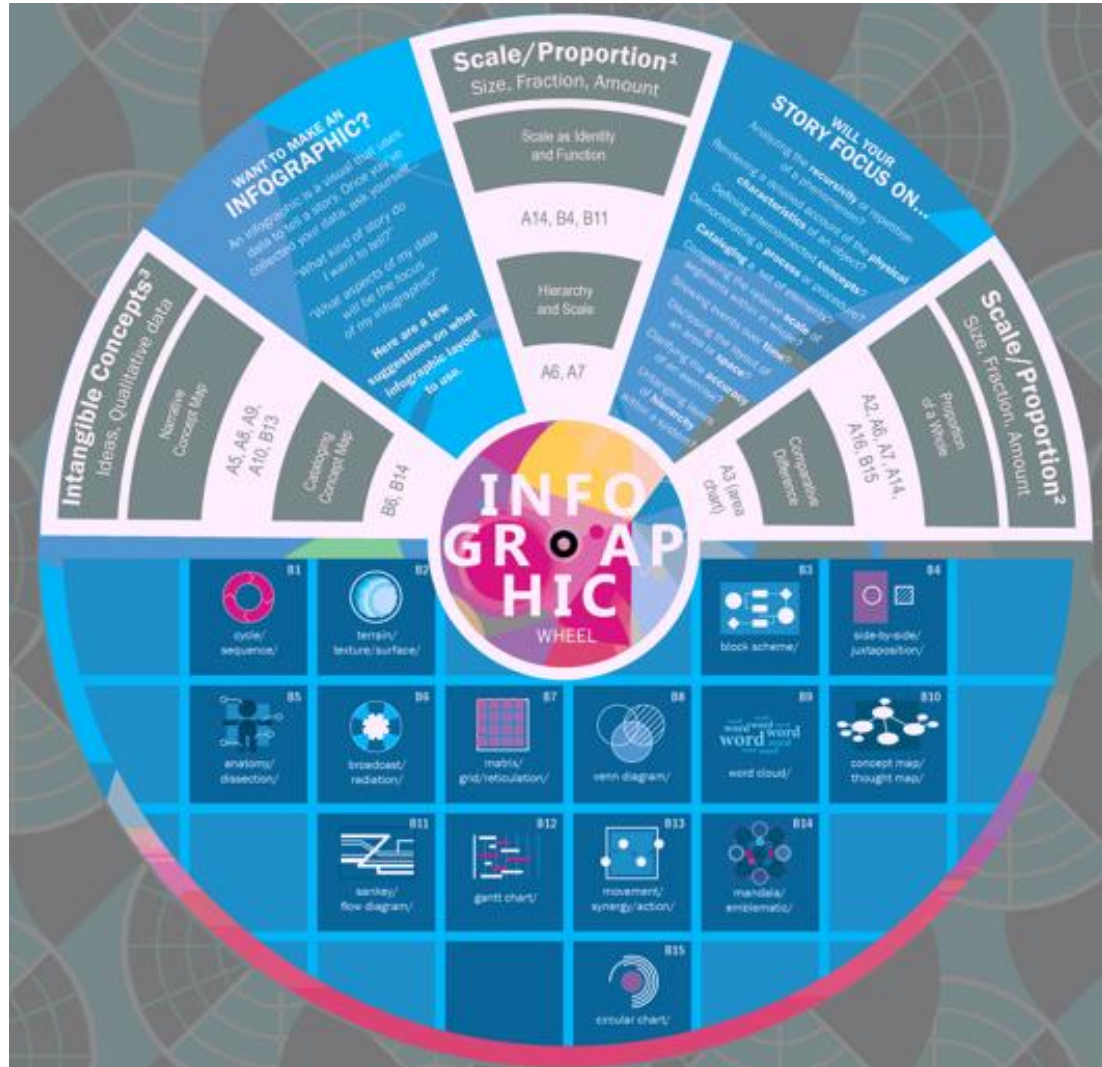
Jessica Bellamy's infographics wheel

www.behance.net/gallery/59600139/The-Infographic-Wheel

@JBellaGraphics
www.jessicabellamy.design

INFOGRAPHICS WHEEL

@JBellaGraphics
www.jessicabellamy.design

INFOGRAPHICS WHEEL

@JBellaGraphics
www.jessicabellamy.design
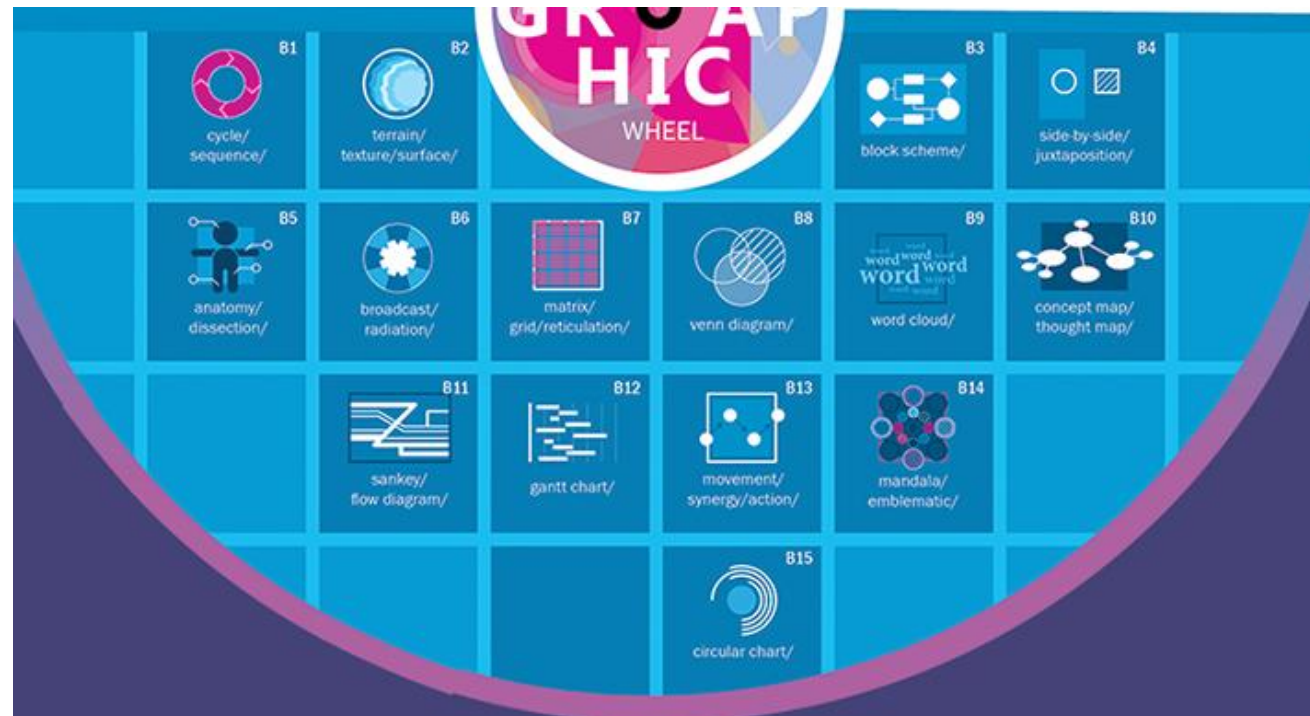
ANOTHER GUIDES FOR CHOOSING THE RIGHT FORM
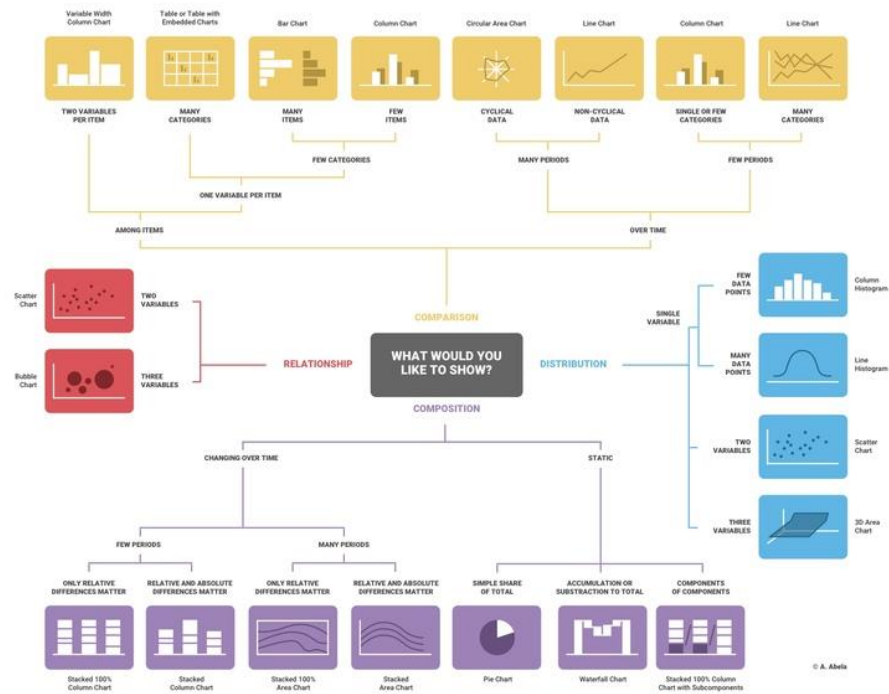
https://infogram.com/page/choose-the-right-chart-data-visualization

DO

Prioritise: what's your message?

Think about how text and image work together

Choose the right form for this message

Iterate and build

ASSESS & REVIEW

Monitor response to your visualisations: feedback, shares, engagement

Return to them after a while and tear them apart: you'll learn from it
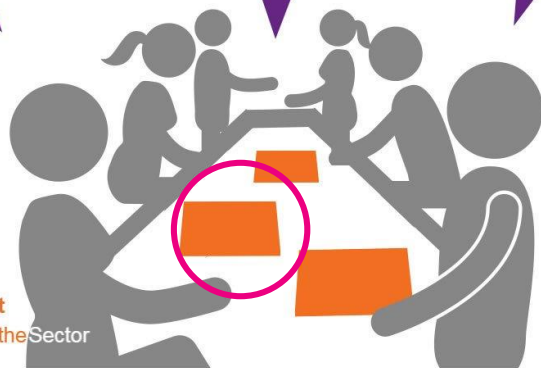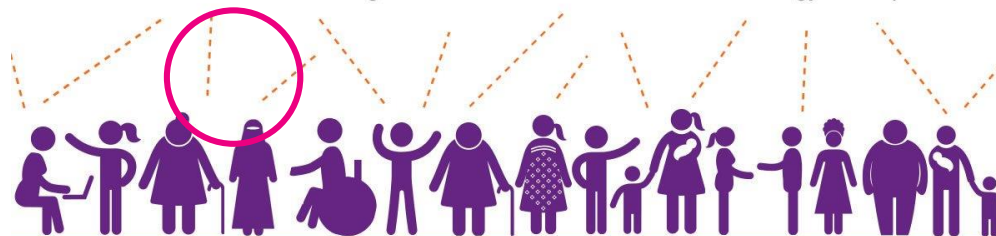
Every visual cue means something, so don't get carried away!

ACCESSIBILITY AND INCLUSION

Don't let colour be the only thing that indicates meaning
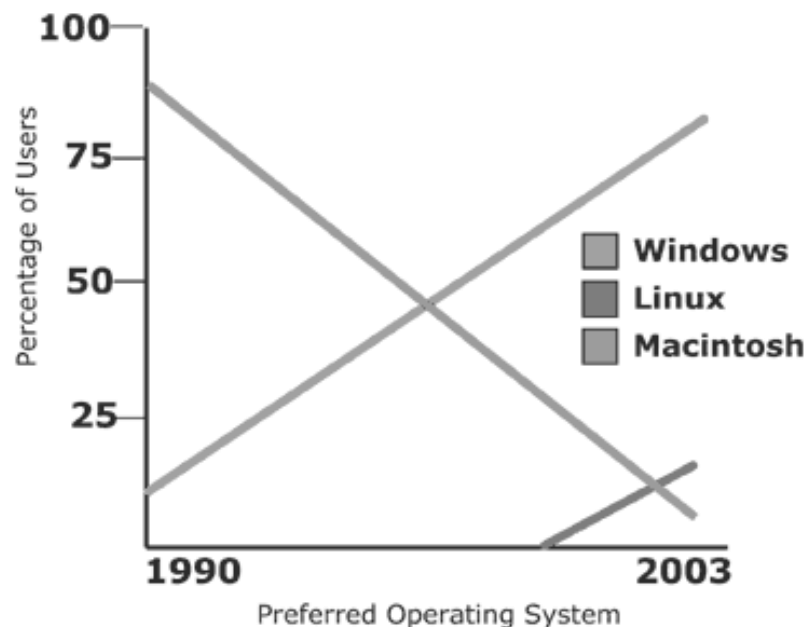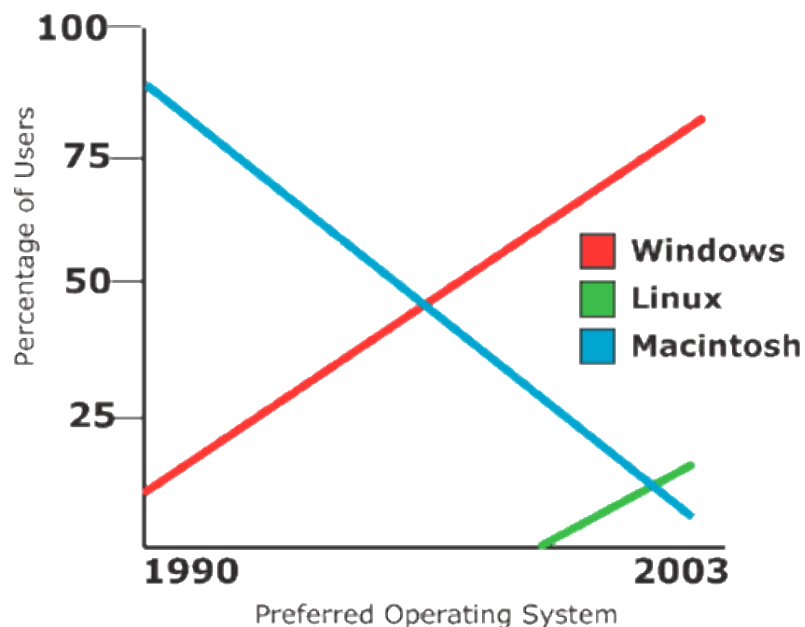
ACCESSIBILITY AND INCLUSION
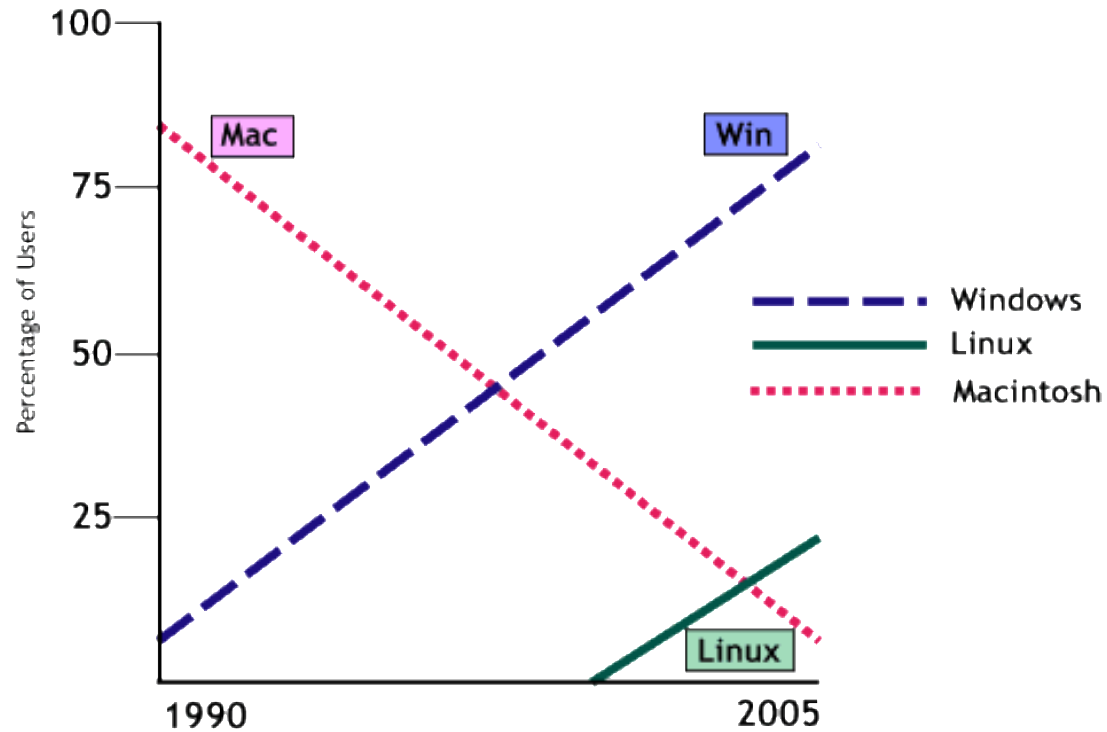
ACCESSIBILITY AND INCLUSION

Include succinct, useful descriptions of the graphic for screen readers, and include data tables where possible

Writing alt text for charts http://accessibility.psu.edu/images/charts/

TOOLS & RESOURCES

NPC GUIDES ON CHARITIES & DATA

Data visualisation: what's it all about https://www.thinknpc.org/resource-hub/data-visualisation-whats-it-all-about/

5 types of evaluation data https://www.thinknpc.org/blog/5-types-of-data-for-assessing-your-work-an-explainer/

Stories and numbers: Collecting the right impact data https://www.thinknpc.org/resource-hub/stories-and-numbers-collecting-the-right-impact-data/

How to use qualitative research https://www.thinknpc.org/resource-hub/listen-and-learn-how-charities-can-use-qualitative-research/

What good impact reporting looks like https://www.thinknpc.org/resource-hub/result-what-good-impact-reporting-looks-like/

IMPACTSUPPORT.ORG

Partnership support aimed specifically at small charities/those just getting started

https://impactsupport.org/data/

EXTERNAL DATA SOURCES

Office for National Statistics
https://www.ons.gov.uk/

Ipsos MORI https://www.ipsos.com

YouGov https://yougov.co.uk

GLA data store https://data.london.gov.uk/ also check out other local authorities

UK data archive http://data-archive.ac.uk/

Google trends https://trends.google.com/trends/
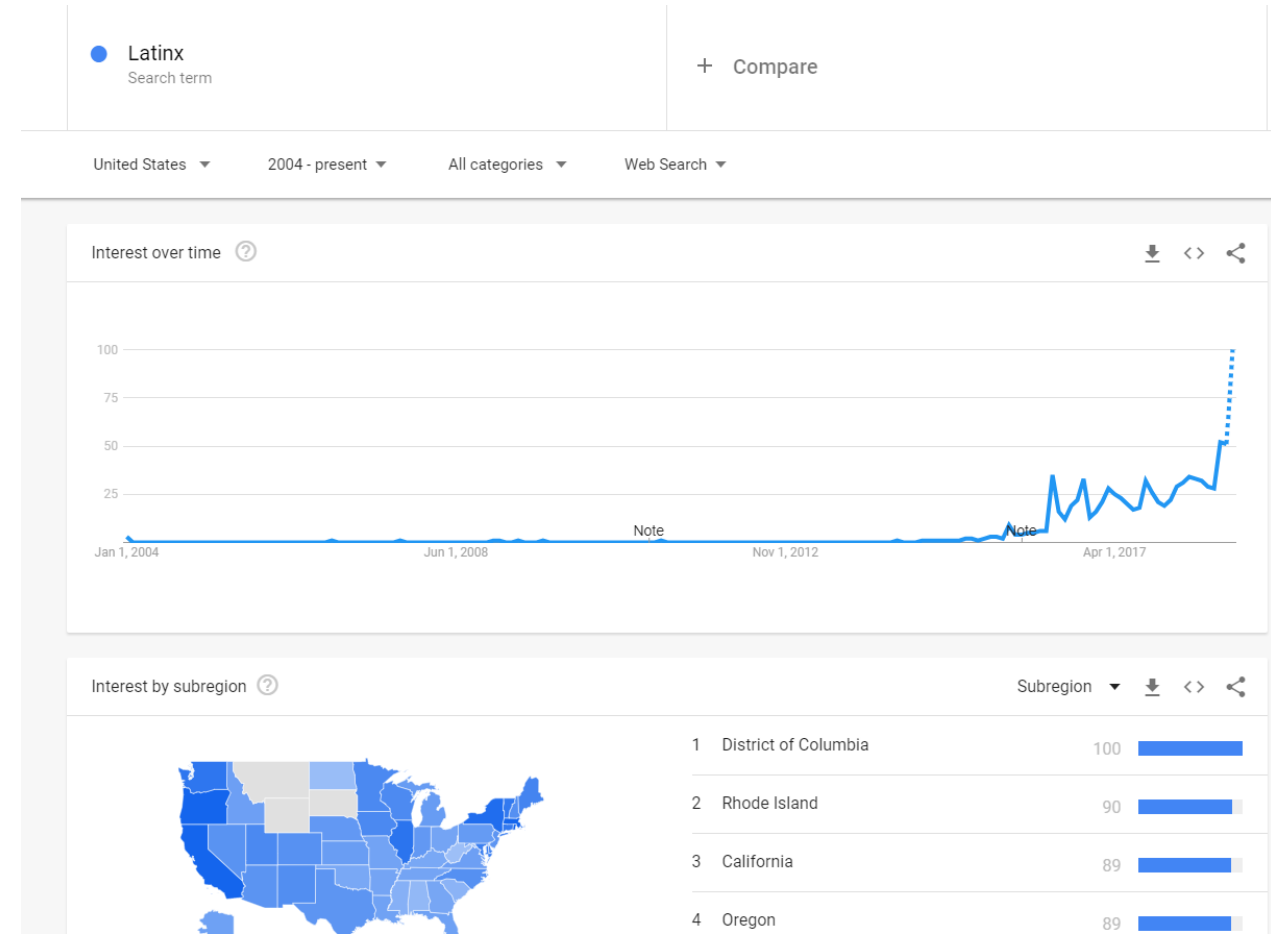
DATA VIZ TOOLS

Piktochart piktochart.com

- Designed for making infographics

- Free with a watermark, or pay to take watermark off and get higher quality downloads

- Lots of out-of-the-box visual components to help you make nice visuals
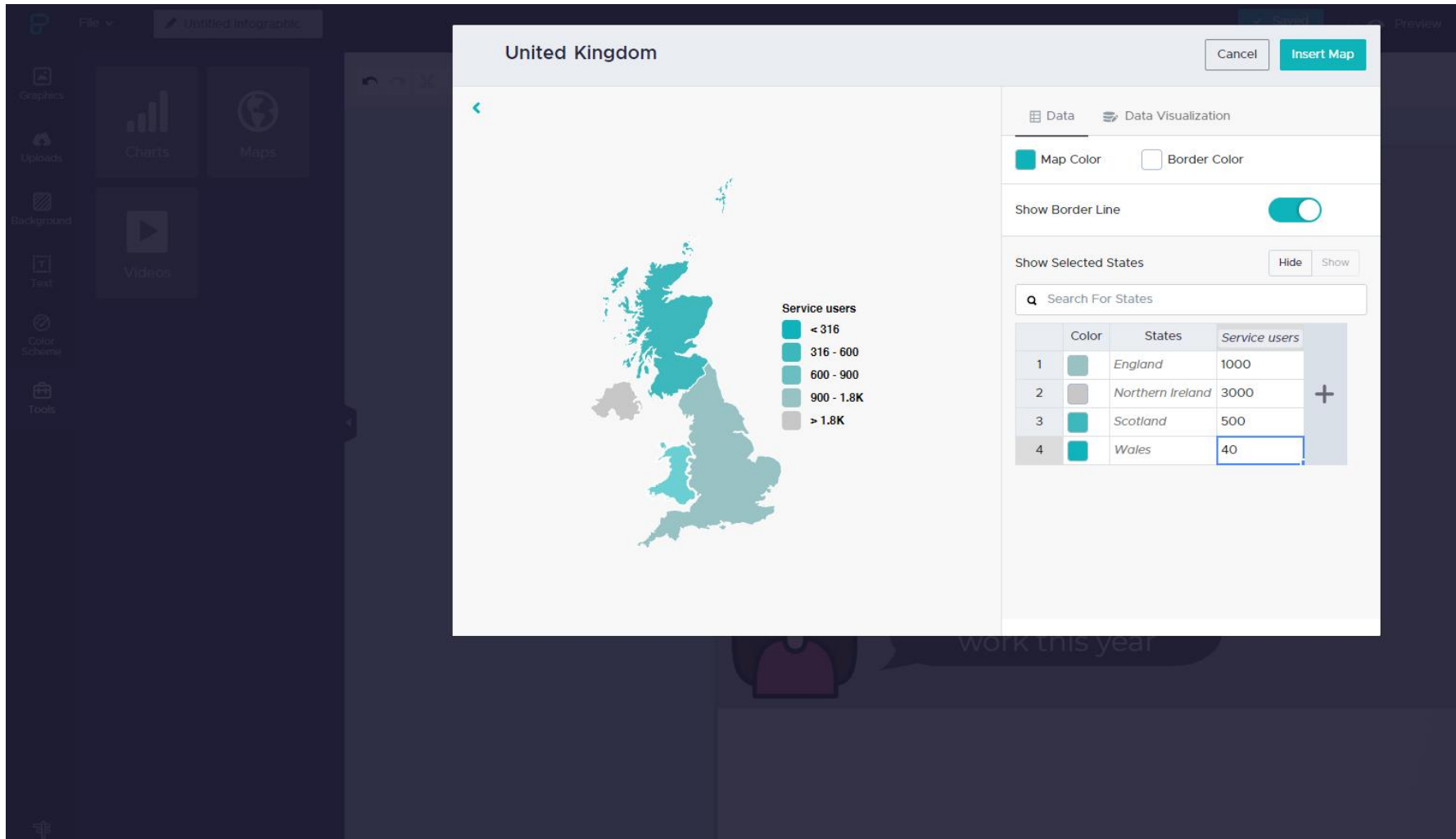
DATA VIZ TOOLS

Piktochart piktochart.com

DATA VIZ TOOLS

Piktochart piktochart.com

DATA VIZ TOOLS

Piktochart piktochart.com

DATA VIZ TOOLS

Tableau www.tableau.com

- Free version: but this is open source so data will be made public

- Pay for a private version (discounts for charities)

- Huge community around it so they have regular meetups for newbies

- Free course on using it www.coursera.org/learn/analytics-tableau?action=enroll

- Handy guides eg, www.tableau.com/learn/whitepapers/which-chart-or-graph-is-right-for-you

MORE DATA VIZ TOOLS

- Icons: Noun Project (www.thenounproject.com), Word 2016!

- Infographics: Icon Array (www.iconarray.com) and Piktochart (www.piktochart.com). Canva (www.canva.com) can also help bring different types of data together into one graphic.

- Word clouds (for qualitative info). Taqxedo (www.tagxedo.com), Wordclouds (www.wordclouds.com), Wordle (www.wordle.net) and Word tree (www.jasondavies.com/wordtree)

- Quantitative data into charts: Datawrapper (www.datawrapper.de), amCharts (www.amcharts.com) and Highcharts (www.highcharts.com)

- Geographic map: Carto (www.carto.com) Polimapper (https://www.polimapper.co.uk/)

- Google's data viz studio https://datastudio.google.com and interactive chart maker https://developers.google.com/chart/ (requires coding)

- Social media and network analysis: Netlytic (www.netlytic.org)

- Info into mindmaps: Mindomo (www.mindomo.com)

- Advanced! business intelligence tools Power BI (www.powerbi.microsoft.com) and Qliksense/Qlikview (www.qlik.com)

VISUALISATION AND ACCESSIBILITY

- 'Accessible colors for data visualisation' https://medium.com/square-corner-blog/accessible-colors-for-data-visualization-2ad64ac4ee7e

- 'Accessibility considerations for visuals' http://www.storytellingwithdata.com/blog/2018/4/23/accessibility-considerations-for-visuals

- '5 tips on designing colorblind-friendly visualizations' https://www.tableau.com/about/blog/2016/4/examining-data-viz-rules-dont-use-red-green-together-53463

- Accessibility guidelines for graphs and charts http://accessibility.psu.edu/images/charts/

IN SUMMARY

Keep your 'why' and 'who' front and centre

Seek help—there's lots out there

Look at *bad examples* of data viz: you'll learn from them

Have fun, experiment, review, stay curious

MY DETAILS

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@ktrmurray

THANK YOU!

NPC

London 2018