

Credit Union TUG

Virtual Meetup: April 17th, 2019



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Credit Union User Group

Agenda

- Introduction & Community Updates
- **How To Build A Data Analyst**
Leveraging formal training, online resources, and the Tableau community
Q&A
- **Choosing A Chart Type**
Q&A
- **Ask Data, Get Answers**
Tableau's New Natural Language Processing Tool



Introduction & Community Updates

Charlotte Taft | Director of Business Intelligence

Callahan & Associates | Washington, DC | ctaft@callahan.com



Credit Union TUG Leadership Committee

Have thoughts on where the group should go in 2019?

- Join the **Planning Call: 4/23 3:30pm ET**
- Email ctaft@callahan.com for an invitation
- Can't make it? Email to receive our minutes/join in future
- Regularly scheduled meetings will be set going forward!



**WE WANT YOU!
FOR THE CUTUG!**

Resources & Upcoming Events

- CUlytics Digital Transformation Recap: [Register For the Webinar](#)
- Anyone Attending AXFI? <http://www.axficonference.com/>
- [**Think Data Thursday: How Can I Know My Numbers Are Right?**](#)
[Validating data, calculations, and joins in Tableau](#)
- [Dashboards for Insight & Impact](#)
- [Dead-end Dashboards & How to Avoid Them](#)
- [Making Charts & Dashboards for Meetings](#)
- LOTS of [local Tableau User Group meetings!](#)
- Download: [CUTUG Tableau & Analytics Resource Guide](#)



How to Build a Data Analyst

Leveraging formal training, online resources, and the Tableau community

Karrie Cardiff | Contact Center Performance Analyst

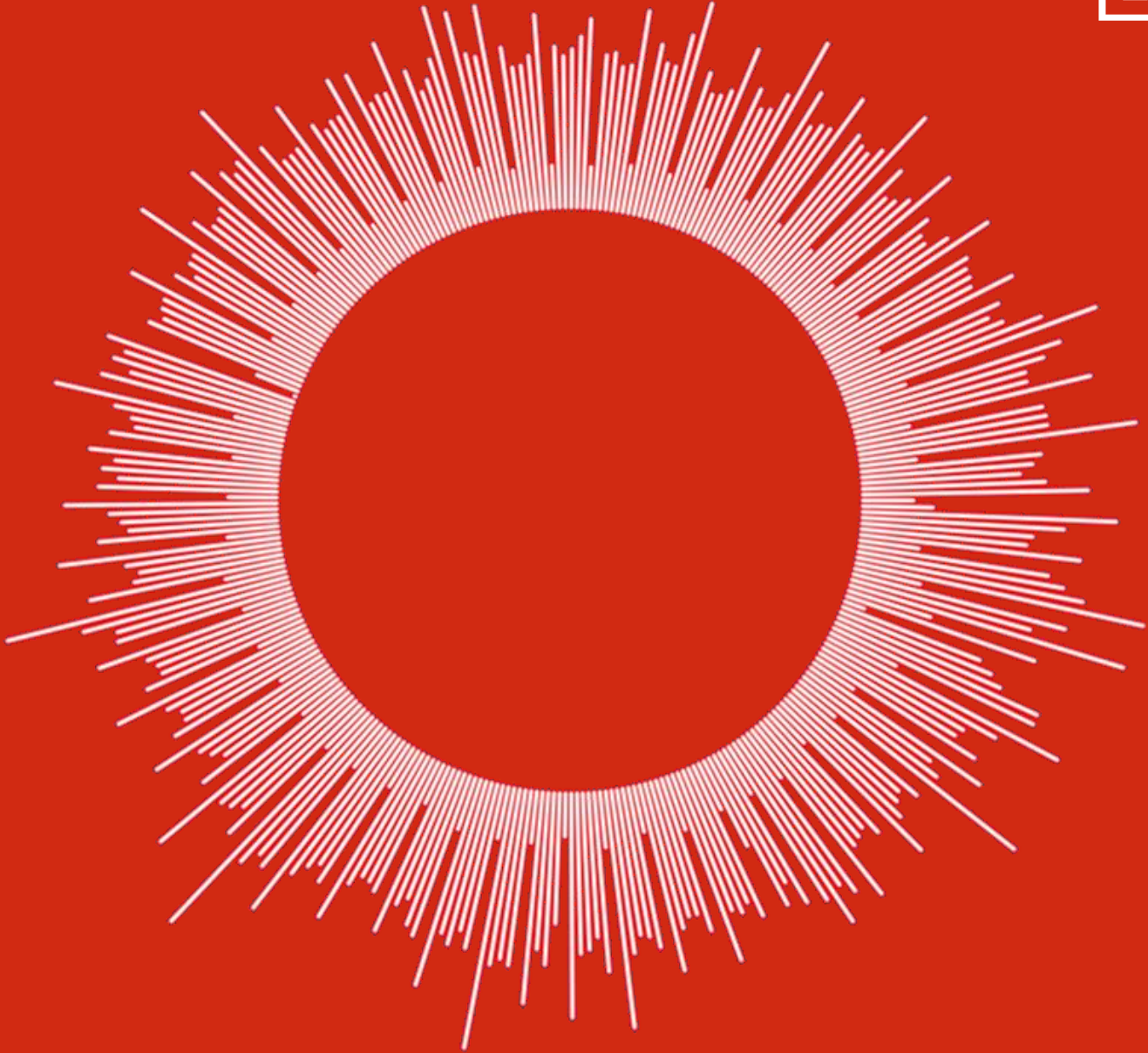
BECU | Tukwila, WA | karrie.cardiff@becu.org



How to Build a Data Analyst

Leveraging formal training, online resources, and Tableau Community

Karrie Cardiff, Performance Analyst, Contact Center
Kent, Wa | April 2019



About BECU

56 locations

Tukwilla, Washington

\$19 billion

Assets

1.1 million

Members

2.6 million

Contact Center Interactions



About Me

13 years

5 job roles

2 kiddos

105 lbs

3 half marathons



Getting Started

Continuing Education

Tableau Online Training

Tableau User Groups

Linked In



BELLEVUE
COLLEGE

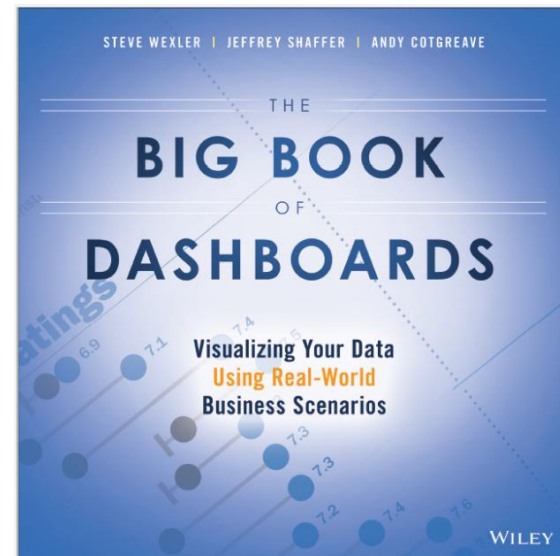
Best Practices

Storytelling with Data

VizWiz

Makeover Mondays

Big Book of Dashboards

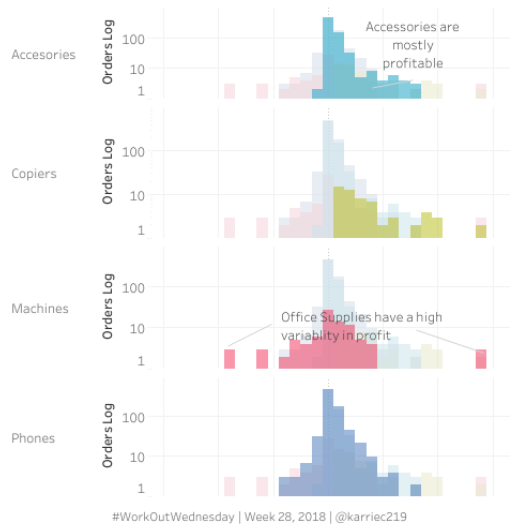


Flexing Data Viz Muscles: Workout Wednesday

PROFIT VARIANCE

* All orders rounded to the nearest \$100
 * Log axis emphasizes the consistency of per order profit

Round to:
\$100

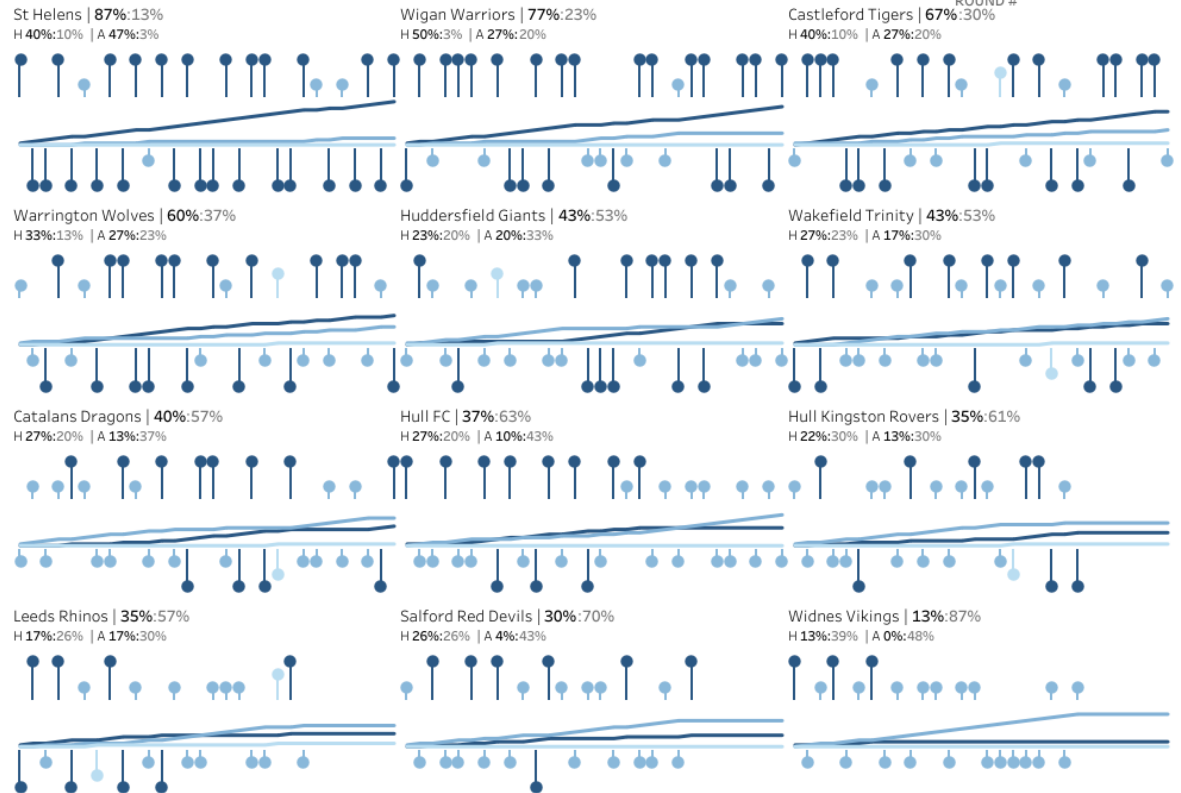
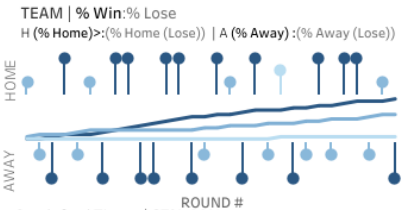


Rugby League Games 2018 HOME V AWAY

How many home games did each team win?

As in most sports a game can be lost, drawn or won. In this we look at the number **wins**, **losses** and **draws** for each home and away game.

Line- Running total of number of games won, lost and drawn.



Data | Rugby-League

By: @karriec219

Data World & Data Online

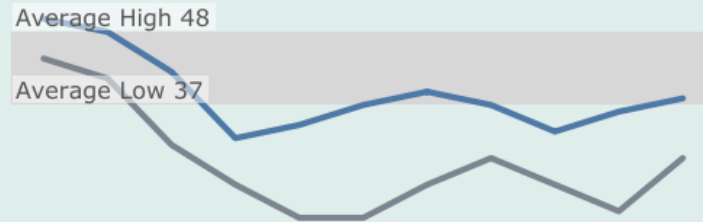
SEATTLE SNOWMAGEDDON 2019

Looking at the data behind the snowiest February in Seattle for over 50 years.

New Snow vs Cumulative

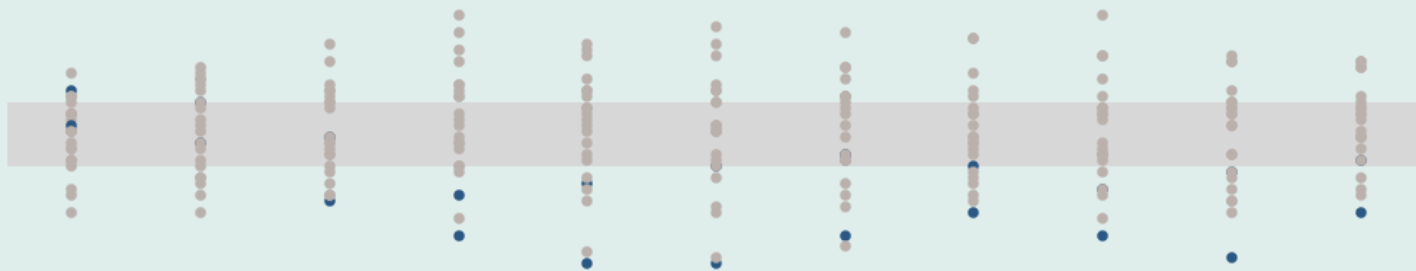


Daily High and Low Temperatures



2019 Temperatures Compared to Last 10 Years

Some of the lowest lows have occurred in 2019 making it the perfect condition for snowfall



Staying Current

Chit Chat Series – Jeffery Shaffer and Steve Wexler

Hash Tag Analytics

Storytelling with Data Podcast

Follow Tableau Ambassadors and Zen Masters

» Ann Jackson, Eva Murray, Ken Flerlage, Luke Stanke, Ryan Sleeper, Andy Cotgreave, Jeffery Shaffer, Andy Kriebel, Sarah Bartlett

Tableau Public

Tableau Conference

Getting Certified

Tableau Desktop Specialist

Validates skill level

Tableau and Data Fundamentals

Study guide and practice exams

Takeaway – better quality visuals in less time

How does this impact my credit union?

Stay up-to-date with Tableau

Ideas for ways to best display information

Become a better storyteller

Tableau Doctor Hours

Favorite Tips

Resist the urge to copy and paste a dashboard

Be mindful of your use of **bold**, **color** or **both**

Jitter plots

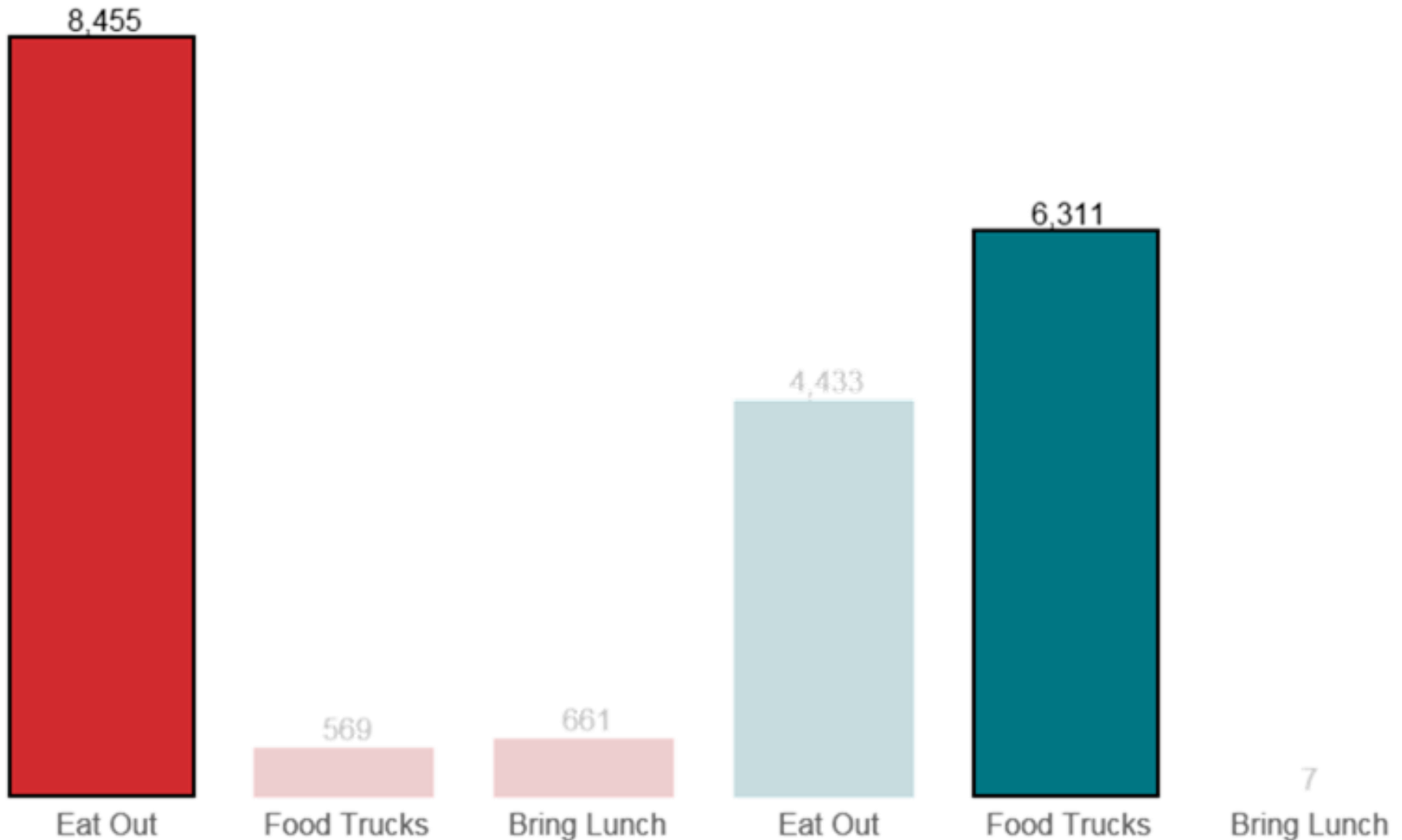
BAN – don't let them stand alone

So what?



Preferred Lunch Choices by Location **Tukwila** and **Kent**

Tukwila employees prefer to eat out, while **Kent** employees love food trucks



Thank you for joining me



Choosing A Chart Type

Katie Wagner | Training Lead & Analytics Consultant

InterWorks, Inc. | katie.wagner@InterWorks.com



Choosing a Chart

Matching Visualizations to
Purpose and Audience

Katie Wagner | Training Lead

 @kfontnowagner



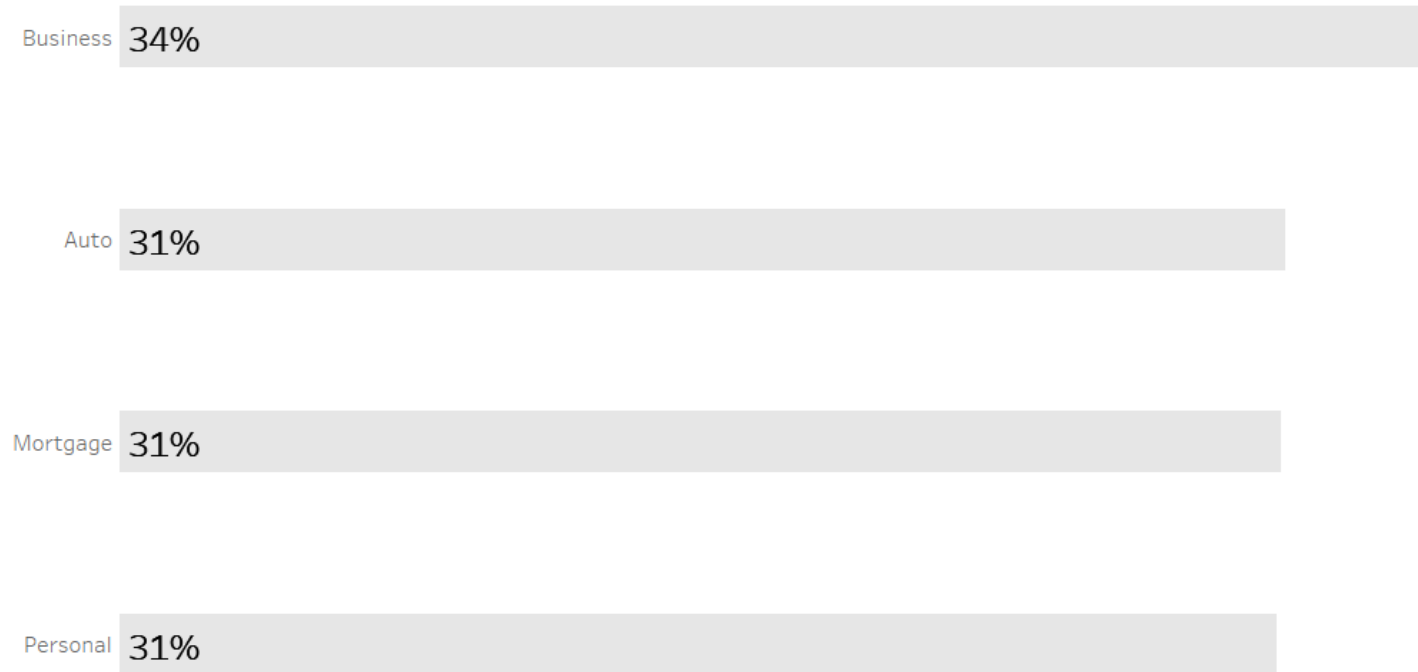
Bar Chart



When to Use

- Compare fields
- Show a range
- Highlight the biggest and the smallest

On Time Payment % by Loan Type



IMITATION DATA

Bar Chart



Avoid Axis without Zero

Amount Lent by Loan Type



Axis with Zero

Amount Lent by Loan Type



IMITATION DATA

Bar Chart

Avoid

- Misleading axis-scale (ex. including 0 or not)
- Comparing metrics that are different data types (ex. numbers and percentages)

Amount Lent and On Time Payment % by Loan Type

| | | | |
|----------|-------------------|---------|--|
| Auto | Amount Lent | 222,996 | |
| | On Time Payment % | 31% | |
| Business | Amount Lent | 216,828 | |
| | On Time Payment % | 34% | |
| Personal | Amount Lent | 207,214 | |
| | On Time Payment % | 31% | |
| Mortgage | Amount Lent | 172,773 | |
| | On Time Payment % | 31% | |

IMITATION DATA

Highlight Table



When to Use

- Showing actual values
- Using visual cues for 'good' vs. 'bad'
- Finding density, quick scanning, highlighting patterns

Cash on Hand by Month/Year

| | January | February | March | April | May | June | July | August | September | October | November | December |
|------|---------|----------|-------|-------|-------|-------|-------|--------|-----------|---------|----------|----------|
| 2012 | \$8K | \$8K | \$8K | \$9K | \$9K | \$10K | \$10K | \$10K | \$9K | \$9K | \$8K | \$9K |
| 2013 | \$13K | \$12K | \$12K | \$13K | \$12K | \$13K | \$14K | \$13K | \$13K | \$13K | \$12K | \$13K |

IMITATION DATA

Highlight Table



Avoid

- -10% 62%
- Too many colors
- Not enough values
- Including grand totals into the color theme

On Time Payment % per Area Code by Quarter

| | 2012 | | | | | | 2013 | | | | | | | |
|-----|--------|--------|---------|-----------|----------|--------|----------|--------|--------|---------|-----------|----------|--------|----------|
| | Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
| 210 | 44% | 44% | | | 39% | 36% | | | | | | 55% | | |
| 214 | | 29% | | 24% | 31% | | 35% | | 26% | | | | 59% | |
| 225 | 30% | 38% | 34% | 22% | 34% | 33% | 29% | 17% | 23% | 44% | 36% | 25% | 28% | 34% |
| 254 | 30% | | 38% | | | | | 61% | 52% | 41% | 50% | | 54% | |
| 281 | 23% | | | 22% | 29% | 43% | | 50% | 35% | 36% | 50% | | | 34% |
| 318 | 32% | 12% | 34% | 1% | 24% | 20% | 27% | 27% | 44% | 42% | 51% | 46% | 29% | 26% |
| 325 | 38% | | | | 30% | | 32% | 48% | | 30% | | | 41% | |
| 337 | 30% | | 19% | 33% | 30% | 37% | | 47% | 37% | 49% | 39% | -10% | 36% | 46% |
| 361 | | | | | | | | 39% | 49% | 50% | | | 59% | |
| 409 | 35% | 26% | | | 44% | 22% | | 50% | | 56% | | | 60% | 60% |
| 430 | 36% | | 38% | 21% | | | | 45% | | 37% | | | 49% | 50% |
| 432 | | | | 33% | | | | | | 52% | | | 49% | 61% |
| 469 | | | | | | 43% | 22% | | | | | 55% | | 50% |
| 504 | 17% | 19% | | 36% | 19% | | 22% | 37% | 49% | 4% | | 46% | 45% | |
| 512 | | | 24% | 38% | | | 28% | 55% | 31% | 60% | | | | |
| 682 | | | | 41% | | | 30% | 30% | 32% | 47% | | | | |
| 713 | | 21% | | | 23% | | 44% | 62% | | | | | | |
| 806 | | | | | | 36% | | 44% | 50% | 41% | | | 42% | |
| 817 | 22% | | | | 31% | | | | | 61% | 50% | 28% | | |
| 830 | 29% | | | | | | 25% | | | | 61% | | 49% | |
| 832 | 36% | 30% | | | | 20% | | | 59% | | | | | |
| 903 | 29% | | | 44% | | | | 36% | | | | | | 28% |
| 915 | | | | | | | | | | | 30% | | 50% | |
| 936 | | 42% | 22% | | 28% | 24% | | | | | | | 35% | |
| 940 | | 36% | | | 37% | | | | | | | 51% | 32% | |
| 956 | 42% | | 36% | 42% | 36% | | | 42% | 49% | | | | 43% | |
| 972 | | | | 35% | 42% | | | | 51% | | | | | |
| 979 | | | | 37% | | | 39% | 43% | 61% | | | | 42% | 30% |
| 985 | 13% | 36% | 14% | 15% | | | 21% | 42% | 13% | 53% | 29% | 57% | 43% | |

IMITATION DATA

Cross-tab / Text Table



When to Use

- Showing details on demand
- Grand totals and sub-totals
- Providing summary information
- Complement visualization

| <u>Month, Day, Year of Date</u> | <u>Description</u> | <u>Category</u> | <u>Account Name</u> | <u>Amount</u> |
|---------------------------------|-----------------------------|---------------------|---------------------|---------------|
| December 31, 2015 | Amazon | Shopping | CREDIT CARD | \$35 |
| | Deposit Company | Paycheck | CHECKING | \$1,397 |
| | Hyatt | Hotel | CREDIT CARD | \$1 |
| December 30, 2015 | 7-Eleven | Gas & Fuel | CREDIT CARD | \$14 |
| | Ampco Parking | Parking | CREDIT CARD | \$14 |
| | Charity | Gifts & Donations | CHECKING | \$203 |
| | Houston Hobby A | Travel | CREDIT CARD | \$2 |
| | Thai Cafe | Restaurants | CREDIT CARD | \$4 |
| December 29, 2015 | Wal-Mart | Shopping | CREDIT CARD | \$13 |
| | Hndiscover St | Credit Card Payment | CREDIT CARD | \$1 |
| December 28, 2015 | Netflix | Movies & DVDs | CREDIT CARD | \$4 |
| | Dick's Sporting | Sporting Goods | CHECKING | \$2 |
| | Original Penguin | Clothing | CREDIT CARD | \$7 |
| | Orlando Orlando FI Readymix | Business Services | CHECKING | \$9 |
| | PayPal | Shopping | CHECKING | \$17 |
| | Sam's Club | Shopping | CREDIT CARD | \$10 |
| | Sephora | Clothing | CREDIT CARD | \$34 |
| December 27, 2015 | CVS | Pharmacy | CREDIT CARD | \$18 |
| | Dillard's | Clothing | CREDIT CARD | \$16 |
| | Kohl's | Clothing | CREDIT CARD | \$39 |
| | Original Penguin | Clothing | CREDIT CARD | \$69 |
| | Sears | Shopping | CREDIT CARD | \$15 |
| | Vidangel Com | Entertainment | CREDIT CARD | \$10 |

IMITATION DATA

Cross-tab / Text Table



Avoid

- Clutter, noise, replacement for visualization
- Exclusive use
- Heavy formatting, text rich, too dense
- Too many columns

Amount per Month & Category

| Category | January | February | March | April | May | June | July | August | September | October | November | December |
|-----------------------|---------|----------|---------|-------|-------|---------|-------|--------|-----------|---------|----------|----------|
| Advertising | \$14 | | | | | | | | | | | |
| Air Travel | \$509 | \$627 | \$338 | \$300 | \$141 | \$12 | \$420 | \$99 | \$33 | \$129 | \$376 | \$15 |
| Alcohol & Bars | \$3 | \$5 | \$3 | | \$3 | \$9 | \$9 | \$44 | \$13 | | | |
| Amusement | | | \$2 | | | | \$37 | | | | \$34 | \$3 |
| Arts | | | | | | | | | | | | \$2 |
| Auto & Transport | \$109 | \$26 | \$62 | \$52 | \$46 | \$346 | \$51 | \$60 | \$1,619 | \$117 | \$63 | \$58 |
| Auto Insurance | \$54 | \$66 | \$54 | \$10 | | | | \$47 | \$35 | \$52 | \$77 | \$68 |
| Baby Supplies | | \$36 | | \$10 | | | \$13 | | | | \$23 | |
| Babysitter & Daycare | | | | | \$7 | | | | | | | |
| Bank Fee | | | \$38 | | | | | | | | | |
| Bills & Utilities | \$1,412 | \$15 | | | | \$1,062 | \$249 | \$879 | | | \$65 | |
| BoSTs | \$32 | \$28 | \$14 | \$51 | \$16 | \$34 | \$18 | \$20 | \$21 | \$31 | \$44 | |
| Business Services | | | | | \$108 | | \$69 | | \$2 | \$360 | \$16 | \$133 |
| Charity | | | | | | | | \$20 | | | | |
| Clothing | \$59 | \$206 | \$234 | \$63 | \$174 | \$324 | \$248 | \$331 | \$61 | \$374 | \$384 | \$669 |
| Coffee Shops | \$13 | \$10 | \$56 | \$7 | \$2 | \$30 | \$30 | \$38 | \$11 | \$10 | \$30 | \$16 |
| Credit Card Payment | \$1,223 | \$1,920 | \$1,060 | \$89 | \$117 | \$131 | \$178 | \$412 | \$192 | \$227 | \$522 | \$321 |
| Doctor | \$33 | | | | \$10 | | \$321 | | \$42 | \$188 | | |
| Education | \$105 | \$53 | | \$17 | | | | | | | | |
| Electronics & Softw.. | \$28 | | | | | \$31 | | \$72 | | | \$161 | \$11 |
| Entertainment | \$1 | \$39 | | \$10 | \$34 | \$50 | | \$44 | \$8 | \$28 | | \$44 |
| Eyecare | | | | | | | | | | | | \$29 |
| Fast Food | \$115 | \$119 | \$94 | \$185 | \$89 | \$176 | \$58 | \$87 | \$79 | \$111 | \$138 | \$87 |
| Fees & Charges | \$11 | | | | \$1 | | | \$114 | | | | |
| Finance Charge | \$18 | | | \$3 | \$25 | \$43 | \$18 | \$19 | | | | |
| Financial | | | \$96 | \$58 | \$67 | \$57 | \$41 | \$71 | \$58 | \$97 | \$59 | \$113 |
| Food & Dining | \$7 | \$3 | \$11 | \$9 | \$3 | \$3 | \$5 | \$29 | \$9 | \$1 | \$12 | \$3 |
| Furnishings | | | | \$180 | | \$38 | | | | | | |
| Gas & Fuel | \$115 | \$153 | \$233 | \$212 | \$127 | \$185 | \$183 | \$229 | \$117 | \$107 | \$211 | \$84 |
| Gift | | | \$5 | | | \$237 | | | \$10 | \$3 | \$7 | \$14 |
| Gifts & Donations | | | | | | | | | \$706 | \$625 | \$467 | \$203 |
| Groceries | \$69 | \$21 | \$35 | \$126 | \$95 | \$33 | \$182 | \$12 | \$3 | \$55 | \$16 | \$59 |
| Gym | | | | | \$5 | | | | | | | |
| Hair | | \$21 | \$33 | \$16 | \$16 | \$5 | | \$24 | | \$11 | \$19 | \$30 |
| Health & Fitness | \$16 | | | | \$55 | | \$537 | | | | | |
| Health Insurance | \$35 | \$34 | \$23 | \$31 | \$43 | \$34 | \$37 | | | | | |
| Hobbies | \$43 | \$93 | | | \$32 | | | | | \$33 | \$62 | |
| Home | | | \$1,438 | | | | | | | | | \$15 |

IMITATION DATA

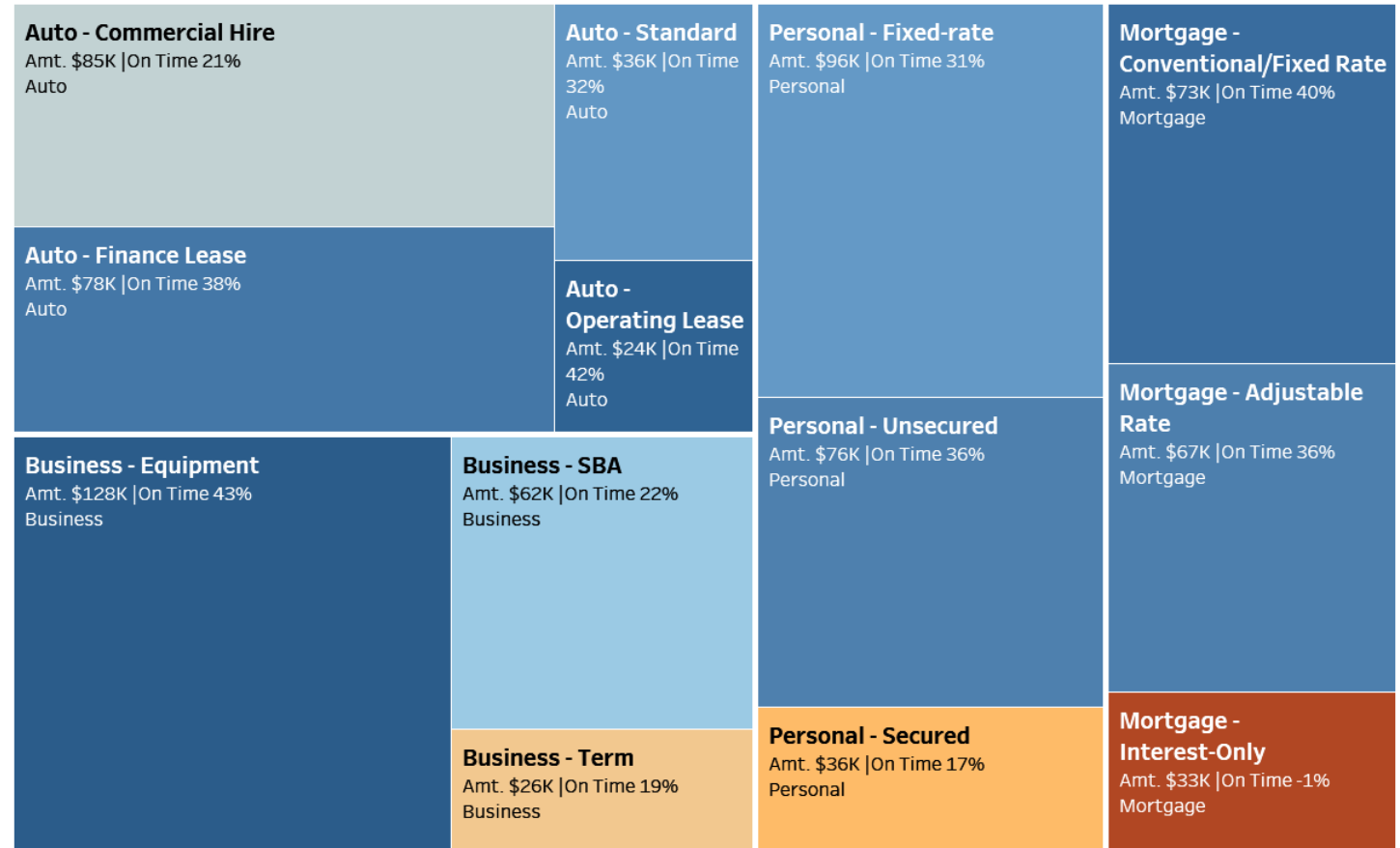
Tree Map

When to Use

- Hierarchical data
 - What do the smaller tiles make up of the larger segments?
- Portfolio composition



Amount Lent per Product
On-Time Payments Above 20% | Below 20%



IMITATION DATA

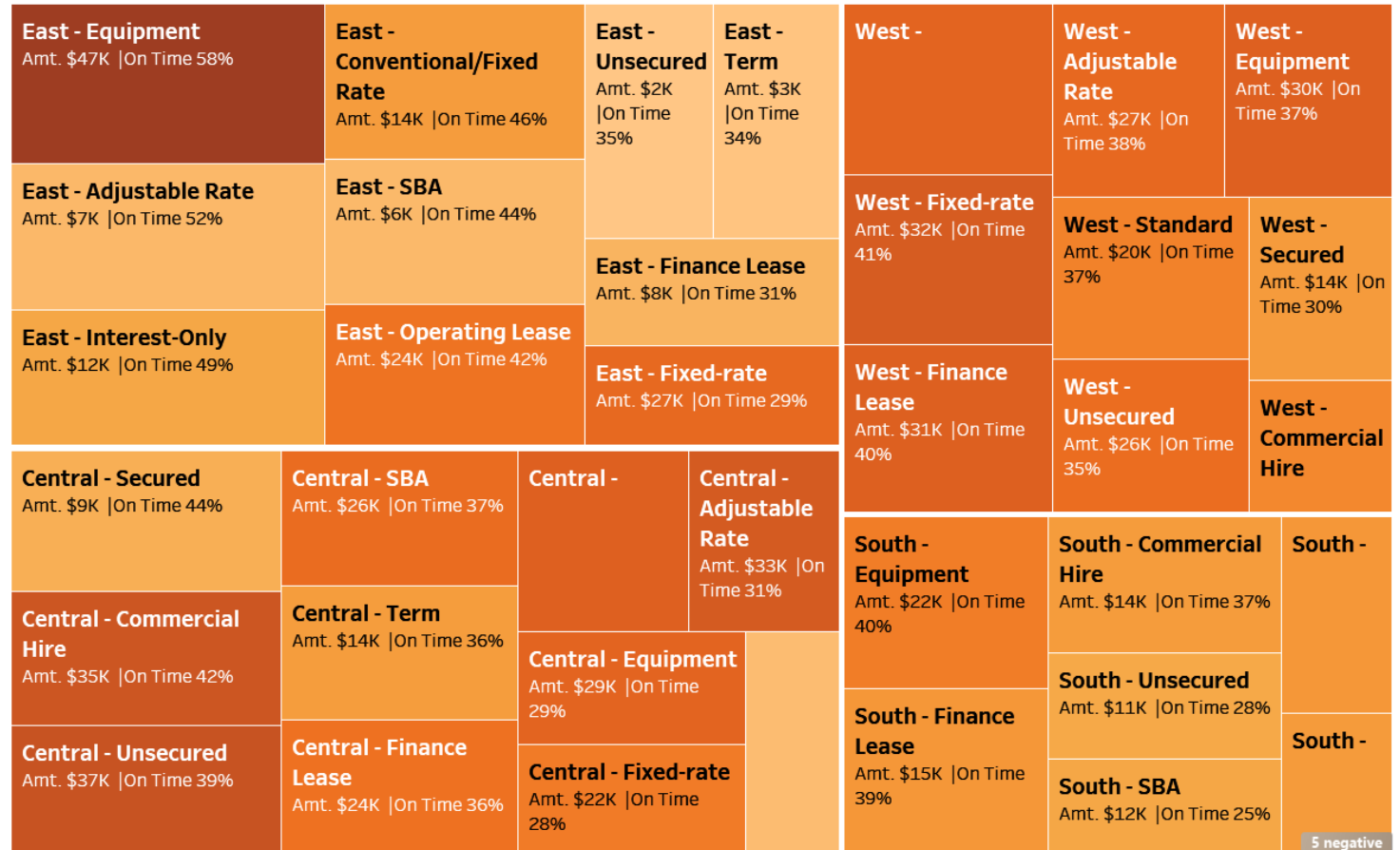
Tree Map



Avoid

- Too many colors or labels
- Negative values

On-Time Payments per Market-Product



5 negative

IMITATION DATA

Stacked Bar Chart

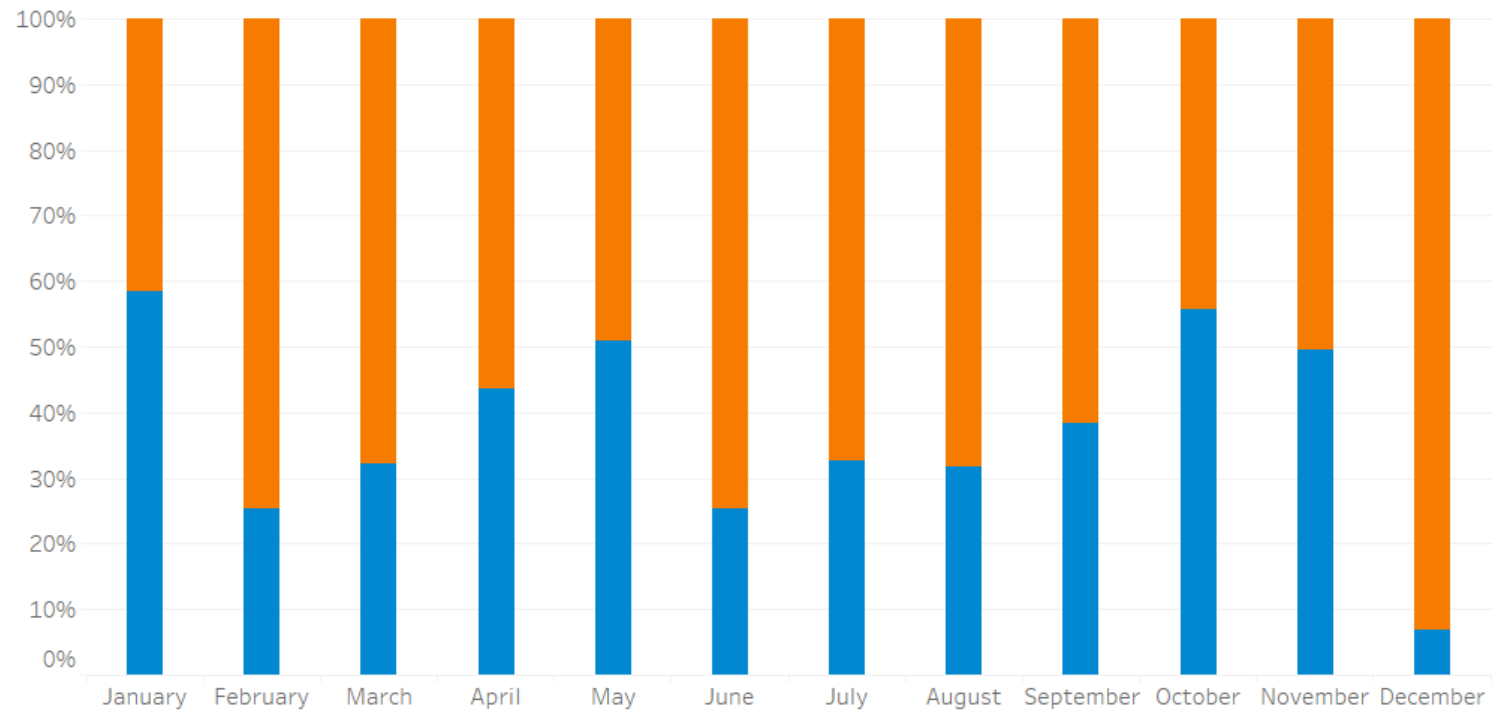


When to Use

- Comparing categories
- Observing data trends
- Seeing changes in segments' contributions over time

Borrower's Transactions by Type

Credit | Debit



IMITATION DATA

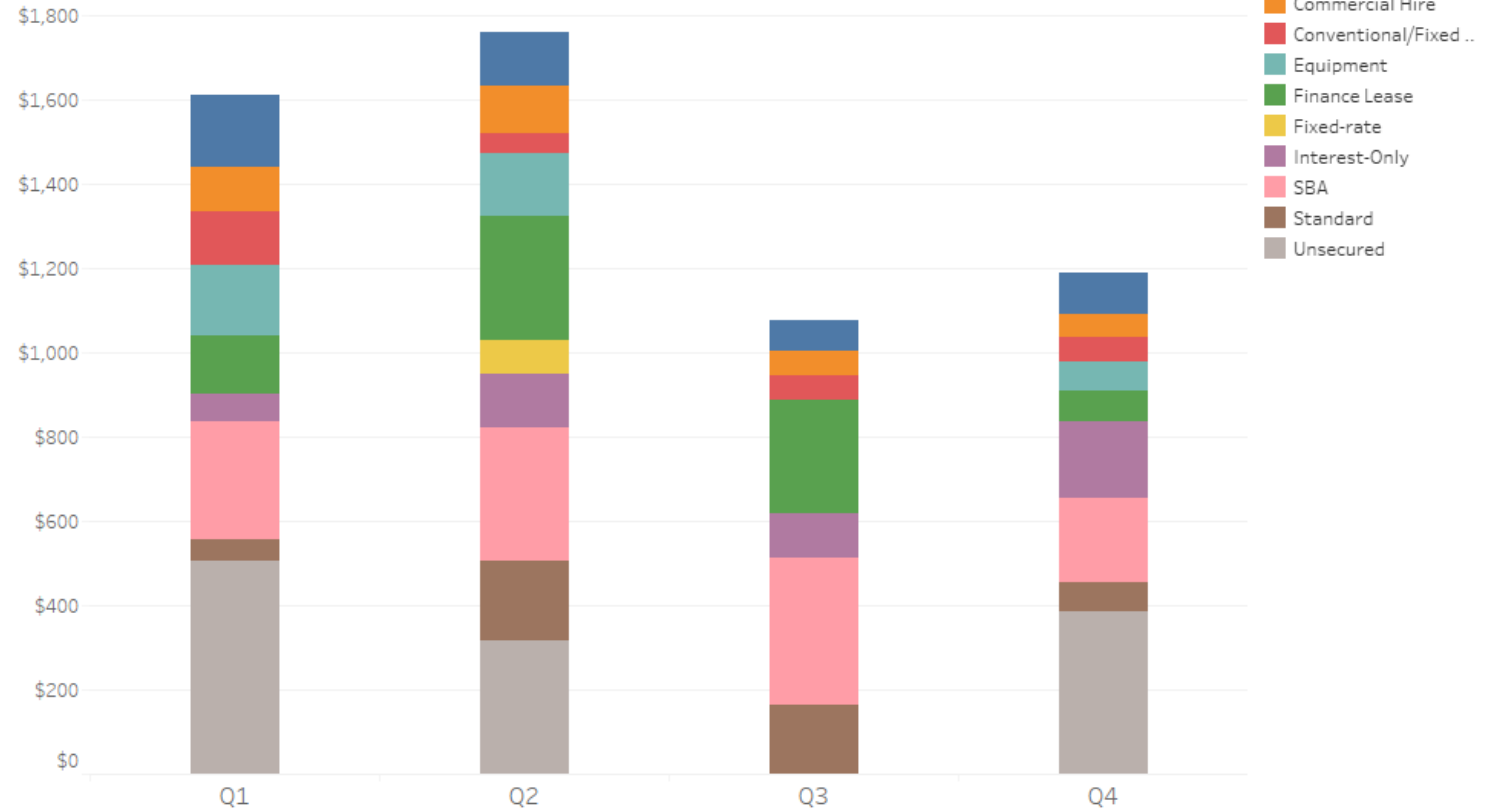


Stacked Bar Chart

Avoid

- Confusing comparisons
- Too many slices in the stack

Fraudulent Charges by Product



IMITATION DATA

Line Chart

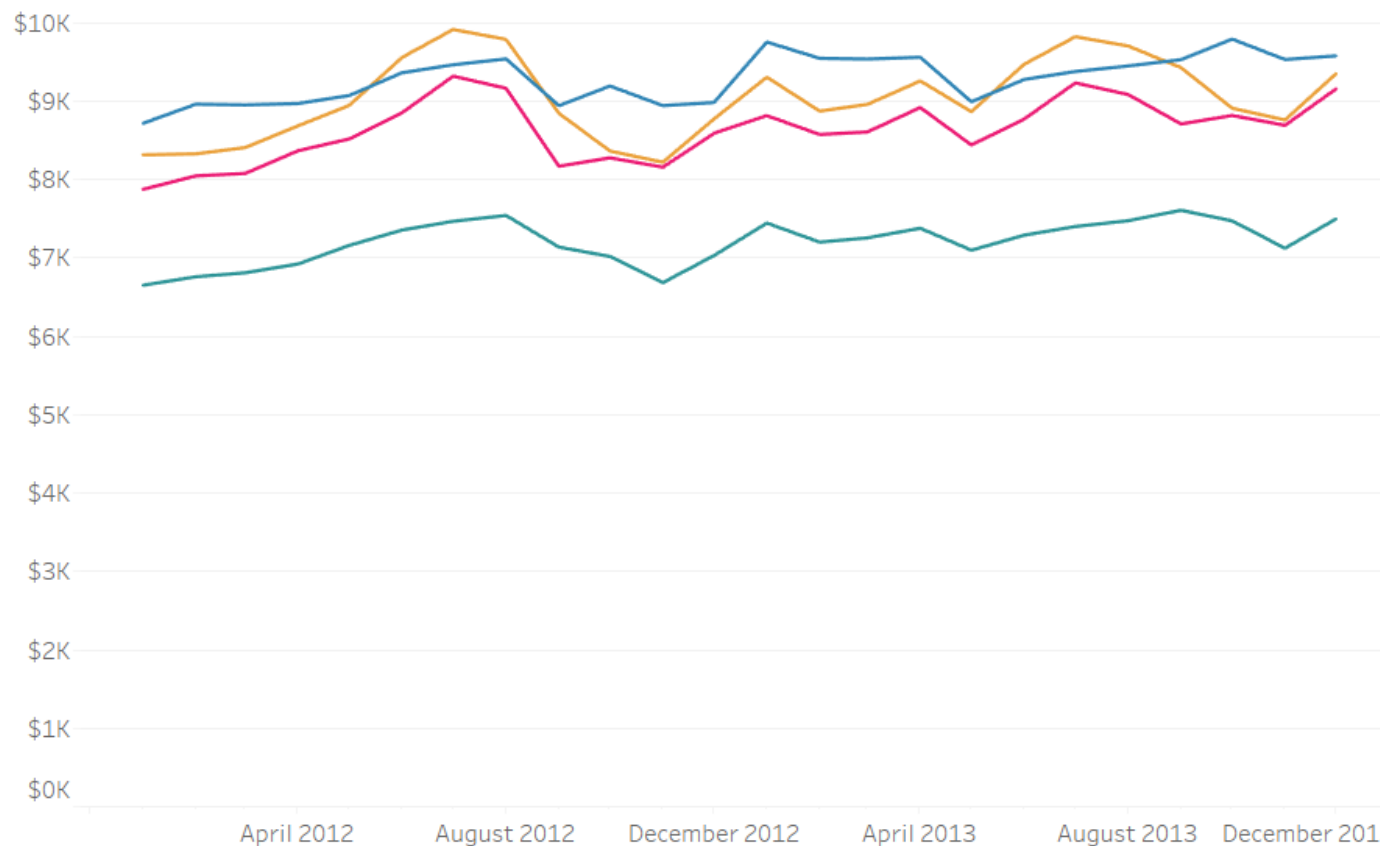


When to Use

- Illustrating trends over time
- Data involving dates

Amount Lent per Month by Loan Type

Auto | Business | Mortgage | Personal



IMITATION DATA

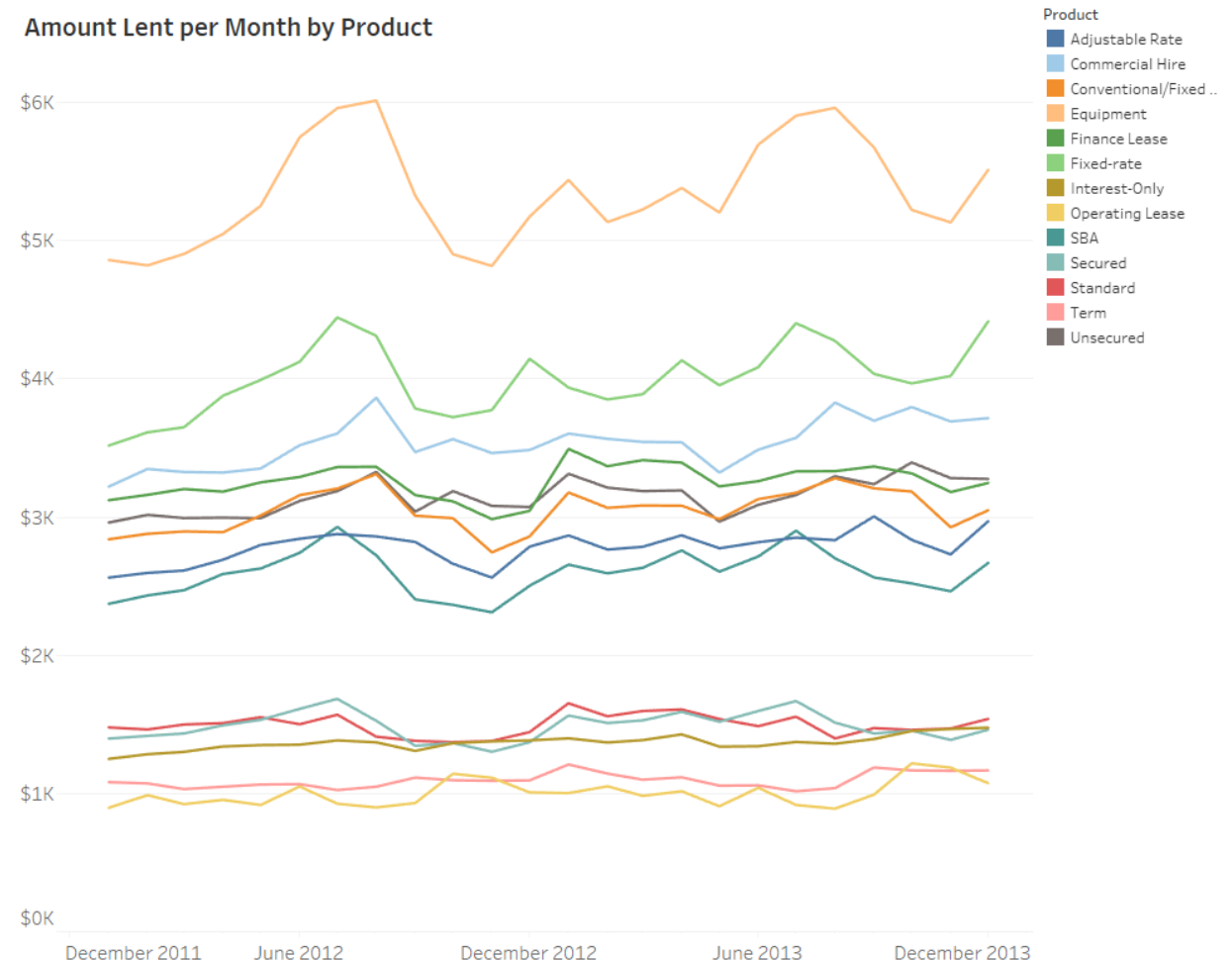
Line Chart



Avoid

- Using too many categories
- Unnecessary noise (level of granularity)
- When there are not connections between the items

Amount Lent per Month by Product



IMITATION DATA

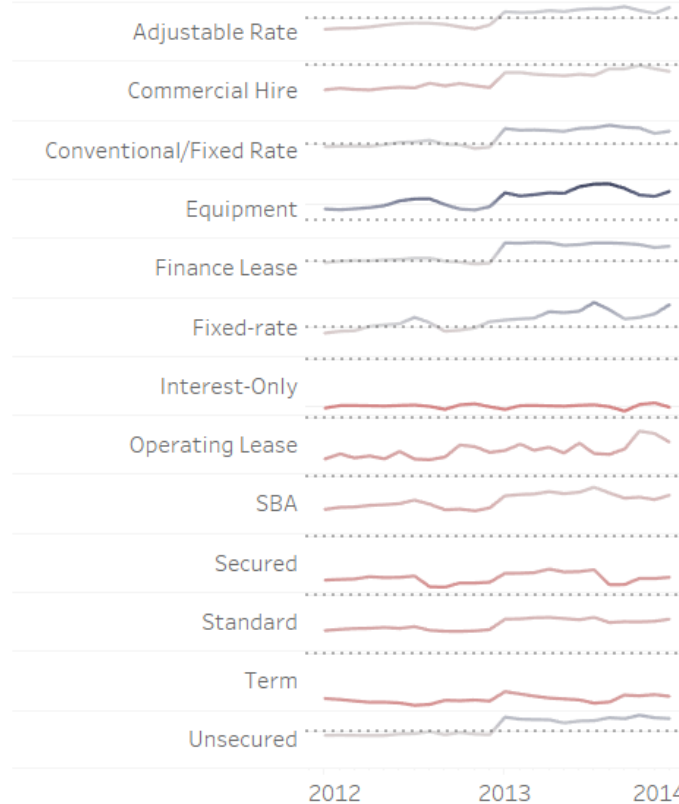
Sparkline / Sparkbar



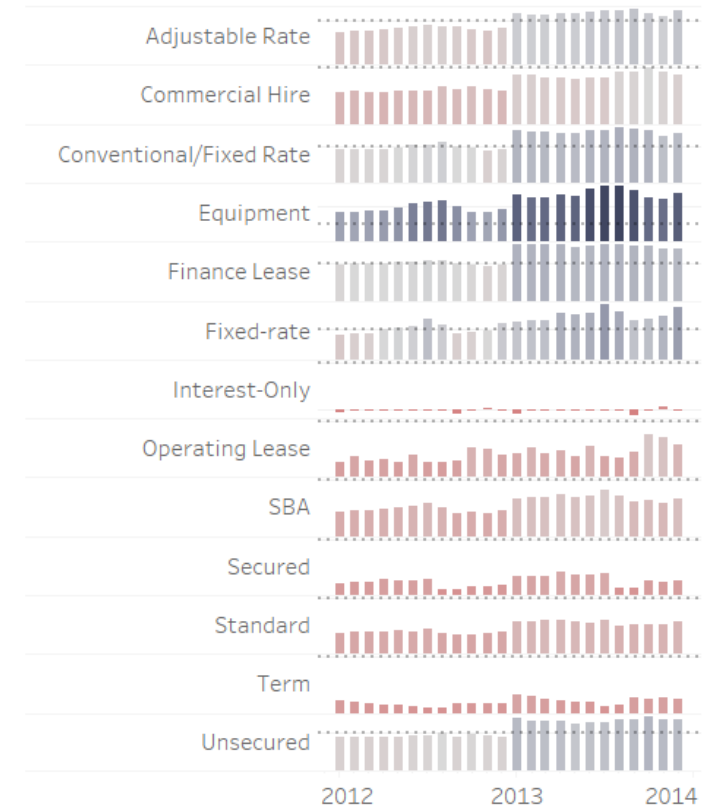
When to Use

- Recognizing patterns and trends quickly
- Convey a great deal of information when space is limited
- Could be displayed as line or bar
- Focus on direction of change, rather than magnitude

Cash on Hand by Product
Above \$1,000 | Below \$1,000



Cash on Hand by Product
Above \$1,000 | Below \$1,000



IMITATION DATA

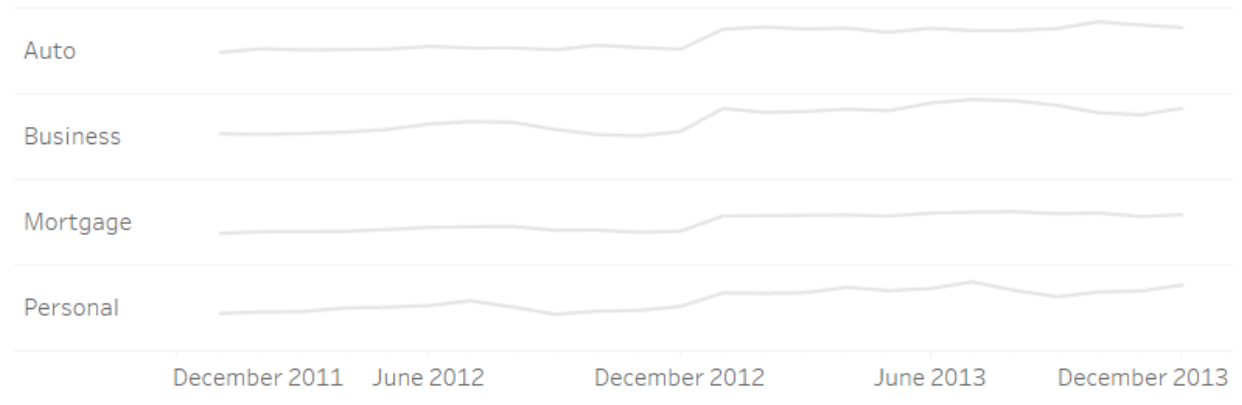
Sparkline / Sparkbar



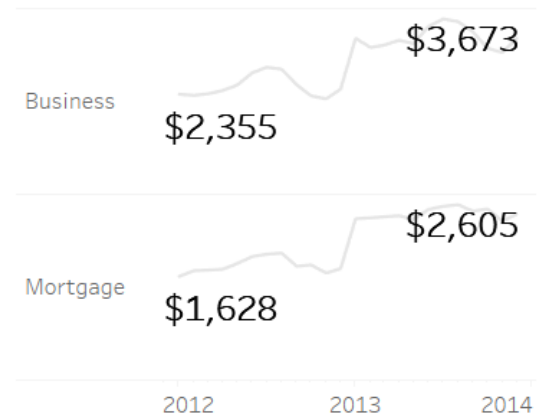
Avoid

- Flat lines
 - **This can be avoided by reducing the width of your chart or using independent axis ranges for each item**
- Analyze height rather than direction

Cash on Hand by Loan Type



Cash on Hand by Loan Type



IMITATION DATA

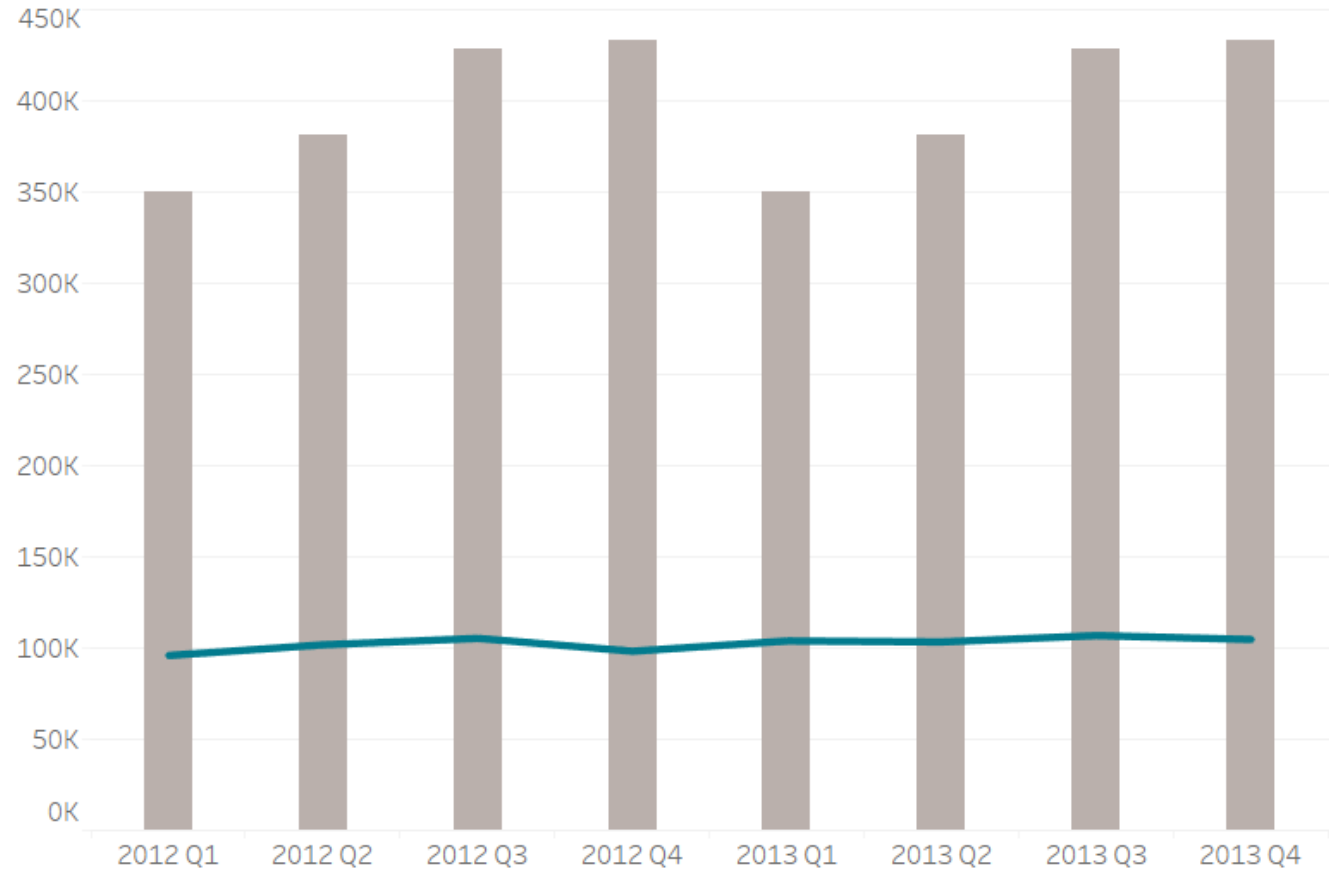


Dual Axis Chart

When to Use

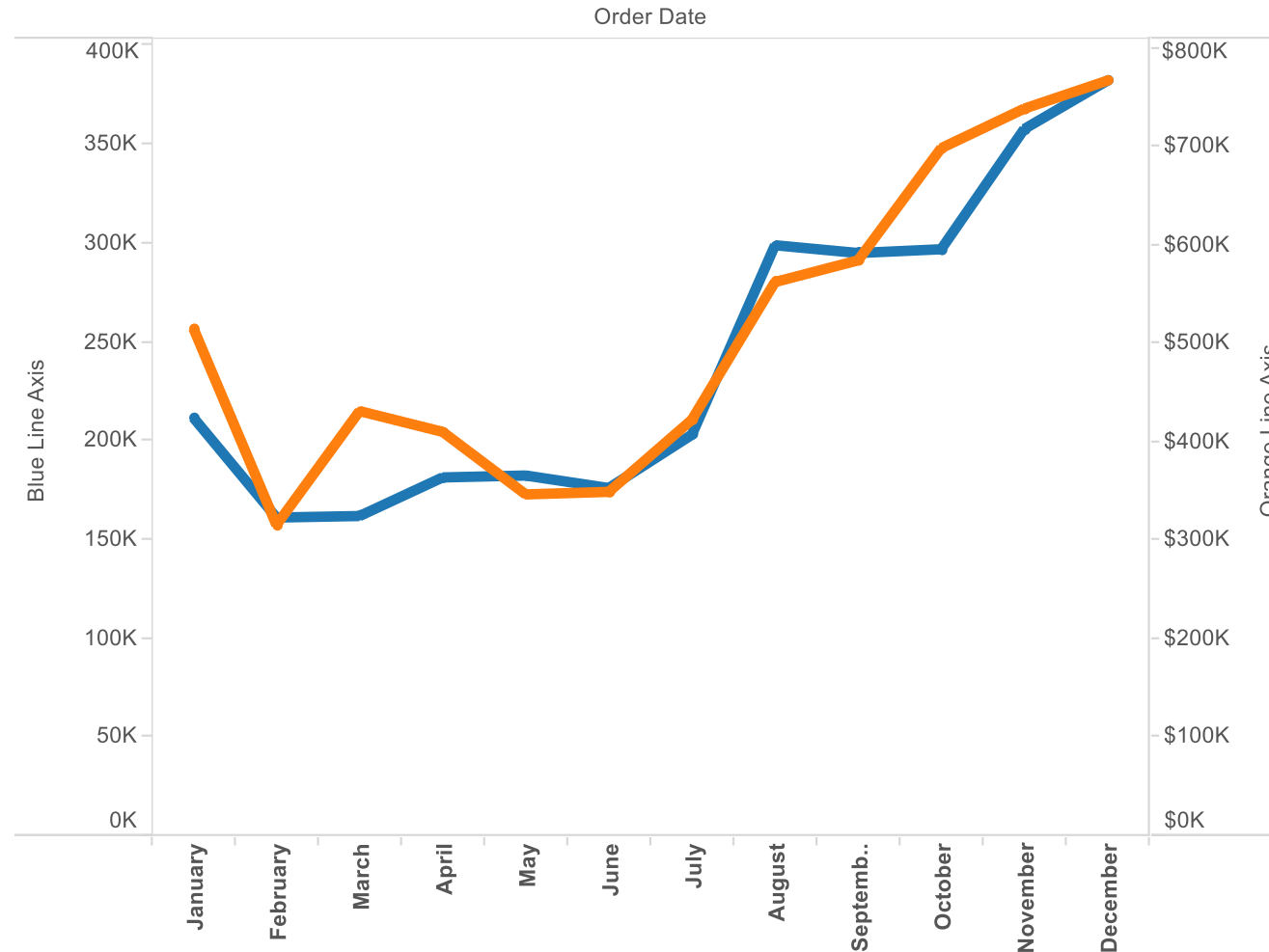
- Comparing metrics
- Using different scales or number formats
- Different mark types (bar and line, bar and circle, two different maps, etc.)

Amount Lent (\$) and # Members by Quarter



IMITATION DATA

Are there any months where the blue line exceeds the orange line?



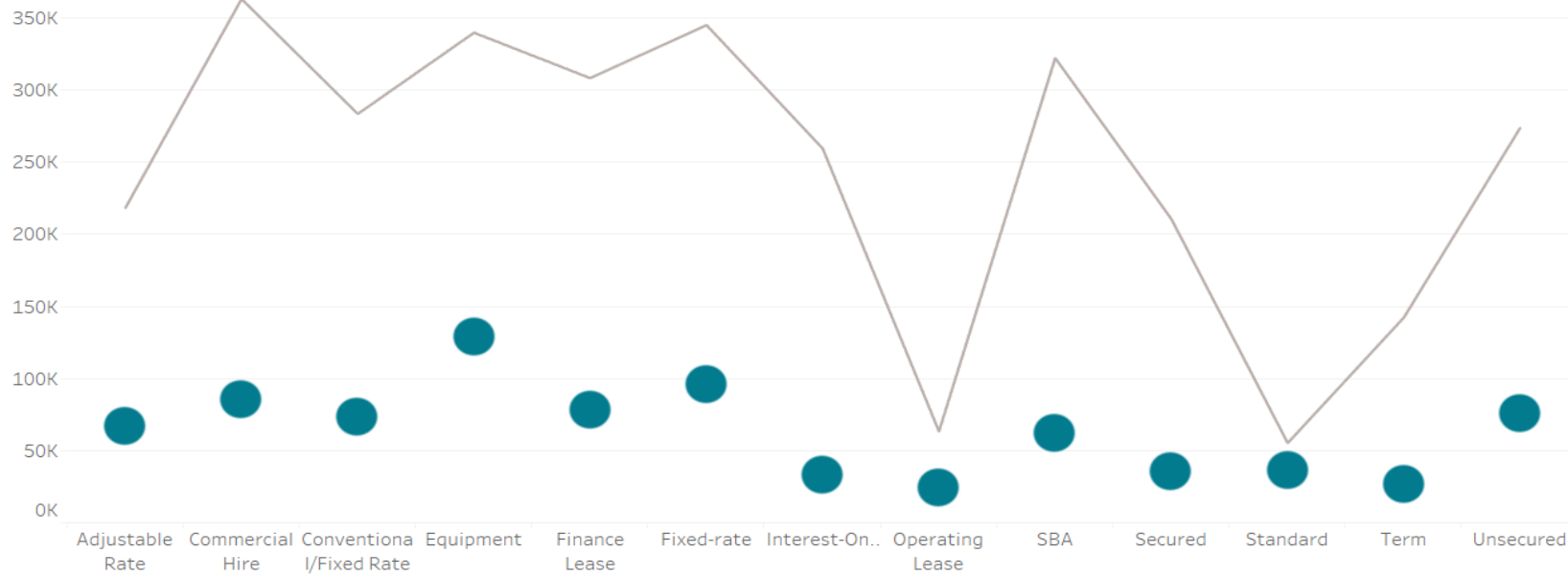
Dual Axis Chart



Avoid

- Forgetting to synchronize similar axes
- Lines across categorical Dimensions

Amount Lent (\$) and # Members by Product



IMITATION DATA

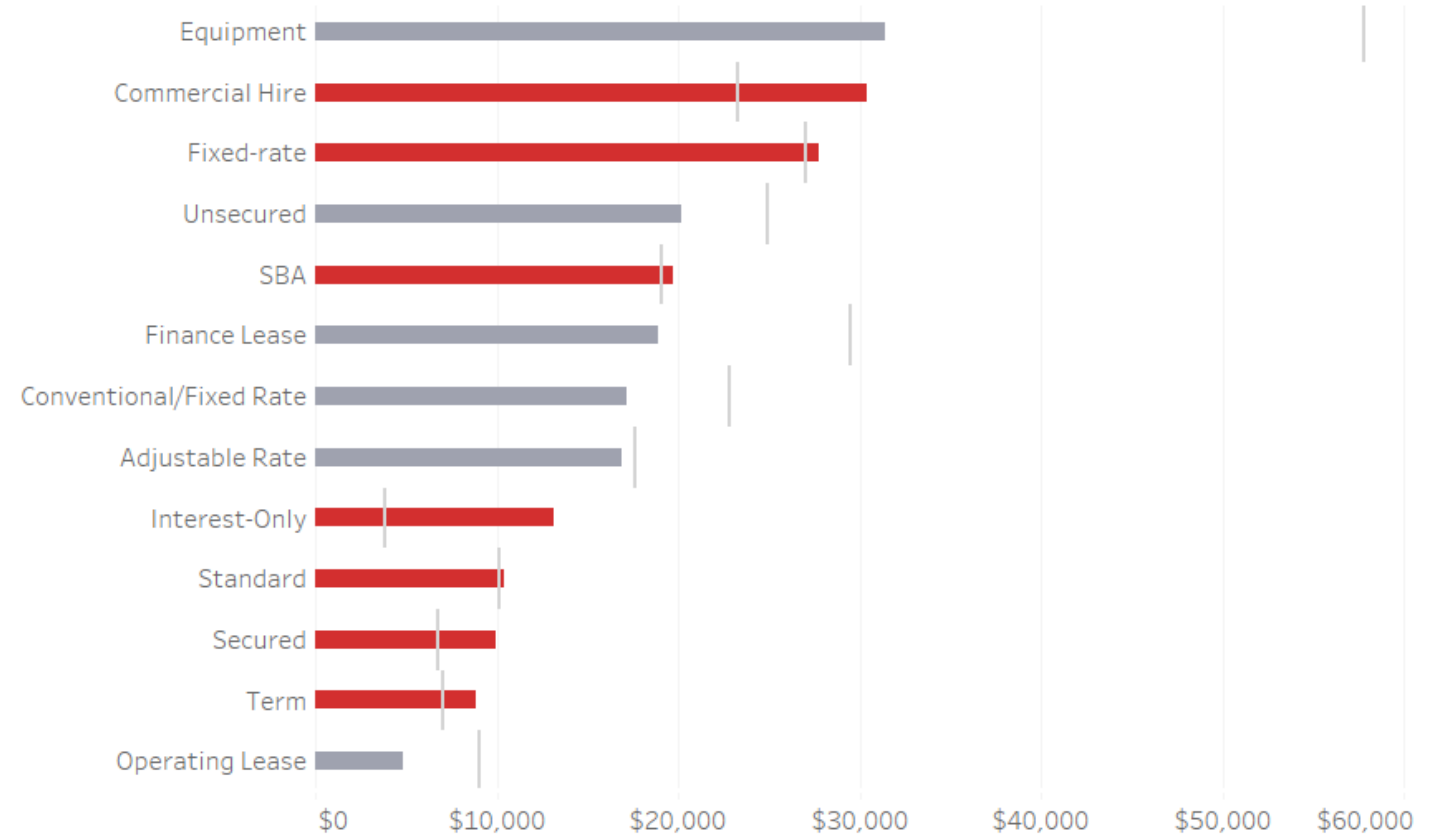
Bullet Graph



When to Use

- Evaluating performance against a goal/target
- Showing progression towards a goal
- Gain summary insights

Fees **above** or **below** limits per Product



IMITATION DATA

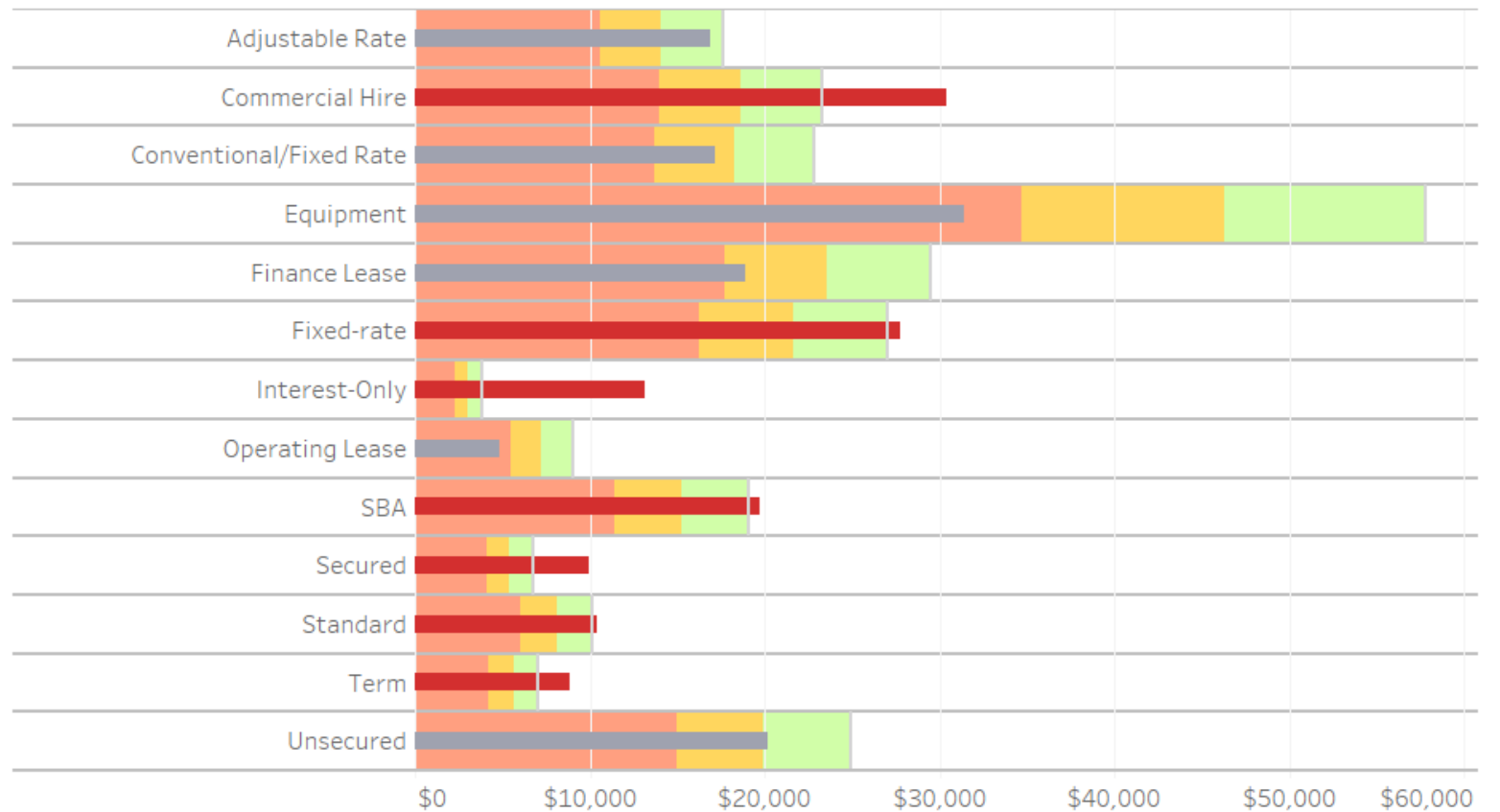
Bullet Graph



Avoid

- Too many bars, especially where targets vary
- Too many colors or unclear dividers between distributions

Fees **above** or **below** limits per Product



IMITATION DATA

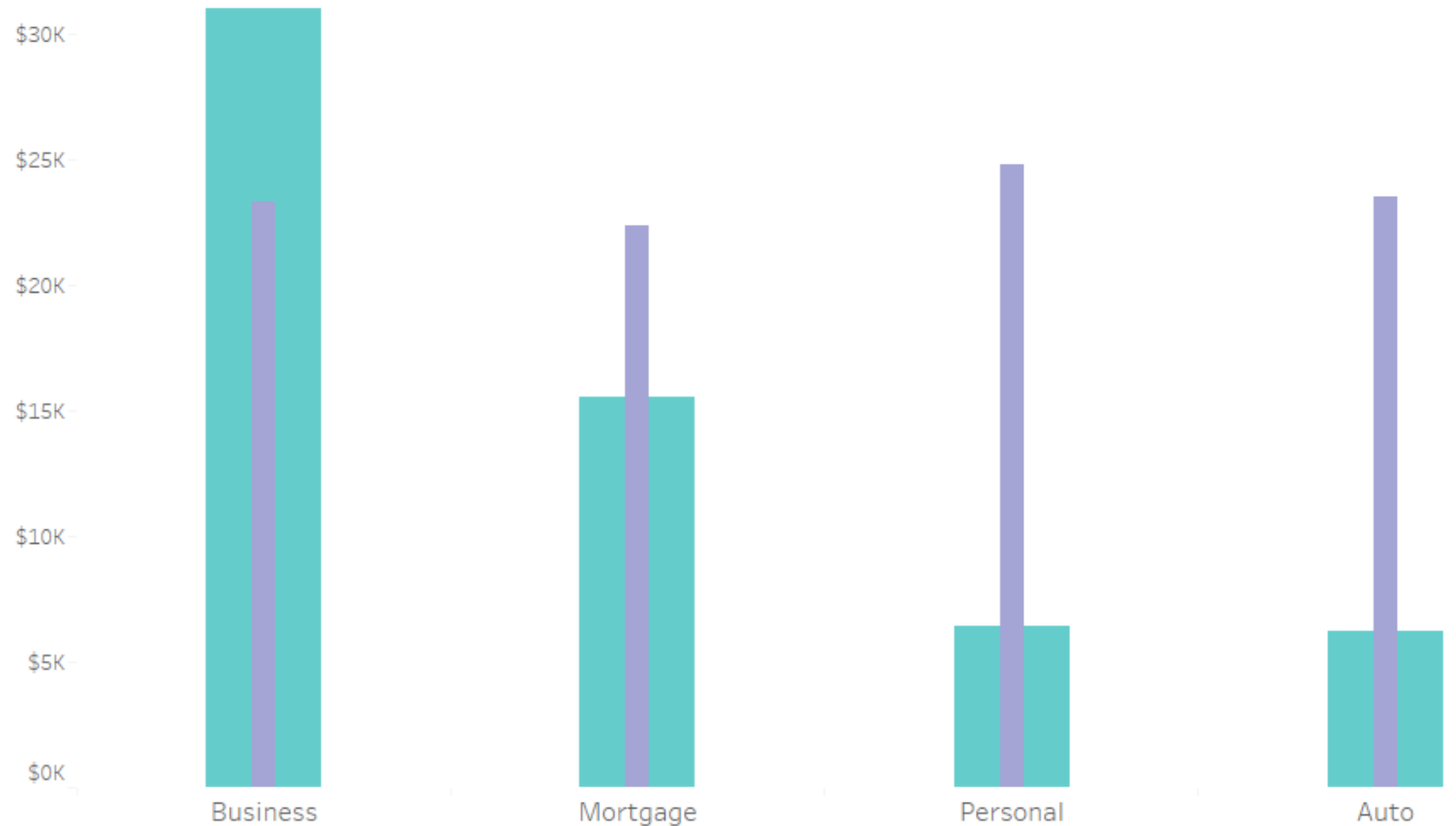


Bar in Bar Chart

When to Use

- Comparing two similar values
- Small count of dimension members

Cash on Hand by Loan Type in Central or East



IMITATION DATA

Bar in Bar Chart

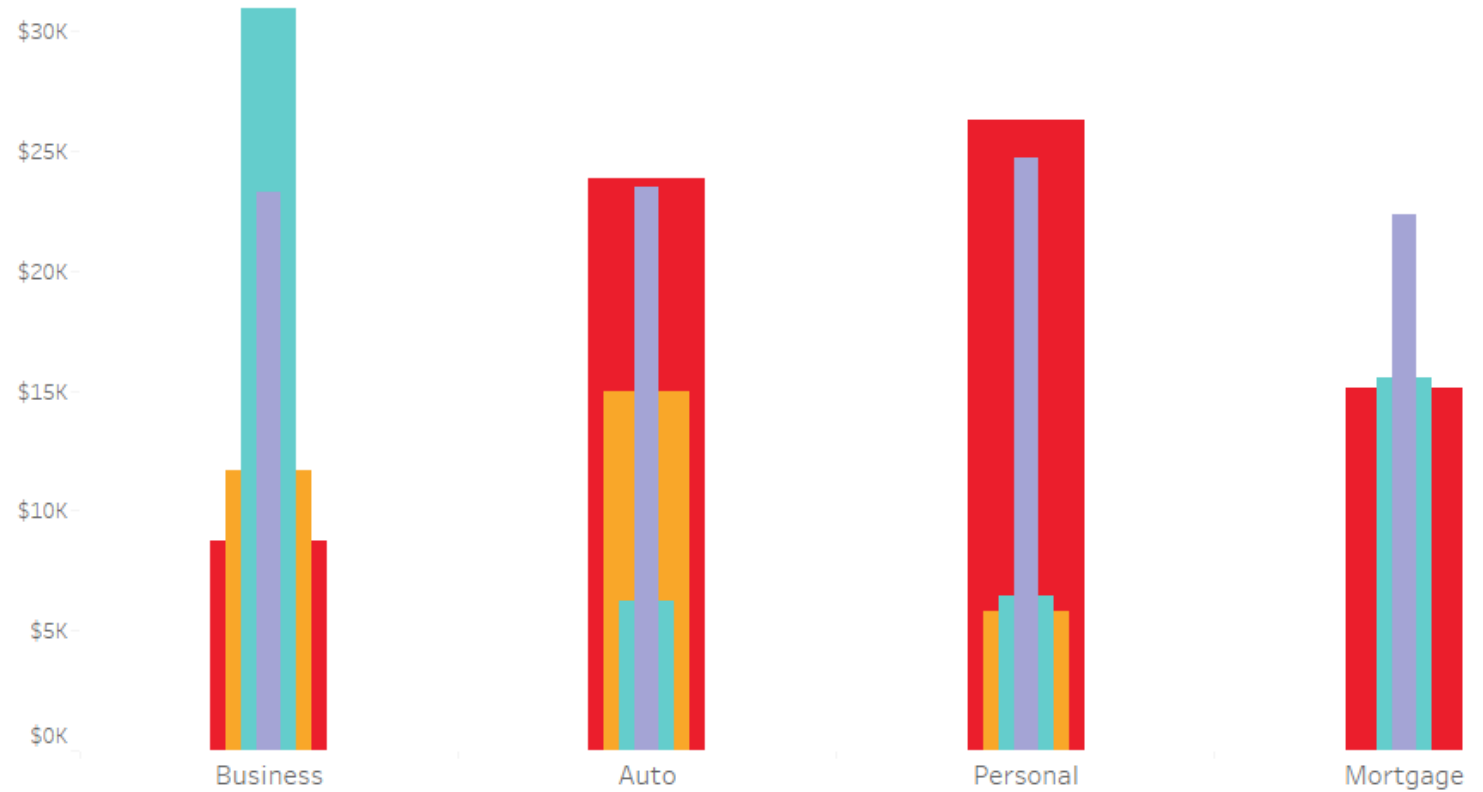


Avoid

- Too many colors
- Improper sizing of bars
- More than just two bars

Cash on Hand by Loan Type per Market

Central | East | South | West



IMITATION DATA

Keep Learning. Stay Connected.

Katie Wagner | Training Lead

 @kfontnowagner

Additional Resources

public.tableau.com/views/VisualVocabulary/VisualVocabulary

Andy Kriebel | vizwiz.com

app.flourish.studio/templates

kiln.digital

Follow Us on Social

Search for @interworks on Facebook,
LinkedIn, Twitter, and Instagram



Ask Data, Get Answers

Tableau's New Natural Language Processing Tool

Dan Grady | Product Consultant

Tableau Software | dgrady@tableau.com



Ask Data

Analyze your data using natural language



See how it works - Watch the video

Type a question and instantly get a response,
right in Tableau

Answers come in the form of rich data visualizations with no need to understand the structure of your data, so you can get to your insights faster.

Ask a question about Wines

average **Price** by **Variety**

Try asking these questions:

most expensive Price

Click for these great resources:

- [Watch the intro video](#)
- [Try the interactive live demo](#)
- [Read all about it](#)
- [Watch a training webinar](#)

Tableau & Data Analytics Resources

Credit Union Tableau User Group



Your answer is almost certainly in one of these two places. If not, though, we've got you covered!

- The hub: <https://www.tableau.com/learn>
- The hive: <https://community.tableau.com/community/forums/content>
- The Zen: <https://www.tableau.com/zen-masters>

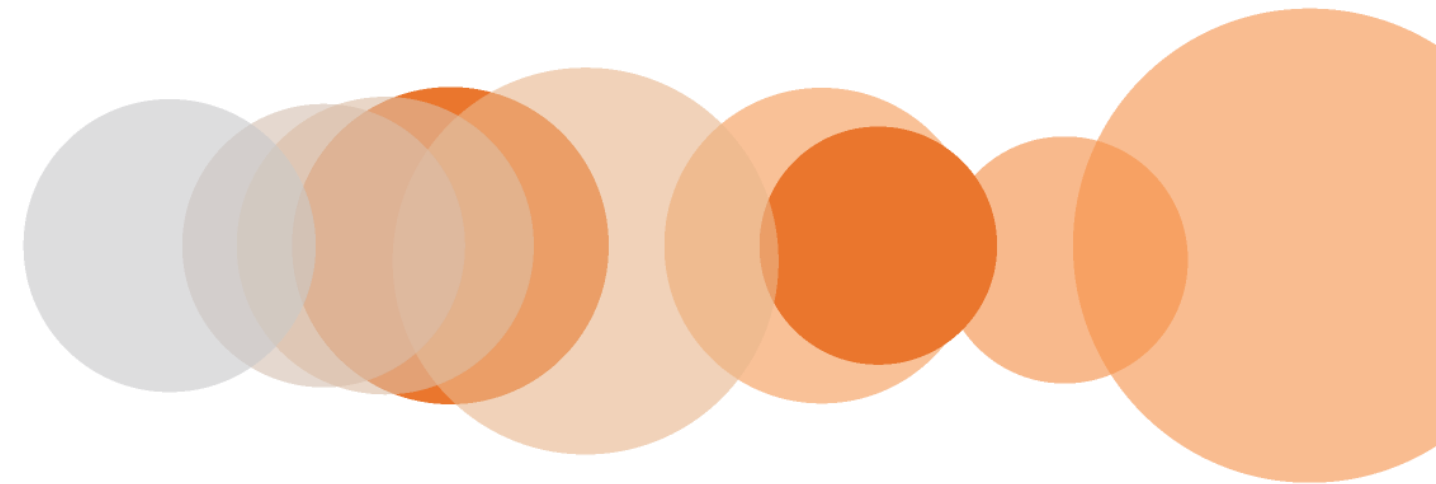
Tableau Community Self-Education Groups

- The OG: **Makeover Monday**: Take a viz and its dataset and make that baby over <http://www.makeovermonday.co.uk/>
- **Think Data Thursday**: monthly webinars on useful topics – highly recommended: <https://community.tableau.com/groups/think-data-thursday>
- **Workout Wednesday**: They set the challenge, you recreate it – or learn how <http://www.workout-wednesday.com/>
- **Preppin' Data**: Learn collaboratively about how to transform and test your data preparation skills <https://preppindata.blogspot.com/>
- **Sports Viz Sunday**: Learning through things you love is the best way – if sports is your area of choice <https://data.world/sportsvizsunday> <https://www.sportsvizsunday.com/>
- **Storytelling With Data**: Go from showing numbers to telling stories your boss needs to hear: <http://www.storytellingwithdata.com/>

Credit Union Specific Resources

- "Where do I start?" **Kirk Drake at CU 2.0** has a list (and a blog series) of great ideas for using small – and big – data to impact marketing, member retention, and more: <https://cu-2.com/tag/credit-union-data-hacks/>
- CULytics: Former First Tech-er Naveen Jain runs the must-attend annual analytics conference, as well as the online hub for sharing and collaborating. They also have a lot of info about the many, many CU fintech partners out there: <https://culytics.com/solutions-gallery>
- OnApproach (Now Trellance)'s blog and commentary: <https://blog.trellance.com/>
- Brewster Knowlton's Blog: <http://knowlton-group.com/business-intelligence-blog/>
- I linked to Tableau for Finance's Public profile, but repeating here: <https://public.tableau.com/profile/tableau.for.finance#!/>
- CreditUnions.com's [Analytics case studies](#) – including a collection of top profiles and recommendations: [Analytics For Action](#)
- CUNA Mutual AdvantEdge Analytics' blog: <https://www.advantedgeanalytics.com/insights>

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<https://community.tableau.com/groups/credit-unions>

Interested in speaking?

Interested in hosting?

Interesting in planning?

Got ideas you want covered?



WE WANT YOU!
FOR THE CUTUG!

Contact Us

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