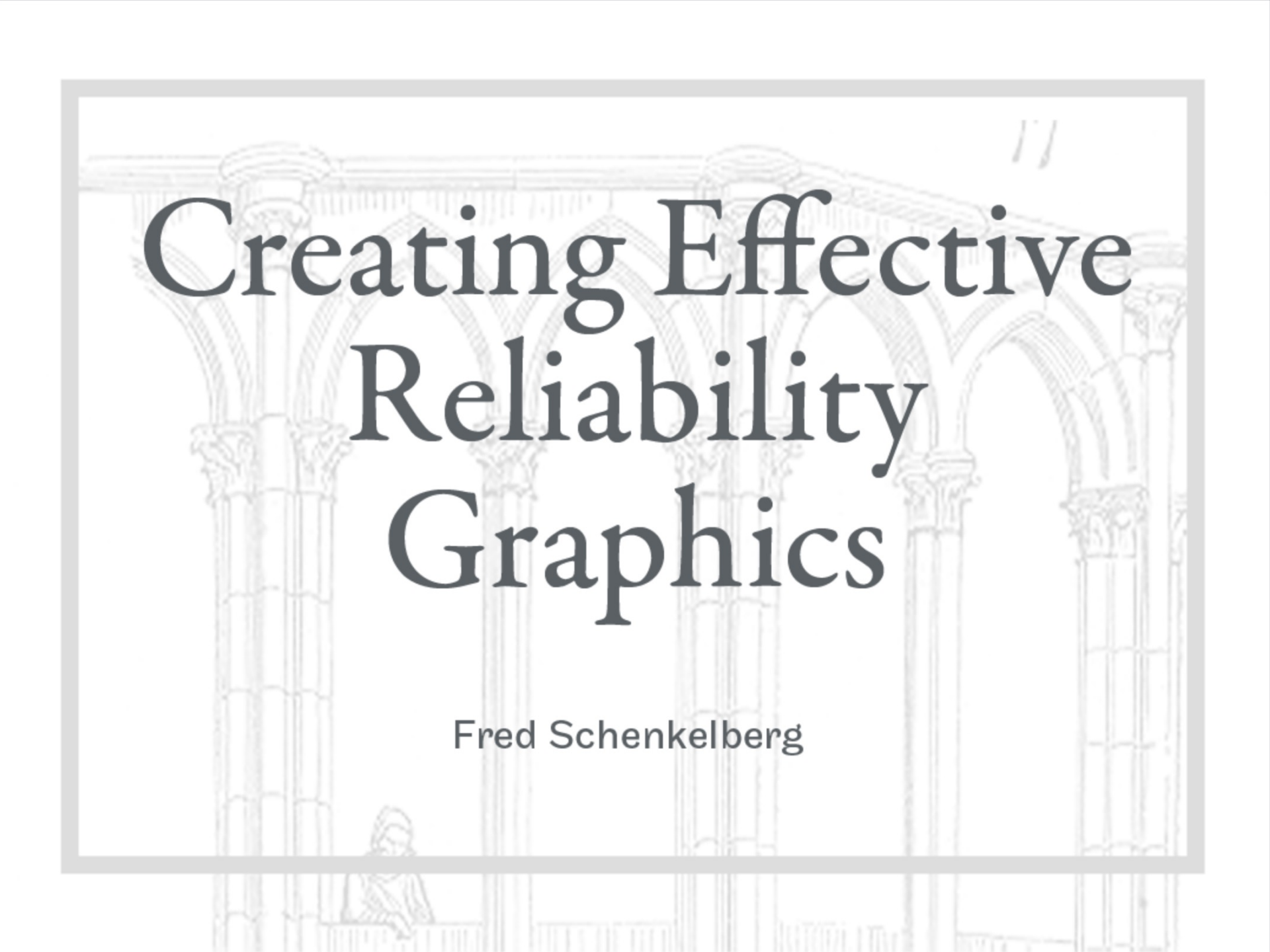




Creating Effective Reliability Graphics

Fred Schenkelberg



Data

Information



Decisions



What was the worst
graphic you've seen?

DEADSPIN Snapshots®

USA TODAY buys The Big Lead

The deal by the numbers.



By Tom Scocca and Jim Cooke, DEADSPIN

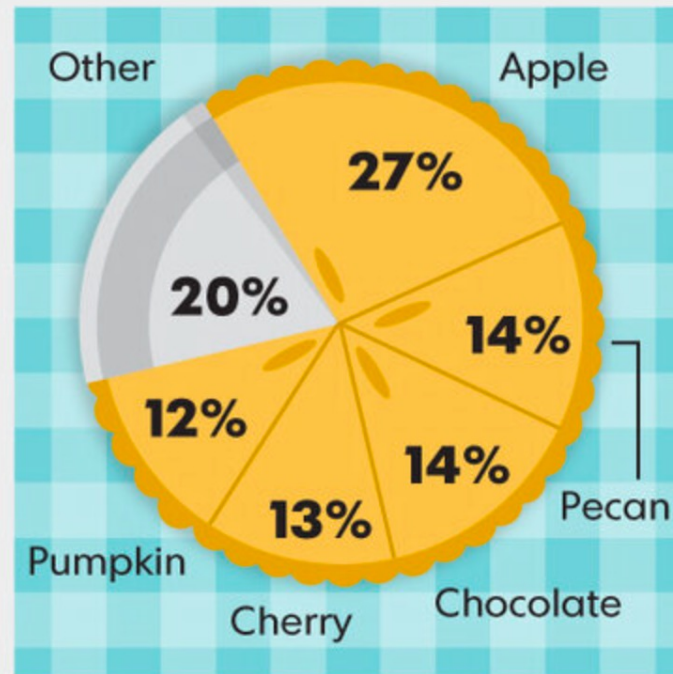
USA TODAY Snapshots®

Activities we'd put on our bucket list



By Michelle Healy and Sam Ward, USA TODAY

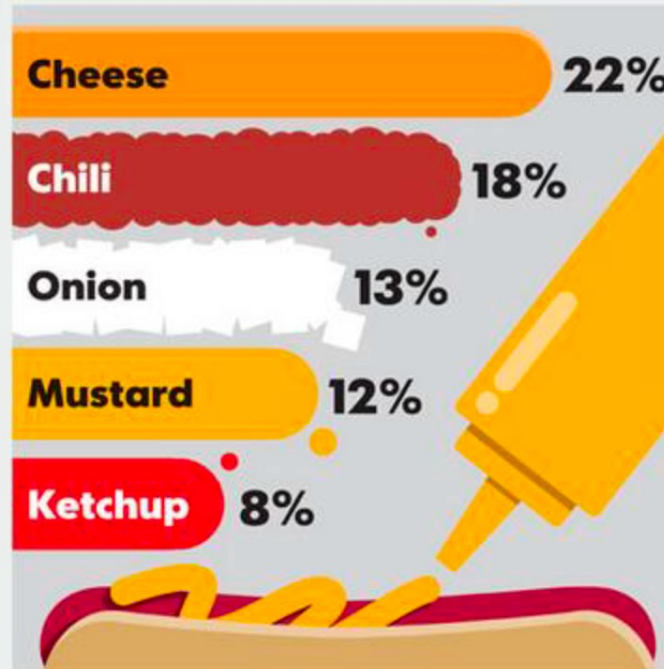
Favorite pie flavors



Source Wakefield Research for Mrs. Smith's and Edwards
survey of 1,000 adults

CATHY PAYNE AND VERONICA BRAVO, USA TODAY

Most popular hot dog condiments



Source GrubHub analysis of 1,000 hot dog orders
CATHY PAYNE AND PAUL TRAP, USA TODAY

What is Effective?



Simple

Clear

Revealing

Keep it Simple



Every element necessary
else not on the graphic

Just because you can make it look 3D
does not mean you should

Elegant looks easy

Keep it Clear



What is the point or objective?

Is one graphic enough?

Does the graphic add clarity?

Does the graphic serve a clear purpose?

Let the Data Speak



Show me the data

Consider this regression plot:

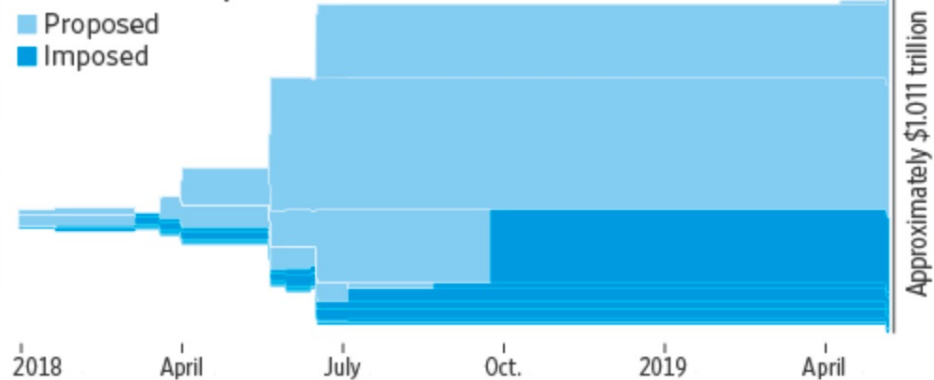


What are some great
examples of

effective graphics?

U.S. tariffs on imports

Proposed
Imposed



Sources: U.S. Census Bureau; U.S. International Trade Commission

CARTE FIGURATIVE des pertes successives en hommes de l'Armée Française dans la campagne de Russie 1812-1813.

Dressée par M. Minard, Inspecteur Général des Ponts et Chaussées en retraite.

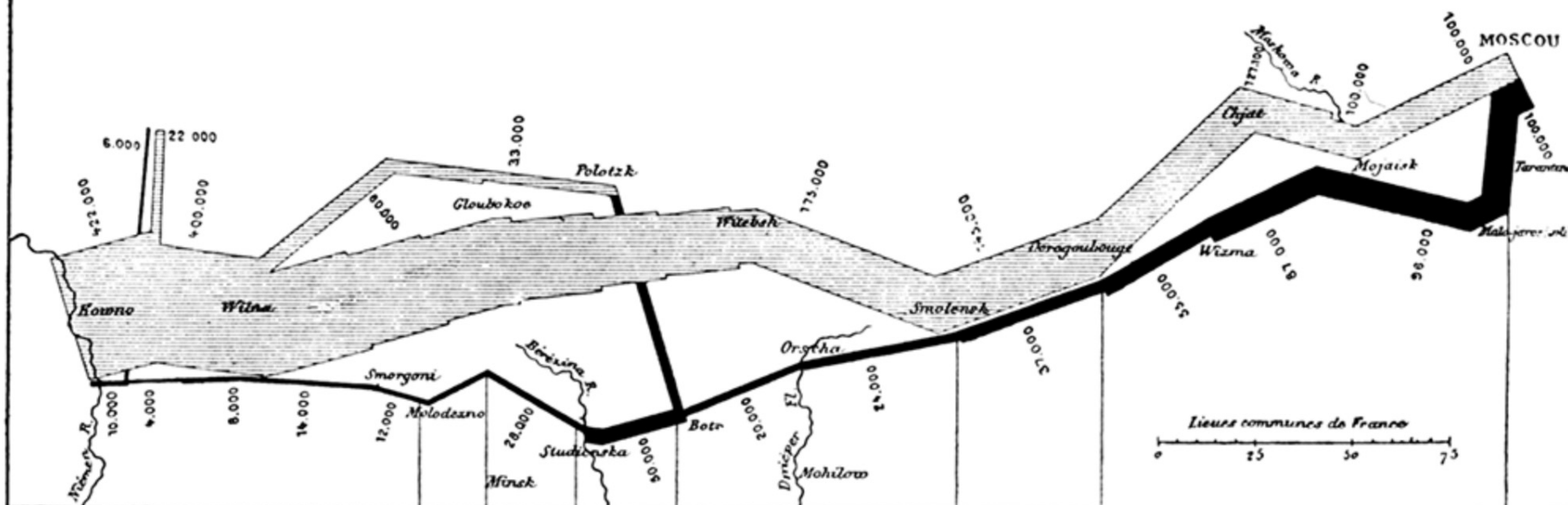
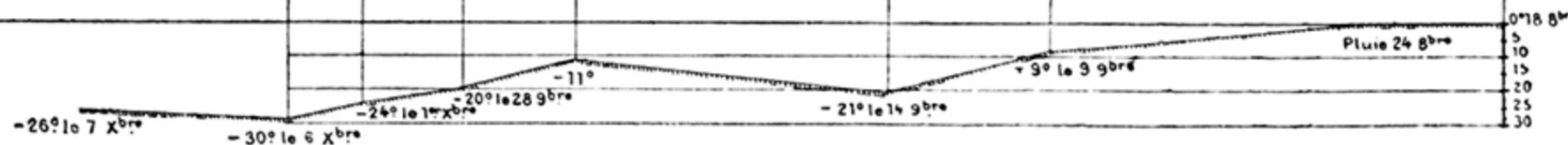
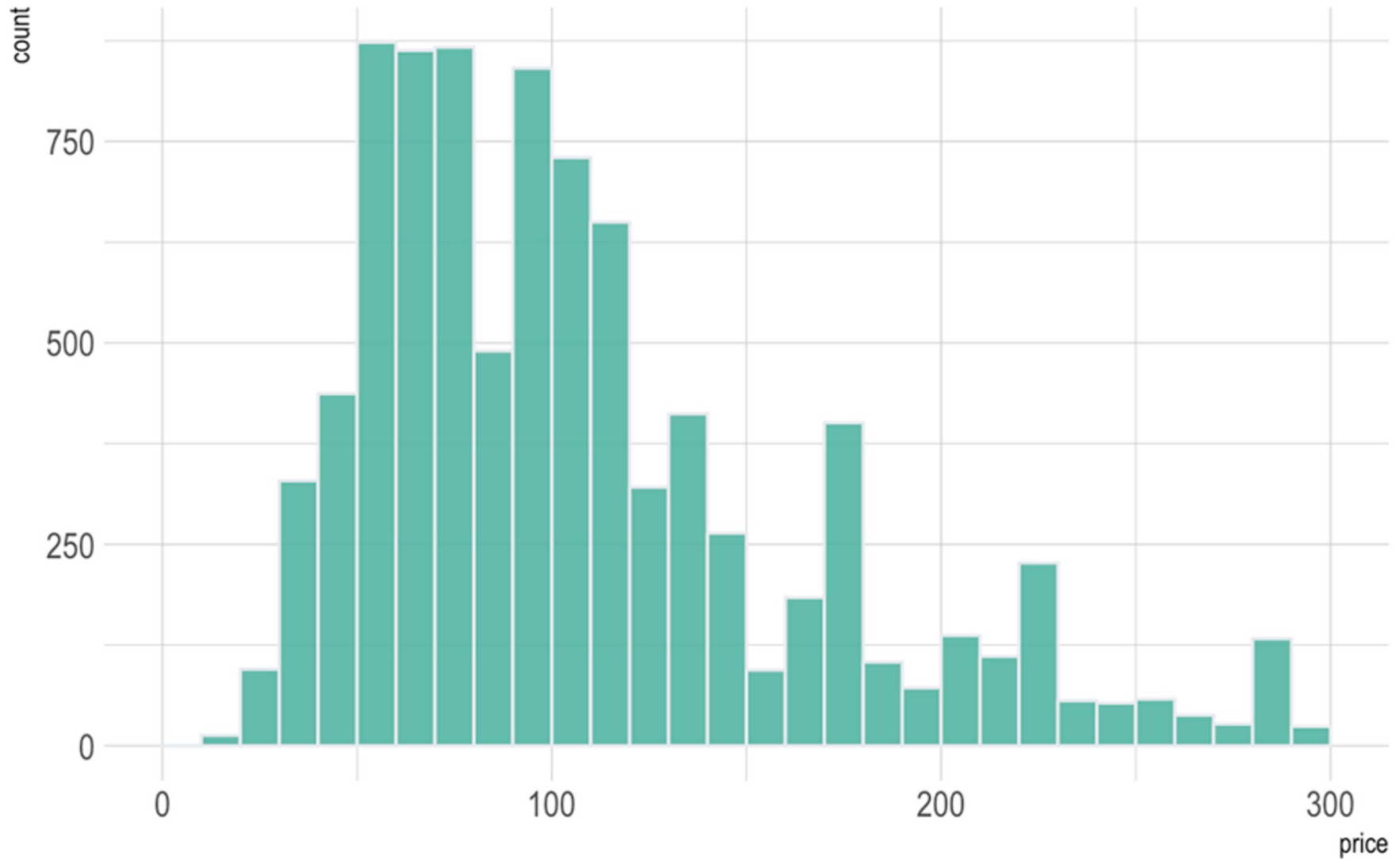


TABLEAU GRAPHIQUE de la température en degrés du thermomètre de Réaumur au dessous de zéro



Night price distribution of Airbnb appartements



Basics



Type

Axis

Labels

Type of Graphic



think: suitable

The form follows function

Same dimensions or less as the data

Avoid pie charts

Axis & Scale



Let's not make the reader guess

Set Scales so trends appear at 45°

Cohent scales

Clear axis markers if needed

The graphic should be able to stand alone

Labels & Legends



Minimize text to absolute necessities

Provide context

Add legibility

Avoid clutter

What Tool Do You
Use to

Create a Histogram?

Histograms



Data

Default

Another Look

Here's Some Data



Time assign letter grades for test scores

Let's say we have 40 student test scores

Scores are out of 100 points

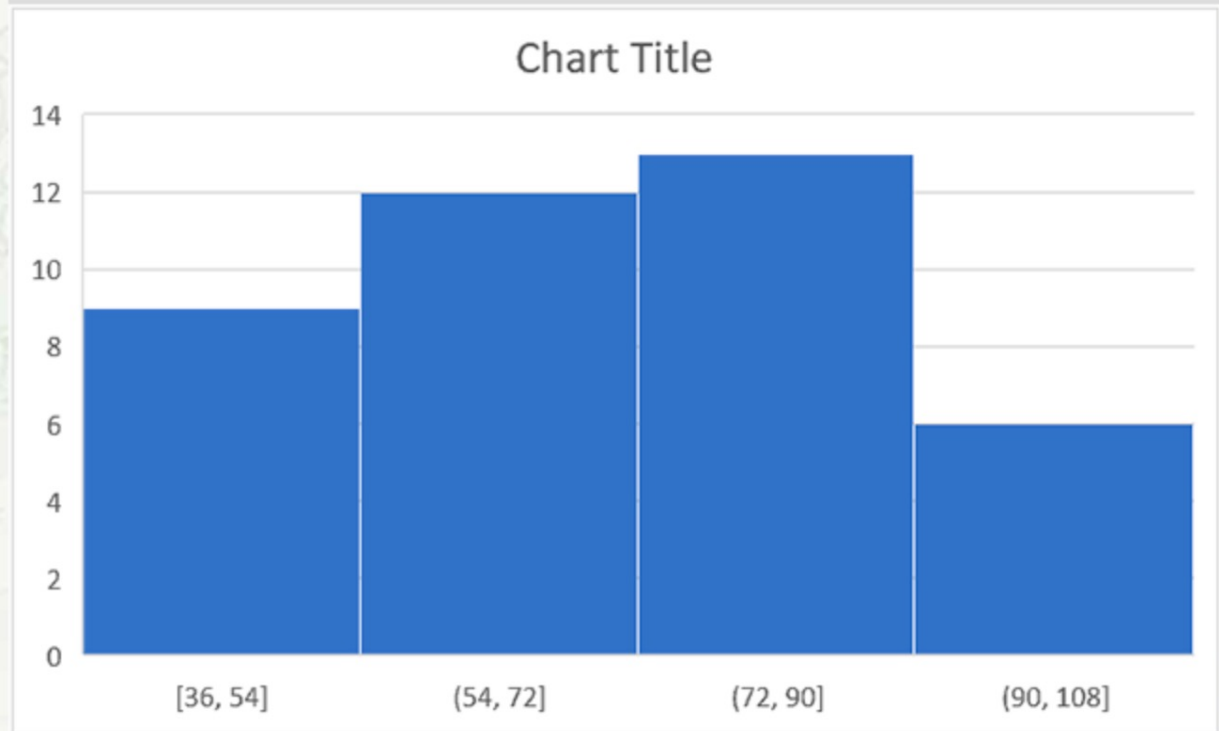
The values range from 36 to 100

Excel Defaults

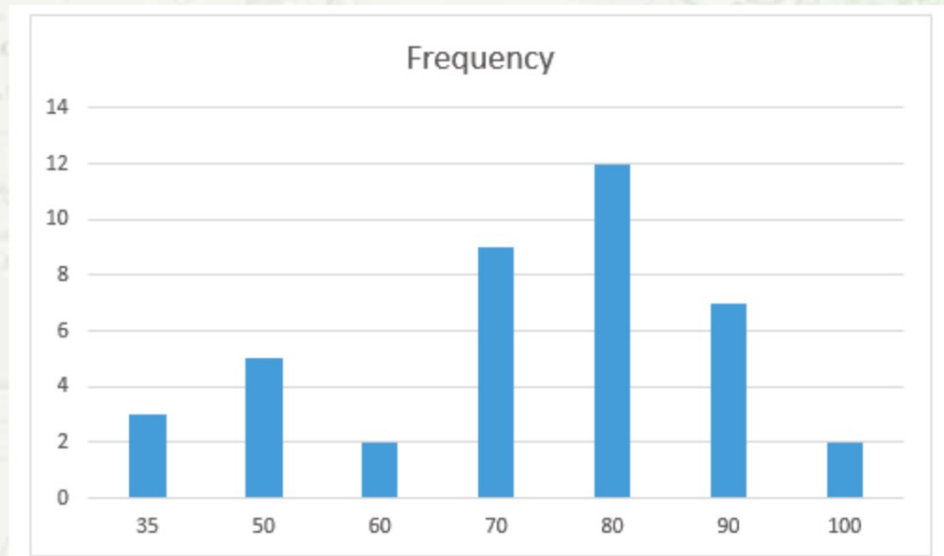
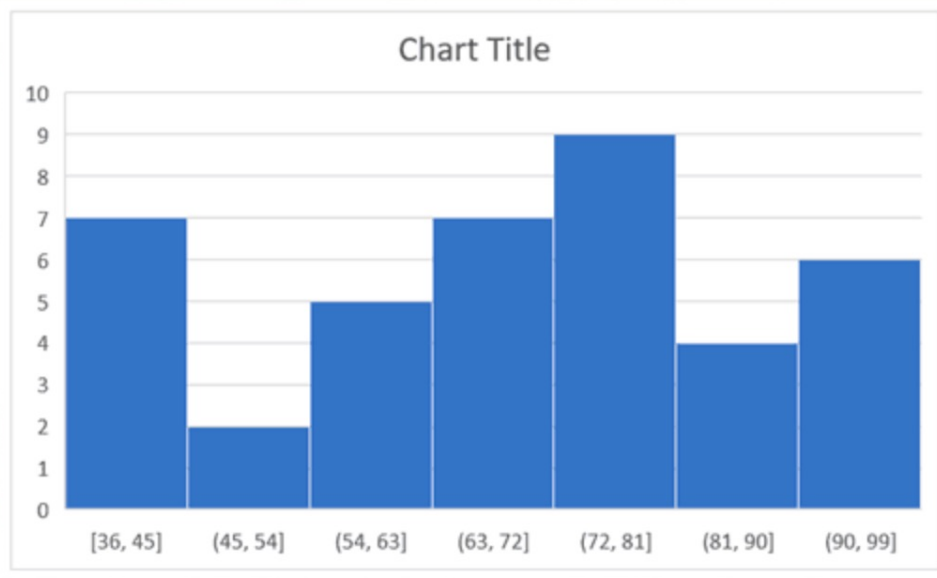


Does this pass the sniff test?

simple defaults Excel 2016



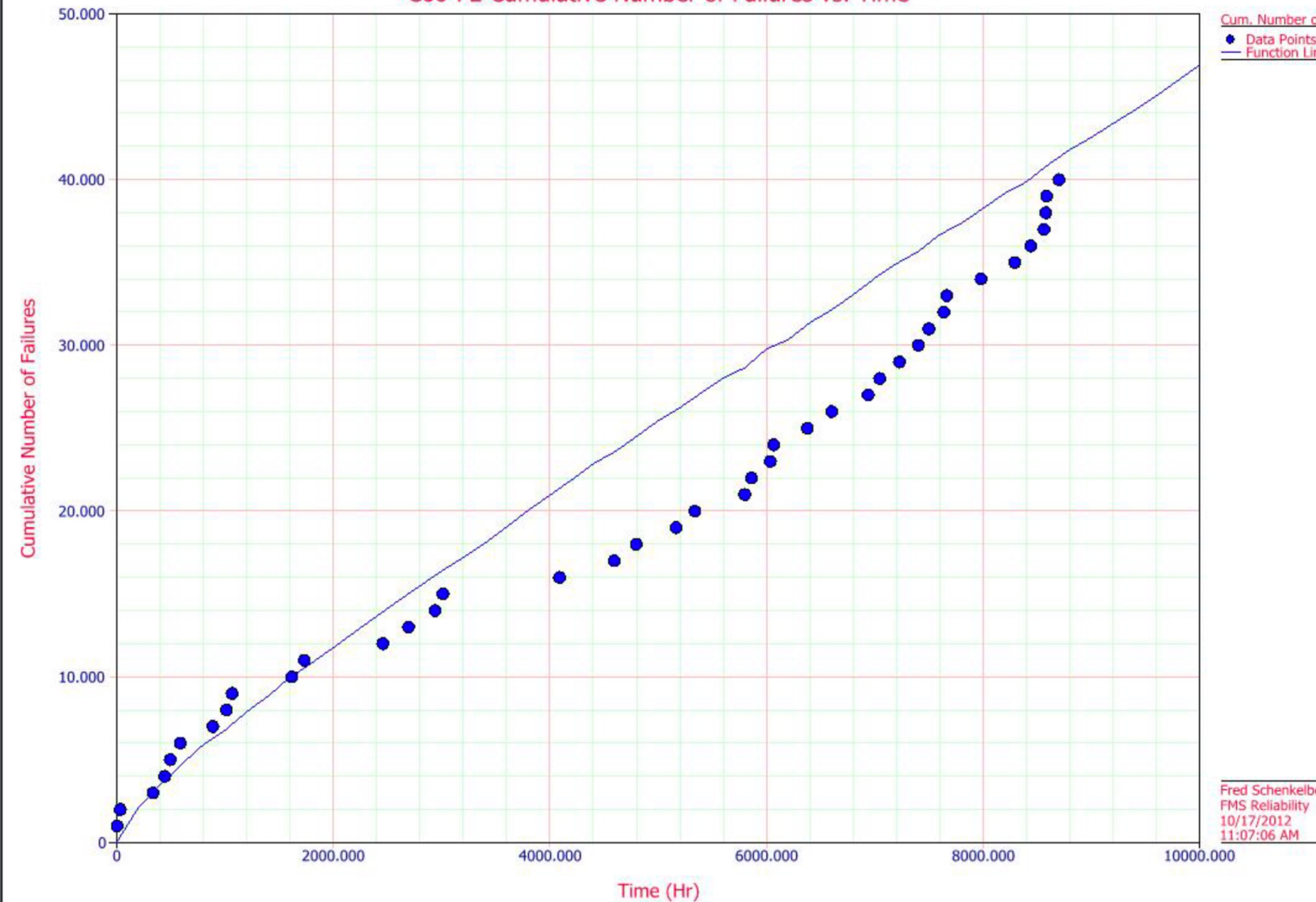
A Couple Other Views



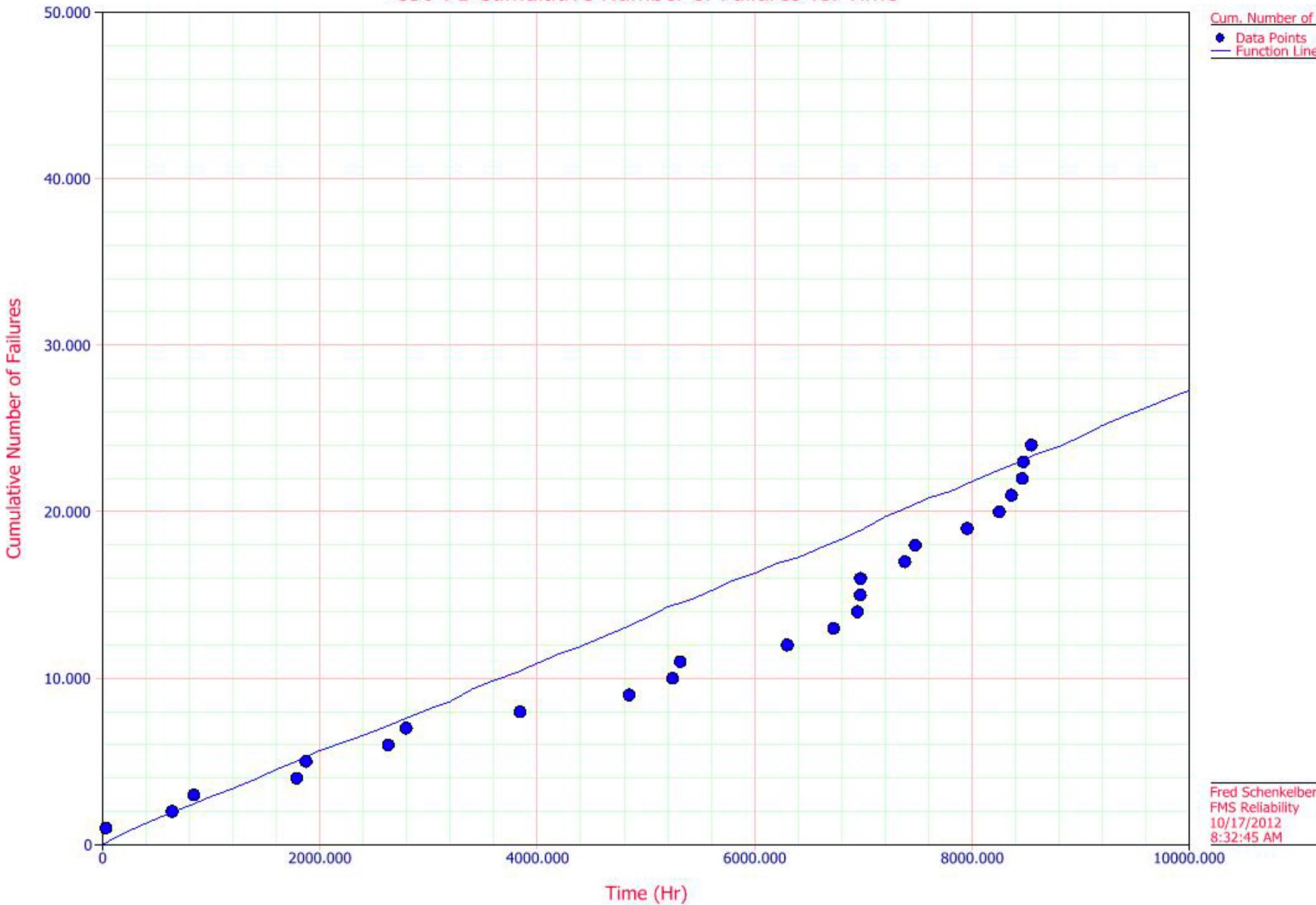
Let's Look at

System Repair Data

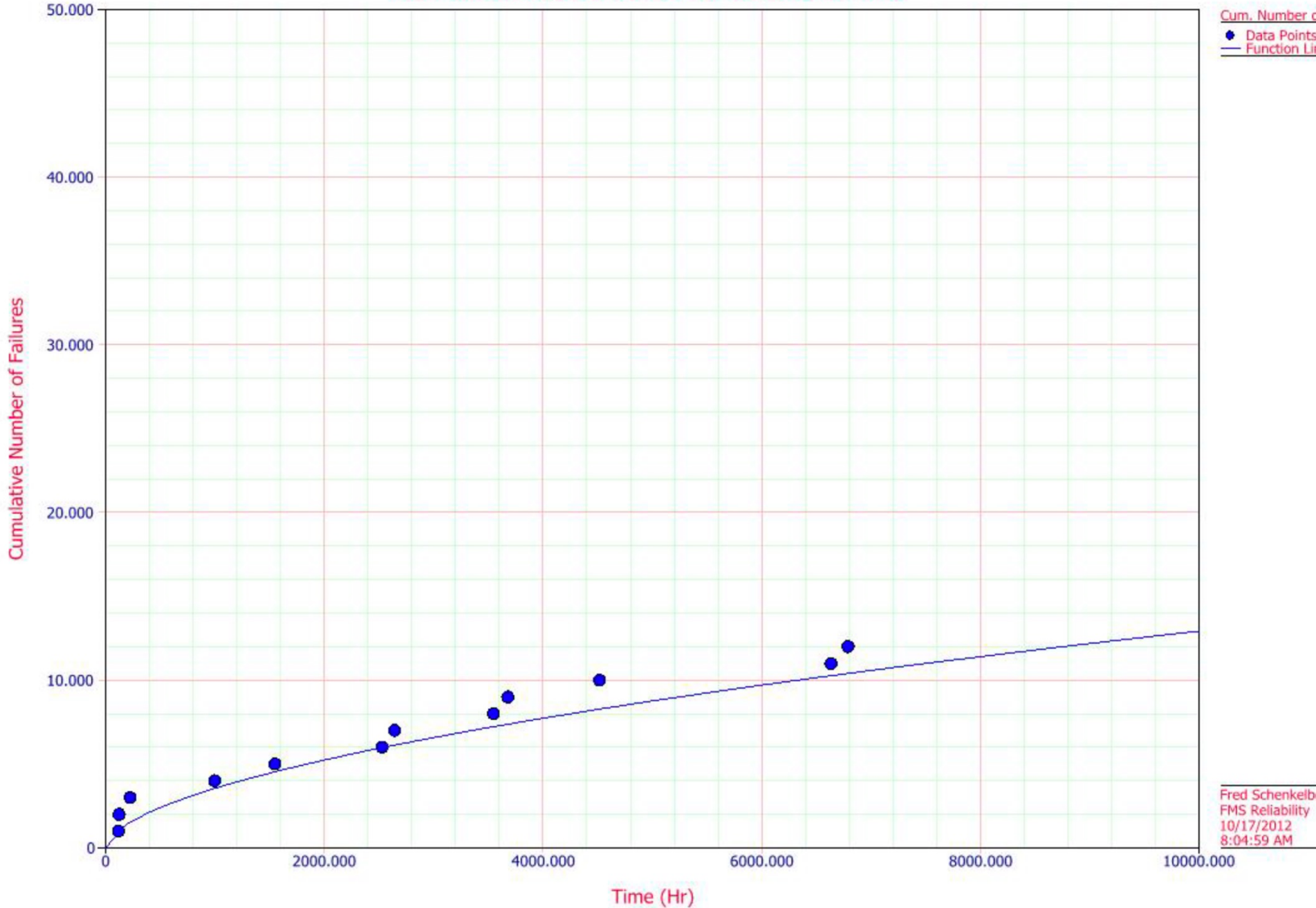
C60-P2 Cumulative Number of Failures vs. Time



C50-P1 Cumulative Number of Failures vs. Time



C10-S1 Cumulative Number of Failures vs. Time



Have you examined
your graphics

recently?

In Summary

Simple



Clear



Elegant



Let the Data Speak



More Information

Visit [AccendoReliability.com](https://www.AccendoReliability.com)

Let me know if you have any questions.

Check out the reliability engineering podcast network at [Reliability.FM](https://www.Reliability.FM)

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