

# Revolutionary Audit Reports

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**Virginia Local Government  
Auditors Association**

**September 21, 2018**



**CONSTELLATION**  
GOVERNMENT COMMUNICATIONS

# Emily Jacobson

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## Constellation Government Communications

- Audit Report Writing Training
- Audit Report Review
- Report Template Development
- Writing Style Guides
- Special Projects

## Denver Auditor's Office

## Education & Prior Experience



CONSTELLATION  
GOVERNMENT COMMUNICATIONS

# Training Schedule

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## MORNING

- Recognizing That Writing Is Hard
- Yellow Book Guidance
- Writing with the Reader in Mind
- Deductive Writing

## AFTERNOON

- Being Concise
- Mastering Tone
- Writing All the Time
- Effective Visuals

# Writing Is Hard

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THE RESEARCH PROVES IT

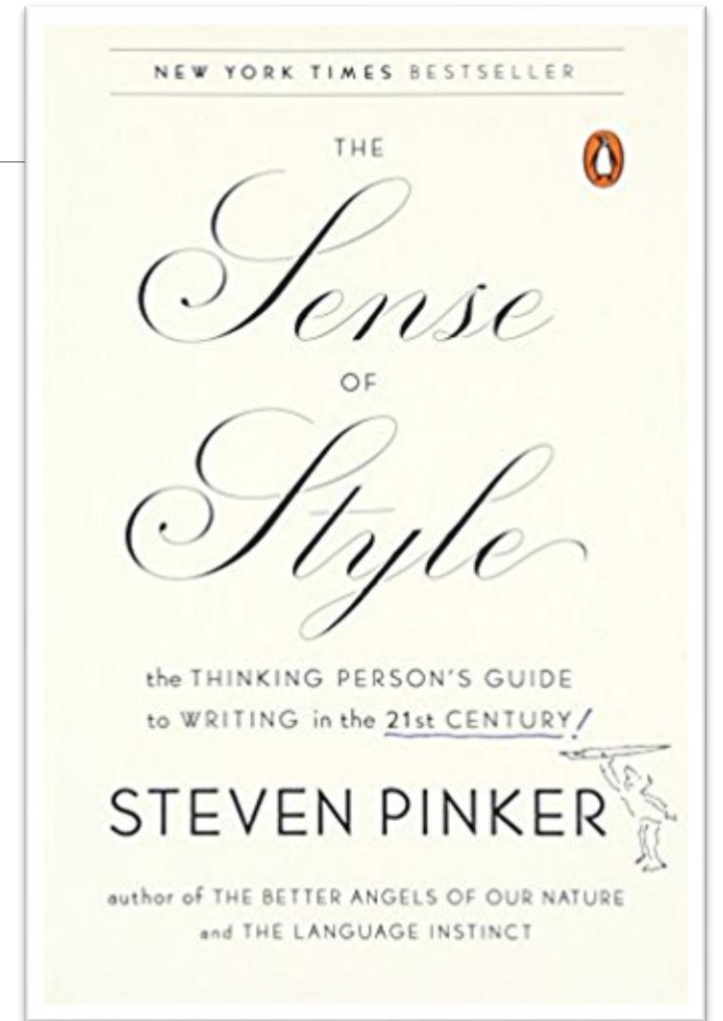
# Who Thinks Writing Is Hard?

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# Steven Pinker

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# Why Is Writing So Hard?

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Writing is not instinctive or natural, unlike speaking

Readers are “out there” and unknown

Not the give-and-take of a conversation

You must convert your “web of knowledge” into a “linear string of words”



# Why Is Writing So Hard?

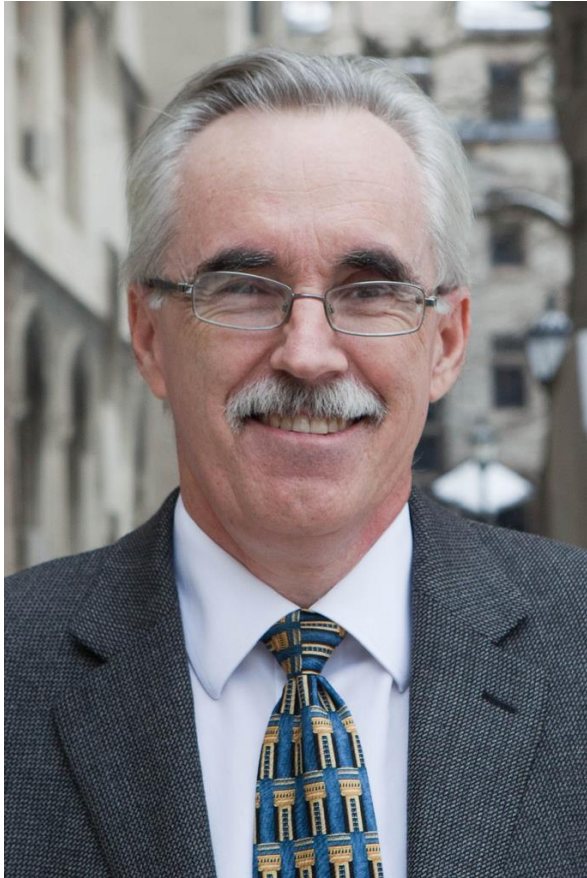
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## The Curse of Knowledge:

- A difficulty in imagining what it is like for someone else not to know something that you know
- The better you know something, the less you remember about how hard it was to learn

# Why Is Writing So Hard?

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THE UNIVERSITY OF  
CHICAGO

Lawrence McEnerney

- “You were taught to write for people who were paid to care about you”

# Also Hard: Audit Report Writing

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You didn't set out to become a writer

There's no right way; no formula

Audit fatigue

The revision process

Multiple audiences

# (Alas,) Writing Is An Obligation

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If you don't publish your findings, you didn't make them

GAGAS requires that you write

# Yellow Book Guidance

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RELEVANT GAGAS PROVISIONS

# Yellow Book | *Purpose*

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## **Purposes of Audit Reports (GAGAS 9.08)**

- Clearly communicate the results of audits to those charged with governance, the appropriate officials of the audited entity, and the appropriate oversight officials; and
- Facilitate follow-up to determine whether appropriate corrective actions have been taken.

# Yellow Book | *Required Content*

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## **Required Report Content** (GAGAS 9.10)

- Objectives, scope, and methodology
- Audit results, including findings, conclusions, and recommendations, as appropriate
- A summary of the views of responsible officials
- The nature of any confidential or sensitive information omitted (if applicable)

# Yellow Book | *Optional Content*

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## Optional Report Content (GAGAS 9.26)

- Auditors *may* provide background information to establish the context for the overall message and to help the reader understand the findings and significance of the issues discussed.

# Yellow Book | *Optional Content*

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## **Optional** Report Content (GAGAS 9.26):

- How programs/operations work
- Significance of programs/operations (e.g., dollars, effect, purposes, and past audit work)
- Audited entity's responsibilities
- Terms, organizational structure, and statutory basis

# Yellow Book | *Report Users*

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## Key Report Users

Government officials who authorized or requested the audit

The audited entity

Those responsible for acting on recommendations

Oversight organizations

Legislative bodies

## Other Potential Report Users

Legislators or government officials (other than those who authorized or requested the audit)

The media

Interest groups

Individual citizens

(GAGAS 8.37)

# Yellow Book | *Findings*

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## **Audit Report Findings**

- Present sufficient, appropriate evidence to support the findings and conclusions in relation to the audit objectives (GAGAS 9.18)
- Report conclusions based on the audit objectives and the audit findings (GAGAS 9.19)
- Describe limitations/uncertainties with the reliability or validity of evidence (GAGAS 9.20)
- Place findings in perspective by describing nature/extent of issues reported (GAGAS 9.21)

# Yellow Book | *Conclusions*

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## **Audit Report Conclusions (GAGAS 9.27)**

- Report conclusions are logical inferences about the program based on the auditors' findings, not merely a summary of the findings.
- The strength of the conclusions depends on the persuasiveness of the evidence supporting the findings and the soundness of the logic used to formulate the conclusions.
- Conclusions are more compelling when they lead to recommendations and convince a knowledgeable user of the report that action is necessary.

# Yellow Book | *Report Format*

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## Audit Report Format

- Auditors should issue audit reports communicating the results of each completed performance audit (GAGAS 9.06)
- In a form that is appropriate for its intended use, either in writing or in some other retrievable form (GAGAS 9.07)

# Yellow Book | *Report Format*

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## Application Guidance: Report Format (GAGAS 9.09)

- Auditors may present audit reports using electronic media through which report users and the organization can retrieve them.
- Different forms of audit reports include written reports, letters, briefing slides, or other presentation materials. (Depends on user needs.)

# Yellow Book | *Report Format*

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GAGAS-compliant reports can look very different:

- Highlights page v. executive summary
- Extent of background and context
- Objectives, scope, and methodology
- Narrative v. bullets/outline style
- Use of examples
- Tables and exhibits

# Report Quality Elements

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**GAGAS 9.17** – The auditor may use the following report quality elements when developing and writing the report:

- Accurate
- Objective
- Complete
- Convincing
- Clear
- Concise
- Timely

# EXERCISE 1

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REPORT QUALITY ELEMENTS



# Accurate

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An accurate report is supported by **sufficient, appropriate evidence** with key facts, figures, and findings being **traceable** to the audit evidence. Reports that are **fact-based**, with a clear statement of sources, methods, and assumptions so that report users can judge how much weight to give the evidence reported, assist in achieving accuracy. Disclosing data limitations and other **disclosures** also contribute to producing more accurate audit reports. Reports also are more accurate when the **findings are presented in the broader context** of the issue. One way to help the audit organization prepare accurate audit reports is to use a quality control process such as referencing. Referencing is a process in which an experienced auditor who is independent of the audit checks that statements of facts, figures, and dates are **correctly reported**; the findings are adequately supported by the evidence in the audit documentation; and the conclusions and **recommendations flow logically** from the evidence.

# Objective

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Objective means that the presentation of the report is **balanced in content and tone**. A report's credibility is significantly enhanced when it presents evidence in an **unbiased** manner and in the **proper context**. This means presenting the audit results **impartially and fairly**. The tone of reports may encourage decision makers to act on the auditors' findings and recommendations. This balanced tone can be achieved when reports present sufficient, appropriate evidence to support conclusions while **refraining from using adjectives or adverbs** that characterize evidence in a way that implies criticism or unsupported conclusions. The objectivity of audit reports is enhanced when the report explicitly states the **source of the evidence** and the assumptions used in the analysis. The report may recognize the **positive aspects** of the program reviewed if applicable to the audit objectives. Inclusion of positive program aspects may lead to improved performance by other government organizations that read the report. Audit reports are more objective when they demonstrate that the work has been performed by **professional, unbiased, independent, and knowledgeable personnel**.

# Complete

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Being complete means that the report contains **sufficient, appropriate evidence** needed to satisfy the audit objectives and promote an understanding of the matters reported. It also means the report states evidence and findings **without omission** of significant relevant information related to the audit objectives. Providing report users with an understanding means providing perspective on the **extent and significance** of reported findings, such as the frequency of occurrence relative to the number of cases or transactions tested and the relationship of the findings to the entity's operations. Being complete also means clearly stating what was and was not done and explicitly describing data **limitations**, constraints imposed by restrictions on access to records, or other issues.

# Convincing

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Being convincing means that the audit results are **responsive to the audit objectives**, that the findings are presented **persuasively**, and that the conclusions and recommendations **flow logically** from the facts presented. The validity of the findings, the reasonableness of the conclusions, and the benefit of implementing the recommendations are more convincing when supported by **sufficient, appropriate evidence**. Reports designed in this way can help focus the attention of responsible officials on the matters that warrant attention and can provide an incentive for taking corrective action.

# Clear

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Clarity means the report is **easy...to read and understand**. Preparing the report in language as **clear and simple** as the subject permits assists auditors in achieving this goal. Use of straightforward, **nontechnical** language is helpful to simplify presentation. **Defining** technical terms, abbreviations, and acronyms that are used in the report is also helpful. Auditors may use a **highlights page** or summary within the report to capture the report user's attention and highlight the overall message. If a summary is used, it is helpful if it focuses on the audit objectives, summarizes the audit's most significant findings and the report's principal conclusions, and prepares users to anticipate the major recommendations. **Logical organization** of material and **accuracy and precision** in stating facts and in drawing conclusions assist in the report's clarity and understandability. Effective use of **titles** and **captions** and **topic sentences** makes the report easier to read and understand. **Visual aids** (such as pictures, charts, graphs, and maps) may help clarify and summarize complex material.

# Concise

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Being concise means that the report is **no longer than necessary** to convey and support the message. **Extraneous detail detracts** from a report and may even conceal the real message and confuse or distract the users. Although room exists for considerable judgment in determining the content of reports, those that are fact-based but concise are likely to achieve results.

# Timely

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To be of maximum use, providing relevant evidence in time to respond to officials of the audited entity, legislative officials, and other users' legitimate needs is the auditors' goal. Likewise, the evidence provided in the report is more helpful if it is **current**. Therefore, the timely issuance of the report is an important reporting goal for auditors. During the audit, the auditors **may provide interim reports** of significant matters to appropriate entity and oversight officials. Such communication alerts officials to **matters needing immediate attention** and allows them to take corrective action before the final report is completed.

# A Quality Audit Report

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- Sufficient, appropriate evidence
- Fact-based, correct, accurate, and precise
- Balanced, impartial, and fair
- Logical flow and organization
- Clear, simple, and non-technical
- Include context, extent, and significance
- Clarify and summarize complex material

# Elements of a Finding

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YELLOW BOOK DEFINITIONS



# Elements of a Finding

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- Criteria
- Condition
- Cause
- Effect
- Recommendation

# Criteria

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## **GAGAS 8.17**

- Criteria identify the required or desired state or expectation of the program/operation.
- Provide a context for evaluating evidence and understanding the findings, conclusions, and recommendations in the report.
- Relevant, reliable, objective, and understandable.

# Criteria Examples

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- Laws and regulations
- Goals, policies, and procedures
- Technically developed standards or norms
- Expert opinions
- Prior periods' performance
- Defined business practices
- Contracts or grant agreements
- Benchmarks

# Condition

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## **GAGAS 8.125**

- Condition is a situation that exists
- The condition is determined and documented during the audit

# Cause

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## **GAGAS 8.126**

- The cause is the factor or factors responsible for the difference between the condition and the criteria.
- May also serve as a basis for recommendations.

# Cause

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## **GAGAS 8.126**

Common factors include:

- Poorly designed policies, procedures, or criteria
- Inconsistent, incomplete, or incorrect implementation
- Factors beyond the control of program management

# Effect (or Potential Effect)

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## **GAGAS 8.127**

- The outcome or consequence resulting from the difference between the condition and the criteria.
- May be used to demonstrate the need for corrective action in response to identified problems or relevant risks.

# Effect (or Potential Effect)

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## **GAGAS 8.131**

- When the audit objectives include estimating the extent to which a program has caused changes in physical, social, or economic conditions, “effect” is a measure of the program’s impact.

# Recommendations

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## **GAGAS 9.18**

- Auditors should provide recommendations for corrective action if findings are significant within the context of the audit objectives

## **GAGAS 9.23**

- Recommended actions should correct deficiencies to improve programs and operations when the potential for improvement is substantiated by the findings/conclusions

# Recommendations

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## **GAGAS 9.23** – Recommendations should:

- Flow logically from the findings and conclusions;
- Be directed at resolving the cause; and
- Clearly state the actions recommended.

# Recommendations

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## **GAGAS 9.28** – *Effective* Audit Recommendations:

- Encourage improvements in the conduct of government programs and operations;
- Are addressed to parties with the authority to act; and
- Are specific, feasible, cost-effective, and measurable.

# Do You Need All of the Elements?

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## **GAGAS 8.128:**

- The elements needed for a finding are related to the objectives of the audit.
- A finding is complete to the extent that the audit objectives are addressed.
- E.g., an audit objective may be to determine the current status or condition of program operations or progress in implementing legislative requirements, and not the related cause or effect. In this situation, developing the condition would address the audit objective, and developing the other elements of a finding would not be necessary.

# Elements of a Finding

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**BROKEN DOWN**



# Condition

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What is

The situation

What you observed

# Criteria

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What should be

The ideal situation

The required or desired state

# Cause

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The reason why “*what is*” is not “*what should be*”

The explanation for the gap

Use to develop a recommendation

# Effect

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Why it matters that there is a gap

Outcomes or consequences of the situation

Answers the question, “Who cares?”

# Recommendation

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What should be done

Resolves the cause

**SMART:**

**Specific** | **Measurable** | **Achievable** | **Realistic** | **Time-bound**

# EXERCISE 2

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IDENTIFYING THE ELEMENTS

# Writing with the Reader in Mind

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THE READER EXPECTATIONS APPROACH  
TO WRITING

# Reader First

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## Write with the Reader in Mind (Gopen; Swan)

- Focus less on word choice and more on structure
- Many writing guides say that good writing is 80% word choice and 20% structure
- It's actually the opposite!

# Reader First

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## Learn about Structural Elements:

- Write deductively, not inductively
- Leverage descriptive headers
- Use economy of words to make your writing more impactful

# Reader First (McEnerney)

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“Stop thinking about rules and start thinking about readers”

People read because they think it's valuable to them

Reading and thinking don't have the same pattern in the mind

- If your written work was based on your thought patterns, they will interfere with the way your reader reads your work
- True even if your reader is another expert

# Reader First (McEnerney)

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When you interfere with the reader's process, the following happens:

- Slows down (includes re-reading)
- Doesn't understand
- Gets aggravated
- Stops reading

# Reader Expectations (Swan)

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Reading takes energy

Reading is constant decoding and interpretation

Readers read for:

1. Structure; then
2. Substance

# Reader Expectations (Swan)

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If a reader spends all her energy trying to figure out structure, she doesn't have the energy left to figure out the substance

## **Structure:**

- Is invisible rhetoric
- Does things to us that we're not conscious of
- Causes us to interpret information in different ways

# Deductive Writing

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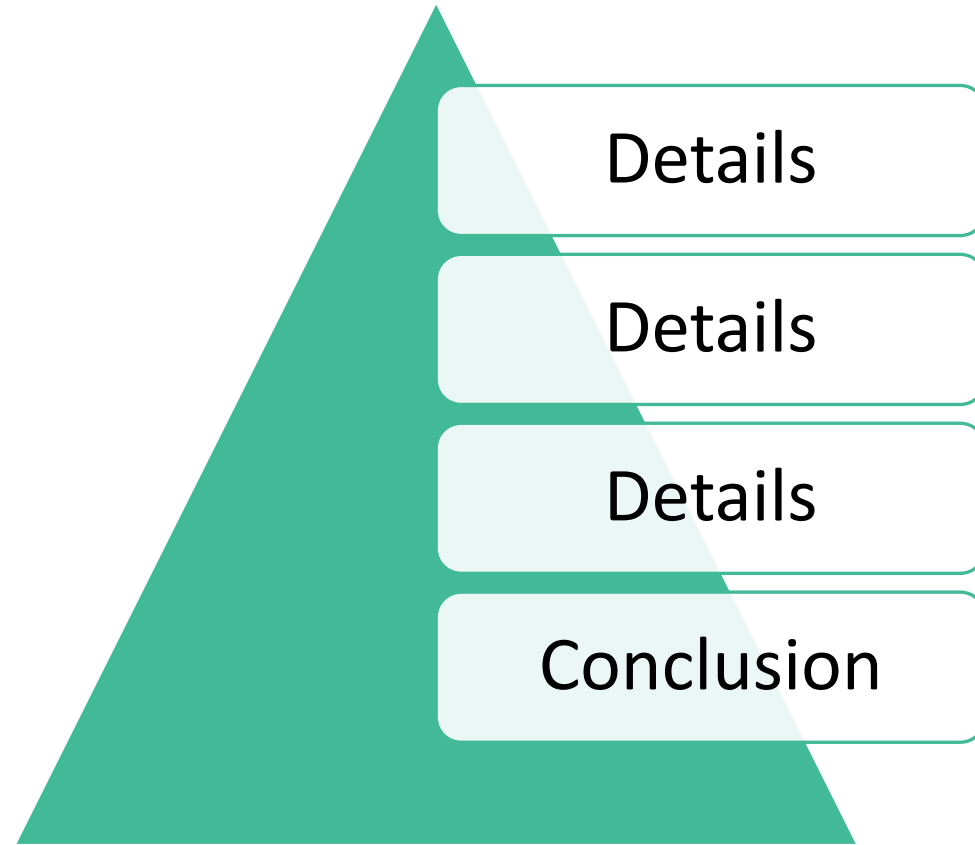
CONCLUSIONS FIRST

# Inductive Writing

- Concrete to abstract
- The writer starts with details...
- ...and builds to conclusion
- Writing the way you think
- Allow your readers to discover things with you
- More open ended and exploratory
- Writer waits until the end to provide the main point

# The Inductive Approach

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# Inductive Writing – Example 1

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Years ago in a remote part of a Pacific island nation, an international aid agency donated a hospital. This was a brand new purpose built facility that would serve a large community that at that point had no health care. The architecture was of the highest modern standards and the hospital was built on land well away from the river to avoid seasonal flooding. It was constructed of materials that were able to withstand the extreme regional climate. The opening was a great occasion. Officials came from far and wide for the event. Politicians made speeches to praise the project, characterizing it as a major development for the area that would radically change the lives of the people. Sadly, however, it was never used. The government lacked the funds to equip or staff the hospital. Moreover, the building itself was located far away from the river, which was the main means of transport for local people, so access was almost impossible. This health facility remained empty and unused. **Many foreign aid projects like this one fail because of poor planning, thereby wasting huge amounts of money.**

# Inductive Writing – Example 2

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Compliance with dog and cat licensure requirements in the City of Richmond is very low. Environmental Health Division (EHD) management estimates that only 18 percent of dogs and 1 percent of cats have the appropriate license. Moreover, the city's only stated purpose for licensure is to reunify lost pets with their owners. However, data provided by EHD shows that other methods of identification are responsible for more owner-pet reunifications than licensure. Further, the licensure requirement, which may have provided a benefit to public health in the past, is now redundant to other requirements that more clearly enhance public health. Although pet licensure is effective at raising revenue for the city, it places a burden on responsible and irresponsible pet owners alike and also could result in the appearance that the division is enforcing an ineffective policy for financial reasons alone. **Therefore, the city's ineffective and redundant requirement should be repealed.**

# The Inductive Experience

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Reader must hold a lot of information in her head before reaching your conclusion

Continual reassessment of how the pieces connect

Lacking a frame within which to place all of the facts

*All of us have stopped in the middle of a memo, an article, or a book realizing that while we may have understood its words and sentences, we don't quite know what they should all add up to.*

*-Williams & Colomb*

# The Case for Inductive Writing

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Appropriate for:

- creative writing | persuasive essays | speeches

Used for controversial topics to maintain reader attention

- Must read all the pieces of the puzzle before they are connected

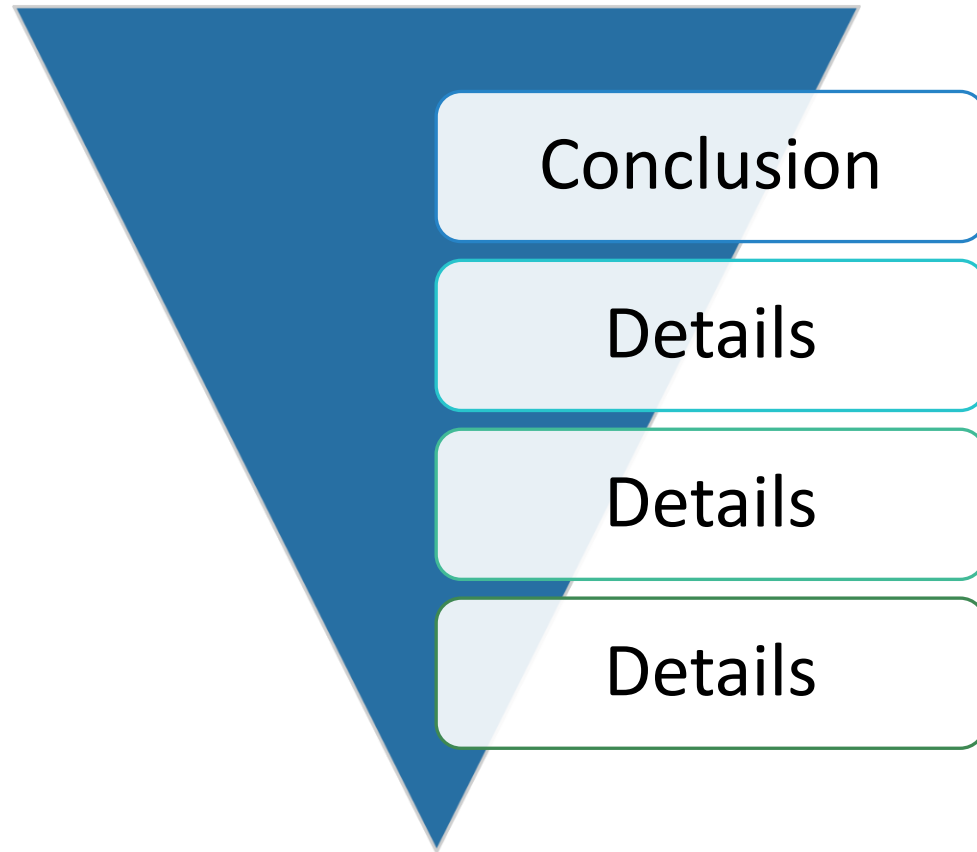
Helps you clarify your stance to ensure logical progression and conclusion

# Deductive Writing

- The writer starts with the conclusion...
- ...then supplies the supporting evidence
- Establish context first, then fill in with details
- Abstract to concrete
- Use if your audience is not likely to read the entire document in detail

# The Deductive Approach

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# Deductive Writing Example

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**The City of Richmond's requirement that dogs and cats be licensed should be repealed for four reasons.** First, pet licensure, which initially provided a benefit to public health, is now redundant to other requirements. Second, the requirement is widely ignored by pet owners; Environmental Health Division (EHD) management estimates that only 18 percent of dogs and 1 percent of cats have the appropriate license. Third, it is not effective at accomplishing its stated purpose: reunifying lost pets with their owners. Data provided by EHD shows that other methods of identification are responsible for more owner-pet reunifications than licensure. Finally, although pet licensure is effective at raising revenue for the city, it places a burden on responsible and irresponsible pet owners alike and also could result in the appearance that the division is enforcing an ineffective policy for financial reasons alone.

# Deductive Writing Example

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The City of Richmond's requirement that dogs and cats be licensed should be repealed for four reasons. **First**, pet licensure, which initially provided a benefit to public health, is now redundant to other requirements. **Second**, the requirement is widely ignored by pet owners; Environmental Health Division (EHD) management estimates that only 18 percent of dogs and 1 percent of cats have the appropriate license. **Third**, it is not effective at accomplishing its stated purpose: reunifying lost pets with their owners. Data provided by EHD shows that other methods of identification are responsible for more owner-pet reunifications than licensure. **Finally**, although pet licensure is effective at raising revenue for the city, it places a burden on responsible and irresponsible pet owners alike and also could result in the appearance that the division is enforcing an ineffective policy for financial reasons alone.

# The Deductive Experience

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The reader knows from the outset what point you are trying to make

All other pieces can be processed through the lens of that point

Each data point solidifies the validity of the opening sentence

# The Case For Deductive Writing

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Appropriate for:

- project documents | scientific writing | audit reports

Use when the reader is likely to:

- Skim for generalities
- Seek out certain parts

Caters to the busy reader

# The Deductive Experience

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*How we open a paragraph determines how our readers will read the rest of it, because in our opening we tell them how to frame the **conceptual space** that they are about to enter.*

-Williams & Colomb



**CONCEPTUAL  
SPACE**

# EXERCISE 3

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FRAMING THE CONCEPTUAL SPACE

# EXERCISE 3 - Answers

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PARAGRAPH A: Peak Academy Employee Experience

Feedback from Peak Academy participants is largely positive.

PARAGRAPH B: Denver Moves Plan Implementation

Denver Moves has not been implemented as envisioned.

# Descriptive Headers

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**MORE IS MORE**



# Breaking Up Text

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Make long stretches of text more readable with:

- Formatting
- Text Boxes
- Bulleted Lists
- Graphics
- Chapters
- Images
- Headings with Hierarchy

# What Are Headings?

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Cousins of the headline

Words or phrases that introduce sections of a piece of content

Help the writer organize the content into smaller components

Provide context for the reader to understand the following content

# Headings Provide Structure

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The best-organized document will still be difficult to follow if the reader cannot see how it is organized

Headings reveal your document's organization

There are three types of headings:

- Topic Headings
- Question Headings
- Statement Headings

Heading Type	What It Is	How It Looks
Topic Heading	A word or short phrase	<i>Headings</i>
Question Heading	A question	<i>Why Do We Use Headings?</i>
Statement Heading	Includes a noun and a verb	<i>Headings Help Guide a Reader</i>

# Topic Headings

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Most formal

Single word or short (or long) phrase

Sometimes so vague that they are not helpful

Examples:

- *Widgets*
- *Benefits of Widgets*
- *Using Widgets at Work*

# Question Headings

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A question that will be answered in the content to follow

More useful than a topic heading

Reflective of the work that was done by the writer

Example:

- *How Can You Use Widgets at Work?*

# Statement Headings

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Include a noun and a verb

Form a complete thought

Most similar to news headlines

Signal that content to follow will support that fact or opinion

Example:

- *Using Widgets Can Make Your Job Easier*

# Audit Report Headings

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Using the heading and subheading structure in your reports:

- Clarifies the main points before you make them
- Complements the deductive approach
- Provides a road map (outline) for the reader
- Helps with skimming

# Audit Report Headings

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**Statement Headings** are the most descriptive and versatile

**Title Headings** can be just as effective

- Especially true for the background section of the report

# Headings in the Background

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High Level	Descriptive
<i>Assets</i>	<i>Types of Assets Owned by the City of Richmond</i>
<i>DSBO</i>	<i>Division of Small Business Opportunity Structure and Responsibilities</i>
<i>Voter Approval</i>	<i>Designated Park Land Cannot Be Sold Without Approval of Richmond Voters</i>

# Subheadings Create Hierarchy

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## Heading

Subheading A

Subheading B

Subheading C

Subheading D

Sub-subheading D.1

Sub-subheading D.2

Subheading E

# Hierarchy Example (Background)

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## **Small Disadvantaged Business Program Requirements**

Program Plan

Certification Activities

Compliance Activities

Setting Program Goals

Annual Business Goal Setting

Concession-Specific Goal Setting

Reporting Requirements

# Hierarchy Example (Background)

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## **Community Policing**

Theoretical Foundations of Community Policing

Direct Interaction between Police and Community Members

Effectiveness of Community Policing

Legal Considerations Surrounding the Self-Initiated Actions Associated with Community Policing

# Headings in the Finding

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<b>Topic Heading</b>	<b>Statement Heading</b>
Financial Reporting	The Controller's Office Has Enhanced Capital Asset Financial Reporting

# Headings in the Finding

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Topic Heading	Statement Heading
Expand FAR 4.2	Capital and Controlled Assets Fiscal Accountability Rule Should Be Expanded to Include Practices Specific to Land and Infrastructure

# Headings in the Finding

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<b>Topic Heading</b>	<b>Statement Heading</b>
Reporting Disposal of Traffic Signals	Not Removing the Correct Traffic Signal from the System of Record Potentially Causes a Misstatement of Asset Values

# Headings in the Finding

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<b>Topic Heading</b>	<b>Statement Heading</b>
Parks Designation Policy	The Department of Parks and Recreation Has Designated Additional Parks but Has Not Formally Adopted the Draft Parks Designation Policy

# Headings in the Finding

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Topic Heading	Statement Heading
Contract Administration	Technology Services Can Strengthen Contract Administration Practices for the Vendor That Provides After-Hours IT Support

# Headings in the Finding

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Topic Heading	Statement Heading
Policies and Procedures	The Board's Outdated Policies and Procedures Do Not Reflect Current Administrative Practices

# Headings – Digging Deeper

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## Good Heading:

- A Comprehensive List of All Receipting Agencies and Locations Should Be Maintained

## Problems:

- Passive voice; who is the actor?
- Not clear if there is a list; is there a list but it's just not maintained?

## Better Heading:

- *Cash Risk and Capital Funding Division Does Not Have a Comprehensive List of All Receipting Agencies and Locations*

# Headings – Digging Deeper

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Good Heading:

- *The Process to Track Monthly Cash Receipts Should Be Improved*

Problems:

- Not specific (improved how?)

Better Heading:

- *Cash Risk and Capital Funding Does Not Have an Accurate Count of Citywide Receipting Volume*

# Headings – Digging Deeper

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## Good Heading:

- *Formal Training Should Be Developed and Implemented*

## Problems:

- Not specific (what kind of training?)
- Redundant – if it's developed, that implies implementation

## Better Heading:

- *Change Fund and Petty Cash Fund Custodians Do Not Receive Formal Training*

# EXERCISE 4

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DEDUCTIVE WRITING

# Being Concise

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LESS IS MORE

# Being Concise

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## Exercising Word Economy

- Reducing the number of words used to convey a point

## Common Sources of Wordiness

- Attempts to meet length requirements
- Attempts to sound more sophisticated
- Insufficient revision
- Not thinking about your audience

# Exercising Word Economy

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Why do it:

- Clarity
- Time

When to do it:

- Don't worry too much about it when writing your first draft

# Eliminate Archaic Expressions

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*henceforth*

*for all intents and purposes*

*suffice to say*

*deem it inappropriate*

*pursuant to his request*

*null and void*

# Avoid Clichés

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*any way, shape, or form*

*in the final analysis*

*leaves much to be desired*

*at the end of the day*

*a step in the right direction*

*in this day and age*

*par for the course*

*the path of least resistance*

# Eliminate Redundancies

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*absolutely necessary*

*all throughout*

*careful scrutiny*

*current trend*

*desirable benefit*

*end result*

*entirely eliminate*

*evolve over time*

*join together*

*major breakthrough*

*originally created*

*postpone until later*

# Omit Needless Words

---

Our study participants show a pronounced tendency to be more variable than the norming samples, although this trend may be due partly to the fact that individuals with higher measured values of cognitive ability are more variable in their responses to personality questionnaires.

- (43 words)

Our participants are more variable than the norming samples, perhaps because smarter people respond more variably to personality questionnaires.

- (19 words)

# Omit Needless Words

---

Our study participants show a pronounced tendency to be more variable than the norming samples, although this trend may be due partly to the fact that individuals with higher measured values of cognitive ability are more variable in their responses to personality questionnaires.

Our participants are more variable than the norming samples, perhaps because smarter people respond more variably to personality questionnaires.

# Omit Needless Words

---

Our study participants show a pronounced tendency to be more variable than the norming samples, **although this trend may be due partly to the fact that** individuals with higher measured values of cognitive ability are more variable in their responses to personality questionnaires.

Our participants are more variable than the norming samples, **perhaps because** smarter people respond more variably to personality questionnaires.

# Omit Needless Words

---

Our study participants show a pronounced tendency to be more variable than the norming samples, although this trend may be due partly to the fact that **individuals with higher measured values of cognitive ability** are more variable in their responses to personality questionnaires.

Our participants are more variable than the norming samples, perhaps because **smarter people** respond more variably to personality questionnaires.

# Omit Needless Words

---

Our study participants show a pronounced tendency to be more variable than the norming samples, although this trend may be due partly to the fact that individuals with higher measured values of cognitive ability **are more variable in their responses** to personality questionnaires.

Our participants are more variable than the norming samples, perhaps because smarter people **respond more variably** to personality questionnaires.

# Streamline Your Phrases

---

Wordy	Simple
a great number of times	often
a little less than	almost
a small number of	few
a large number of	many
once in a great while	seldom
in the majority of cases	usually
on a daily basis	daily
during the time that	while
at this point in time	now
at no time	never

# Streamline Your Phrases

---

Wordy	Simple
is capable of being	can be
is dedicated to providing	provides
in the event that	if
it is imperative that we	we must
brought about the organization of	organized
significantly expedite the process of	speed up
due to the fact that	because
on behalf of	for
in view of the fact that	since

# Do Not Bury Your Verbs

---

“At the sentence level, two perils can spoil your writing: **buried verbs** and passive voice.”

-- Bryan Garner

## **Nominalization**

- A noun derived from a verb
- Burying the action in an abstract noun

# Nominalization

---

## **VERB**

discover

react

fail

intend

investigate

## **NOMINALIZATION**

discovery

reaction

failure

intention

investigation

# Unearthing Buried Verbs

---

## **BURIED**

He made a contribution

We had a discussion

They were in violation of the rule

She conducted an examination of the documents

We received authorization from the board to make the change

## **ACTIVE**

He contributed

We discussed

They violated the rule

She examined the documents

The board authorized our change

# Why Avoid Buried Verbs?

---

They add unnecessary length

- They're longer than the verbs they replace
- Longer words weigh down writing
- Instead of tightening your writing, you're padding it

Make writing feel stagnant and dull

- Buried verbs don't do anything
- Prevent the reader from visualizing what's going on

# Unearthing Buried Verbs

---

To activate your sentences, look for:

- *is / of* combinations
- *an / of* combinations
- *a / of* combinations
- *was*
- *-tion*
- *-sion*

# EXERCISE 5

---

ACTIVATING YOUR SENTENCES

# Activating Your Sentences

---

## **BURIED VERB**

1. She is appreciative of their efforts.
2. This example provides an illustration of the problems.
3. He succeeded in the apprehension of the suspect.
4. The business was able to secure its expansion to a third location.

## **UNEARTHED**

- She appreciates their efforts.
- This example illustrates the problems.
- He apprehended the suspect.
- The business expanded to a third location.

# Activating Your Sentences

---

5. There is opposition among many voters to nuclear power plants based on a belief in their threat to human health.

Many voters oppose nuclear power plants because they believe such plants threaten human health.

# Activating Your Sentences

---

There is **opposition** among many voters to nuclear power plants based on a **belief** in their **threat** to human health.

Many voters **oppose** nuclear power plants because they **believe** such plants **threaten** human health.

# Activating Your Sentences

---

6. A revision of the program will result in increases in our efficiency in the servicing of clients.

If we revise the program, we can serve clients more efficiently.

# Activating Your Sentences

---

A **revision** of the program will result in increases in our efficiency in the **servicing** of clients.

If we **revise** the program, we can **serve** clients more efficiently.



# Mastering Tone

---

DON'T OVER- OR UNDER-DO IT

# Remember GAGAS 9.17(b)

---

A quality audit report is **objective**:

- “This balanced tone can be achieved when reports present sufficient, appropriate evidence to support conclusions while refraining from using adjectives or adverbs that characterize evidence in a way that implies criticism or unsupported conclusions.”

# Remember GAGAS 9.17(b)

---

A quality audit report is **objective**:

- “This balanced tone can be achieved when reports present sufficient, appropriate evidence to support conclusions while refraining from using **adjectives** or **adverbs** that characterize evidence in a way that implies **criticism** or **unsupported conclusions**.”

# General Guidance on Tone

---

Wording that can lead to tone problems:

- Jargon / audit speak
- Overstating the severity of an issue
- Adverbs/adjectives that carry an emotional charge
- Focusing on an easily identified individual
- Formulating vague conclusions without enough context to explain the severity/significance of an issue
- Weighing deficiencies too heavily in the presence of significant improvements
- Blanket statements

# Jargon / Audit Speak

---

Using excessive jargon or audit speak can make writing feel stiff, which can in turn come across as overly critical

## EXAMPLE:

While we did not receive **adequate documentary evidence**, we learned that the districts do **employ DDACTS operational activities** to varying degrees.

# Jargon / Audit Speak

---

While we did not receive **adequate documentary evidence**, we learned that the districts **do employ DDACTS operational activities** to varying degrees.

## REVISED:

During our audit work, **we learned through interviews** that DPD districts **incorporate tools from the DDACTS program in their operations**, but to varying degrees.

# Overstating

---

Using overly broad terms to characterize something more narrow can come across as inflating an issue

## HEADING EXAMPLE:

The Department of Parks and Recreation Needs to **Strengthen Its Parks Permitting Administrative Practices** to Ensure the Continued **Efficiency and Effectiveness of Operations**

# Overstating

---

The Department of Parks and Recreation Needs to **Strengthen Its Parks Permitting Administrative Practices** to Ensure the Continued **Efficiency and Effectiveness of Operations**

## REVISED:

The Parks Permitting Program Can Do More to **Understand Customer Satisfaction** and **Ensure Optimal Cost Recovery**

# Charged Words

---

Some words carry an emotional charge. Toning down one word can change an entire sentence.

## BEFORE:

The other area where we found **shortcomings** with the program's evaluation framework was in its performance measures.

## AFTER:

The other area where we found **limitations** in the program's evaluation framework was with its performance measures.

# Pointing the Finger

---

Take care in discussing specific roles and positions.

## BEFORE:

Finance Department personnel are responsible for reconciliation processes, but the risk of breakdown in these processes increases when they are not documented, and only the **DPR Senior Accountant** knows how to conduct them. The unexpected loss of this staff person would likely leave the golf course without **someone with the knowledge** to take on these responsibilities.

## AFTER:

Finance personnel are responsible for reconciliation processes, but there is a risk of breakdown in these processes because they are **primarily performed by one team member**. Further, the processes are not documented. Should this individual leave the organization, the golf course may not have the **resources to take on these responsibilities**, at least in the short term.

# Lack of Severity/Significance

---

Formulating conclusions without the details that reveal the scope of an issue can be interpreted as blowing an issue out of proportion.

## EXAMPLE:

When DPD presented DDACTS concepts in neighborhood organization meetings, they did not specifically mention DDACTS in at least one of the districts.

## PROBLEMS:

- How many meetings? One of five, or one of 50?
- If “at least one”, then could it have been way more?
- What does “specifically” mention mean?

# Lack of Severity/Significance

---

## ANOTHER EXAMPLE:

Within the RFP process, agencies do not always consult with the City's Technology Services department (TS) when selecting software. This step is essential because the procurement teams do not have the expertise necessary to evaluate whether software meets an agency's needs. These requests are then rerouted to TS, delaying the acquisition process.

## PROBLEMS:

- How long are the delays on average? Days, weeks, months?
- Was there evidence that the acquisition process was indeed delayed, and that the delay impacted operations?

# Give Credit When Due

---

When positives exist, take care not to over-emphasize the negatives.

## BEFORE:

### **Some Parks Permitting Program Policies and Procedures Do Not Align with Applicable Laws**

In assessing the efficiency and effectiveness of the process by which members of the public obtain permits to use City parks and other recreational and event facilities, we found a considerable amount of assurance. Parks Permitting management has put in place policies, procedures, and work tools to help ensure that staff issue permits in a consistent and efficient manner. These detailed documents are reviewed on a regular basis, and employees receive timely and relevant training. However, we also found areas of concern regarding compliance with the law and transparency of certain processes, highlighting the need for improvement that will enhance the customer experience.

# Give Credit When Due

---

## AFTER:

### **The Parks Permitting Program Recently Enhanced the Transparency of its Procedures, and Related Efforts Are Still Under Way**

In assessing the efficiency and effectiveness of the process by which members of the public obtain permits to use City parks and other recreational and event facilities, we found that a number of recent improvements have enhanced transparency. Parks Permitting management has put in place policies, procedures, and work tools to help ensure that staff issue permits in a consistent and efficient manner. These detailed documents are reviewed on a regular basis, and employees receive timely and relevant training. However, efforts are still under way to ensure compliance with the law.

# Blanket Statements

---

## BEFORE:

Coordinating agencies and external sources lack the tools to measure at least seven goals properly, and appear to be lax in prioritizing the development of tools to help them measure performance. The sustainability goals are to be attained in less than three years, and there does not appear to be urgency to effectively measure annual progress towards the goals. Additionally, another 7 goals are not measured timely annually due to delays at both city agencies and external sources in providing reliable measurable data. To date, the Office of Sustainability has not been able to provide a timely and reliable progress report on all Sustainability Goals. Without accurate and timely measurement, the city is unable to reliably forecast whether city agencies and the community can meet their 2020 Sustainability Goals, and are unable to determine what priorities need to be adjusted annually to help ensure that the goals are attained. In addition to overall goals not being measured timely, or not at all in some instances, the sustainability program lacks centralized oversight and control over agency actions and community commitments.

# Blanket Statements

---

## PROBLEMS:

Coordinating agencies and external sources **lack the tools** to measure at least seven goals properly, and appear to be **lax in prioritizing** the development of tools to help them measure performance. The sustainability goals are to be attained in less than three years, and there does **not appear to be urgency** to effectively measure annual progress towards the goals. Additionally, another seven goals are not measured **timely** annually due to **delays** at both city agencies and external sources in providing **reliable** measurable data. To date, the Office of Sustainability has not been able to provide a **timely and reliable** progress reports on all Sustainability Goals. Without **accurate and timely** measurement, the city is unable to reliably forecast whether city agencies and the community can meet their 2020 Sustainability Goals, and are **unable** to determine what priorities need to be adjusted annually to help ensure that the goals are attained. In addition to overall goals not being measured timely, or not at all in some instances, the sustainability program **lacks centralized oversight and control over agency actions and community commitments**.

# Blanket Statements

---

## REVISED:

In addition to finding that the City does not have a strategic plan to guide sustainability efforts, we also noted that progress toward achieving the 2020 Goals is [not being reported consistently](#). [Executive Order 123](#) requires annual reporting on progress toward achieving sustainability goals. During the audit, we noted that several coordinating agencies, including the Department of Public Works, Department of Parks and Recreation, and Department of Environmental Health, do provide the Chief of Staff with [monthly](#) reporting that include details about the agency's sustainability efforts. However, we found that the Office of Sustainability has not produced any up-to-date reports detailing the City's progress toward achieving the 2020 Goals. There is a [2016 report](#) on progress toward the [12 community goals](#), but no corresponding report focused on the City's progression towards the [government operations goals](#).

# EXERCISE 6

---

DISCUSSION – Tone Challenges

# Writing All the Time

---

WHY YOU SHOULDN'T WAIT FOR THE  
REPORT TO START WRITING

# Writing Helps You Think

---

Lawrence McEnerney:

- Use initial writing to help yourself think

Ian Baldwin:

- Writing is like scientific “oral hygiene” – something you should do every day

Judy Swan:

- During the writing process: “Although my data remained the same, my results did not.”

# The Two Stages of Writing

---

## STAGE 1: IT'S ALL ABOUT YOU

- Writer centric
- Developing your findings
- Understanding what you found
- Analyzing your data
- Formulating your conclusions
- Testing out what works and what doesn't
- Bucketing information in new ways

## STAGE 2: IT'S ALL ABOUT THEM

- Reader centric
- Presenting your findings
- Determining what the reader needs you to share
- Explain your conclusions to the uninformed reader
- Telling a story
- Being persuasive

# Developing the Message

---

Determine from the outset what you might be able to say

Revisit that message at every milestone meeting

- How is the message evolving?
- What other information might you need to crystalize your message?

Ask colleagues who are not on the audit to read summary workpapers

- Ask them how they would summarize the message
- Are they coming to the same conclusion?
- If not, identify areas of confusion; opportunities for clarification or quantification

Facilitate a “Writing on the Walls” exercise to bucket information

# EXERCISE 7

---

DISCUSSION – Writing Stages

# Effective Visuals

---

ADD VISUAL INTEREST AND  
STREAMLINE YOUR COMMUNICATIONS

# Best Practices for Tables

---

SO MANY NUMBERS...

# Tables: A Cautionary Tale

---

“Inattention to the visual design of tables, such as improper alignment of numbers and excessive use of lines and fill colors, can greatly diminish their effectiveness.”

--Stephen Few, *Show Me the Numbers* (2012)

# Tables: A Cautionary Tale

---

“Above all else show the data.”

-- Edward Tufte, *The Visual Display of Quantitative Information* (2001)

Let the data take center stage

Allow the design to fade into the background

# Tables: Best Practices

---

## **Delineating Columns and Rows**

- Use white space alone whenever space allows
- When you can't use white space, use subtle fill colors
- When you can't use fill color, use subtle rules
- Avoid grids altogether

# Table Borders

---

Heavy borders

Group	Metric A	Metric B	Metric C
Group 1	\$X.X	Y%	Z,ZZZ
Group 2	\$X.X	Y%	Z,ZZZ
Group 3	\$X.X	Y%	Z,ZZZ
Group 4	\$X.X	Y%	Z,ZZZ
Group 5	\$X.X	Y%	Z,ZZZ

Light borders

Group	Metric A	Metric B	Metric C
Group 1	\$X.X	Y%	Z,ZZZ
Group 2	\$X.X	Y%	Z,ZZZ
Group 3	\$X.X	Y%	Z,ZZZ
Group 4	\$X.X	Y%	Z,ZZZ
Group 5	\$X.X	Y%	Z,ZZZ

Minimal borders

Group	Metric A	Metric B	Metric C
Group 1	\$X.X	Y%	Z,ZZZ
Group 2	\$X.X	Y%	Z,ZZZ
Group 3	\$X.X	Y%	Z,ZZZ
Group 4	\$X.X	Y%	Z,ZZZ
Group 5	\$X.X	Y%	Z,ZZZ

FIGURE 2.4 Table borders

# Table Alignment

---

- Align numbers to the right, keeping the decimal points aligned as well
- Align dates however you wish, but maintain a consistent number of characters or digits for each part of the date
- Align all other text to the left

Aligning numbers to the left or center makes them difficult to compare, as illustrated in the following example:

Sales	Sales	Sales
93,883.39	93,883.39	93,883.39
5,693,762.32	5,693,762.32	5,693,762.32
483.84	483.84	483.84
674,663.39	674,663.39	674,663.39
548.93	548.93	548.93
3,847.33	3,847.33	3,847.33
\$6,467,189.20	\$6,467,189.20	\$6,467,189.20

FIGURE 8.28 These examples show the difficulty created when numbers are not aligned to the right.

<u>Rate</u>
3.5%
12.675%
5.%
13.25%
2.75%
13.125%
<u>8.383%</u>

<u>Rate</u>
3.500%
12.675%
5.000%
13.250%
2.750%
13.125%
<u>8.383%</u>

FIGURE 8.29 This example compares the right alignment of numbers to the decimal point with an inconsistent number of decimal digits on the left and a consistent number on the right, which works best.

Product Code	Product Name	Product Code	Product Name	Product Code	Product Name
A1838	2-Door Sport	A1838	2-Door Sport	A1838	2-Door Sport
A89	4-Door Sport	A89	4-Door Sport	A89	4-Door Sport
J98488	2-Door Luxury	J98488	2-Door Luxury	J98488	2-Door Luxury
J3883	4-Door Luxury	J3883	4-Door Luxury	J3883	4-Door Luxury
K9288	2-Door Truck	K9288	2-Door Truck	K9288	2-Door Truck
K38733	4-Door Truck	K38733	4-Door Truck	K38733	4-Door Truck

FIGURE 8.30 These examples show various text alignments, including the preferable left alignment highlighted in gray.

# Table Emphasis

---

## Emphasis and Color:

- Boldface, italicize, or change the color of fonts when useful to group or highlight

Growing use of heat tables

What's a heat table?

# Religious groups tend to rate themselves most positively

## Religious groups tend to rate themselves most positively



Mean thermometer ratings given to ...

Ratings given by ...

	Jews	Catholics	Mainline Protestant	Evangelical Christians	Buddhists	Hindus	Mormons	Atheists	Muslims
<b>Total</b>	67°	66°	65°	61°	60°	58°	54°	50°	48°
Protestant	68	66	70	73	52	52	53	38	44
White evangelical	71	66	71	81	47	47	52	33	37
White mainline	68	70	75	63	58	56	57	45	45
Black Protestant	66	63	66	68	55	53	55	42	60
Catholic	68	83	66	63	63	63	60	48	49
Jewish	91	72	70	59	68	70	66	66	51
Unaffiliated	63	57	56	45	67	61	50	66	52
Atheist	62	45	46	29	68	60	40	82	46
Agnostic	67	60	62	45	73	66	54	70	55
Nothing in particular	62	59	58	51	65	60	52	60	52

Note: The religious affiliation categories used for this analysis are not exact parallels to the groups respondents were asked to rate. There were not enough Buddhists, Hindus, Mormons and Muslims in the sample to analyze their responses separately.

Based on respondents who received version of “feeling thermometer” question that used slider; see topline for more detail.

Source: Survey of U.S. adults Jan. 9-23, 2017.

“Americans Express Increasingly Warm Feelings Toward Religious Groups”

# Tables and Figures

---

Always number all tables sequentially and all figures sequentially

- Figure 1, Figure 2, Figure 3...
- Table 1, Table 2, Table 3...

Always reference tables and figures in the text

- “As shown in Figure 4...”

Make the point you want your reader to get from your table or figure

# Tables and Figures

---

Each table and figure must be understandable without reliance on the body; must stand alone

Title should be brief but explanatory

Include source note

May include other notes:

- General – explain, qualify, or provide information about the table as a whole
- Specific – explain, qualify, or provide information about a particular column, row, or entry

# Tables and Figures

---

*As shown in Figure 2...*

Alternatives to “show”:

- Display
- Demonstrate
- Illustrate
- Depict
- List

# Beyond Tables

---

Tools to Help You Make the Move

“When we represent quantitative information in visual form, our ability to think about it is dramatically enhanced. Visual representations not only make the patterns, trends, and exceptions in numbers visible and understandable, they also extend the capacity of our memory, making available in front of our eyes what we couldn’t otherwise hold all at once in our minds.”

- Stephen Few, *Now You See It* (2009)

“Although visual perception is extremely powerful in itself, it can only be used effectively if we understand its rules and apply them.”

- Stephen Few, *Now You See It* (2009)

# Visualization Definitions

---

**Visualization:** Any kind of visual representation of information designed to enable communication, analysis, discovery, exploration, etc.

**Chart:** A display in which data are encoded with symbols that have different shapes, colors, or proportions.

**Infographic:** A multi-section visual representation of information intended to communicate one or more specific messages.

# 5 Qualities of a Great Visual

---

1. **Truthful** – Based on thorough and honest research
2. **Functional** – Built in a way that lets people do meaningful operations based on it
3. **Beautiful** – Attractive, intriguing, and aesthetically pleasing
4. **Insightful** – Reveals evidence that we would have a hard time seeing otherwise
5. **Enlightening** – If we grasp and accept the evidence that it depicts, it will change our minds for the better

# Choosing Graphic Forms

---

1. Think about the message you wish to convey
2. Try different graphic forms
3. Arrange the components to make it as easy as possible to extract meaning
4. Test the outcomes yourself and colleagues

# What Do You Want to Convey?

---

## Do you want to:

- Compare?
- Show change?
- Show flow?
- Reveal relationships?
- Reveal connections?
- Highlight patterns and trends?

# Data Visualization Tools

---

Data Visualization Catalog

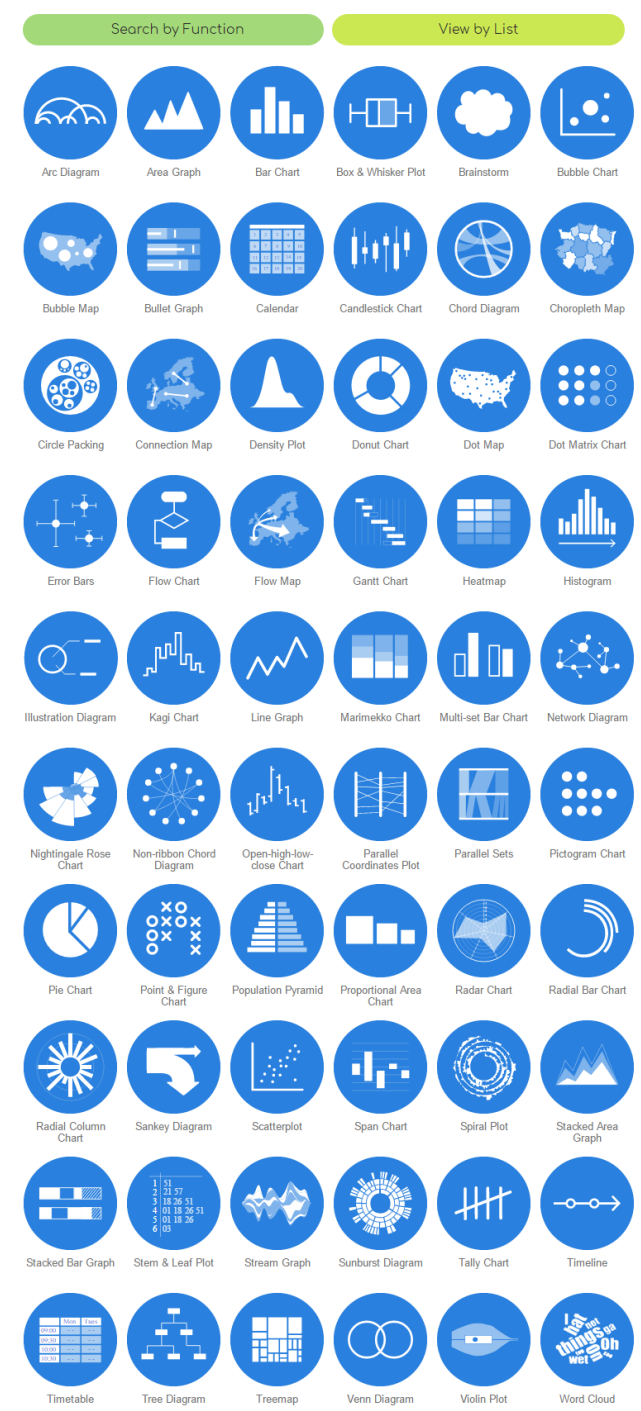
Emery's Essentials

Infographic Creation Tools

# Data Visualization Catalogue

by Severino Ribecca

[www.datavizcatalogue.com](http://www.datavizcatalogue.com)



Search by Function

View by List



Arc Diagram



Area Graph



Bar Chart



Box & Whisker Plot



Brainstorm



Bubble Chart



Bubble Map



Bullet Graph



Calendar



Candlestick Chart



Chord Diagram



Choropleth Map



Search by Function

View by List



Arc Diagram



Area Graph



Bar Chart



Box & Whisker Plot



Brainstorm



Bubble Chart



Bubble Map



Bullet Graph



Calendar



Candlestick Chart



Chord Diagram



Choropleth Map



# What do you want to show?



Comparisons



Proportions



Relationships



Hierarchy



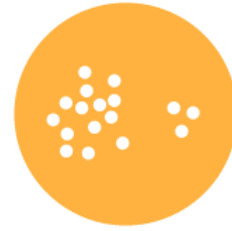
Concepts



Location



Part-to-a-whole



Distribution



How things work



Processes & methods



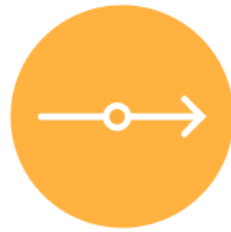
Movement or flow



Patterns



Range



Data over time



Analysing text



Reference tool

# What do you want to show?



# Comparisons

Visualisation methods that help show the differences or similarities between values.

Based on position on an axis



Bar Chart



Box & Whisker Plot



Bubble Chart



Bullet Graph



Histogram



Line Graph



Marimekko Chart



Multi-set Bar Chart



Nightingale Rose Chart



Parallel Coordinates Plot



Population Pyramid



Radar Chart



Radial Bar Chart



Radial Column Chart



Span Chart



Stacked Area Graph



Stacked Bar Graph

No Axis



Chord Diagram



Choropleth Map



Donut Chart



Dot Matrix Chart



Heatmap



Parallel Sets



Pictogram Chart



Pie Chart



Proportional Area Chart



Tally Chart



Treemap



Venn Diagram

# Comparisons

Visualisation methods that help show the differences or similarities between values.

Based on position on an axis



Bar Chart



Box & Whisker Plot



Bubble Chart



Bullet Graph



Histogram



Line Graph



Marimekko Chart



Multi-set Bar Chart



Nightingale Rose Chart



Parallel Coordinates Plot



Population Pyramid



Radar Chart



Radial Bar Chart



Radial Column Chart



Span Chart



Stacked Area Graph



Stacked Bar Graph

No Axis



Chord Diagram



Choropleth Map



Donut Chart



Dot Matrix Chart



Heatmap



Parallel Sets



Pictogram Chart



Pie Chart



Proportional Area Chart



Tally Chart

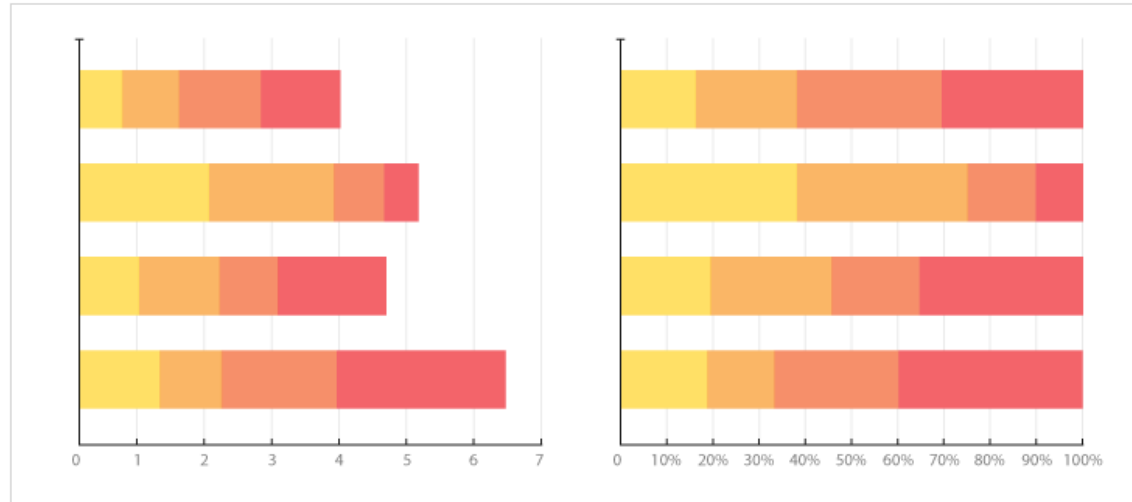


Treemap



Venn Diagram

# Stacked Bar Graph



## Description

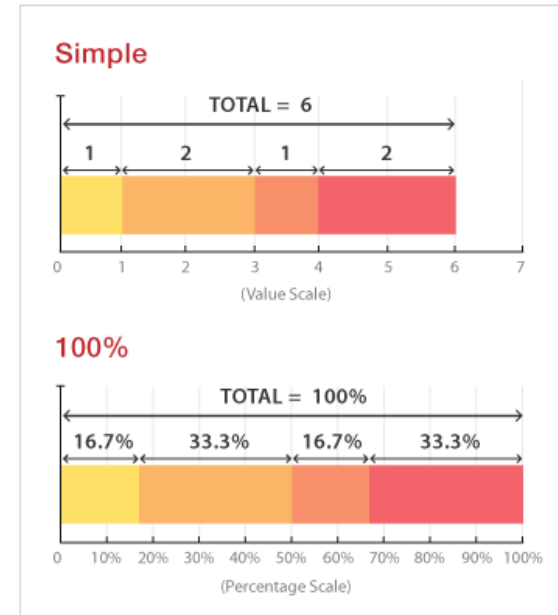
Unlike a [Multi-set Bar Graph](#) which displays their bars side-by-side, **Stacked Bar Graphs** segment their bars of multiple datasets on top of each other. They are used to show how a larger category is divided into smaller categories and what the relationship of each part has on the total amount. There are two types of **Stacked Bar Graphs**:

**Simple Stacked Bar Graphs** place each value for the segment after the previous one. The total value of the bar is all the segment values added together. Ideal for comparing the total amounts across each group/segmented bar.

**100% Stack Bar Graphs** show the percentage-of-the-whole of each group and are plotted by the percentage of each value to the total amount in each group. This makes it easier to see the relative differences between quantities in each group.

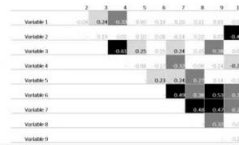
One major flaw of **Stacked Bar Graphs** is that they become harder to read the more segments each bar has. Also comparing each segment to each other is difficult, as they're not aligned on a common baseline.

## Anatomy

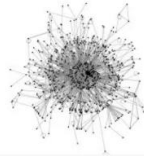


**EMERY'S ESSENTIALS** A few years ago, I sketched all the charts I use regularly; I sorted, sorted, sorted; and this site was born. I have no plans to add every chart known to mankind. I'm focusing on the charts that give you the best bang for your buck — the essentials.

ALL / SMALL MULTIPLES / COMPARING 2 OR MORE CATEGORIES / RANGES OR DISPERSION / PART TO WHOLE / DO-ABLE IN EXCEL / GEOGRAPHIC MAPS / RELATIONSHIPS / COLLAGES / QUALITATIVE / EXPLORATORY / CORRELATION / 1 POINT IN TIME / 2 POINTS IN TIME / 3+ POINTS IN TIME /



Heat Tables



Social Network Map



Pie



Bar



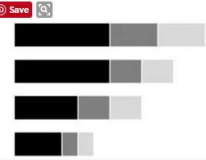
Clustered Bar



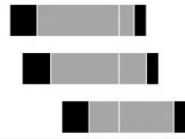
Back-to-Back Bar



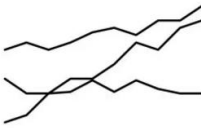
Small Multiples Bar



Stacked Bar



Diverging Stacked Bar



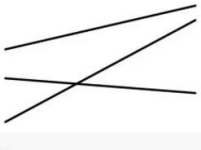
Line



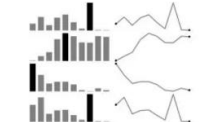
Area



Stacked Area



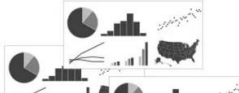
Slope



Spark Lines and Spark Bars



Word Cloud



# Emery's Essentials

by Ann K. Emery

[annkemery.com/essentials](http://annkemery.com/essentials)

## BAR

If you're not sure which chart to use, start here with the classic bar chart. Most of the time, bar charts will be an excellent choice for your dataset.

### Resources

- [Sorting your bar charts](#) (greatest to least or least to greatest)
- [Bar charts: Vertical or horizontal?](#)
- [Flipping your bar charts](#) (horizontal to vertical or vertical to horizontal)
- [Bar charts: Regular or stacked?](#)
- [The axis: Actual maximum value or potential maximum value?](#)

### Tutorial

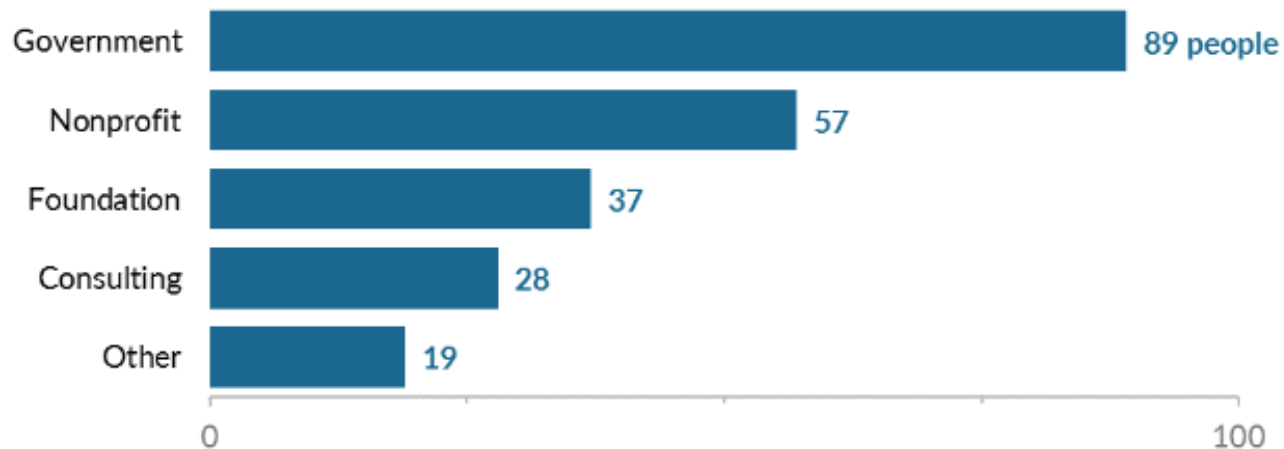
- [How to make a basic bar chart](#)

### Examples

- [Amount of junk mail sent by charities](#)
- [How discharge dates affect hospital pay](#)
- [Reasons people go on Facebook](#)

### Related

[Spark Lines](#)





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Follow

One of those great stories where the data just screams out:

[wsj.com/articles/hospi](http://wsj.com/articles/hospi) ... @cdweaver @mcgint @annawmathews

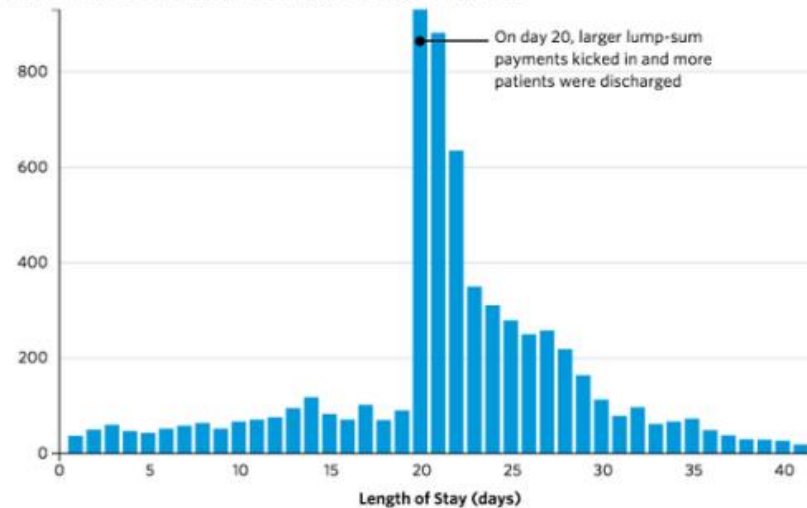
### How Discharge Dates Affect Hospital Pay

The billing rules create a lucrative window for discharges...

Save Medicare sepsis patients, for example, the larger lump-sum payments kicked in on day 20. Hospitals were more likely to discharge such patients during a three-day window beginning on that day.

1 2 3 Next

Number of Medicare sepsis patients discharged, by length of stay, 2013



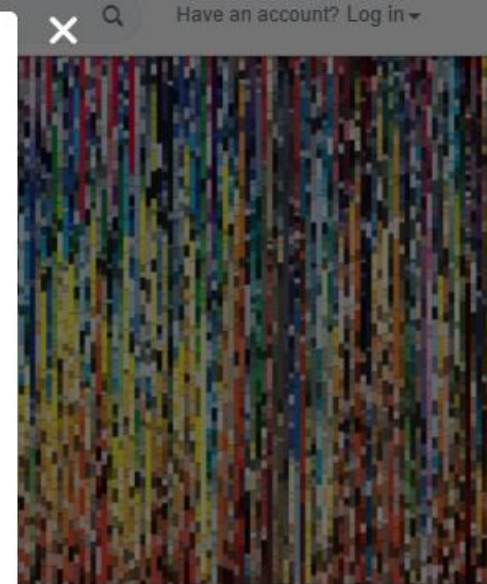
RETWEETS  
34

LIKES  
26



9:10 PM - 17 Feb 2015

3 34 26



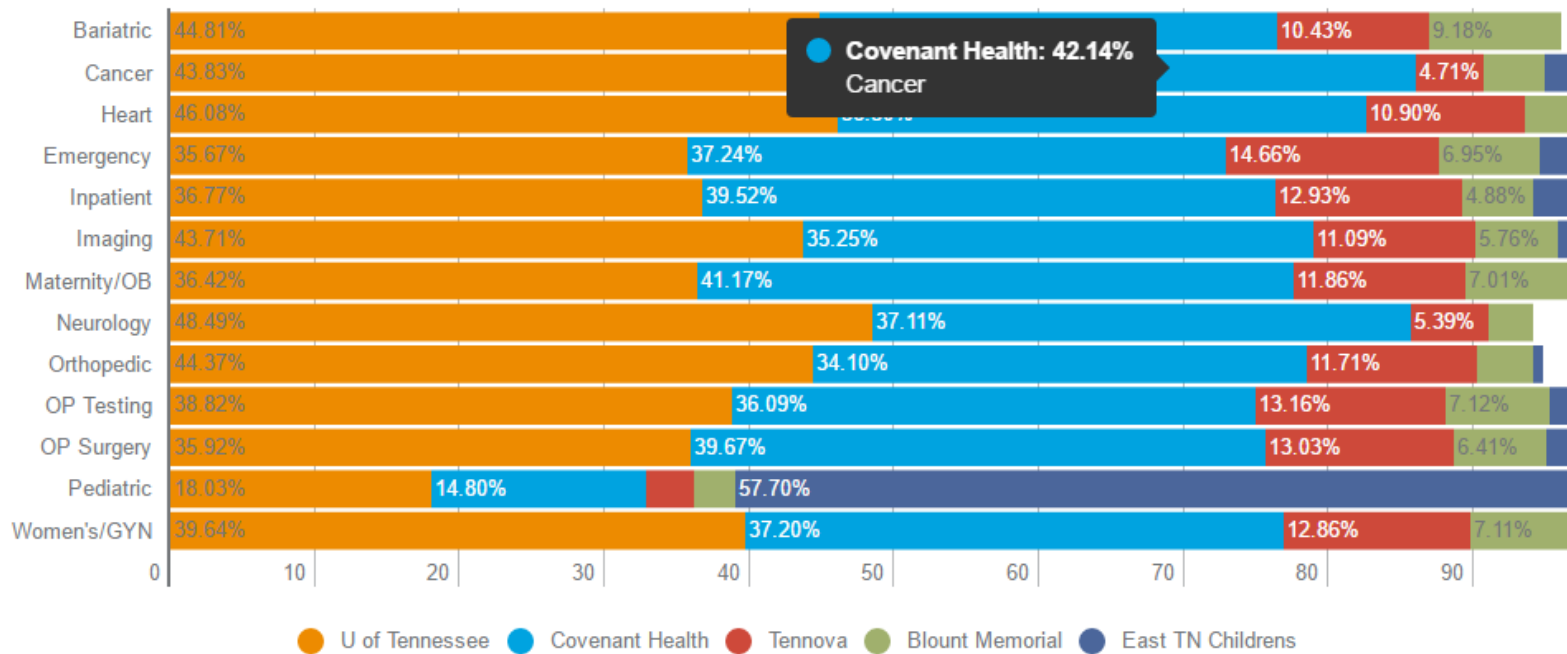
# Data Viz – Online Tools

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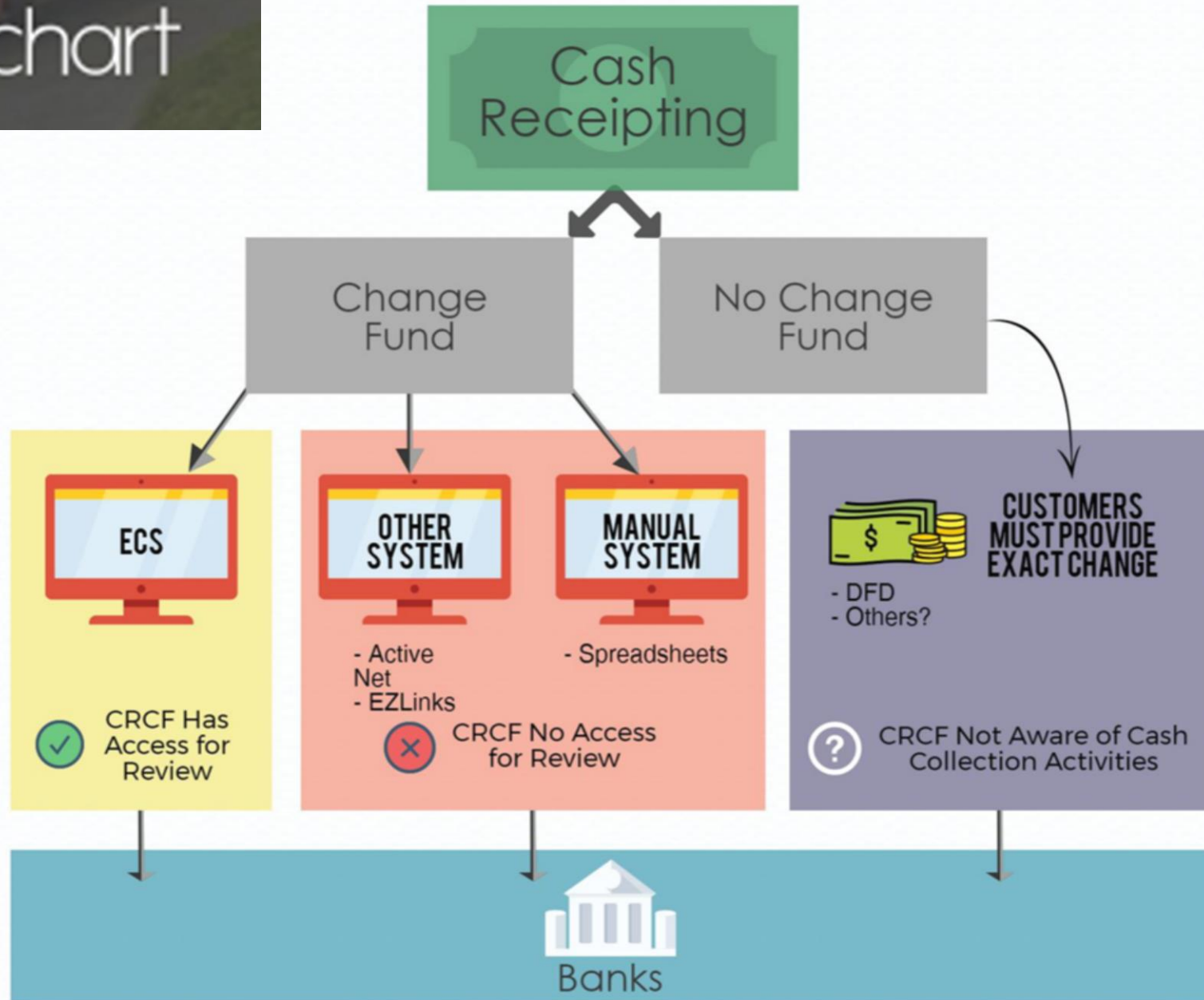


# Service Line Preference

If you or a household member were in need of this service, to which hospital/facility would you prefer to go?







# Civil Service Commission Employees

## Retirement Eligibility

More than 50 percent of the Civil Service Commission's workforce is eligible to retire now or within two years from now.



# Parting Thoughts

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Writing is an art, not a science.

Want to change? Start small.

Practice makes perfect.

There is strength in numbers.

One Revolutionary Quote:

"I read, I study, I examine, I listen, I reflect, and out of all of this I try to form an idea into which I put as much common sense as I can."

--Marquis de Lafayette

# Thank You

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