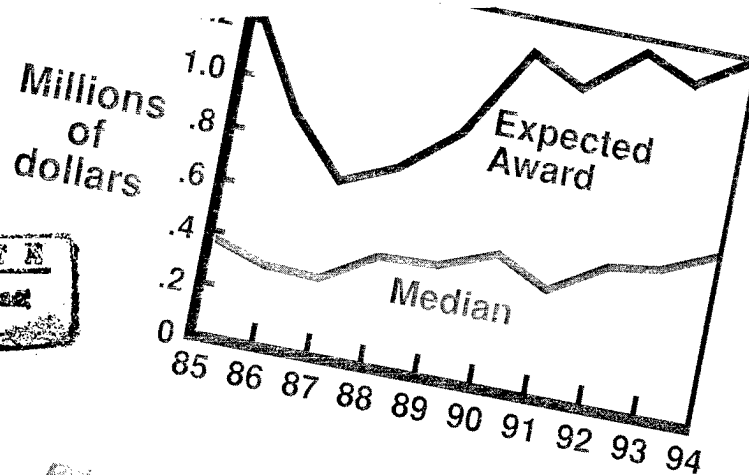


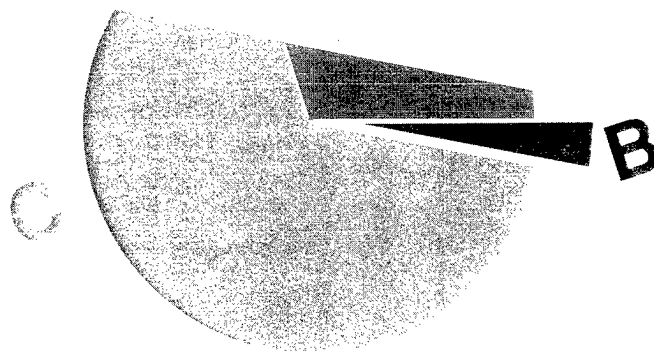
# Guidelines

for

# Preparing Briefings



DISSEMINATION STATEMENT B  
Approved for public release  
Distribution Unlimited



19961114 039

Published by the  
Communications Consulting Group  
and Publications Department  
at RAND

© Copyright 1996 RAND

All rights reserved. No part of this book may be reproduced in any form by any electronic or mechanical means (including photocopying, recording, or information storage and retrieval) without permission in writing from RAND.

RAND is a nonprofit institution that helps improve public policy through research and analysis. RAND's publications do not necessarily reflect the opinions or policies of its research sponsors.

Published 1996 by RAND  
1700 Main Street, P.O. Box 2138, Santa Monica, CA 90407-2138  
RAND URL: <http://www.rand.org/>

ISBN 0-8330-2445-0

Additional copies of this document can be purchased from RAND Distribution Services (Telephone 310-451-7002; FAX 310-451-6915; Internet: [order@rand.org](mailto:order@rand.org)).  
The document is also available on our World Wide Web site  
(<http://www.rand.org/publications/electronic/>).

# ***Guidelines***

---

**for**

---

**Preparing Briefings**

---

Published by the  
**Communications Consulting Group**  
and **Publications Department**  
at **RAND**

# Introduction

Over its 50-year history, RAND has earned a national reputation for conducting policy research of the highest quality and for distilling technical findings so that they can be used to inform policy decisions. RAND frequently communicates the results of its policy research in briefings. Indeed, many policy analysts consider RAND's policy briefings the standard for clarity and policy relevance.

Because briefings are such an important communication tool, the art of reviewing briefings has been finely honed at RAND, and staff known as good briefing critics are much in demand. Researchers may also seek briefing advice from members of RAND's Communications Consulting Group, who bring research in cognitive psychology, graphics, and linguistics to bear on the problems of presenting information.

This short manual, originally published for the use of RAND staff, blends key principles from relevant research with practical tips gleaned from decades of briefing reviews. It provides basic guidelines for creating a briefing structure that meets the audience's needs and suggests some techniques for focusing the audience's attention on the main point—of the presentation or of an individual chart.

The manual does not consider presentation of material in hypertext. The principles for structuring hypertext may differ significantly from those for structuring linear presentations. The manual also does not give much consideration to the many ways in which computer-driven briefings can help control and focus the audience's attention—for example, with dynamic builds of graphics or word charts. However, these techniques would serve to reinforce, not obviate, the basic structural principles discussed here.

For readers interested in learning more about the principles that inform this discussion of briefings, the manual includes a bibliography.

## Structuring a Presentation

A briefing is a powerful and flexible communication tool. Therefore, the principles that make a briefing effective are worth thinking about. A good briefing is not a speech or even an illustrated speech—it is a canny blend of visuals and narrative. Audiences remember more when the information they are given is presented as a combination of visual and verbal elements; thus, a briefing can convey information with maximum efficiency and effect (Weiss and McGrath, 1963).

Unfortunately, not all briefings are effective. The most common causes of ineffective presentations are

- **Failure to motivate the problem and set up a structure for listening**—people listen more intelligently if they know the significance of the material that is going to be presented.
- **Inadequate structural signals**—the audience should not have to devise a filing system to organize its listening.
- **Gaps in logic**—briefers are often so close to the material that they omit essential connections, and the problem is accentuated by the fact that briefing material is presented in condensed form, in real time.
- **Excessive detail**—briefers are tempted to tell everything they know rather than only what is relevant to the briefing's central purpose.
- **Poorly designed charts**—charts that fail to convey information clearly and immediately are likely to confuse or bore the audience.

This document provides some basic guidelines for addressing these problems. We briefly discuss eight principles drawn from research on graphics, cognitive psychology, and document design that can improve your briefing. The principles are

1. Let the audience's needs determine structure and content.
2. Use a top-down structure.
3. Use the introduction to motivate the problem and establish structure.
4. Exploit the outline slide.
5. Make only one point in each slide.
6. Look for opportunities to replace a word chart with a visual.
7. Think of each chart as a chunk of information.
8. Prune word charts to remove unnecessary text.

Our discussion focuses on the traditional RAND briefing, but these principles, especially those concerned with structure, are applicable to any type of presentation.

### **1. Let the audience's needs determine structure and content**

The most important step in designing an effective presentation is to focus on what your audience needs to know, not what *you* know. What do you want the audience to do as a result of the briefing? Do you want them to make a decision? Change how they think about a problem? Give you research funds? The answers to these questions should determine the material you select to present, the findings you choose to emphasize, and the kinds of charts you use.

You also need to consider the audience's motivations. What is their goal in listening to you? What information will they expect you to provide? What prejudices might they have? The answers to these questions will also influence your selection of material, and possibly the order in which you present it.

Indeed, *selection* is a key concept underlying most of the principles discussed below.

### **2. Use a top-down structure for your briefing**

There is strong evidence that humans rely on a hierarchical structure for comprehension and memory tasks (see, for example, Carpenter and Just, 1977; Meyer, 1975a, 1975b, 1977, 1981; Kintsch and Keenan, 1972; Kintsch and van Dijk, 1978; Kintsch and Yarbrough, 1982; Thorndyke, 1977; Williams, 1981). A hierarchical structure organizes information from more-general to more-specific dimensions, so that information at the top of the hierarchy is more general than information at the bottom.

We use hierarchical structures in at least three ways:

1. To comprehend information—the more marked the hierarchical structure, the easier it is for us to understand.
2. To commit information to memory and later retrieve it.
3. To decide about the importance of information—we assume information at the top of the hierarchy is more important than lower information, so we pay more attention to it and learn it better.

Since audiences tend to understand and remember from the top down, a briefing's structure should echo that principle. But briefers often describe their work the way it was done—chronologically—so results come at the end of the briefing, just as they came at the end of the research.

The audience needs a different structure. In general, an effective briefing structure is one in which the briefer provides motivation, eliminates the focus on tasks and on methodology, and selects material that reflects the audience's information needs rather than what the briefer knows.

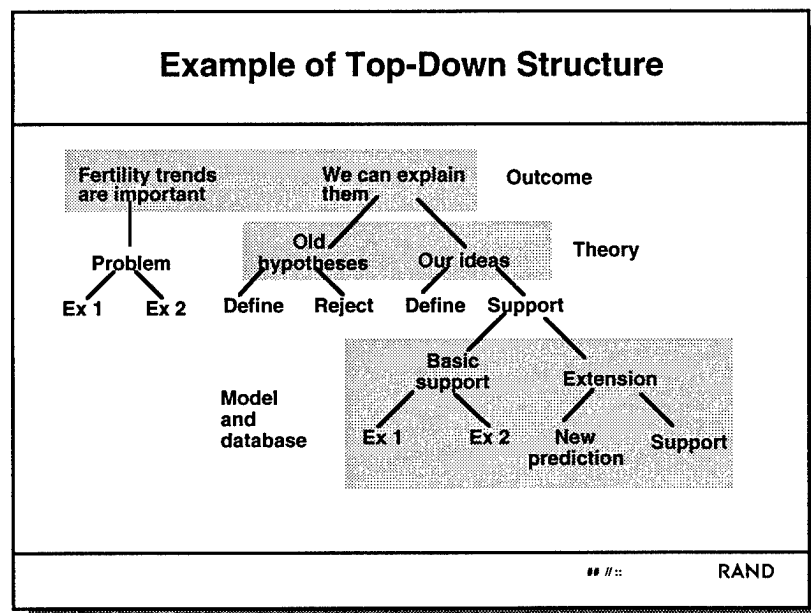
### **Example**

An analyst has constructed a model of fertility, marriage, and divorce rates that will enable her to understand past population growth and will improve her ability to predict future growth. She is giving a presentation showing the ways in which her model explains fertility trends better than other models do.

A bottom-up briefing on this topic might have the following structure, which basically mirrors the chronology of the research.

- Characteristics of the model
- Description of the database
- Explication of the theory
- Outcomes

A top-down structure, however, would communicate the main points of the analysis more effectively. The structure might look like this:



The first chunk of information provides motivation (trends are important, as illustrated by a couple of examples) and is immediately followed by the general conclusion (we can explain these trends, and here's how). Details are added as we go down the information tree, but the real message of the briefing occurs at the top of the tree.

The top-down structure has a welcome additional benefit: Cutting is easy. Prune the lowest nodes first, then work up the tree. Best of all, the briefer can do the pruning in real time if necessary and know that the logical structure of the main message remains intact.

### ***3. Use the introduction to motivate the problem and establish structure***

The introduction is key to an effective presentation because humans listen more intelligently, understand more readily, and remember longer when they know the structure of the information being presented (Ausubel, 1963; Frase, 1969; McGeoch and Irion, 1952; Thorndyke, 1978). Introductions should have the following components:

- Background and motivation
  - What is the problem?
  - Why is it important?
- Objective (of the briefing or the research in general)
  - What were the research goals?
  - What were the research questions?
  - What will the briefing do?
- Approach (optional, depending on the audience, but keep it short unless the briefing is about methodology)
- Overview of findings and implications (optional, depending on audience, but *highly recommended for most*)
- An overview or outline of the rest of the briefing

Three examples of good introductions appear on pages 6, 7, and 8.

### ***4. Exploit your outline slide***

The outline slide functions as a table of contents for your audience. When the slide first appears, it telegraphs the structure of the presentation, thereby increasing the audience's ability to understand and remember. When the outline slide reappears in the briefing, it reminds the audience of where they are



(1)

### Escaping the Courthouse: Private Alternative Dispute Resolution in Los Angeles

RAND

(2)

### What Is Private ADR?

Disputants take disputes to third party neutrals for resolution for a fee

RAND

(3)

### Private ADR Said To Be a Growing Market

- Crowded courts, escalating litigation costs thought to be fueling demand
- Environment permits rapid, creative growth in service
  - Easy entry
  - Lack of regulation

RAND

(4)

### The Policy Debate

Pro	Con
<ul style="list-style-type: none"> <li>• Reduced court workload</li> <li>• Faster resolution</li> <li>• Lower transaction costs</li> <li>• Services tailored to dispute</li> <li>• Expert neutrals instead of juries</li> <li>• Privacy</li> </ul>	<ul style="list-style-type: none"> <li>• Strips bench of talent</li> <li>• “Cadillac” justice</li> <li>• Secrecy</li> <li>• Procedural shortcomings</li> <li>• Bias favoring repeat business</li> </ul>

RAND

(5)

### Key Questions

- Which cases go to private ADR?
- Who brings them?
- What is the process like?
  - What procedures are used?
  - Who are the neutrals?
- How much does private ADR cost?

RAND

(6)

### Approach

- Case study of private ADR in Los Angeles
  - All civil money suits
  - LA Superior Court Catchment Area
  - 1992-93
- Data
  - Six private ADR firms
  - Survey of all neutrals (~450)
  - LA Superior Court records

RAND

(7)

### Overview of Findings

- Private ADR is a growing market
- Private ADR reduces court workload somewhat
- Judges leave bench for private ADR—after retirement point
- “Professionals” dominate private ADR market
  - Substantial experience
  - Strong legal background
- Possible repeat player problem

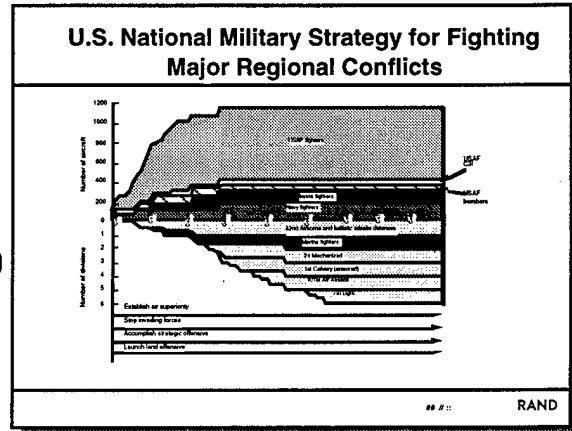
RAND

(1)

## The Global Balance of Air Power: Trends and Implications

# # # : RAND

(2)



(3)

### The Question

- What are the prospects for potential adversaries to respond to the Gulf War and U.S. national military strategy by increasing their emphasis on air power?

# # # : RAND

(4)

### Findings

- United States currently possesses commanding position in air power capabilities
- United States in good position to maintain that edge over the long-term
- Unlikely that adversaries will emphasize air power forces to challenge United States
  - Lack of capital
  - Limited prospects for success
- “Asymmetric strategies” offer greater appeal to adversaries and merit careful study

# # # : RAND

(5)

### Outline

- Perspectives on the air power balance
  - Current balance
  - Prospective future balance
  - Some caveats
- Asymmetric strategies

# # # : RAND

(1)

**Machines in Need of Repair:  
The Decline of the U. S. Machine Tool  
Industry and Prospects for its Recovery**

## #:: RAND

**Why Study the Machine Tool Industry?**

- Close links with broader manufacturing competitiveness
  - proximity aids process innovation
  - time lag for latest tools
- Window onto the problems of small manufacturers
- National security concerns

## #:: RAND

(3)

**The Study Approach**

- Many previous studies
- Comprehensive analysis
  - Industry structure
  - Skills
  - Federal/state policy
  - Capital
  - Technology
  - Trade

## #:: RAND

(4)

**The RAND Method**

- Interdisciplinary, international study team
  - 19 people, 4 countries
- Data sources, time limitation
  - 250 interviews, firm visits
  - Multiple statistical sources-new firm database
  - Results tested in industry focus groups

## #:: RAND

(5)

**Outline**

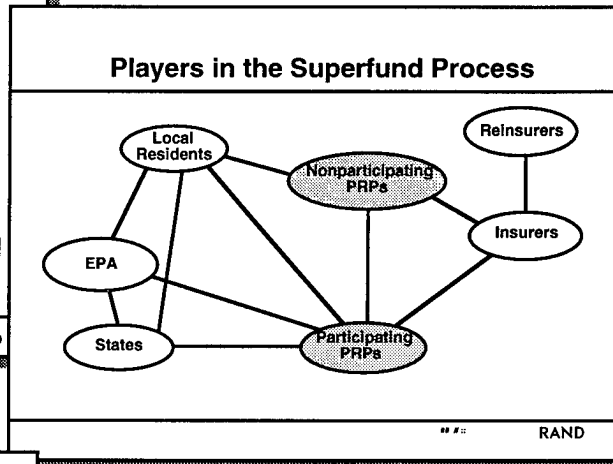
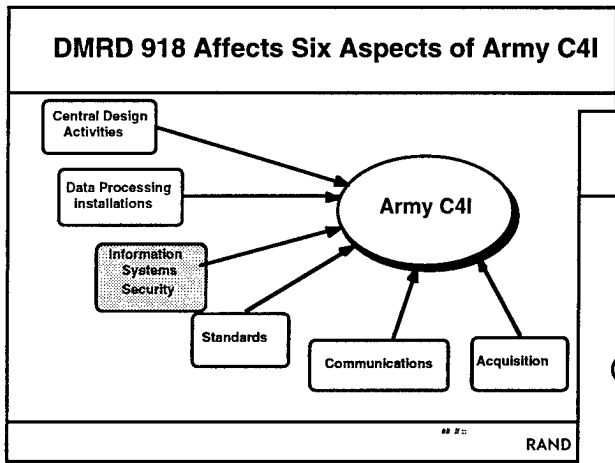
- **What happened to the machine tool industry?**
- Why hasn't it recovered?
- What are its chances?
- What can be done to help?

## #:: RAND

in the structure. An outline slide can also underscore a substantive point by repetition.

The outline slide can be as simple as a list of key points or questions, with a marker that moves down the points as the briefing progresses. But graphics also make excellent outline slides—for example, a conceptual framework flowchart in which shifting color emphasis is used to mark structure and to provide an opportunity for the briefer to summarize content. Other options include word tables that are filled out as the briefing progresses.

Four examples of good outline slides are shown below:



### Overview

We studied . . .	And concluded that . . .
<ul style="list-style-type: none"> <li>• Whether the system works as proposed</li> <li>• How the system could be best implemented</li> <li>• What the implications of implementation would be</li> </ul>	<ul style="list-style-type: none"> <li>• With modifications, the system works</li> </ul>

\*\* #: RAND

### Hypotheses To Be Examined in This Briefing

Hypotheses	Results
• A blanket cut in authorized stock will seriously affect service	• A 25% cut has little effect
• Cutting stock and then increasing high-demand items will improve service and cut inventory	• Time spent waiting for parts is reduced
• Cutting stock of high-cost items will cut inventory with little impact on service	
• Frequent small orders will cut excess and move towards just-in-time without hurting service	

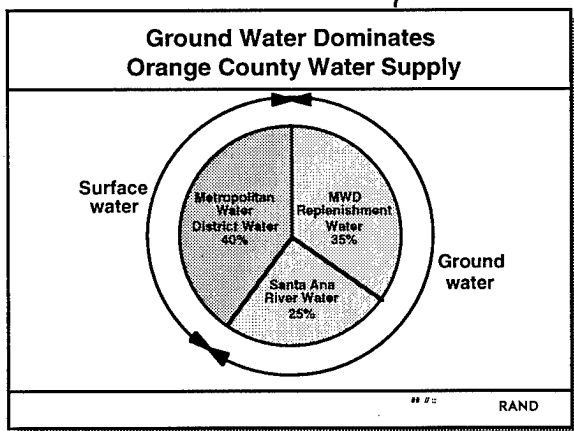
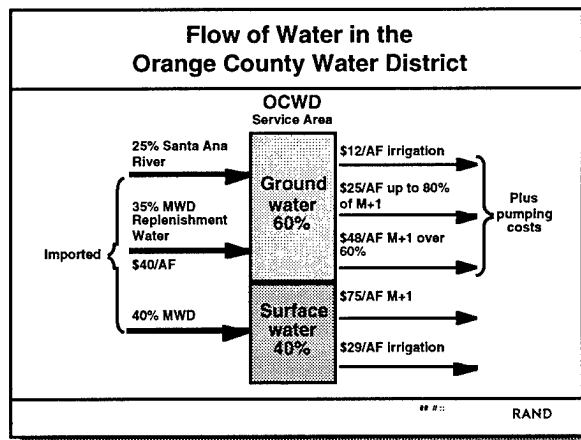
\*\* #: RAND

### 5. Make only one point in each slide

Each slide should make only one point, and the title should state that point. Everything else on the slide—bullets, graphics, and other elements—should support the main point.

If you can't state the point of the slide in the title, you probably have multiple points buried in the slide. In that case, you should turn each point into a separate slide. It takes less time to brief two or three well-structured slides than to brief one slide that has a muddled message.

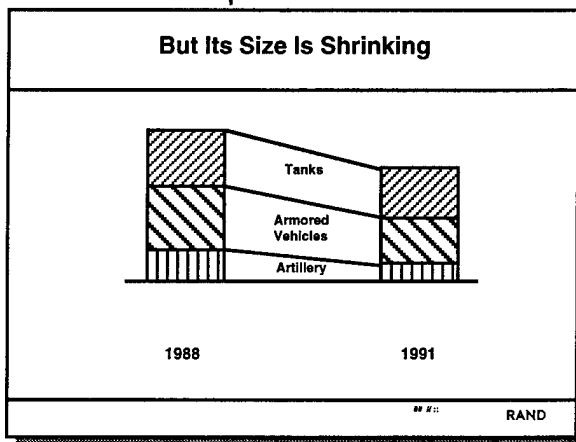
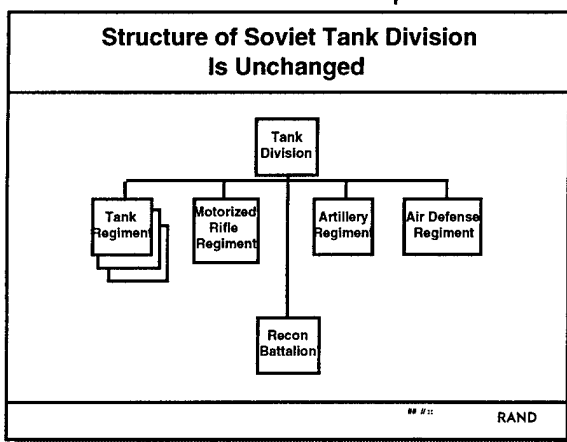
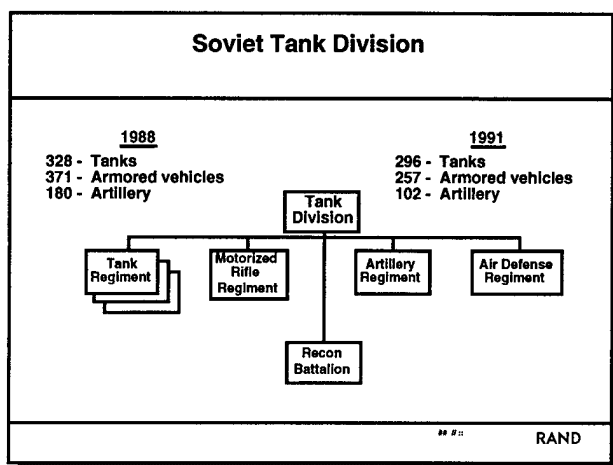
There is another good reason to focus on one point per slide: Multipoint slides are inevitably cluttered, and cluttered slides actually reduce the amount of information the audience “sees.” The size of a person’s useful field of view shrinks when a high density of detail has to be processed (Navon, 1977; Bartram, 1978). When you provide your audience with a well-structured one-message chart, you literally help them to see more information. The following examples show how a multipoint slide can be broken into two more-effective single-point slides. Note what happens to the slide titles.



**All Costs Considered, Surface Water Is Cheaper**

	Water Source	
	Ground \$/AF	Surface \$/AF
Fixed costs	9.83	4.11
Variable costs	49.60	—
Imported water costs	—	75.00
<b>Total</b>	<b>\$59.43</b>	<b>\$79.11</b>
Basin equity assessment	23.00	
(pumping greater than 60%)	<b>\$82.43</b>	

\*\* #: RAND



**6. Look for opportunities to replace a word chart with a visual**

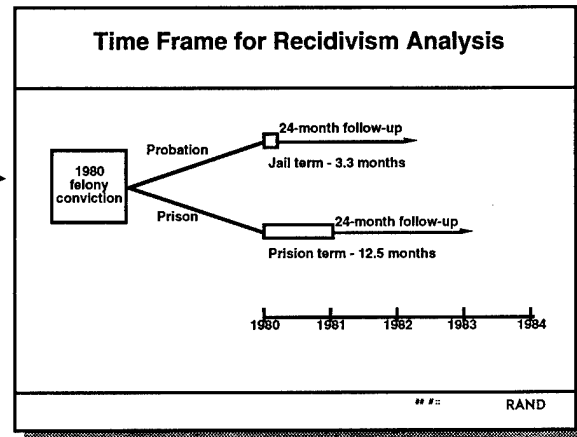
Word charts are probably the least effective type of chart. In many cases, the concept stated in a word chart could be shown more effectively in a diagram or illustration. A diagram or flow chart is better suited than a word chart for conveying complex interactions, and concrete objects convey information with an immediacy beyond words.

Two examples of word charts that can be expressed more effectively as visuals are shown on the following page.

### Time Frame for Recidivism Analysis

- Compare two groups of 1980 felony convicts
  - One following 3.3 month probation
  - The other following 12.5 month prison term
- Follow-up analysis for each group 24 months after release

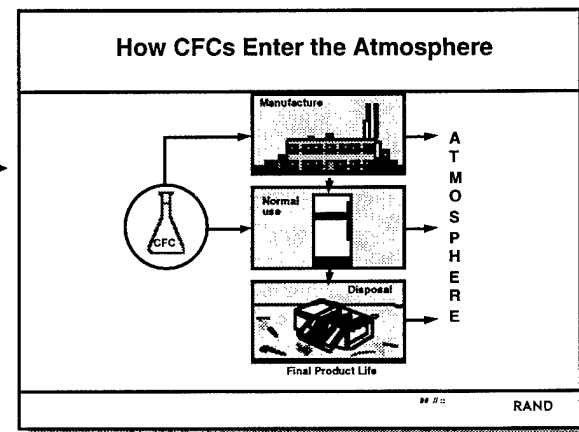
## #: RAND



### How CFCs Enter the Atmosphere

- Manufacturing
  - CFCs used in all product areas
  - Some products emit all CFCs at this stage
- Normal use
  - CFC vital to some products during use
  - Most CFCs "banked"
- Disposal
  - Emissions may occur long after disposal

## #: RAND



## 7. Think of each chart as a chunk of information

Some briefers ask if they should write a script for their narrative. Writing a script may be an excellent means of reviewing and refining the points you want to make, but reading a script when you brief means you won't be able to watch the audience and respond as they do, or work your charts with a pointer. A briefing read from a script is also likely to be boring.

A useful alternative is to think of each chart as a chunk of information. Your business as a breifer is to present your material, one chunk at a time, in a fashion that helps the audience put the chunks together as a logical whole. To do this, remember the following for each slide:

- Have a “topic sentence” that leads into the slide. This should be the main point, and it should echo the title closely.
- Discuss one to three points that elaborate on the main point. These may be featured as bulleted items, or they may be the messages in a graphic to which you draw the audience’s attention.
- Phrase the last thing you want to say in the form of a transition to the next slide.

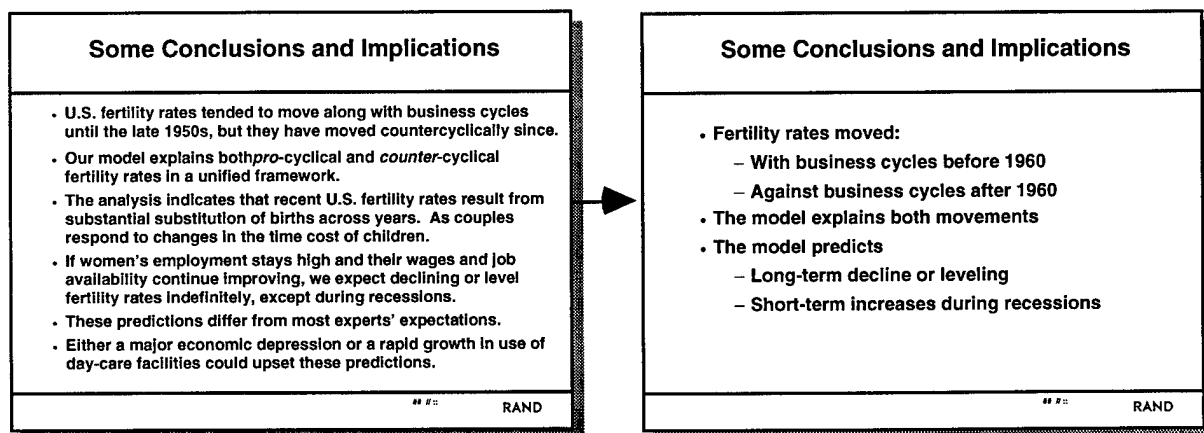
By moving into the slide with the main point and out of it with a transition, you are in effect building a logical structure for the audience in real time.

### **8. Prune word charts to make them briefable**

At its best, a word chart reinforces your narrative by showing the key words in some pattern. The audience should be able to map what you are saying onto the chart immediately—i.e., by the time you are halfway through your “topic sentence” entry. If the audience cannot do this, the chart is useless and the audience’s attention will wander. It is important to remember that the narrative should supplement the chart, not repeat it. Nothing is deadlier than a briefing in which the briefer reads the charts.

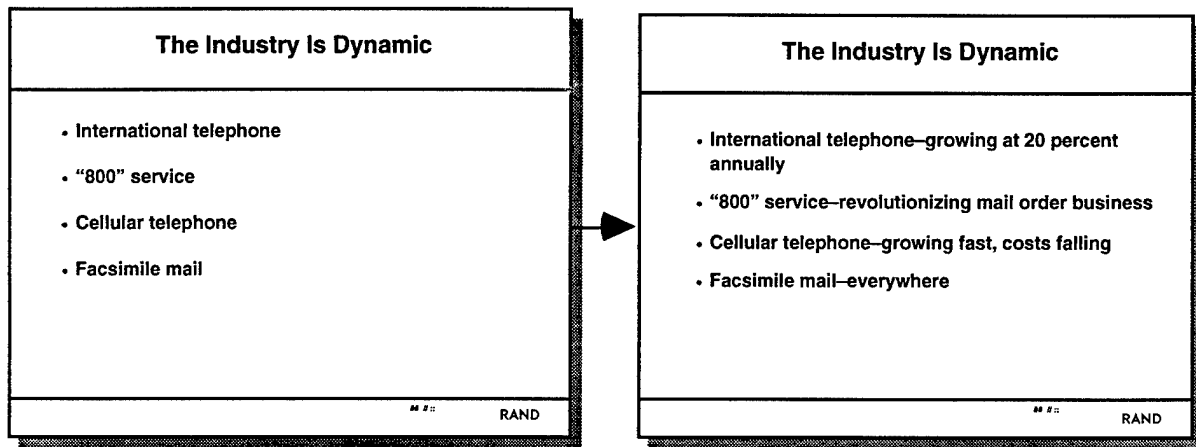
Prune word charts so that only the skeleton of the substance remains, but don’t reduce the bullets to tags—keep the content intact, so that the audience won’t miss the point when their attention lapses, as it inevitably will. If your word chart is appropriately pruned, you can fit a narrative to it so that the key words and points are on the slide, and what you say echoes and amplifies them. Thus the word chart and the pattern of the words on it reinforce your verbal points. If the chart is too busy or too spare, you can’t fit a good narrative to it.

An illustrative wordy word chart and its revision are shown below:





The following example shows an overly spare chart and its revision:



### **Summary**

These eight guidelines can increase the amount of information your audience understands and remembers.

1. Think about what your audience needs to know, not what you know.
2. Use a top-down structure.
3. Use the introduction to motivate the problem and establish structure.
4. Exploit the outline slide to keep your audience focused on structure.
5. Make only one point in each slide.
6. Look for opportunities to replace a word chart with a visual.
7. Think of each chart as a chunk of information.
8. Prune word charts to make them “briefable.”

# Tips for Preparing Presentation Graphics

## ***General Guidelines***

PowerPoint and other presentation programs allow you to use a wide range of typefaces and font sizes. However, you should resist the temptation to use more than one typeface on a slide, and you should not mix type sizes within a block of text. Recommended type sizes for presentations are given in the discussions of individual projection systems below.

The presentation programs also offer a wide array of colors, but color should be used only to clarify meaning, not for decoration. For example, do not arbitrarily color lines of text. Color text only for emphasis. Do not add colors to a bar or line chart unless the colors signal substantive differences. Finally, do not add clip art pictures (e.g., pictures of tanks) for decoration. They clutter slides, distract the audience, and carry no message.

Sometimes a graphic created in an application that is not linked to PowerPoint is copied and pasted into PowerPoint, then recolored. If the graphic uses solid black for bars, columns, or lines, change the black areas to a pattern or color in the original application prior to pasting the graphic into PowerPoint. Then, when recoloring in PowerPoint, you can recolor the patterned or colored areas without recoloring all the black text and axes.

## ***Presentations Using Conventional Overhead Projectors***

**Legibility.** If you are preparing graphics for presentation with a conventional overhead projector, you should use the following type sizes:

- 24-point Helvetica bold text for word slides
- 30-point Helvetica bold for titles

Use 18-point Helvetica bold for labels on graphs, when possible.

Center text blocks both vertically and horizontally within the image area.

If your slide includes graphs created in PowerPoint's graphing component, Microsoft Graph, increase the line weights to the heaviest available. Defaults are usually fine lines that do not project well.

**Color Recommendations.** PowerPoint has unlimited colors; however the following three palettes provide the most distinguishable colors for overhead projection (presuming a clear background). The RGB settings for each color are provided. The settings are Red, Green, and Blue, respectively. Add your chosen palette to the text-color tool (in the horizontal toolbar). Click on the text-color tool, then "Other color," then "More colors." Enter the settings of the color and click "OK". Repeat for each color. You can add up to eight other colors. The colors you add in the text-color tool will automatically apply to the line-color tool and the fill-color tool.

**Palette A** (bold colors) (recommended for line graphs)

Color	RGB Settings
1. Royal blue	6553, 43417, 65535
2. Red	65535, 1, 1
3. Kelly green	6203, 65428, 1
4. Purple	42569, 11161, 65535
5. Brown	38010, 19057, 1
6. Bright yellow	65535, 65535, 1

**Palette B** (pastel colors) (recommended for bar, pie, and area graphs)

Color	RGB Settings
1. Orange red	65535, 19661, 19661
2. Light green	19667, 65535, 19661
3. Turquoise	19661, 59802, 65535
4. Yellow	65535, 65532, 19661
5. Magenta	42950, 19661, 65535
6. Dark blue	19661, 33649, 65535
7. Burnt orange	53738, 26858, 1

**Palette C** ("Southwest" colors) (recommended for line graphs with less than 4 lines and bar, pie, and area graphs)

Color	RGB Settings
1. Hunter green	1, 44563, 22279
2. Light green	23510, 65535, 36117
3. Magenta	42590, 19661, 65535
4. Pink	65535, 37252, 60417
5. Sienna	53737, 20733, 1
6. Yellow	65535, 65532, 19661

Shades of blue to be used as *alternatives* to the greens in Palette C:

7. Cobalt blue	1, 32770, 65535
8. Light blue	29226, 57866, 65535

**TIPS:**

- Blue and green can be difficult to distinguish from one another, so it is not advisable to use them next to each other on the same slide except when coloring large portions (i.e., sections of a full-page pie chart).
- Yellow is not included in Palette A because yellow lines do not project well. Yellow is effective as a highlighter (i.e., a rectangle behind words needing emphasis).
- The simplest way to color components of graphs plotted using PowerPoint's Microsoft Graph is to ungroup the graph and change each component individually.

### ***Computer-Driven Presentations***

Computer-driven briefings provide some options that can enhance the effectiveness of a presentation if they are used appropriately. Four of the most important features are transitions, builds, dynamic builds, and variations on word charts.

**Transitions.** PowerPoint provides a wide range of choices for making transitions between charts. Some options work better than others with certain types of graphics, but the general principle is that the transition should not distract the audience's attention from the substance of the chart. In addition, with the possible exception of the transition from the title chart, it is best to use only one type of transition for the entire briefing.

We recommend the "wipe" (all varieties) and "fade through black" transitions for use with most types of material. Set the timing of the transitions to either fast or medium.

**Buils.** Because presenting your briefing electronically allows smooth transitions between charts, you can easily build a figure or flow chart by adding sections to it in a sequence of charts. Building charts helps to focus the audience's attention on the section of the chart you are discussing and emphasizes your point. Building charts is especially useful for complex figures or flow charts.

**Dynamic Buils.** Version 4.0 of PowerPoint provides the capability to build charts dynamically. For example, a trend line can move as you brief the chart, and bars can grow to their designated height. Dynamic builds have the advantages of regular builds, plus the effect of immediacy.

**Word Charts.** The "build" capability can be especially useful for word charts and word tables. Bullets or entries can appear one at a time, with highlighting, and when the briefer moves to a subsequent point, previous material can be grayed out. This technique allows the briefer to control and focus the audience's attention—they can't be distracted by reading the entire chart while you're briefing the first bullet or entry. However, building word charts does not eliminate the need to prune bullets to their substantive core or the need to link the narrative to the text on the chart.

### ***Rear Screen Projection***

Use of a rear screen projection system imposes special requirements for computer-generated briefings. The colors and color combinations that are effective for presentations using other equipment are not necessarily appropriate for rear screen projection. In addition, what you see on your computer screen will be slightly different from what is projected on the large screen. For this reason, we recommend the following guidelines.

**Legibility.** To ensure that everyone seated in the back rows can easily read your charts, use the following type sizes:

- 30-point Helvetica bold text for word slides
- 36-point Helvetica bold for titles

- 24-point Helvetica bold text for labels on graphs.

Because these are larger type sizes than those used on transparencies for conventional overhead projection, you may need to break some word charts into two charts.

**Color Recommendations.** The following three palettes work well on rear projection screens. They were designed, however, for Version 4.0 of PowerPoint for the Macintosh. Colors may vary when projected from other platforms. The RGB settings for each color are provided. The settings are Red, Green, and Blue, respectively. Modify the "Color scheme" with these colors. The "Fills" color is the plot-area color of a graph. The "Accents" are the colors for the curves, bars, etc., overlaying the plot-area color in the graph.

**Palette D** (bluegreen background, yellow title)

Background = 0, 27525, 242903

Title text = 64224, 65010, 0

Lines & text = white

Fills = (grey) 25438, 25438, 25438

Accents:

(peach) 65535, 44483, 26253

(rose) 54325, 21276, 35212

(cyan) 19661, 54073, 65535

More colors:

(pale green) 36744, 57774, 36974

(yellow) 64512, 62333, 1327

(red) 64748, 262,10486

(violet) 44261, 24243, 65535

**Palette E** (royal blue background, cyan title)

Background = 1322, 13223, 50014

Title text = 1, 65535, 65535

Lines & text = white

Fills = (grey) 42598, 42598, 42598

**Accents:**

(mustard) 56481, 43961, 12520

(medium pink) 65535, 19661, 38773

(bluegreen) 0, 46923, 42466

**More colors:**

(bright green) 19664, 65535, 19661

(yellow) 64224, 65010, 0

(red) 64748, 262,10486

(purple) 32760, 1, 65535

**Palette F** (dark grey background, bluegreen title)

Background = 9175, 9175, 9175

Title text = 296, 46923, 30898

Lines & text = white

Fills = (light blue) 24903, 36699, 65010

**Accents:**

(blue) 70223, 24153, 65010

(bright green) 7595, 53032, 1711

(yellow) 62086, 61546, 15875

**More colors:**

(sienna) 56481, 38568, 4700

(grey) 42598, 42598, 42598

(red) 64748, 262,10486

(blueblack) 2097, 7602, 22544

**TIPS:**

- The simplest way to color components of graphs plotted using PowerPoint's Microsoft Graph is to ungroup the graph and change each component individually.
- On text slides, make the bullets the same color as the title color.

***Other Equipment Options***

Computer-driven briefings may also be projected with other types of equipment, such as LCD panels, DataShow projectors, or ElectroHome overhead projectors. On any of these systems, the projected image will look somewhat different from the image on the computer screen; the image may be slightly distorted, and the colors may not be true. If you are going to use one of these systems, it's wise to review your briefing on a similar system before you have to brief.



## References

### Presentation Dynamics

- Ausubel, D., *The Psychology of Meaningful Verbal Learning: An Introduction to School Learning*, Grune and Stratton, 1963.
- Bartram, D. J., "Post-Iconic Visual Storage: Chunking in the Reproduction of Briefly Displayed Visual Patterns," *Cognitive Psychology*, Vol. 10, No. 3, 1978, pp. 324-355.
- Carpenter, P. A., and Just, M. A., "Integrative Processes in Comprehension," in D. LaBerge and S. J. Samuels (eds.), *Basic Processes in Reading*, Hillsdale, NJ: Lawrence Erlbaum Associates, 1977.
- Frase, Lawrence, "Paragraph Organization of Written Materials: The Influence of Conceptual Clustering upon the Level and Organization of Recall," *Journal of Educational Psychology*, Vol. 69, 1969, pp. 394-401.
- Kintsch, W., and J. Keenan, "Reading Rate and Retention as a Function of Propositions in the Base Structure of Sentences," *Studies in Mathematical Learning Theory and Psycholinguistics*, Boulder, CO: Computer Laboratory for Instruction in Psychological Research, Publication No. 6, April 1972.
- Kintsch, W., and T. A. van Dijk, "Toward a Model of Text Comprehension and Production," *Psychological Review*, Vol. 85, 1978, pp. 363-394.
- Kintsch, W., and J. S. Yarbrough, "Role of Rhetorical Structure in Text Comprehension," *Journal of Educational Psychology*, Vol. 74, 1982, pp. 828-834.
- McGeoch, J. A., and A. L. Irion, *The Psychology of Human Learning*, Longmans Green, 1952.
- Meyer, B.J.F., "Signaling the Structure of Text," in D. H. Jonassen (ed.), *The Technology of Text*, Vol. 2, Englewood Cliffs, NJ: Educational Technology Publications, 1985, pp. 64-89.
- \_\_\_\_\_, "Basic Research on Prose Comprehension: A Critical Review," in D. F. Fisher and C. W. Peters (eds.), *Comprehension and the Competent Reader: Inter-specialty Perspectives*, New York: Praeger, 1981.
- \_\_\_\_\_, "What Is Remembered from Prose: A Function of Passage Structure," in Roy O. Freedle (ed.), *Discourse Production and Comprehension*, Ablex Publishing Corporation, 1977.
- \_\_\_\_\_, "Identification of the Structure of Prose and Its Implications for the Study of Reading and Memory," *Journal of Reading Behavior*, Vol. VII, 1975a, pp. 7-47.

- \_\_\_\_\_, *The Organization of Prose and Its Effects on Memory*, Amsterdam: North-Holland, 1975b.
- Navon, D., "Forest Before Trees—Precedence of Global Features in Visual-Perception," *Cognitive Psychology*, Vol. 9, No. 3, 1977, pp. 353-383.
- Thorndyke, P. W., "Knowledge Transfer in Learning from Texts," in *Cognitive Psychology and Instruction*, Plenum, 1978.
- \_\_\_\_\_, "Cognitive Structures in Comprehension and Memory of Narrative Discourse," *Cognitive Psychology*, Vol. 9, 1977, pp. 77-110.
- Weiss, H., and J. B. McGrath, "Technically Speaking: Oral Communication for Engineers, Scientists, and Technical Personnel," New York: McGraw-Hill, 1963.
- Williams, J., *Style: Ten Lessons in Clarity and Grace*, Glenview, IL: Scott, Foresman, 1981.

## Graphics

- Chambers, J. M., W. S. Cleveland, B. Kleiner, and P. A. Tukey, *Graphical Methods for Data Analysis*, New York: Van Nostrand Rheinhold, 1993.
- Cleveland, William S., "A Model for Studying Display Methods of Statistical Graphics," *Journal of Computational and Graphical Statistics*, Vol. 2, 1993a, pp. 323-364.
- \_\_\_\_\_, *Visualizing Data*, Summit, NJ: Hobart Press, 1993b.
- \_\_\_\_\_, *The Elements of Graphing Data*, Wadsworth Books, 1985.
- Cleveland, William S., and Robert McGill, "Graphical Perception: Theory, Experimentation, and Application to the Development of Graphical Methods," *Journal of the American Statistical Association*, Vol. 79, No. 387, September 1984, pp. 531-554.
- Ehrenberg, A.S.C., "Rudiments of Numeracy," *Journal of the Royal Statistical Association*, Vol. 36, No. 4, 1977, pp. 326-329.
- MacDonald-Ross, Michael, "Graphics in Texts," in L. Shulman (ed.), *Review of Research in Education*, Vol. 5, Peacock Publishers, 1978.
- Tufte, Edward R., *Envisioning Information*, Graphics Press, 1990.
- \_\_\_\_\_, *The Visual Display of Quantitative Information*, Graphics Press, 1983.
- Wainer, Howard, *A Study of Display Methods for NAEP Results: I. Tables*, Technical Report 94, Princeton, NJ: Educational Testing Service, 1994.
- \_\_\_\_\_, "Tabular Presentation," *Chance*, Vol. 6, No. 3, 1993, pp. 52-56.
- \_\_\_\_\_, "Understanding Graphs and Tables," *Educational Researcher*, Vol. 21, 1992, pp. 14-23.

\_\_\_\_\_, "How to Display Data Badly," *The American Statistician*, Vol. 38, No. 2, May 1984, pp. 137-147.

Wright, Patricia, and Fraser Reid, "Written Information: Some Alternatives to Prose for Expressing the Outcomes of Complex Contingencies," *Journal of Applied Psychology*, Vol. 57, No. 2, 1973.

\_\_\_\_\_, "Presenting Technical Information: A Survey of Research Findings," *Instructional Science*, Vol. 6, 1977.