Sources
People do not really understand numbers, especially the very large numbers that make up a budget.

“Our brains were designed to grok 1, 2, 3, 4, and 5. After that, it’s just “lots.”

Information is lost unless numbers are translated into human experience.
FOUR BUILDING BLOCKS FOR BETTER COMMUNICATION
The higher number get, the less sensitive we become to them.

This is known as “psychophysical numbing”

Every number can be translated into something that is easier for people to grasp, like an analogy, a comparison, and more.
TAKE A CUE FROM CHILDHOOD

• Translate numbers into human experience
• We can do better than fingers and toes

Four Building Blocks

• Translate Numbers to Human Scale
• Help People Grasp Your Numbers
• Catalyzing Action with Emotional Numbers
• Build a Scale Model
TRANSLATE NUMBERS TO HUMAN SCALE
CONSIDER SPORTS STATISTICS

Focusing on One at a Time

Per Capita Figures

Impact on Tax Bill of Average Home
FAVOR USER-FRIENDLY NUMBERS

• Round with Enthusiasm (remember telephone numbers!)
  — $3,405,892 → $3.4 million

• Concrete is better: Use Whole Numbers to Describe Fractions

<table>
<thead>
<tr>
<th>Department</th>
<th>% of Spending</th>
<th>For every $10 of spending…</th>
<th>For every $100 of Spending…</th>
</tr>
</thead>
<tbody>
<tr>
<td>Police</td>
<td>36%</td>
<td>$4</td>
<td>$36</td>
</tr>
<tr>
<td>Fire</td>
<td>31%</td>
<td>$3</td>
<td>$31</td>
</tr>
<tr>
<td>Public Works</td>
<td>22%</td>
<td>$2</td>
<td>$22</td>
</tr>
<tr>
<td>Admin</td>
<td>11%</td>
<td>$1</td>
<td>$11</td>
</tr>
</tbody>
</table>
HELP PEOPLE GRASP YOUR NUMBERS
IT IS NOT AN ACCIDENT THAT “GRASP” ALSO MEANS TO UNDERSTAND
HELP PEOPLE GRASP YOUR NUMBERS

Use Simple Familiar Comparisons

Cost of Municipal Service vs. Consumer Goods

Trade Time for Money
CATALYZE ACTION WITH EMOTIONAL NUMBERS
Sometimes a finance officer may need to inspire action...

- Numbers speak to logic
- Actions often spurred by emotion

Ethical Warning!
CATALYZE ACTION WITH EMOTIONAL NUMBERS

Use a Vivid Comparison

Make the Number Personal

Establish a Pattern, then Break it
BUILD A SCALE MODEL
Can you imagine how a large 1,200 square foot house is?

How about now?...
PEOPLE FIND SCALE MODELS INHERENTLY INTERESTING
Combine financial information with geospatial information
The Root of Local Government Revenues
MAKING NUMBERS COUNT IN PUBLIC FINANCE
Challenge:
Describing the Value of Government

Consider the City of San Mateo's General Governmental Operating Budget:

$170 million annual operating budget ÷ 40,000 households in San Mateo = $260 per household per month.

$260 pays for public safety, public works, library, parks/recreation, and more.

To make this number concrete, we can compare it to common household expenditures:

- $300 such as the average household monthly entertainment bill
Challenge: Describing the Burden of Debt

Consider San Mateo’s General Obligation Bond to finance the cost of its main library.

Comparing $2 million per year (total principal with interest) to the average household annual spending on reading materials ($37 vs $110).

Or consider it by month: $7 for a best-selling paperback might cost around $7 and take about a month to read vs $3 for Form 1040, however, the monthly household cost to build the public library is a fraction of that amount!
Challenge:
Describing the Burden of Debt

CONSIDER THE DEBT SERVICE FOR SCHOOL BUILDINGS AT PALM BEACH PUBLIC SCHOOLS

$117 MILLION ANNUAL DEBT SERVICE COSTS ÷ 1.2 MILLION ADULT RESIDENTS = $8 PER PERSON PER MONTH

THEN COMPARE THE $8 TO THE AVERAGE ADULT’S MONTHLY COFFEE EXPENDITURE!

$10 PER PERSON PER MONTH
LIGHTENING ROUND!

Communicate insignificance → Translate Money to Time

Encourage efficiency & cost avoidance → Make it Personal

Describing the need for spending → Bring it down to human scale
THE ETHICS OF MAKING NUMBERS COUNT
Foremost, Avoid Misrepresentations

Which slice represents the largest quantity?

“A” is 20% larger than “C,” but “C” can appear larger. The perspective provided by the 3D graph can cause a misperception of the relative sizes of the slices.
Exhibit 12.3 – Which Straight Line is Longer?

A

B

Most people think “B” is longer, but they are actually the same length.
Imagine a large sick leave liability...

Finance officers wants people to appreciate the size of the liability...

Finance office compares it to number of additional teachers, police, etc. that could be hired with that money...

What’s the problem?
Evaluating the ethics of using emotion...

• Does the communication make a useful contribution to the discussion about public finance?

• Does the communication help move the decision process forward?

• Is the communication consistent with a fair and accurate presentation of the underlying data? Is it consistent with the finance officer’s own code of ethics?
CASE OF WATER AFFORDABILITY

Common to use a benchmark percentage for the average bill as a percent of median household income
HERE IS A DIFFERENT PERSPECTIVE...

Focus on the individual low income ratepayer may lead to a new conclusion.

Household Affordability: Low Usage Monthly Amount as a % of 20th Percentile Income After Basic Needs

Total Income $3,515

- Income After Basic Needs* $735
- Non-water essential expenses
  - WaterOne 3.7%

*Please note costs related to transportation, childcare, energy, and other household needs are not included in Basic Needs calculation.
Take the Fiscal Fluency Challenge!
gfoa.org/fiscalfluency
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GFOA