

# What and Who Are You Listening To? Using the Right Input for Important Decisions

3CCMA



 FlashVote

*Wednesday June 10 @ 2pm ET/11am PT*

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# Where Are We Going?

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- Intro: Why data? (5 min)
- Part 1: COVID data (10 min)
- Part 2: Science of public input data (15 min)
- Part 3: Getting the right data (15 min)
- Conclusion: Q&A (15 min)

# INTRODUCTION: **WHY DATA?**

# Two Ways to Move Rocks



A

B

# Two Ways to Move Rocks



A



B

# Work Harder vs Smarter

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**Harder** = *“More time and effort”*

1 extra hour = ?

# Work Harder vs Smarter

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1 extra hour = 1 extra hour

# Work Harder vs Smarter

**Harder** = *“More time and effort”*

1 extra hour = 1 extra hour

**Smarter** = *“Better processes/tools”*

1 extra hour = ?

# Work Harder vs Smarter

**Harder** = *“More time and effort”*

1 extra hour = 1 extra hour

**Smarter** = *“Better processes/tools”*

1 extra hour = **Many hours/\$ saved**

# Smarter Wins! (Duh)

 **Harder** = *“More time and effort”*

1 extra hour = 1 extra hour

 **Smarter** = *“Better processes/tools”*

1 extra hour = **Many hours/\$ saved**

Ex: **\$4.8 million** saves **\$15 million**  
over 4 years (*Denver Peak Academy*)

# But... What About “Working Wiser”?

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**Harder** = “*More time and effort*”

**Smarter** = “*Better processes/tools*”

**? Wiser** = “*Better knowledge/judgment*”

# Wiser Wins Easily!

 **Smarter** = “*Better processes/tools*”

Ex: \$4.8 million saves \$15 million (3x)  
over 4 years (*Denver Peak Academy*)

 **Wiser** = “*Better knowledge/judgment*”

Ex: \$5 thousand saves \$7 million (1000x)  
by changing one decision (*Survey Data*)

# But How?



# Better Data for Better Decisions



# “What To Do” Matters Most



# How Input Data is Useful For You

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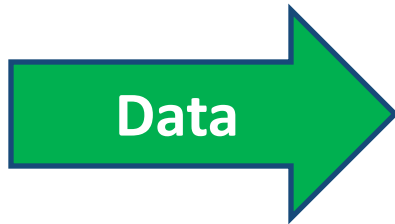
“Wiser” = **What** to do



# How Input Data is Useful For You

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“Wiser” = **What** to do

 *Community Preferences*

“Smarter” = **How** to do It

 *Facts/Ideas/Feedback*

# **TWO DATA CHALLENGES TO KEEP IN MIND**

# #1: We're Not Natural Statisticians

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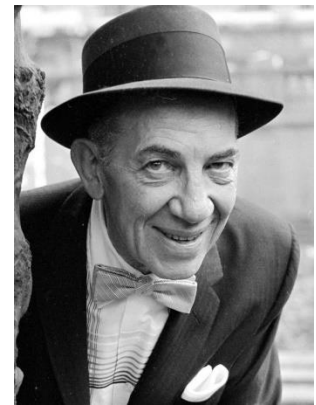
5 out of 4 Americans Do Not Understand Statistics

**Science-Based  
Medicine**

## #2: We're Misled by What We See

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***“Well, who ya gonna believe,  
me or your own eyes?”***



**-Chico Marx**

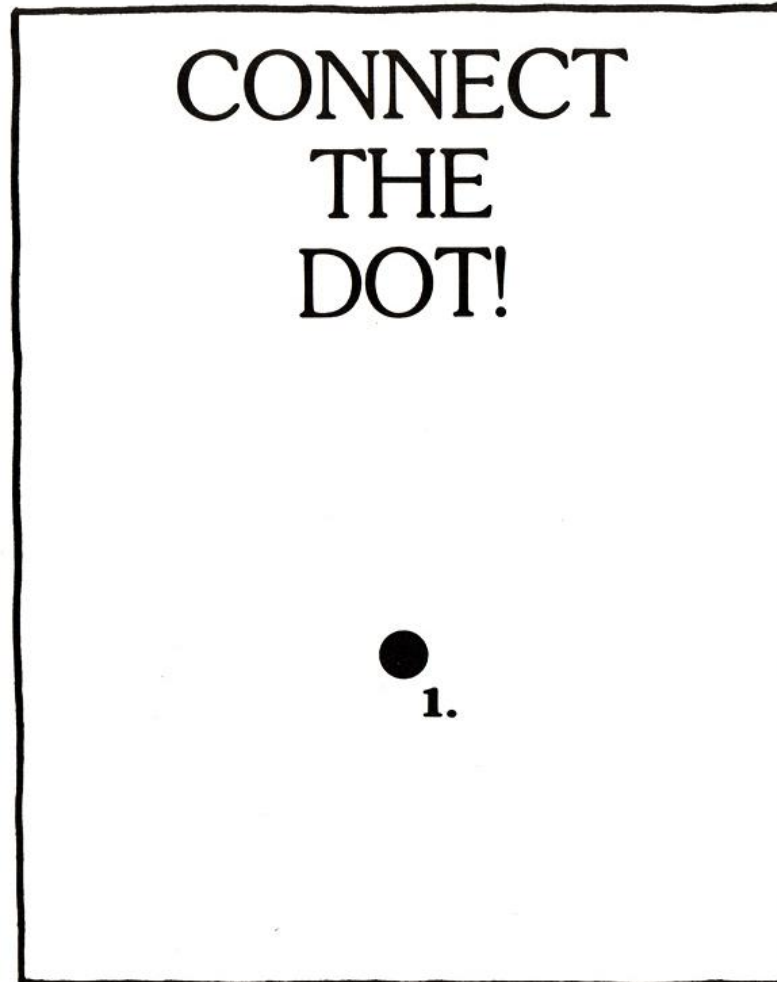
# PART 1: COVID-19 DATA

# Lets Get Started

$$\tilde{G}_n = \frac{\sum_{j=1}^N R_j W_j G_j}{\sum_{j=1}^N R_j W_j} = \frac{E_J[\tilde{R}_J G_J]}{E_J[\tilde{R}_J]}.$$

$$\begin{aligned}\tilde{G}_n - \bar{G}_N &= \frac{\text{Cov}_J(\tilde{R}_J, G_J)}{E_J(\tilde{R}_J)} = \rho_{\tilde{R}, G} \sqrt{\frac{V_J(\tilde{R}_J)}{E_J^2(\tilde{R}_J)}} \sigma_G \\ &= \rho_{\tilde{R}, G} \times \sqrt{\frac{1 - f + CV_W^2}{f}} \times \sigma_G,\end{aligned}$$

# More Like This?



# COVID-19: DATA **SAMPLES**

# QUICK POLL #1

For people that catch COVID-19, what do you think is their chance of dying? In other words, for every 1,000 random people that catch it, how many die from the disease?

- ( ) 0.1% or less (1 or less die)
- ( ) 0.2% to 0.5% (2 to 5 die)
- ( ) 0.6% to 1% (6 to 10 die)
- ( ) 1.1 to 2% (11 to 20 die)
- ( ) 2.1% to 5% (21 to 50 die)
- ( ) 5.1% to 10% (51 to 100 die)
- ( ) 10.1% to 20% (101 to 200 die)
- ( ) More than 20% (201+ die)

# COVID-19 Fatality Risk (5/21/20)

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- What is the risk of dying from COVID-19?

# COVID-19 Fatality Risk (5/21/20)

- What is the risk of dying from COVID-19?

- Hint:



United States

Deaths:

**97,538**

Coronavirus Cases:

**1,642,652**

# COVID-19 Fatality Risk (5/21/20)

- What is the risk of dying from COVID-19?

• Hint:



United States

Deaths:

**97,538**

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Coronavirus Cases:

**1,642,652**

**= 6%**

# Hold On... Who Has Been Tested?

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# Hold On... Who Has Been Tested?

✓ Sick people?



# Hold On... Who Has Been Tested?

✓ Sick people?



✓ Exposed people?



# Hold On... Who Has Been Tested?

✓ Sick people?



✓ Volunteers?



✓ Exposed people?



# Two Questions You Always Ask

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- Are the people in my sample *the same* as the people not in my sample?
- How might they be *different*?

# Are These Representative?

**X** Sick people?



**X** Volunteers?



**X** Exposed people?



# OK... So What Data Do We Need??

**X** Sick people?



**X** Volunteers?



**X** Exposed people?



**✓** Random sample?



# Infection Fatality Rate (IFR) Testing

- For “**Infection** Fatality Rate” (IFR) need to know **all infections** not just tested/confirmed cases
- Need a **random** sample that is not **related** to positive test results (an **uncorrelated** sample)
- Test: Have you **ever had** COVID-19?
  - “Blood Test” for antibodies

# April 17, 2020: First US Antibody Study

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# April 17, 2020: First US Antibody Study

**The Mercury News**

[News](#) > [Health](#)

## **Coronavirus: Santa Clara County has had 50 to 85 times more cases than we knew about, Stanford estimates**

Stanford research concludes that the infection rate is far higher, and the death rate far lower, than previous estimates

# April 17, 2020: First US Antibody Study

- ~3% of sample positive vs 0.15% of county confirmed

| Estimated from Sample             | Confirmed Cases            |
|-----------------------------------|----------------------------|
| 54,000 cases                      | 1,094 cases                |
| 50 deaths (same)                  | 50 deaths                  |
| Infection Fatality Rate<br>= 0.1% | Case Fatality Rate<br>= 5% |

# Bad News and Good News

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- Bad news: Only 3% infected, much left to go
- Good news: IFR = 0.1% ... **same as seasonal flu!**

# Hold On Again...

- 3,300 volunteers for the test were **“recruited from Facebook ads”**



# Hold On Again...

- 3,300 volunteers for the test were **“recruited from Facebook ads”**



- They sampled like **a facebook poll?!?!**

# April 20, 2020: Whoops!

## The Mercury News

News > Health

### Feud over Stanford coronavirus study: 'The authors owe us all an apology'

Angry statisticians dispute Santa Clara County research that found high infection rates

# Samples Biased By “Self-Selection”

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**✗ 6% IFR (too high)**

**Confirmed case** sample contains sicker people compared to overall population

**✗ 0.1% IFR (too low)**

**Blood tested** sample contains too many positives compared to overall population

# BTW... Current Best Guess?

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CDC estimate: 0.26% IFR

0.4% with symptoms die (range 0.2% to 1%)

35% have no symptoms (range 20% to 50%)

My guess: 0.3% to 0.5%

# My Guess: Many Antibody Tests

- April 6: Heinsberg Germany: antibodies to the virus in 14% of the 500 people tested. By comparing that number with the recorded deaths in the town, the study suggested the virus kills 0.4%
  - <https://medicalxpress.com/news/2020-05-team-covid-infection-fatality.html>
- April 16 Netherlands blood donors: 500k of 17M vs 28,158 confirmed, **18 times higher**, 3315 deaths IFR = 0.7%
  - <https://www.reuters.com/article/us-health-coronavirus-netherlands-study/dutch-study-suggests-3-of-population-may-have-coronavirus-antibodies-idUSKCN21Y102>
- April 17: First US survey Santa Clara County: 2.8% 54,000 vs 1,094 known at time, 50 deaths “Volunteers for the test were recruited from Facebook 3,300” **55 times more** prevalent and IFR = 0.1%
  - <https://www.mercurynews.com/2020/05/11/coronavirus-revised-stanford-estimate-says-santa-clara-county-had-54-times-more-cases-than-we-knew-about/>
- April 20: 4% of 800 have antibodies (~400k of 10M)- **40 times** higher than the 7,994 reported cases of COVID-19 in LA county at the time of the study in early April, 600 deaths (7.5% CFR) – IFR = 0.2%
  - <https://news.usc.edu/168987/antibody-testing-results-covid-19-infections-los-angeles-county/>
- ---May 20 (better sample): 2% of 1000 have antibodies (~200k) – **5 times** higher than 40,000 confirmed cases, with 1,976 deaths (5.0% CFR) – IFR = 1%
  - <https://www.nbclosangeles.com/news/coronavirus/new-antibody-testing-results-offer-some-hope-in-la-countys-coronavirus-fight/2366032/>
- April 23 (New York 19.5M, NYC 8.4M): Sample infection rate of 14%, **10 times** higher than 263,460 cases, New York is reporting 15,500 COVID-19 deaths, (6% CFR), and if 2.7 million people were infected, that would mean the IFR would be 0.5%
  - <https://www.livescience.com/covid-antibody-test-results-new-york-test.html>
- April 24: Miami-Dade County: 6% antibodies, **85% of residents who were randomly selected did participate**, (165k of 2.75M), **15 times higher** than Miami-Dade testing site data with 10,567 cases, 287 deaths IFR = 0.2%
  - <https://www.miamidade.gov/releases/2020-04-24-sample-testing-results.asp>,  
<https://miami.cbslocal.com/2020/04/24/coronavirus-at-a-glance-4-24-20/>
- May 14: Spain 5% antibodies 2.35M vs 228,691 positive cases , **10 times higher** and 27,100 deaths for IFR = 1.1%
  - <https://english.elpais.com/society/2020-05-14/antibody-study-shows-just-5-of-spaniards-have-contracted-the-coronavirus.html>
- May 18: Boston: 10% antibodies (70k of 700k), 2.5% COVID (no symptoms) cases (**6 times higher** than 11,000 cases and 500 deaths (0.7% IFR) (0. <https://www.boston.gov/news/results-released-antibody-and-covid-19-testing-boston-residents>
- May 19: Meta Study (biased low): <https://www.medrxiv.org/content/10.1101/2020.05.13.20101253v1>

# QUICK POLL #1: ANSWER

For people that catch COVID-19, what do you think is their chance of dying? In other words, for every 1,000 random people that catch it, how many die from the disease?

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☐ 5% to 10% (51 to 100 die)

☐ 10% to 20% (101 to 200 die)

☐ More than 20% (201+ die)

# Guess Who Else Was Off?

Menu icon |  **MARKETS** **BUSINESS** **INVESTING** **TECH** **POLITICS** **CNBC TV**

**HEALTH AND SCIENCE**

## **WHO** says coronavirus death rate is **3.4%** globally, higher than previously thought

PUBLISHED TUE, MAR 3 2020 4:28 PM EST | UPDATED WED, MAR 4 2020 8:54 AM EST

 **Berkeley Lovelace Jr.**  
@BERKELEYJR

 **Noah Higgins-Dunn**  
@HIGGINSDDUNN

SHARE    

# Takeaway #1

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Self-selection makes COVID  
testing data unusable

(and public input data...)

# COVID-19: **AGGREGATING DATA**

# (Your) Mortality Risk from COVID-19?

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What does 0.26% risk  
mean for **you personally**?

# (Your) Mortality Risk from COVID-19?

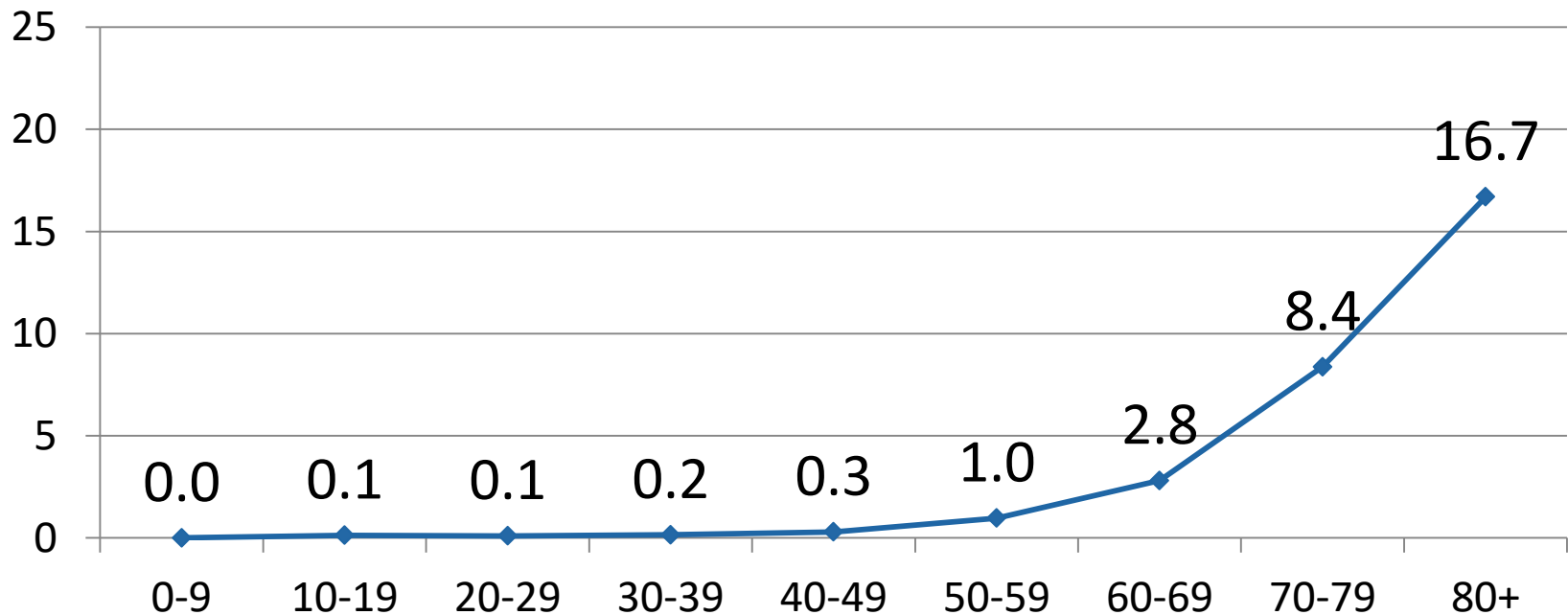
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What does 0.26% risk  
mean for **you personally**?

Almost nothing...

# COVID-19 Risk by Age – 5 Countries

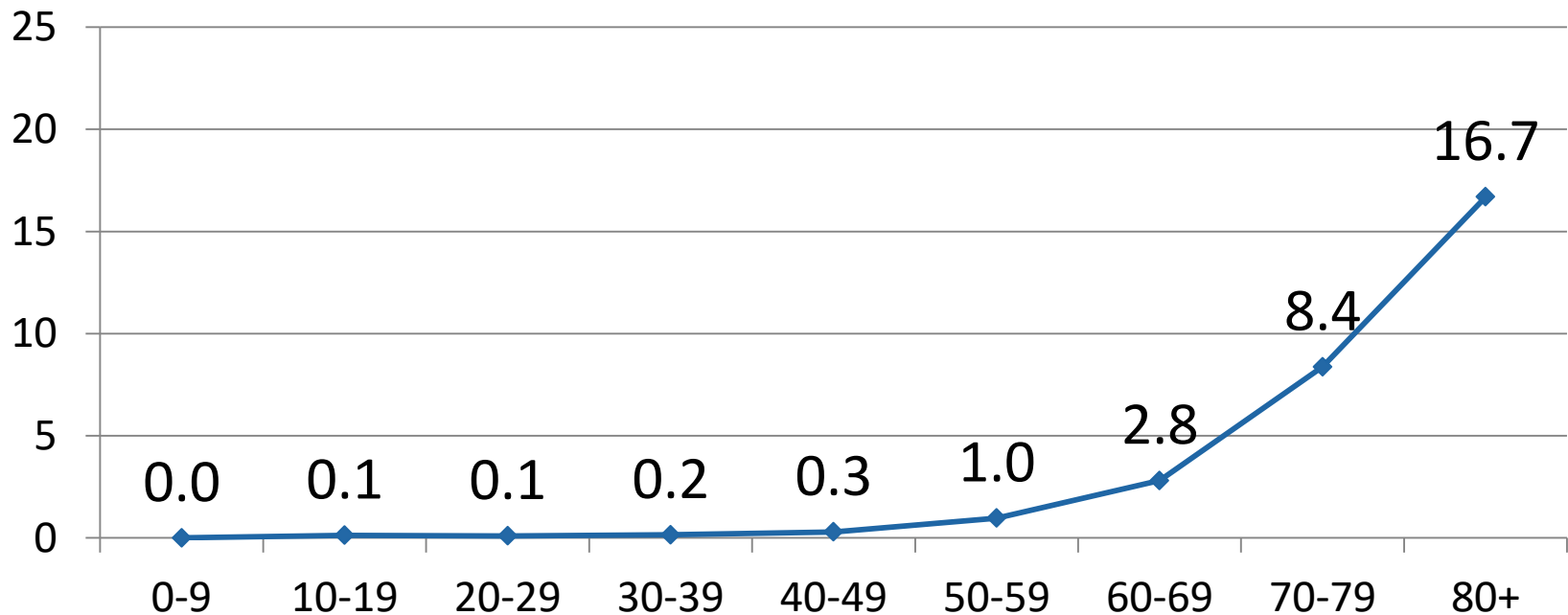
## Average Case Fatality Rate (%)



Infection Fatality Rates **unknown(!)** but ~10x lower(?)

# COVID-19 Risk by Age – 5 Countries

## Average Case Fatality Rate (%)



Infection Fatality Rates **unknown(!)** but ~10x lower(?)

**CDC: 65+ IFR = 1%    Under 50 IFR = 0.03%**

# Extreme Variation By Age

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- Age 65 and up has **30x risk** of Under 50
- Age 80 and up has **150x risk** of Under 30
- So 0.26% tells you **almost nothing – need age!**
- Need to **disaggregate** data to get information

# Aggregated Data Hides Information

Deaths:  
**97,538**

| Age       | % of Population |
|-----------|-----------------|
| 40 and up | 54%             |
| 50 and up | 40%             |
| 60 and up | 26%             |

Source: <https://docs.google.com/document/d/1hbnDIwW8MPE5X5bMwEMGD-DiR-HLEGpqzZKiNi2dkc8/edit> (excluding China data as unreliable)

# Aggregated Data Hides Information

Deaths:  
**97,538**

| Age       | % of Population | % of Fatalities |
|-----------|-----------------|-----------------|
| 40 and up | 54%             | 99.5%           |
| 50 and up | 40%             | 98%             |
| 60 and up | 26%             | 95%             |

Source: <https://docs.google.com/document/d/1hbnDIwW8MPE5X5bMwEMGD-DiR-HLEGpqzZKiNi2dkc8/edit> (excluding China data as unreliable)

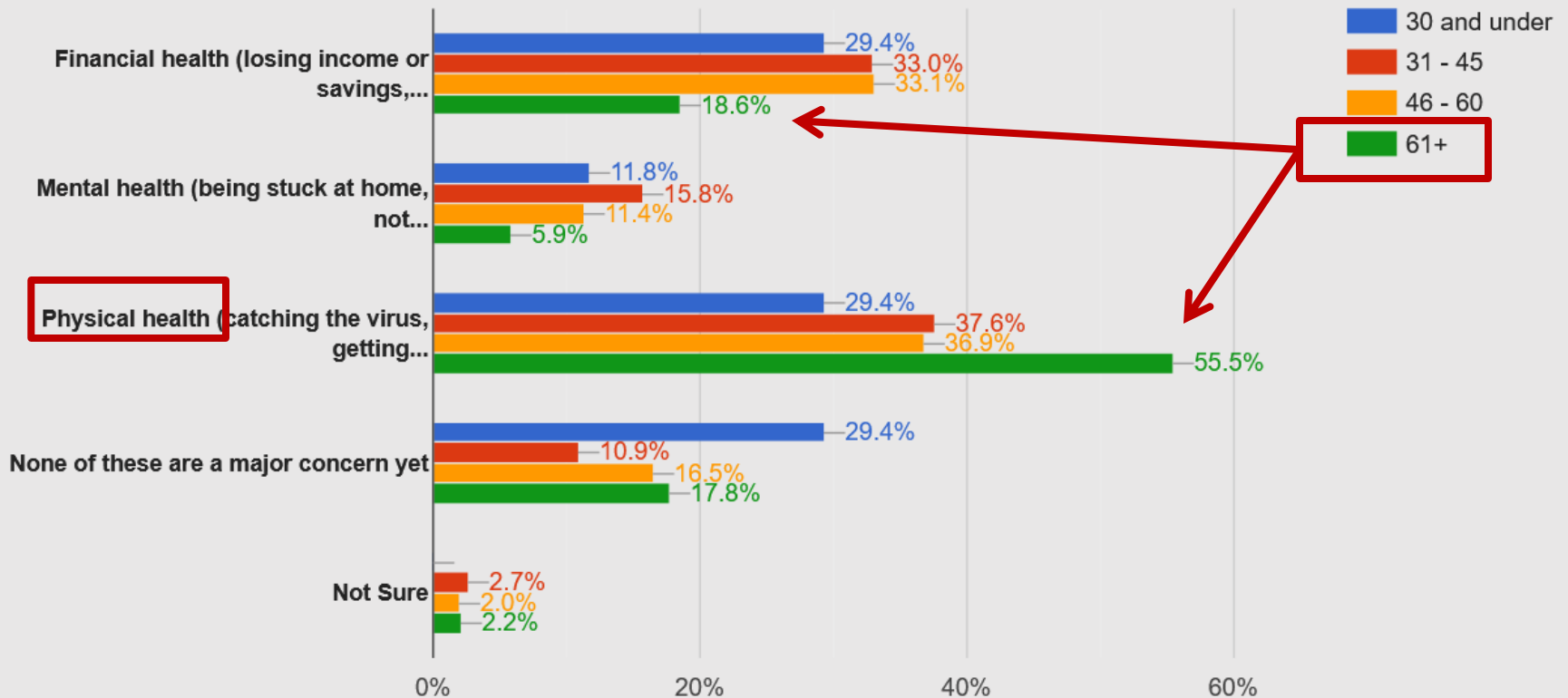
# People Seem to Know Age Risks

Q2 Right now, which of the following is your biggest concern?

(1275 responses by age)

[Touch chart bars for details]

Show table view



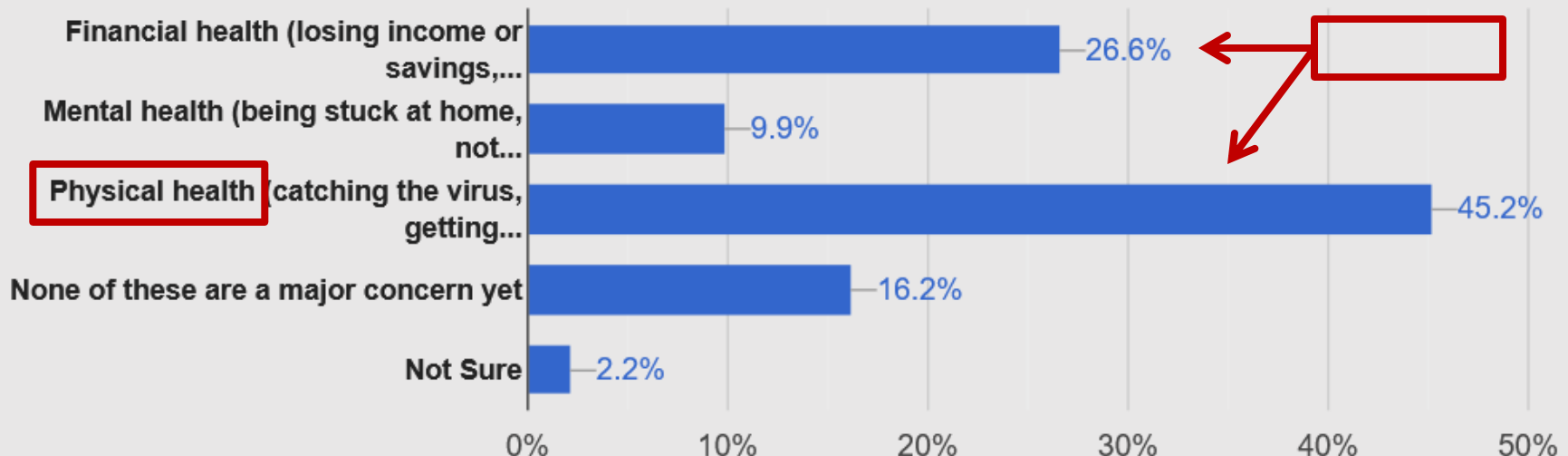
# But Aggregation Obscures

Q2 Right now, which of the following is your biggest concern?

(1255 responses by locals)

[Touch chart bars for details]

[Show table view](#)



## Takeaway #2

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Over aggregation creates  
confusion about COVID risks

(and community needs...)

# COVID-19 DATA: **CONTEXT**

# QUICK POLL #2

Which disease disproportionally affects older people and has a 120 day mortality rate of 1%?

- ☐ Cancer
- ☐ Heart Attack
- ☐ Dementia
- ☐ Flu
- ☐ Other

# QUICK POLL #2: ANSWER

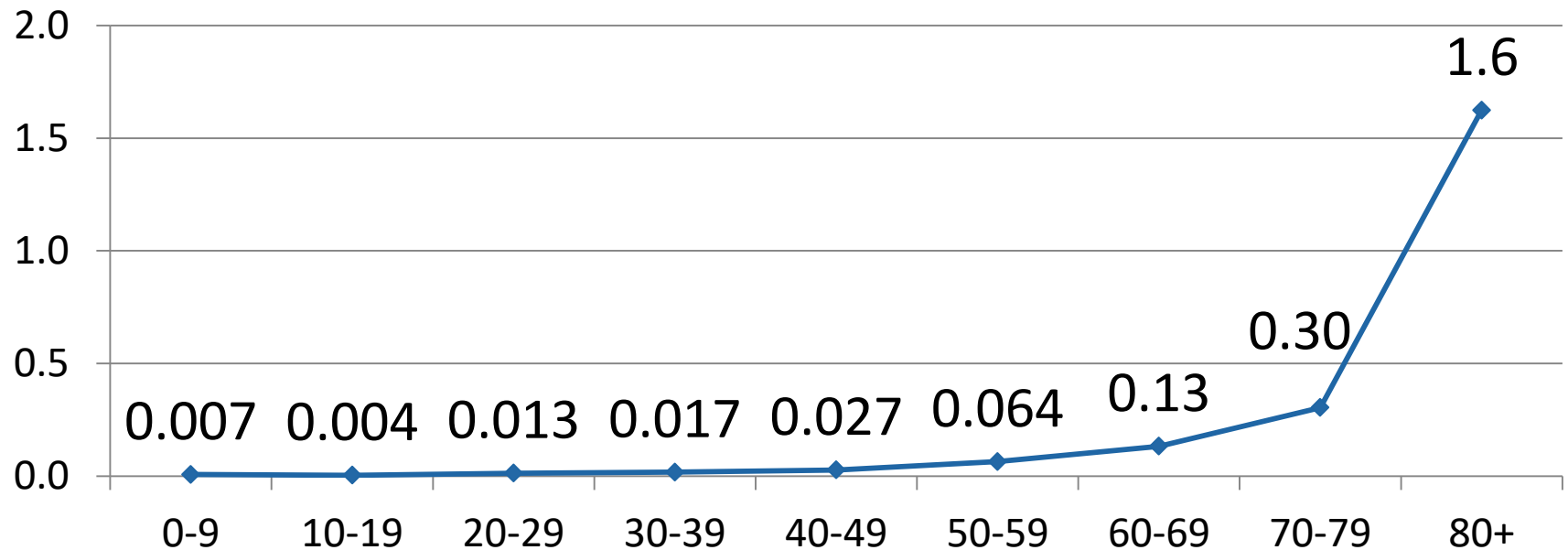
Which disease disproportionately affects older people and has a 120 day mortality rate of 1%?

- ☐ Cancer
- ☐ Heart Attack
- ☐ Dementia
- ☐ Flu
- ☒ Other  
**“Turning 75”**



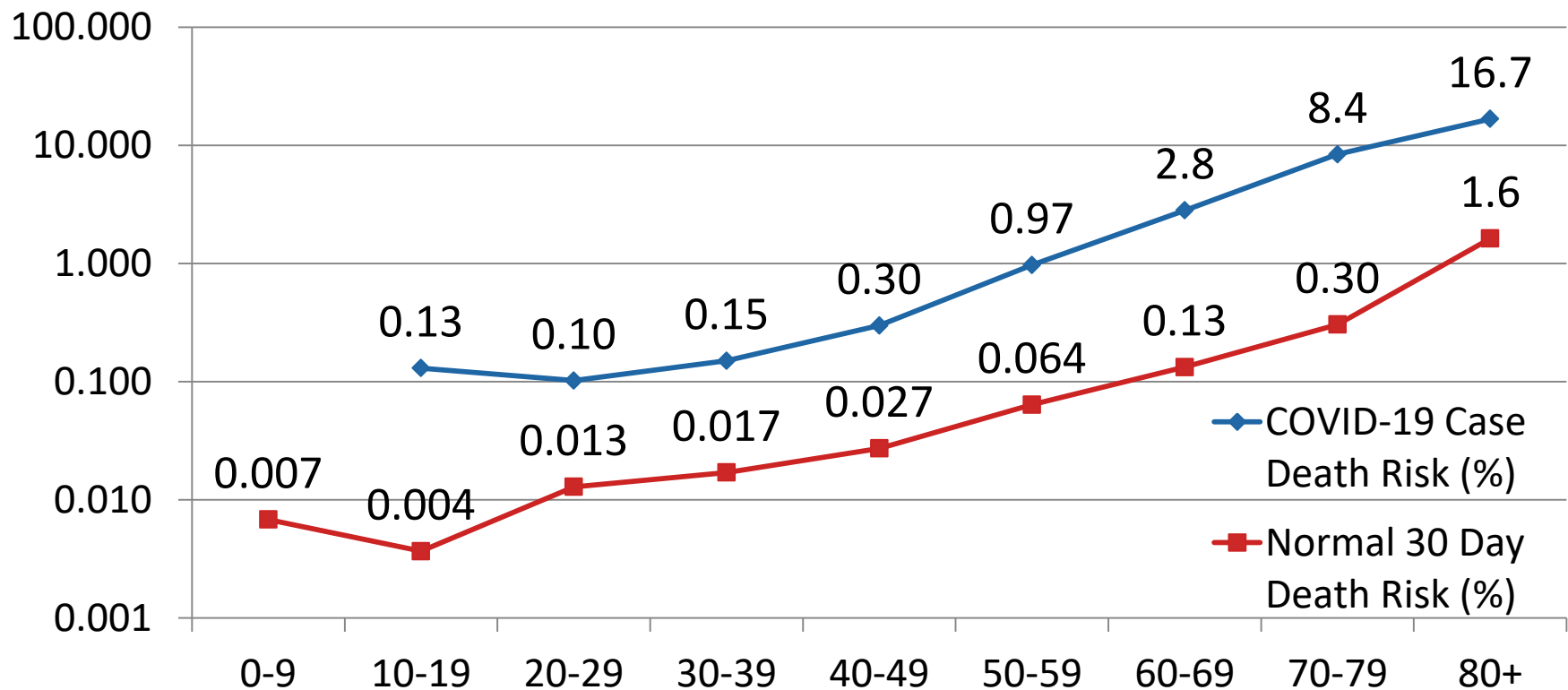
# Mortality Risk from “Being Alive”

## Male 30 Day Death Risk by Age (%)



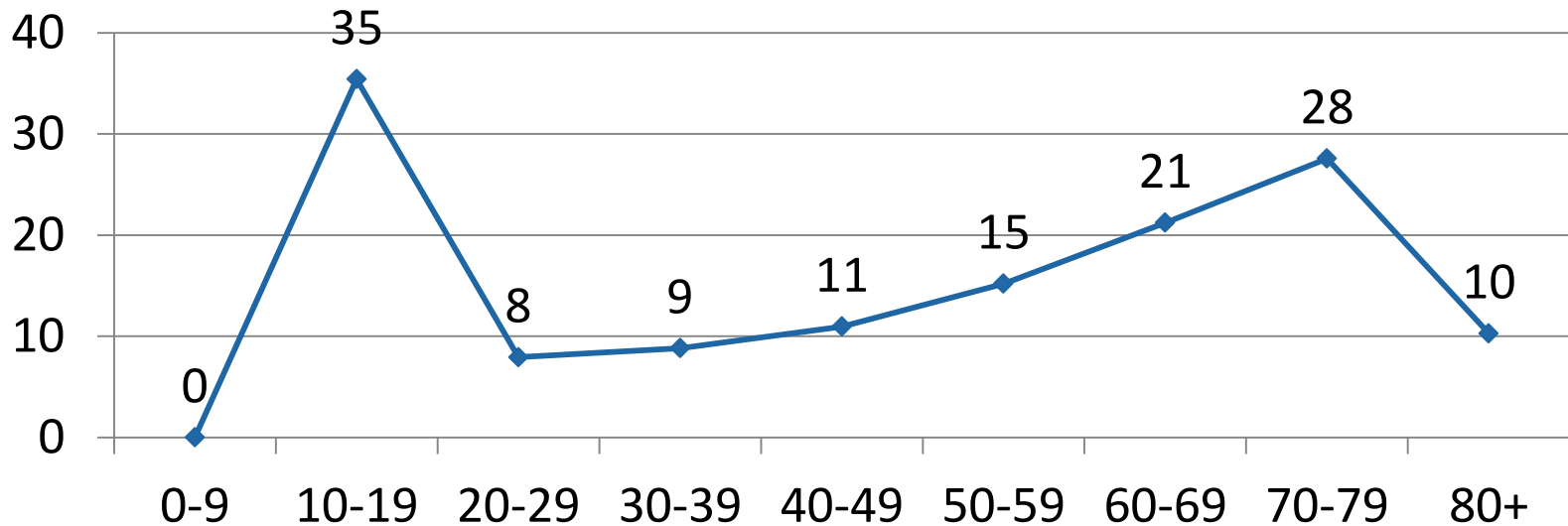
# Normal Risk vs COVID-19 Case Risk

## COVID-19 Case Risk and Normal Risk (%)



# What Age Has Most Increased Risk?

**COVID-19 Death Risk Multiplier by Age**



# Some Additional Risk Context

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- Transportation Fatalities
  - **Motorcyclists** risk is **35x** higher than car driver
- Occupational Fatalities
  - **Farmers** are **7x**, **Fishermen** are **22x**, **Loggers** are **28x**
- Increased risks appear to be **reasonable** for younger people

**BUT NOT “JUST THE FLU”**

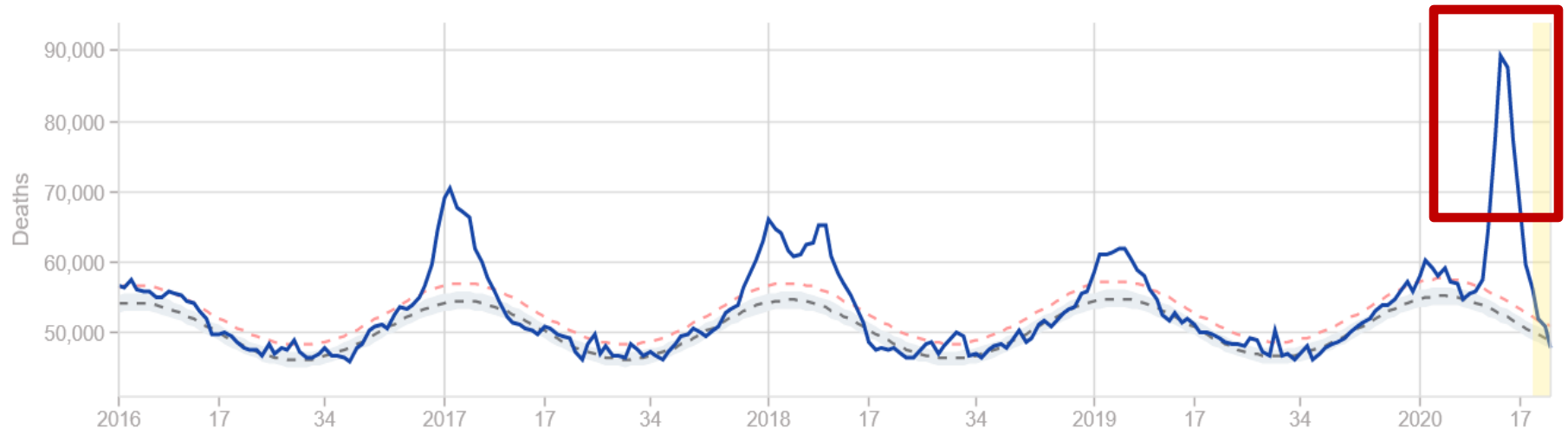
# Deaths in New York City

- Seasonal Flu = **0.1% IFR**
- 6/8/20: confirmed deaths in NYC is 17,169 out of 8.4M = **0.2% Population Fatality Rate**
- NYC by antibody test estimate = **0.5% IFR**

# “Excess Deaths” in Europe

— Pooled deaths    ■ Normal range    ..... Baseline    ..... Substantial increase    ■ Corrected for delay in registration

All ages



Source: <https://www.euromomo.eu/graphs-and-maps>

# So... 6 to 10 times Worse Than Flu

- COVID-19
  - **3 to 5 times as deadly** as the flu (0.3% to 0.5%)
  - **2 times as many targets** (300M vs 150M)
- And deadlier for older age groups...

# How We Failed: Nursing Homes

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- **Good data** told us to overprotect elderly/sick
- US: 42% of deaths... 0.6% of population
- Canada: 81% of deaths... 1.2% of population
- Jurisdictions **missed this data and context** and cost lives

## Takeaway #3

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The wrong data or context  
leads to COVID missteps

(and bad agency decisions...)

# PART 2: SCIENCE OF PUBLIC INPUT

# QUICK POLL #3

- Which best describes how you feel about online polls/surveys?
  - ( ) Good data, glad we can get it
  - ( ) Probably not great, but better than nothing
  - ( ) Bad data, would never use it
  - ( ) Not Sure

# Etymology of The Word “Input”

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“input” (n.)

- 1753 "a **sum of cash** put in, a sharing contribution"
- 1902 "**energy** supplied to a device or machine"
- 1948 "**data** fed into a machine"

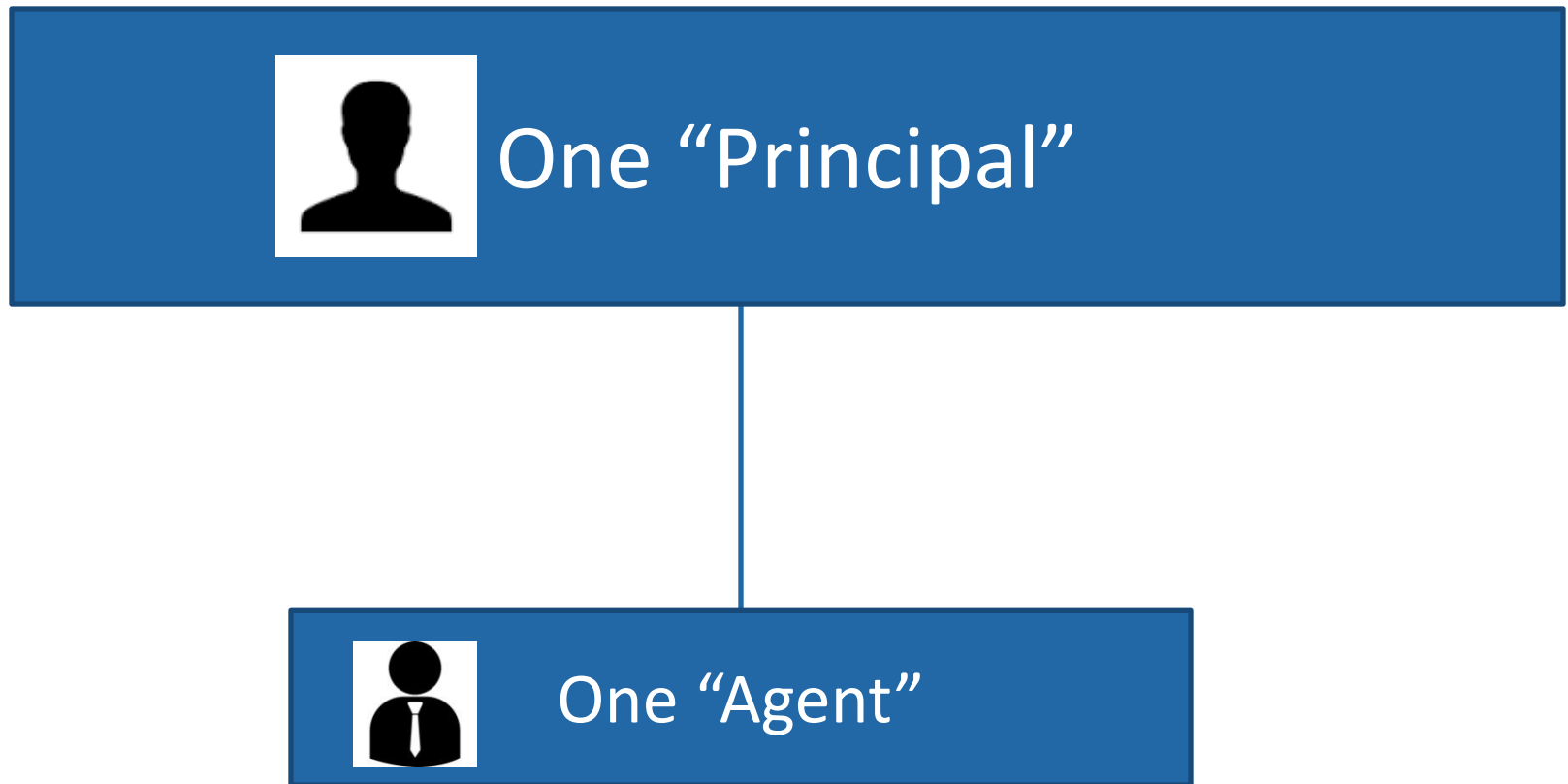
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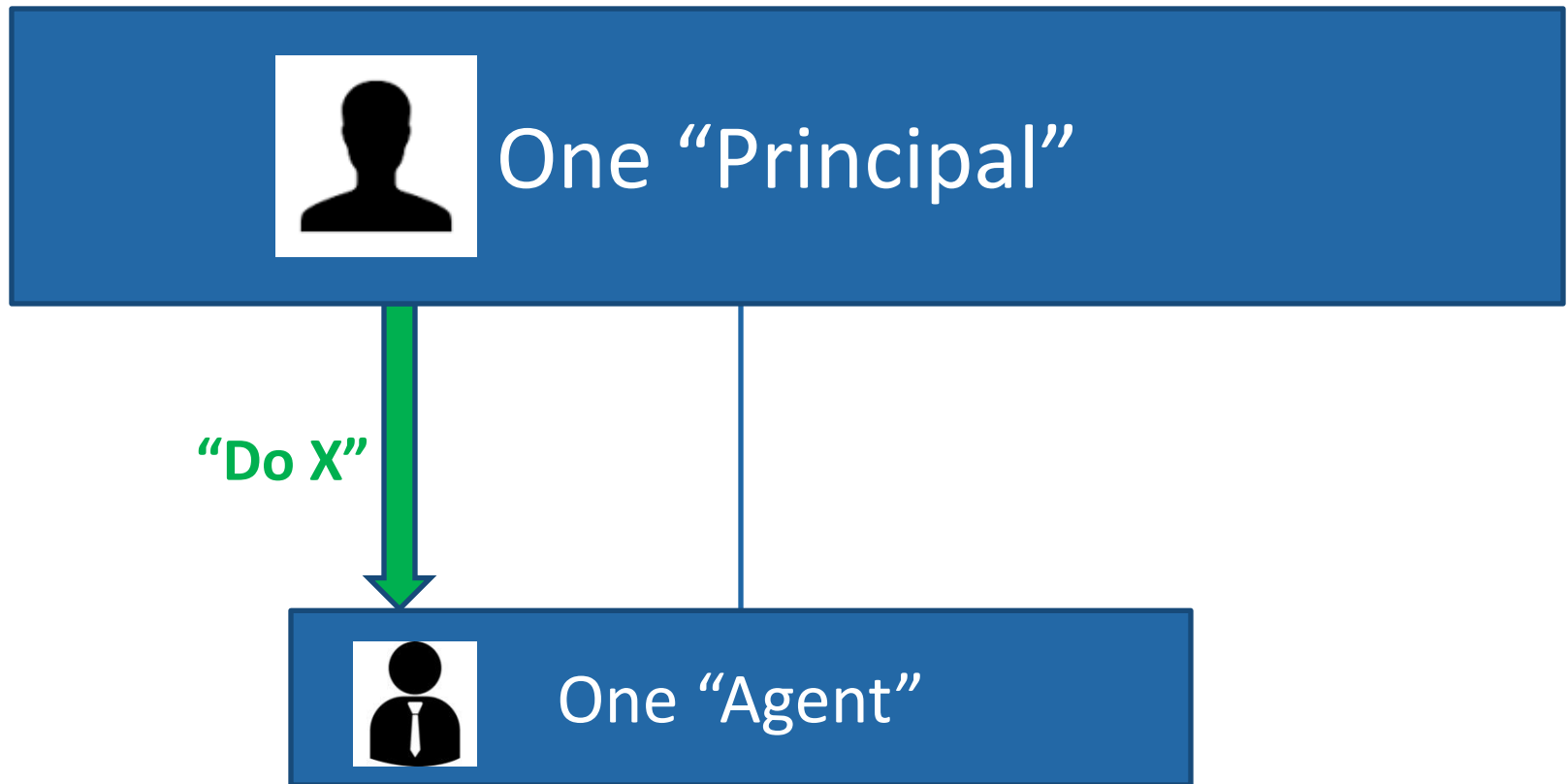
- 1753 "a **sum of cash** put in, a sharing contribution"
- 1902 "**energy** supplied to a device or machine"
- 1948 "**data** fed into a machine"

# THE GOVERNMENT COMMUNICATIONS MACHINE

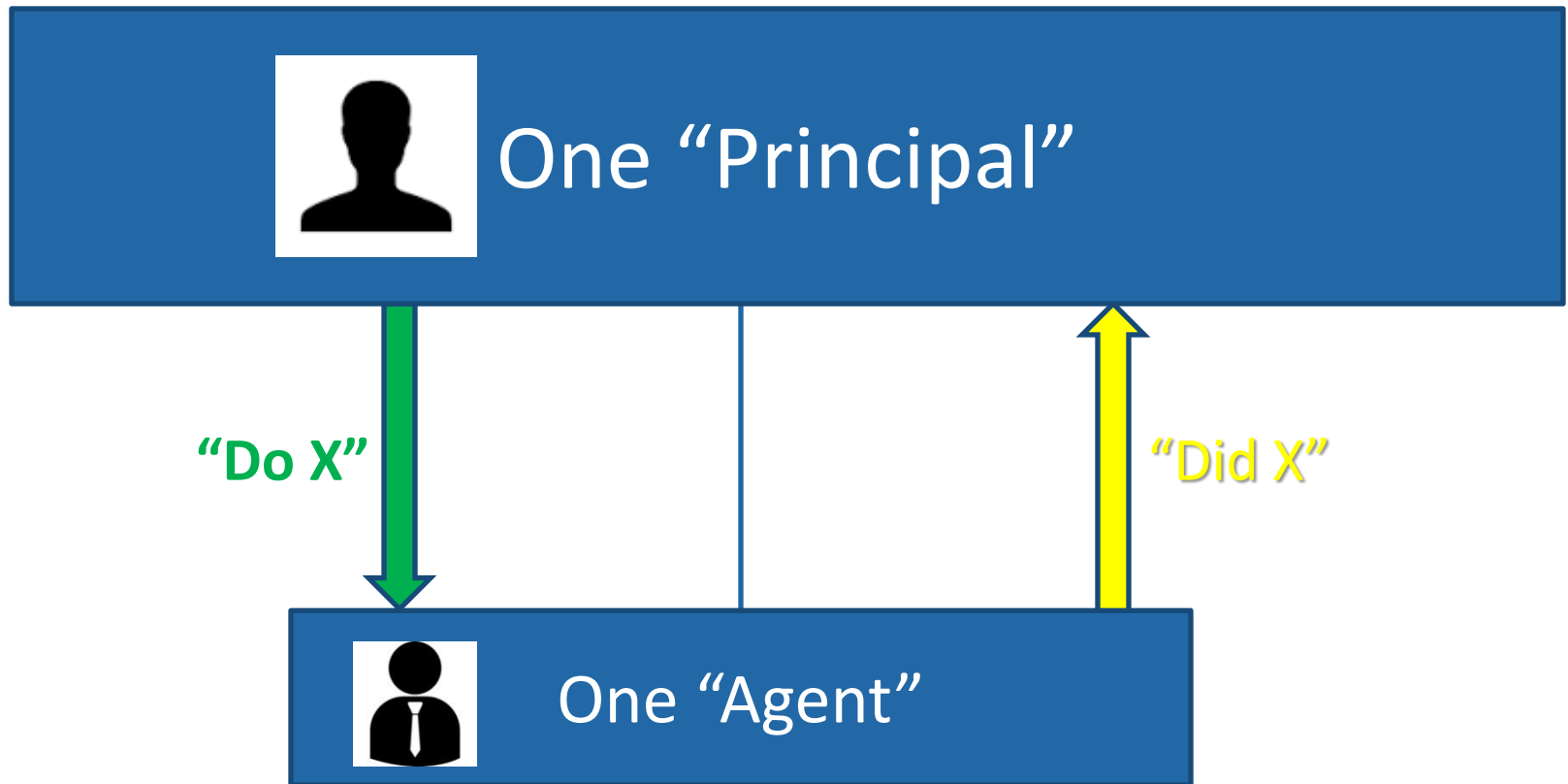
# Basic Fiduciary Org Chart



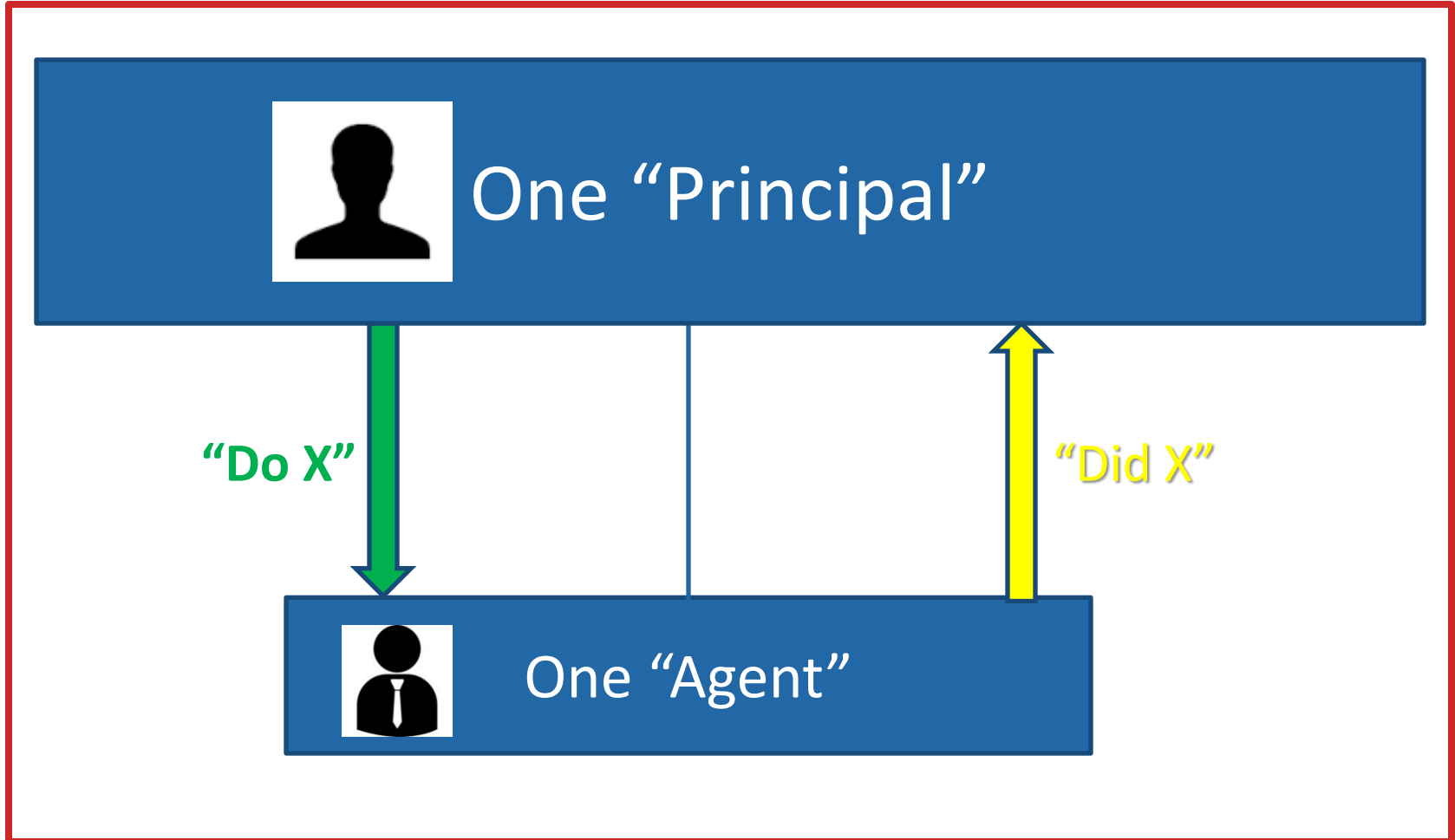
# Give Instructions



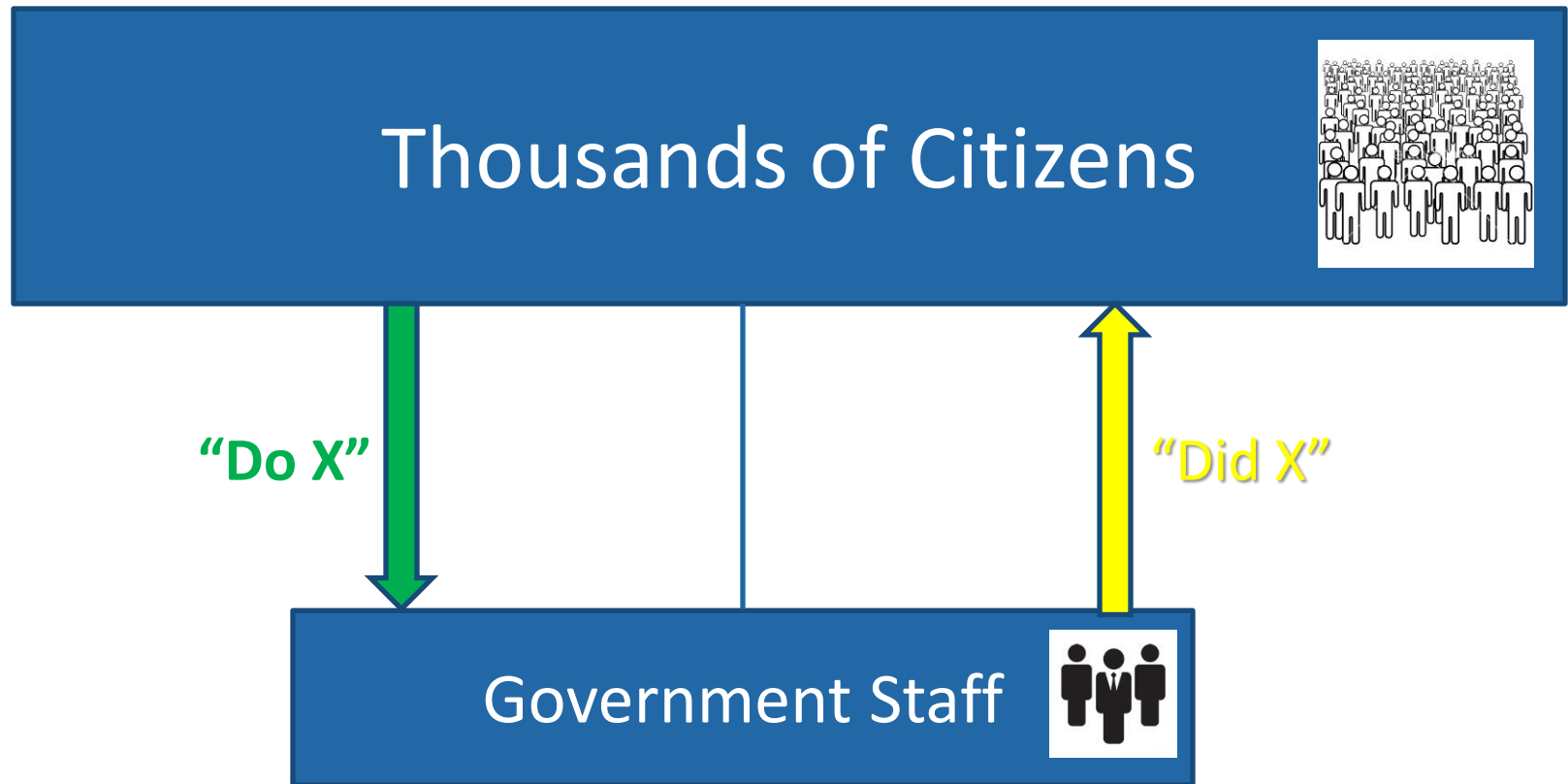
# Get Reports



# Complete Communication Loop



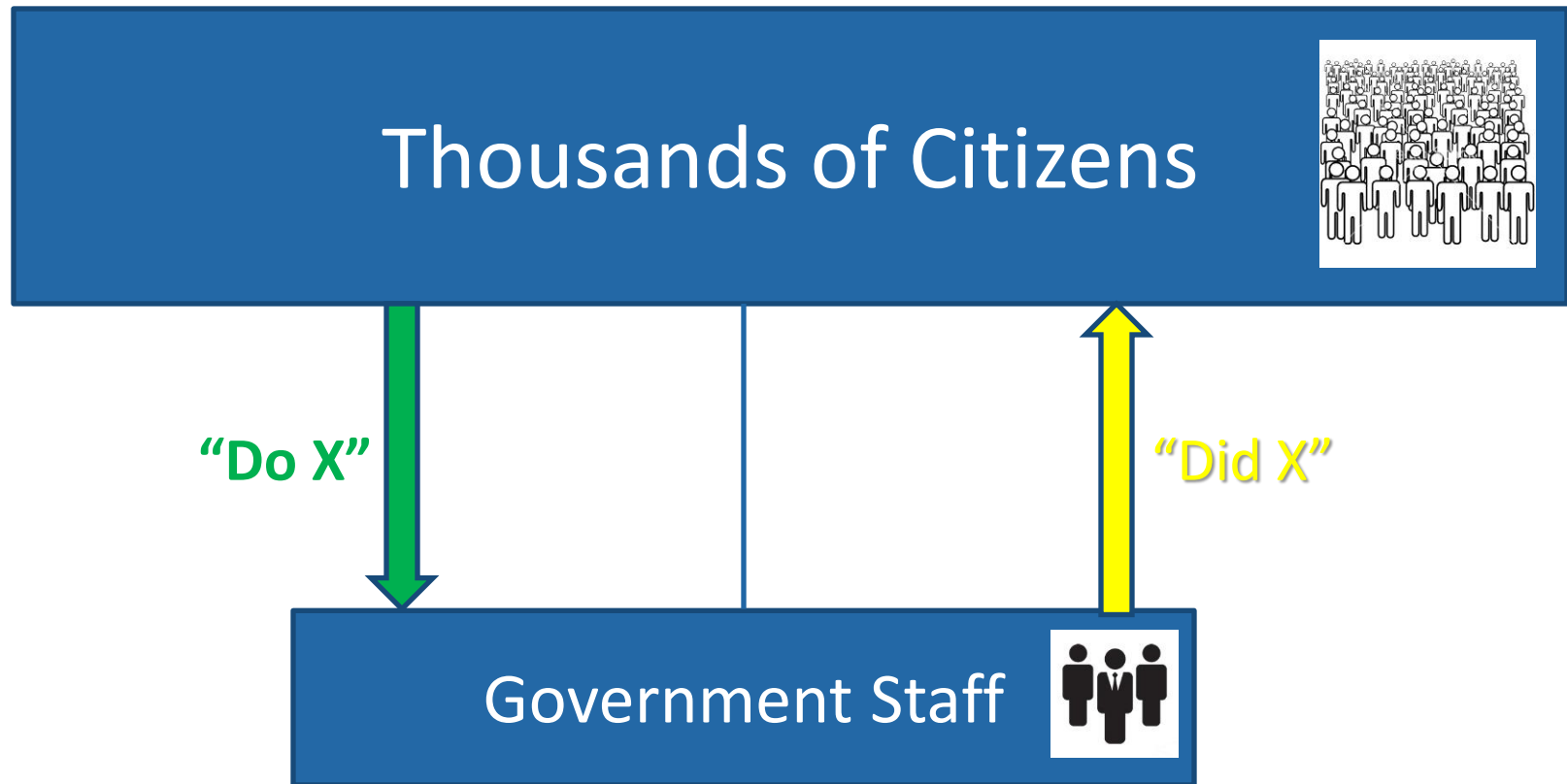
# Government Organizational Chart



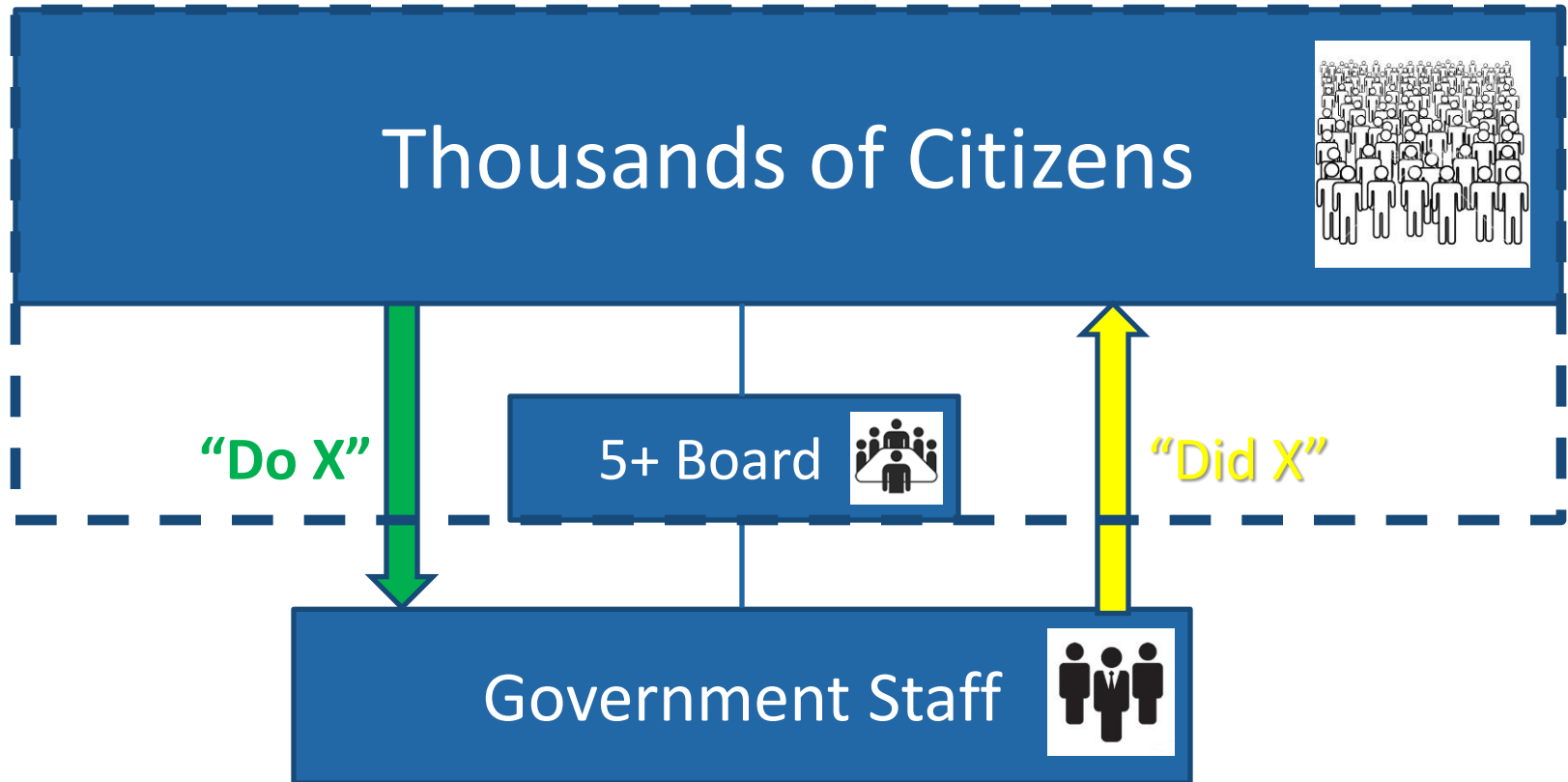
# See Any Problems?



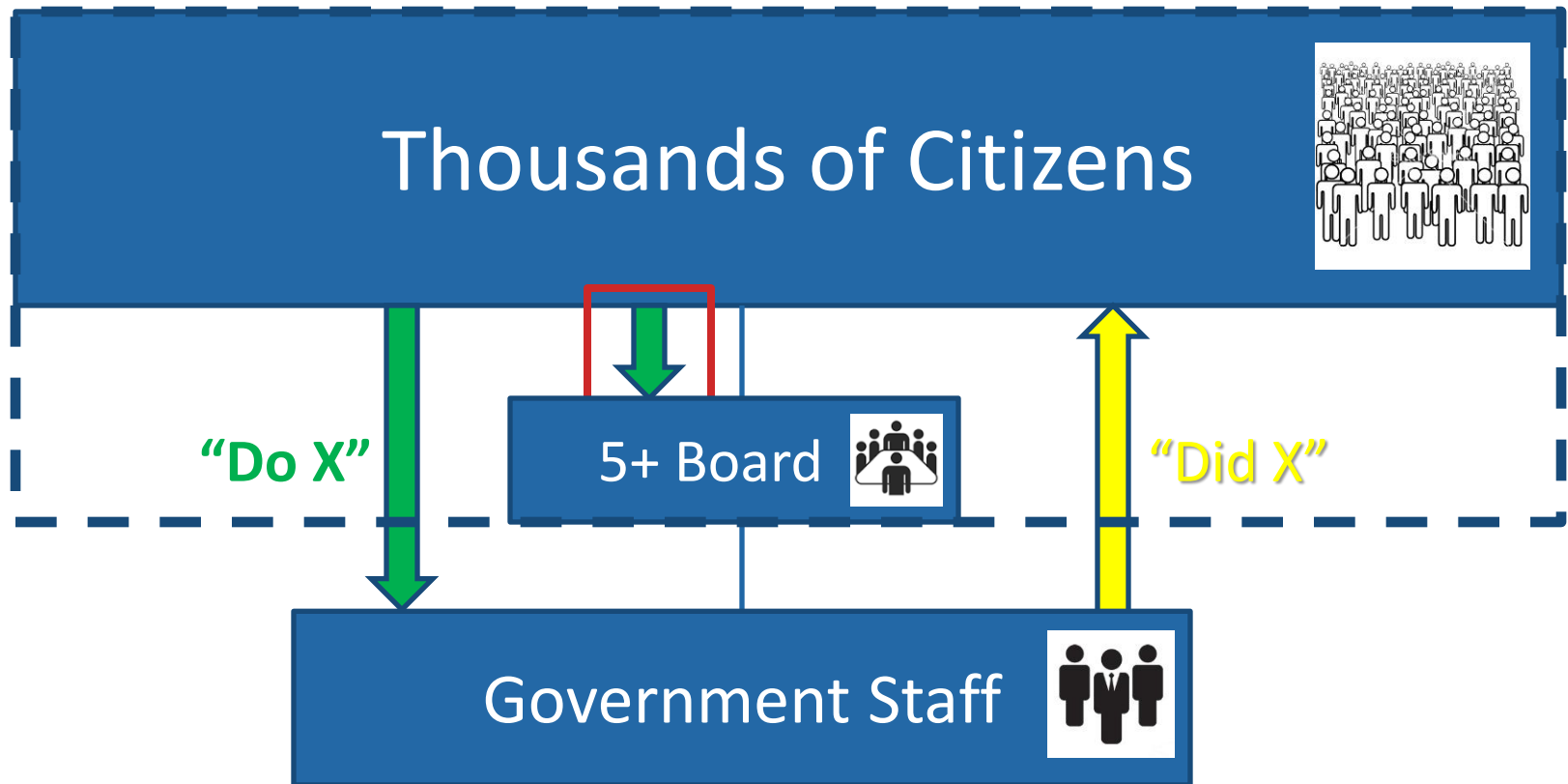
# Government Organizational Chart



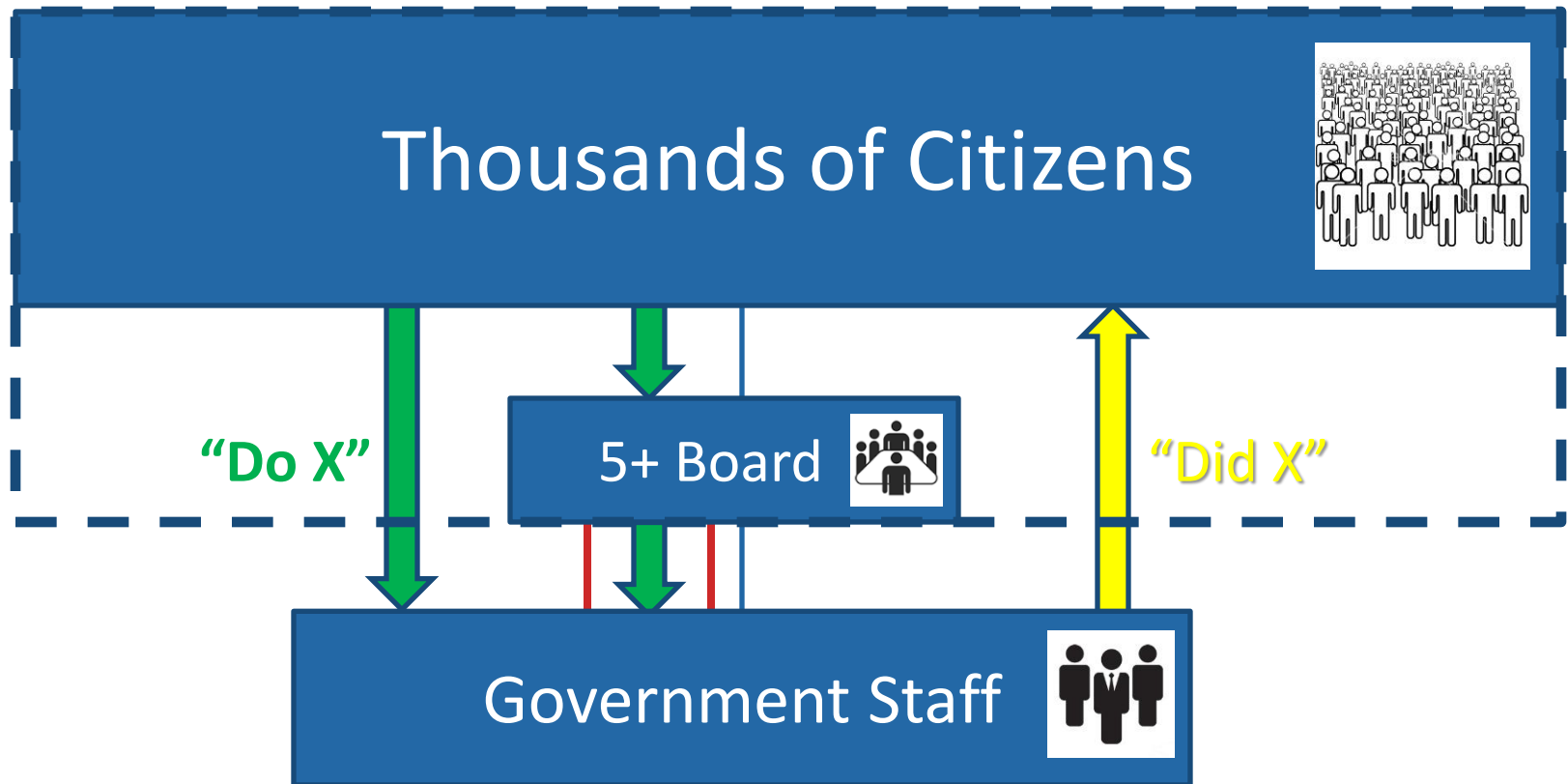
# Expanded Organizational Chart



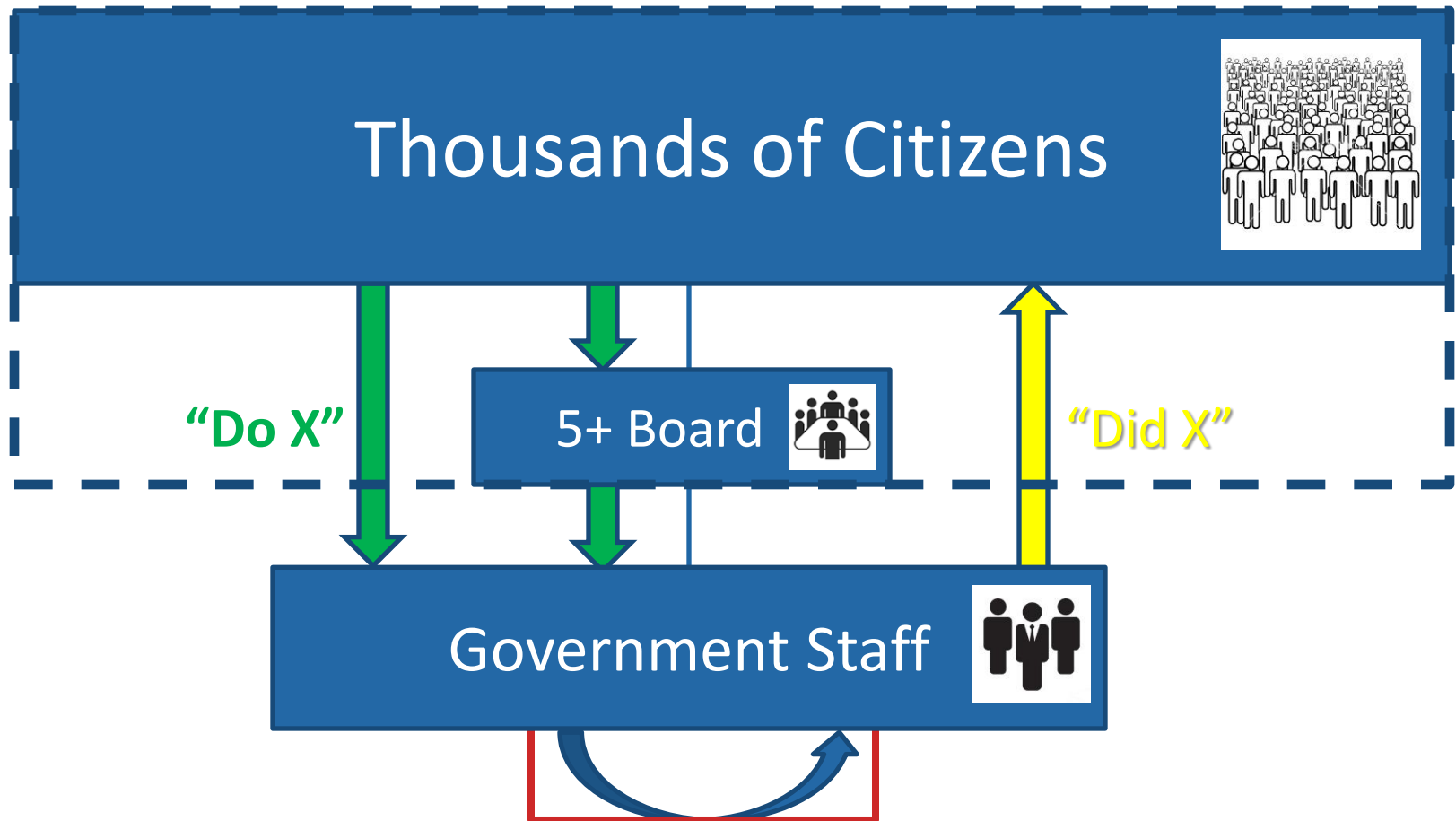
# Expanded Communications



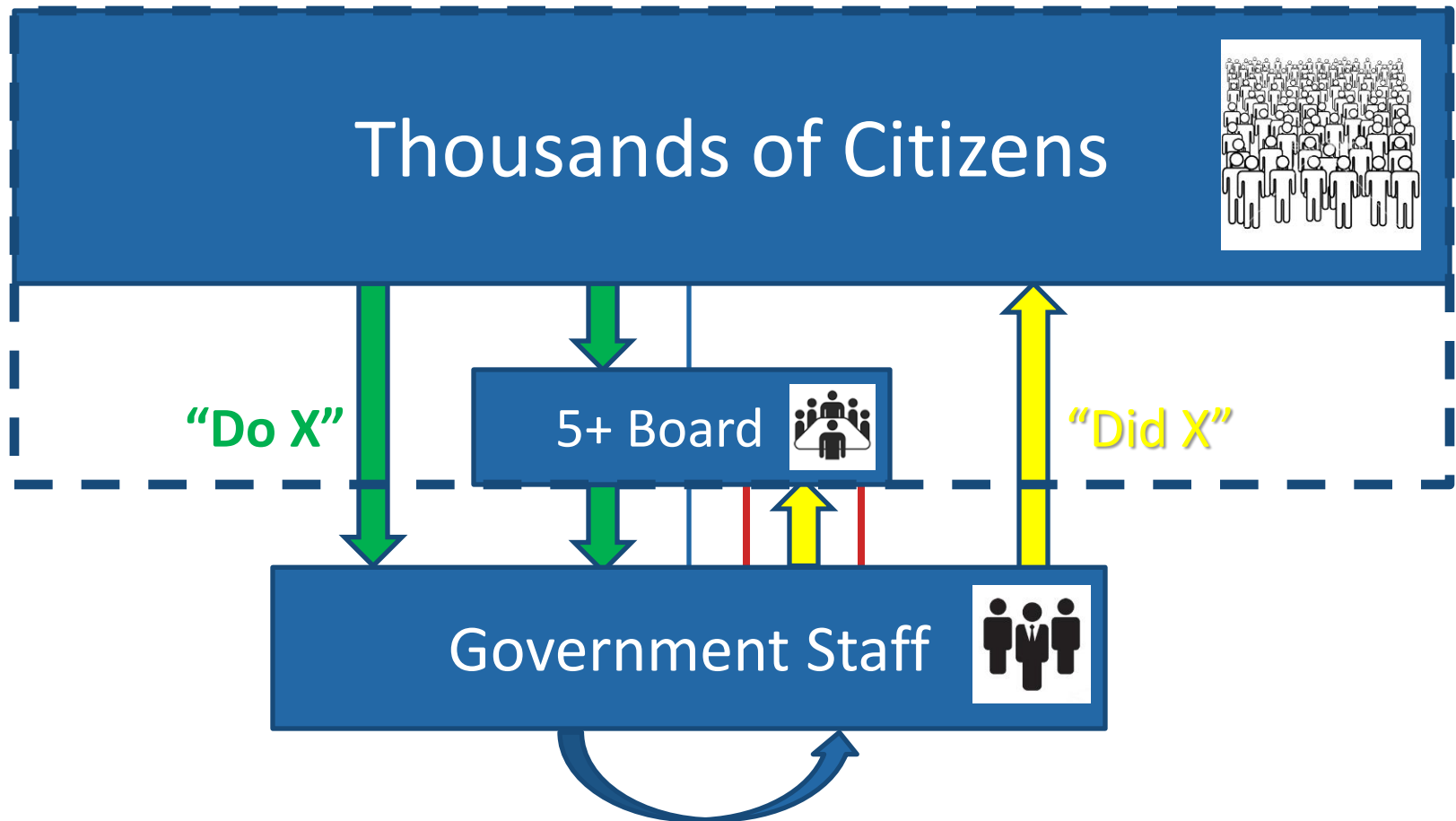
# Expanded Communications



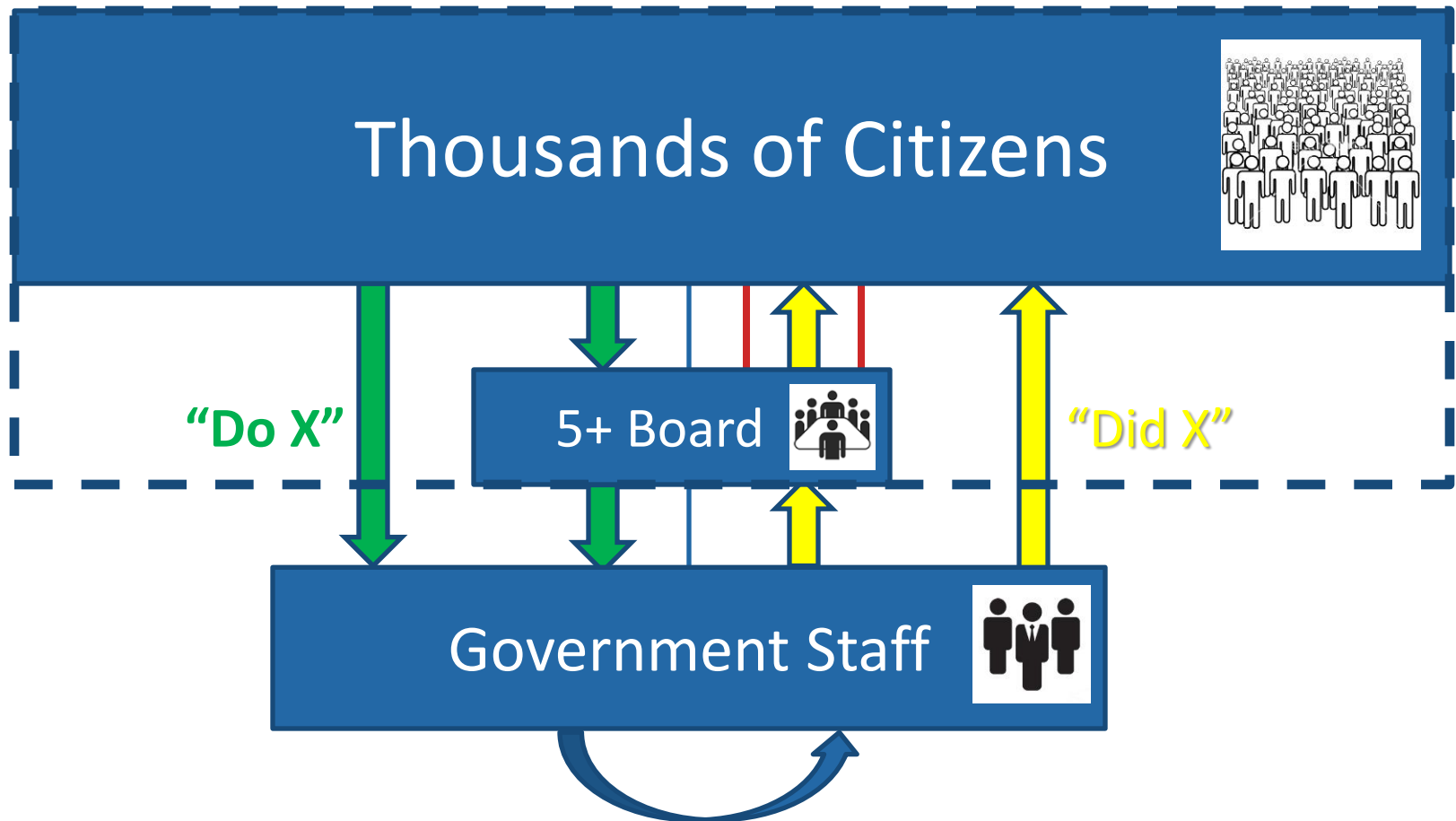
# Expanded Communications



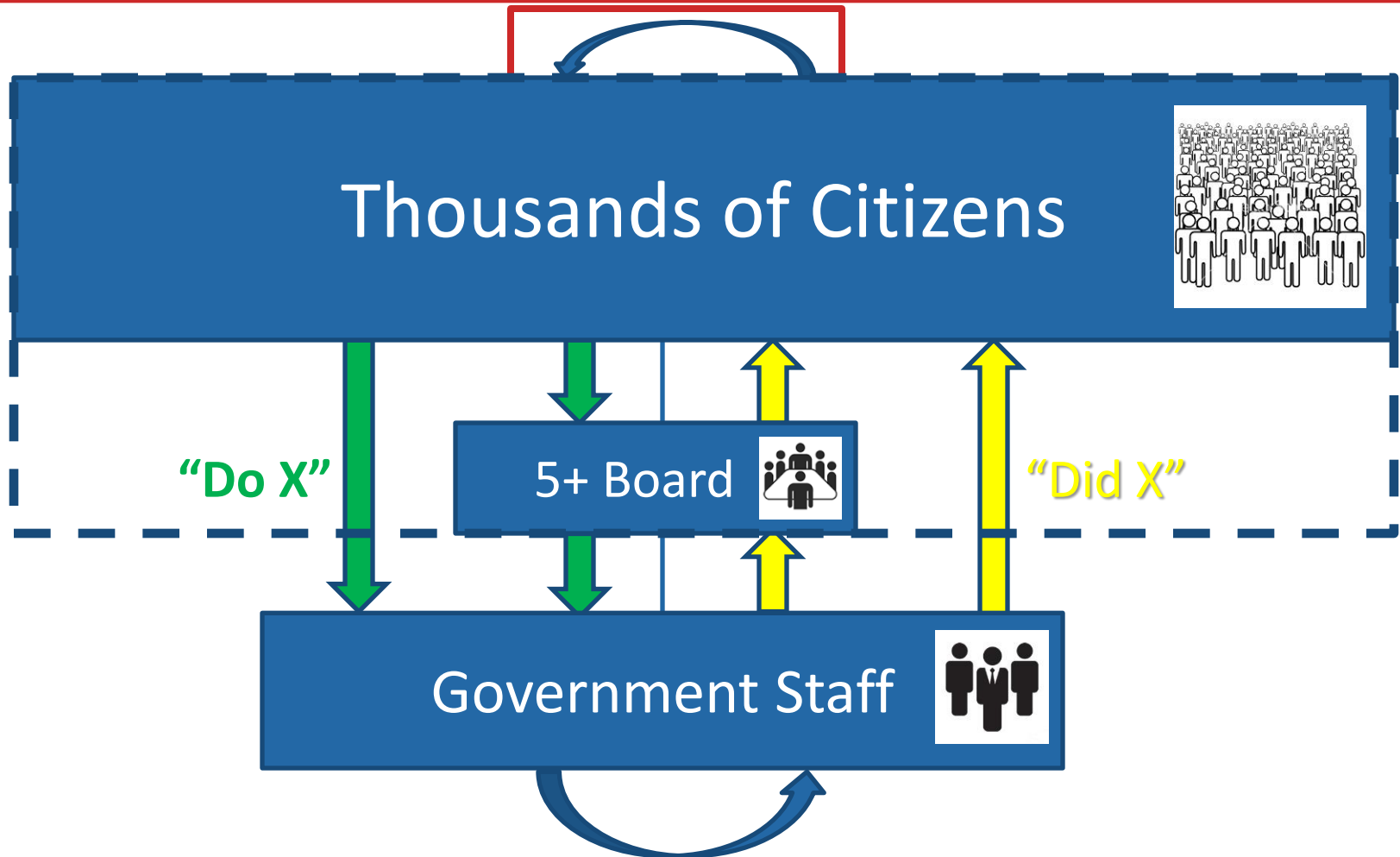
# Expanded Communications



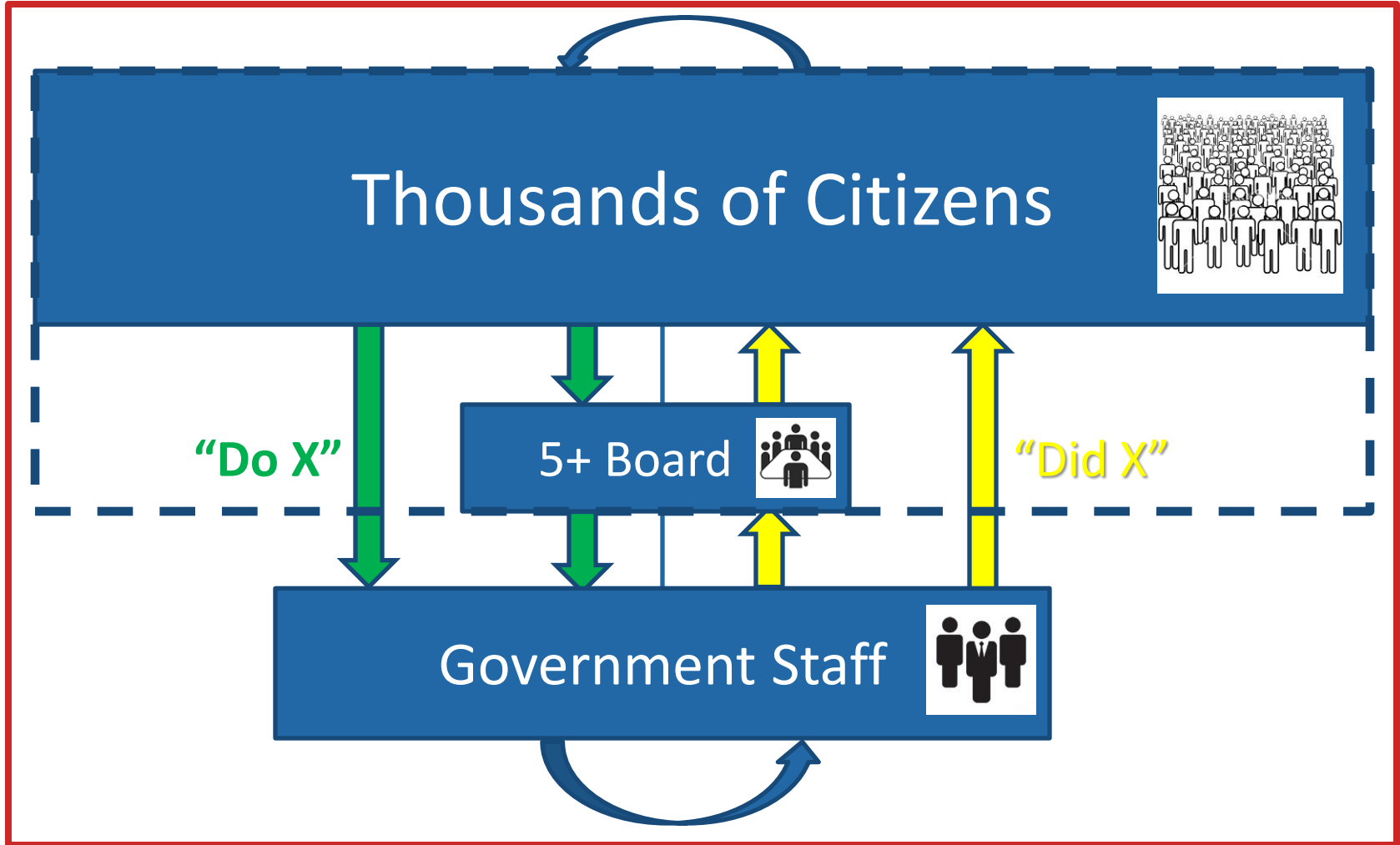
# Expanded Communications



# Expanded Communications

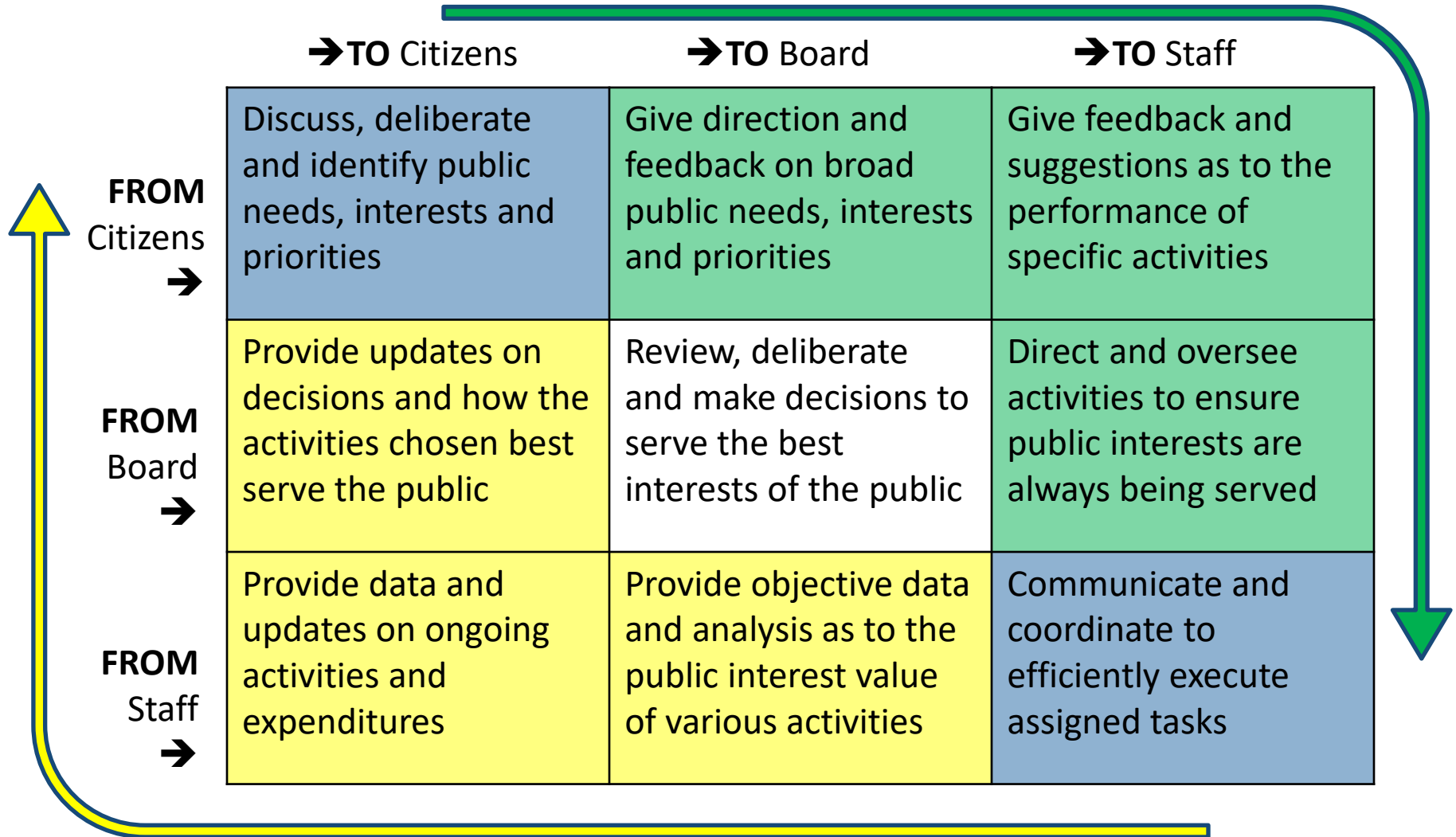


# Full Communications Loop

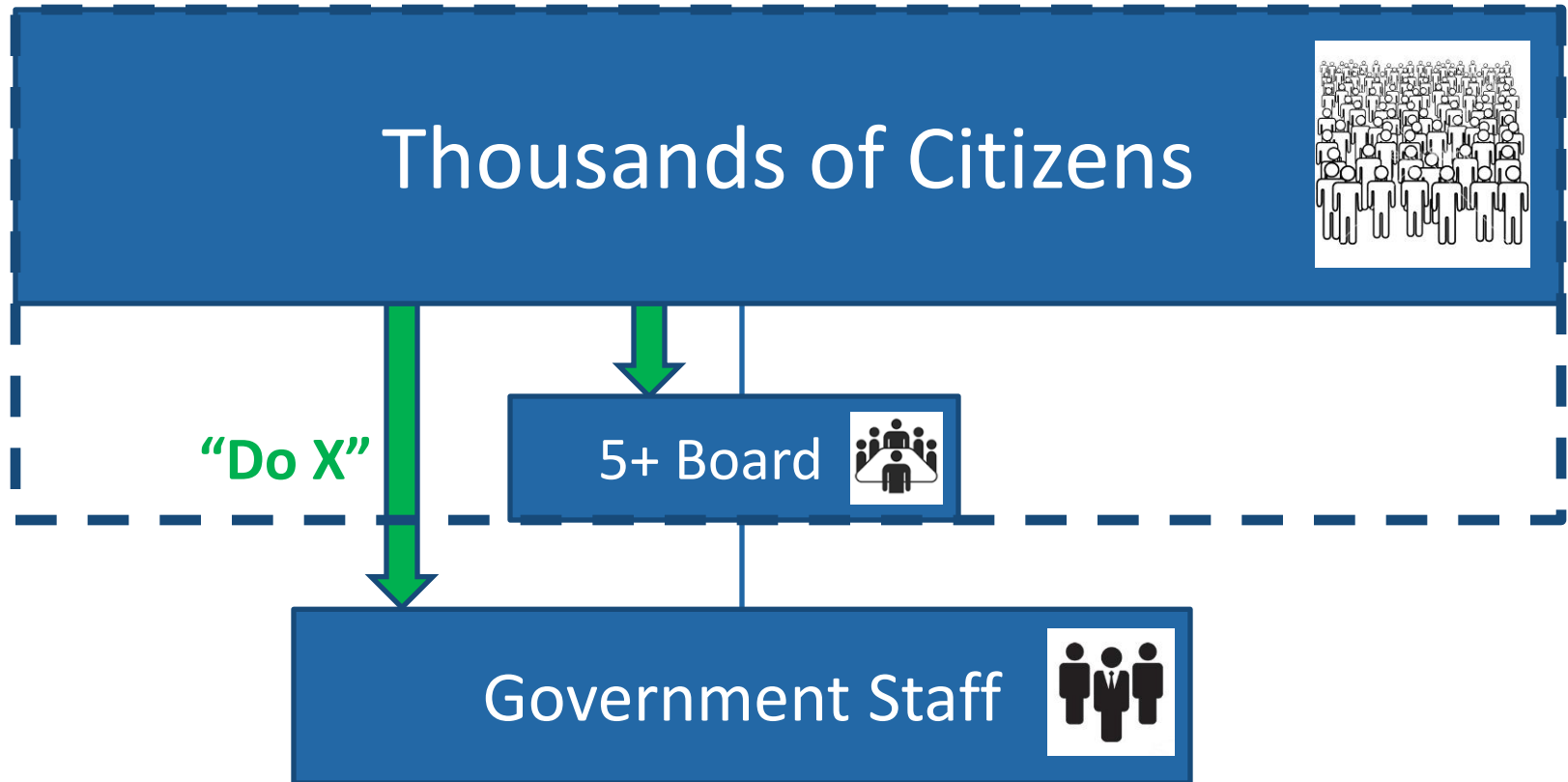


# **FUNCTIONAL FRAMEWORK FOR COMMUNICATIONS**

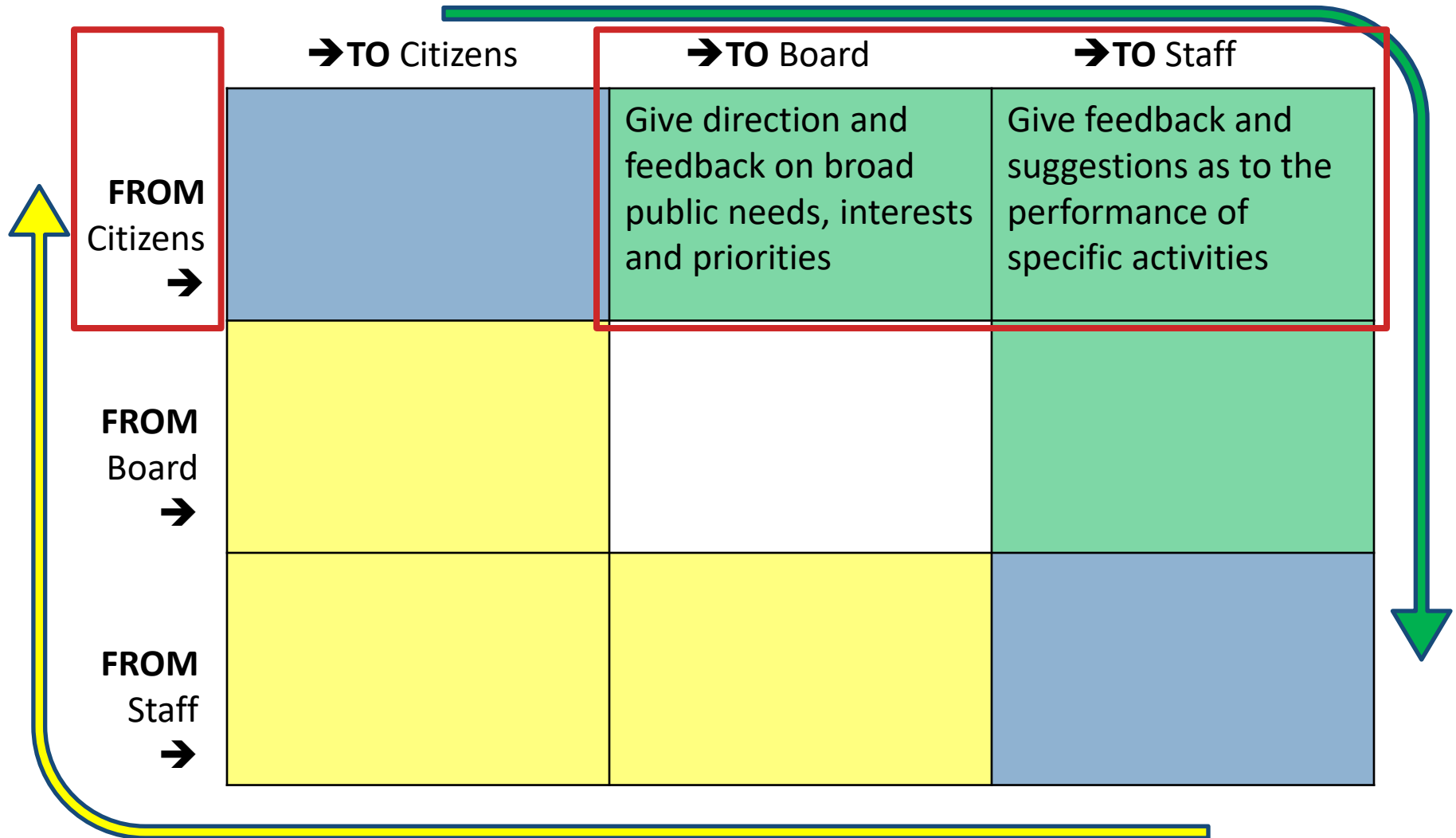
# Core Communications Purposes (All)



# Core Communications Purposes (“Input”)

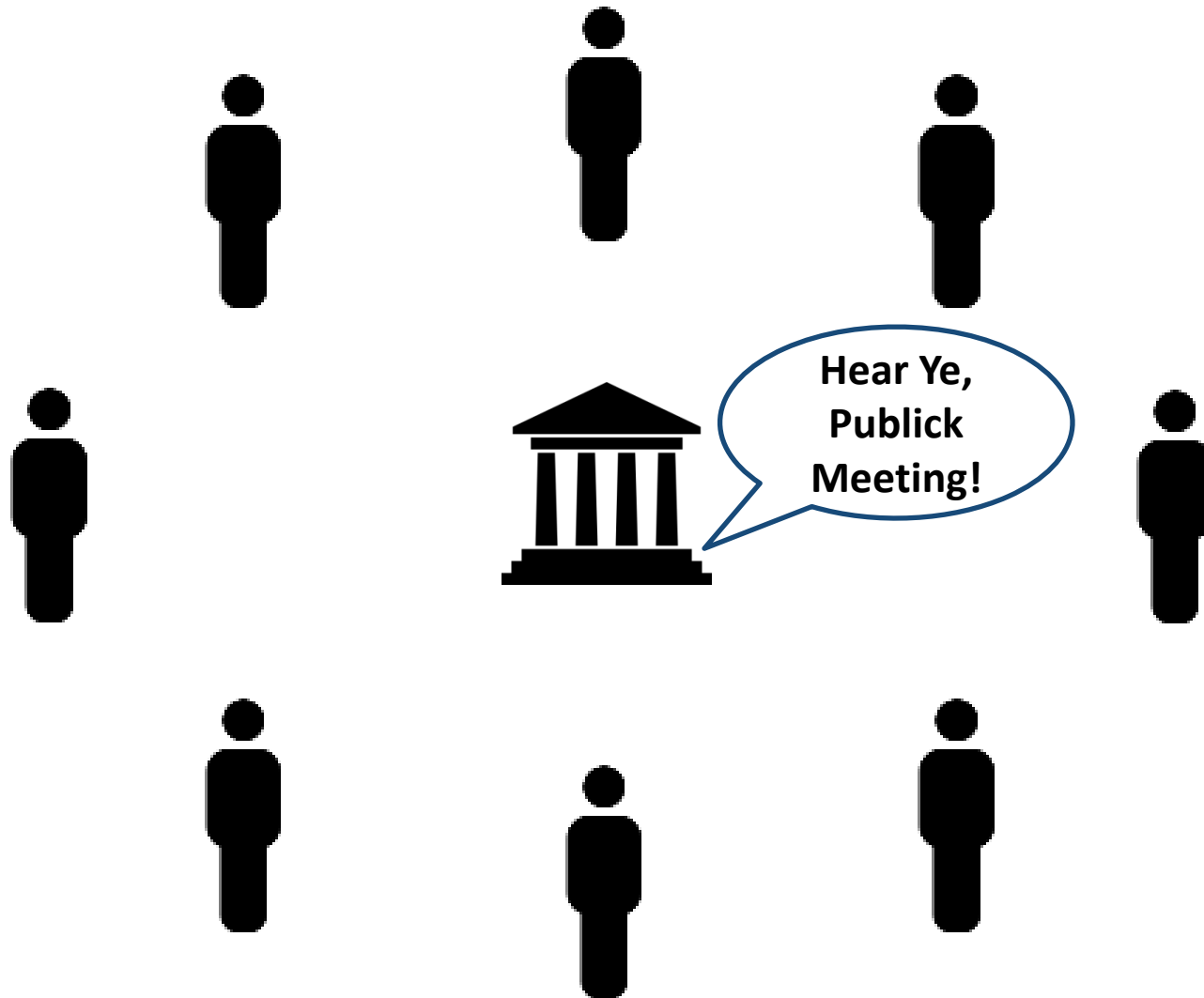


# Core Communications Purposes (“Input”)



# **CHANNELS FRAMEWORK FOR COMMUNICATION**

# Old Government Communications



# New Government Communications

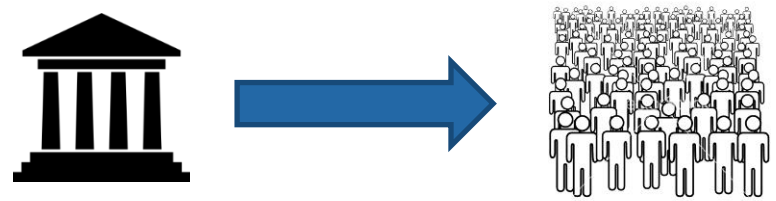


# Outbound and Inbound Channels

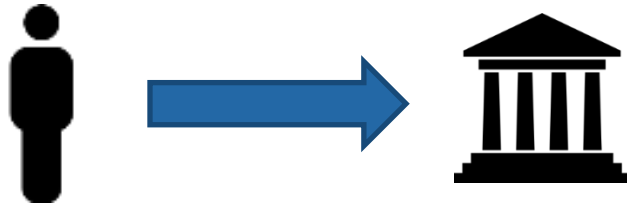
Gov to One



Gov to Many



One to Gov



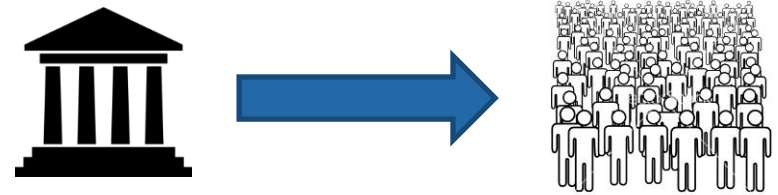
Many to Gov



# Traditional Tools: Outbound



- Messenger
- Mailed letter
- Phone call

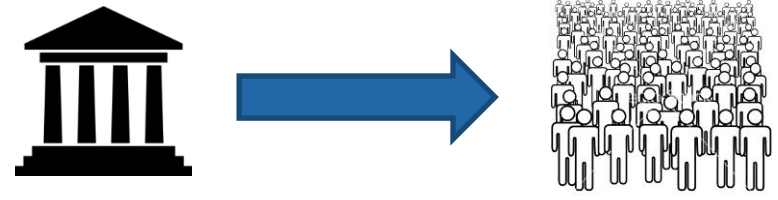


- Town crier
- Mass mailing
- Newspaper post

# New Tools: Outbound



- Messenger
- Mailed letter
- Phone call

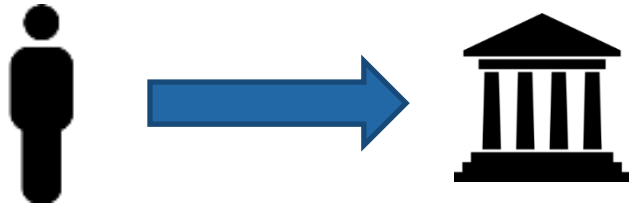


- Town crier
- Mass mailing
- Newspaper post

- Personal email
- Social/app message
- Text message

- Email blast/link
- Social media post
- Livestream

# Traditional Tools: Input

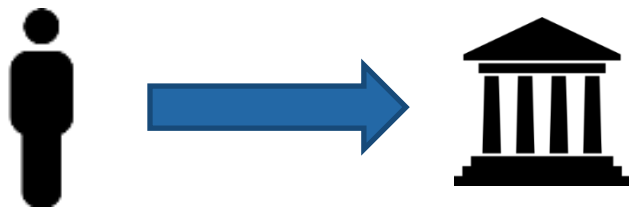


- Public meeting
- Letter
- Phone call



- Election
- Petition
- Scientific survey

# New Tools: Input



- Public meeting
- Letter
- Phone call



- Election
- Petition
- Scientific survey

- Personal email
- Mobile app
- Online forum

- Web survey
- Web petition
- Scientific panel

# New Tools by Channel

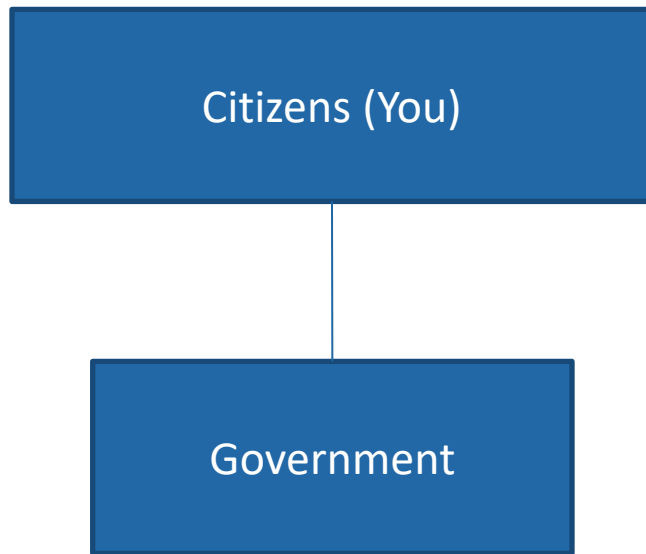
|                   |  →  |  →  |  →  |  →  |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Method            | Gov to One                                                                                                                                                            | Gov to Many                                                                                                                                                             | One to Gov                                                                                                                                                                | Many to Gov                                                                                                                                                               |
| Website           | Y                                                                                                                                                                     | Y                                                                                                                                                                       | Y                                                                                                                                                                         | N                                                                                                                                                                         |
| Email             | Y                                                                                                                                                                     | Y                                                                                                                                                                       | Y                                                                                                                                                                         | N                                                                                                                                                                         |
| Online Forum      | N                                                                                                                                                                     | Y                                                                                                                                                                       | Y                                                                                                                                                                         | N                                                                                                                                                                         |
| Surveys/Petitions | N                                                                                                                                                                     | Y                                                                                                                                                                       | N                                                                                                                                                                         | Y                                                                                                                                                                         |
| Texts/Mobile App  | Y                                                                                                                                                                     | Y                                                                                                                                                                       | Y                                                                                                                                                                         | N                                                                                                                                                                         |
| Social Media      | Y                                                                                                                                                                     | Y                                                                                                                                                                       | Y                                                                                                                                                                         | N                                                                                                                                                                         |
| Livestream        | N                                                                                                                                                                     | Y                                                                                                                                                                       | N                                                                                                                                                                         | N                                                                                                                                                                         |

# WHY DO WE NEED COMMUNITY INPUT (MANY TO GOV)?

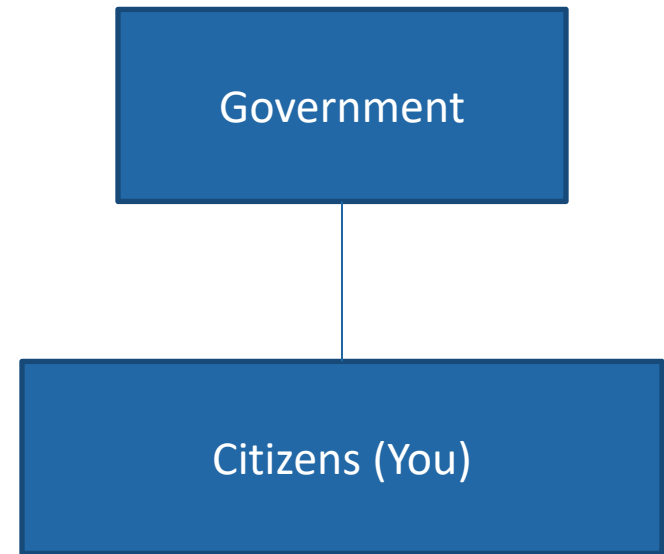
## CITIZEN PERSPECTIVES

# Government Basics

Which org chart would you rather be in?



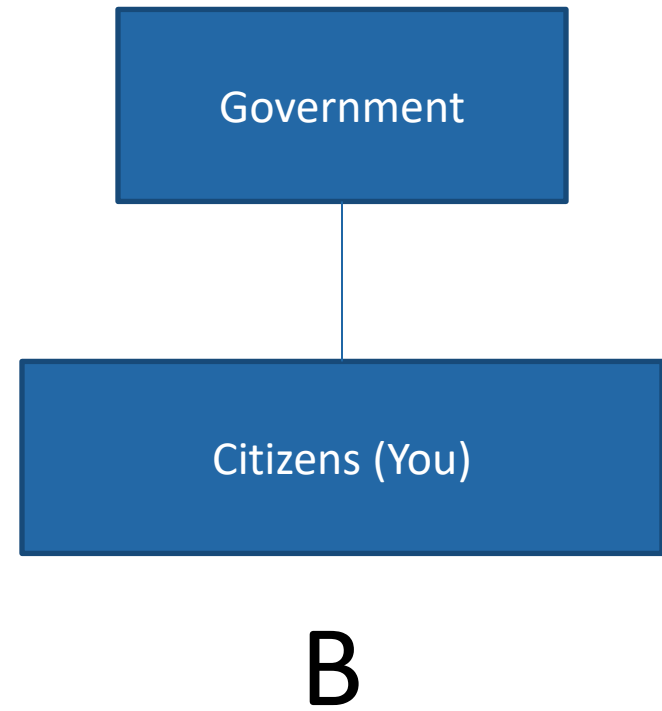
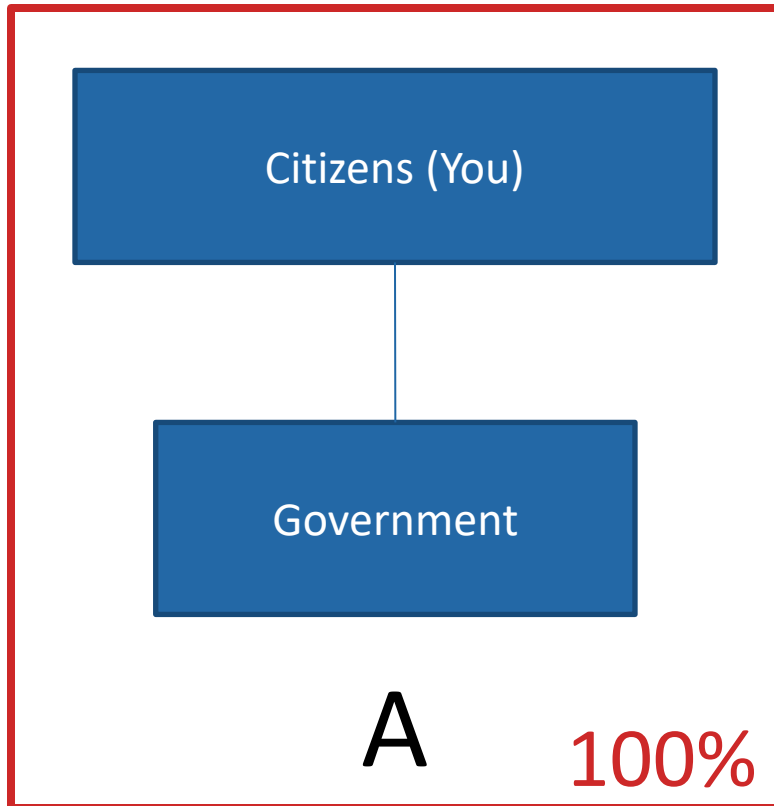
A



B

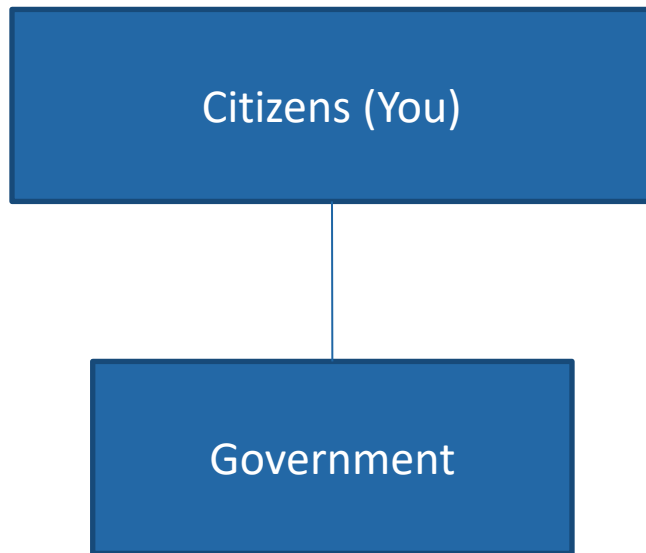
# Government Basics

Which org chart would you rather be in?

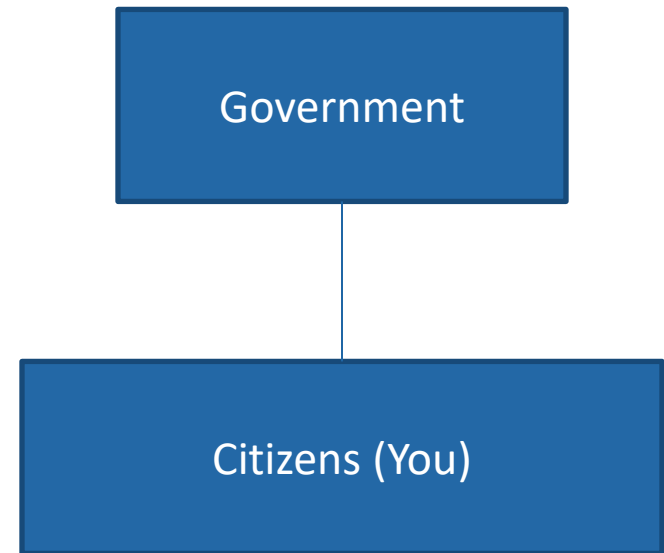


# Government Basics

Which org chart is “Democracy”?



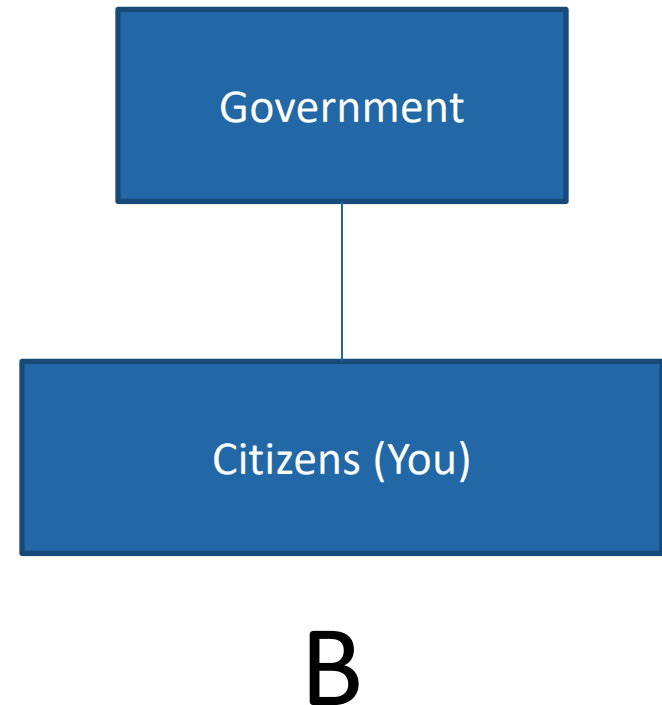
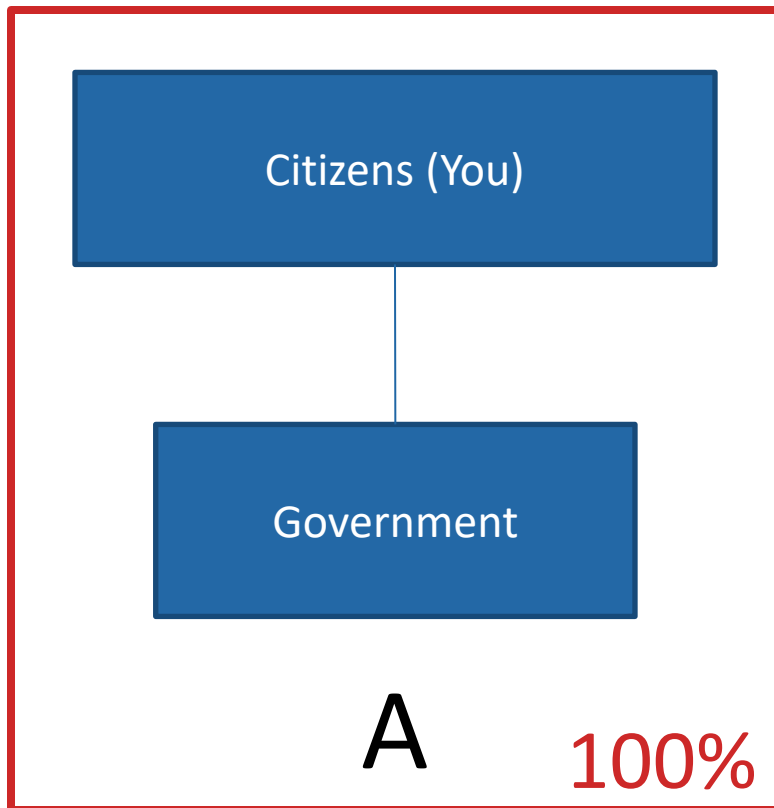
A



B

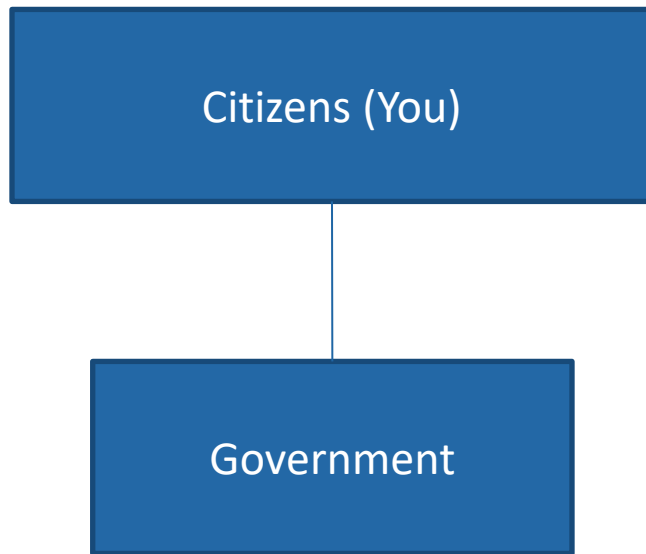
# Government Basics

Which org chart is “Democracy”?

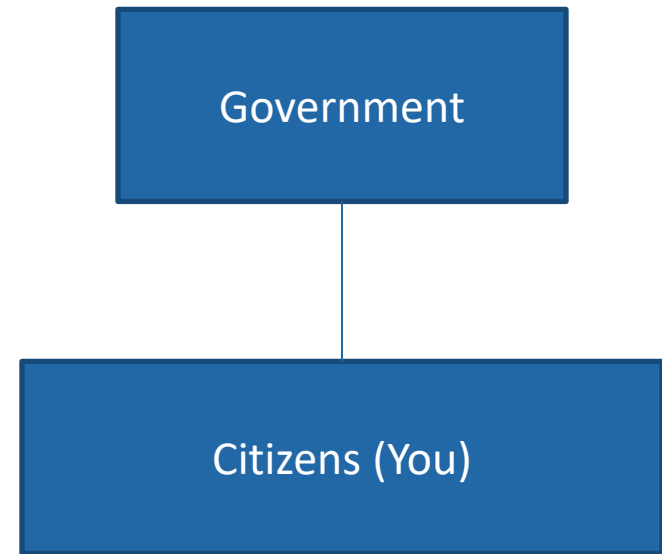


# Government Basics

Which org chart feels most like reality?



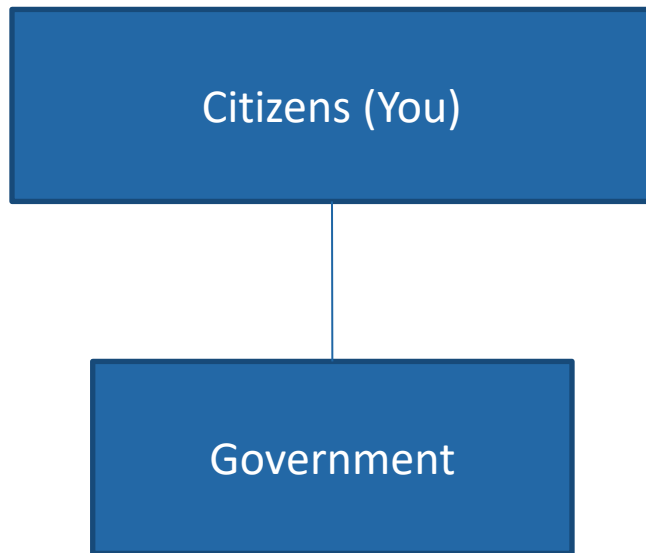
A



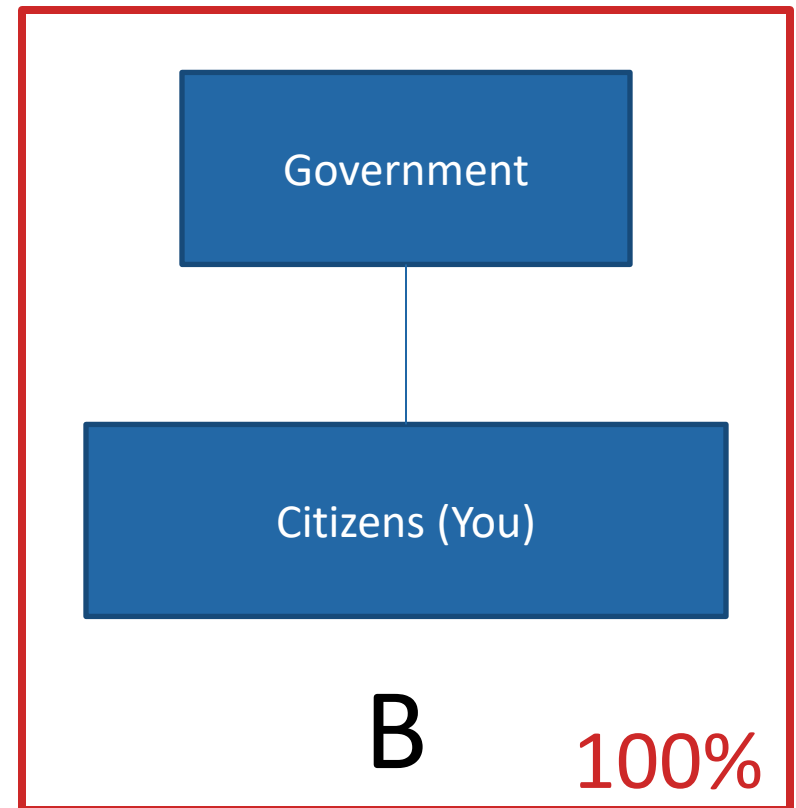
B

# Government Basics

Which org chart feels most like reality?



A

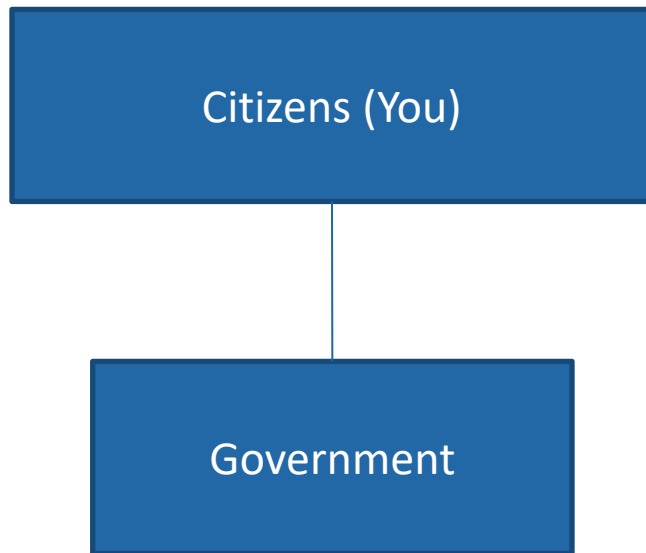


B

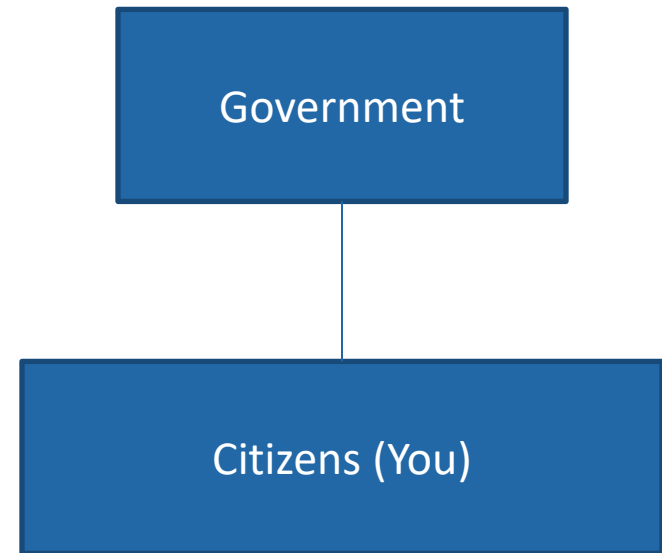
100%

# Government Basics

Which org chart is established by law?



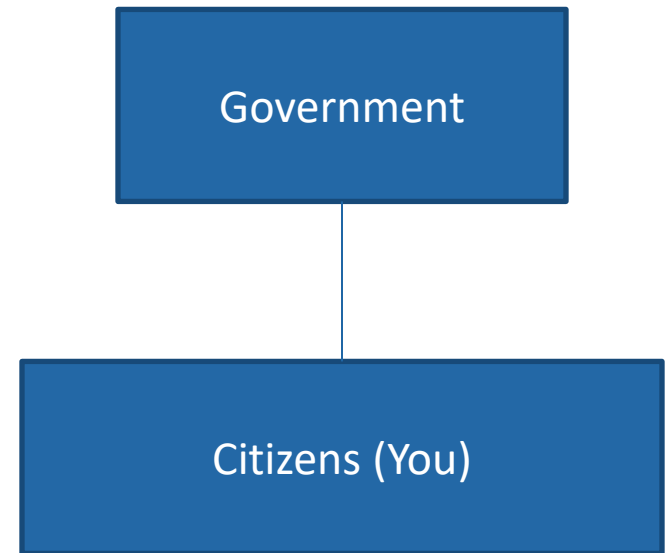
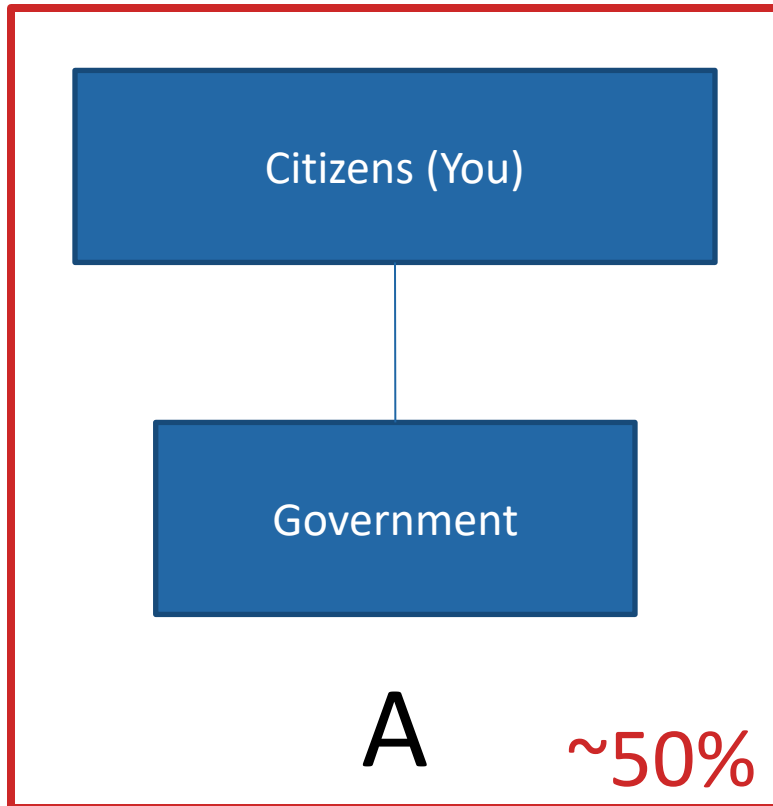
A



B

# Government Basics

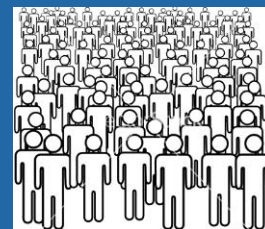
Which org chart is established by law?



# What Everyone Wants

We all want “A” to be reality...

Citizens (Public Masters)



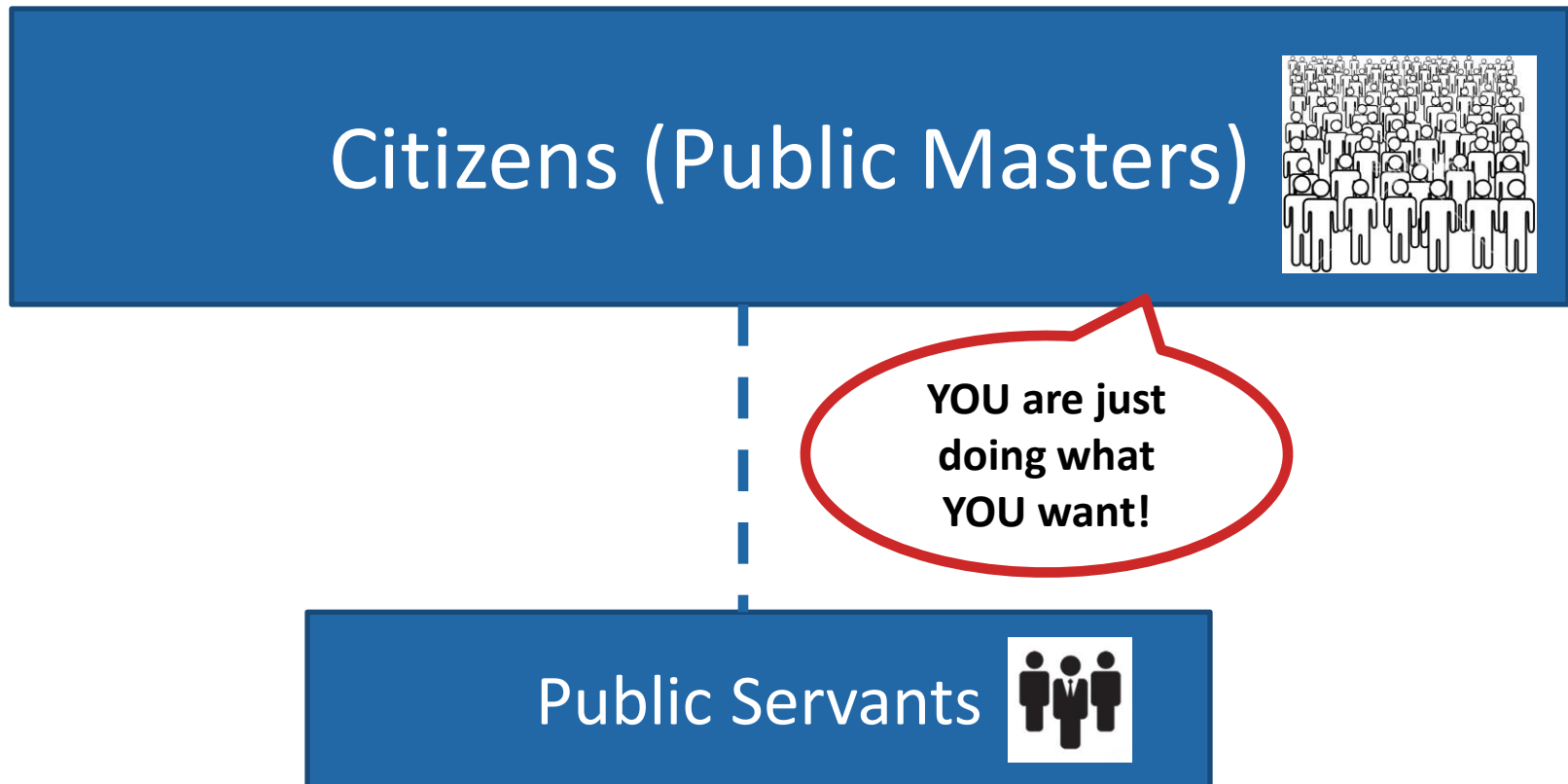
WE'LL do what  
Y'ALL want

Public Servants



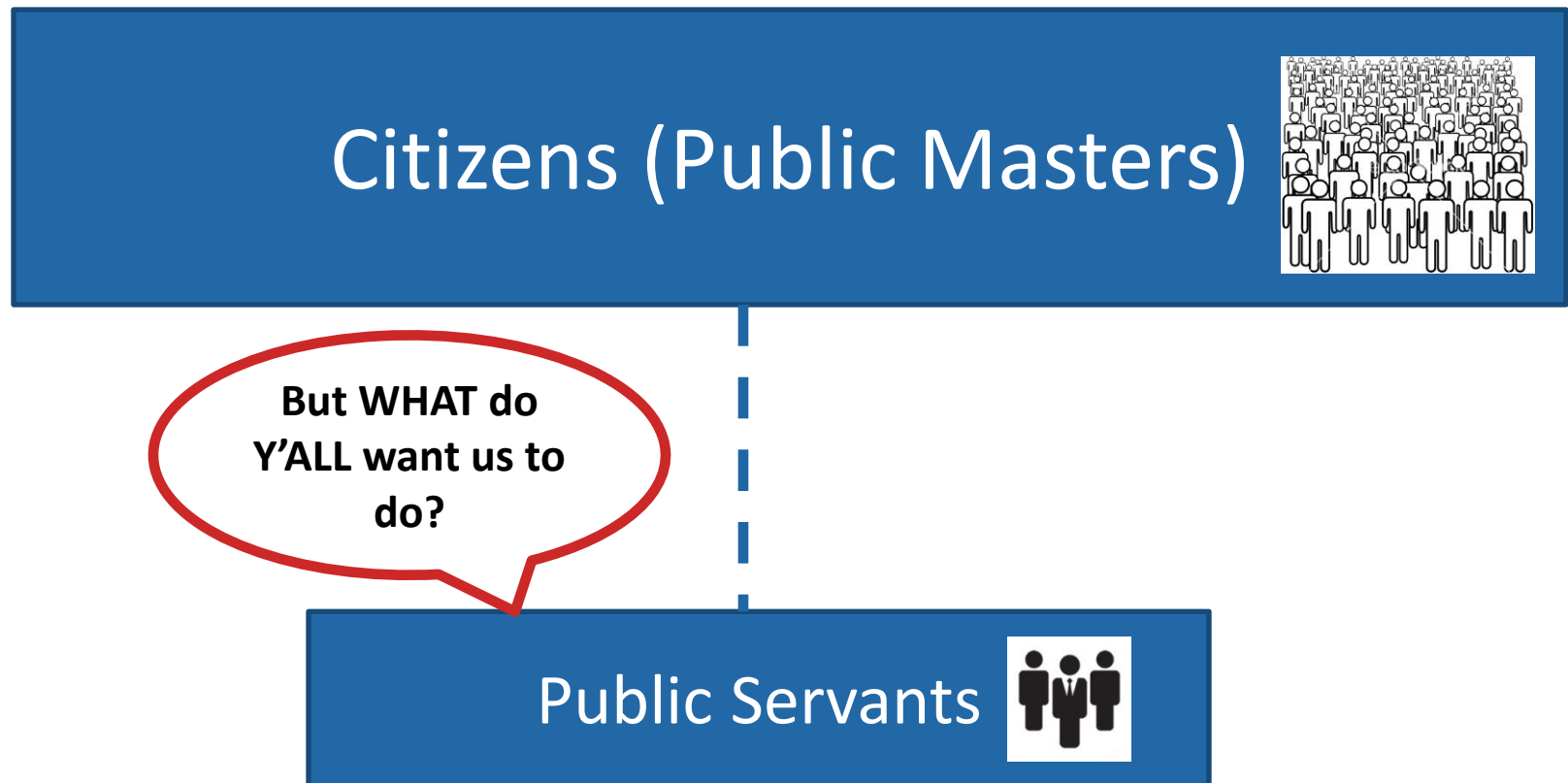
# What Everyone Gets

Unrepresentative input leads to “B” perception



# What Everyone Needs

Representative input can solve the problem



# One Interesting Citizen Perspective

## American People Hire High-Powered Lobbyist To Push Interests In Congress

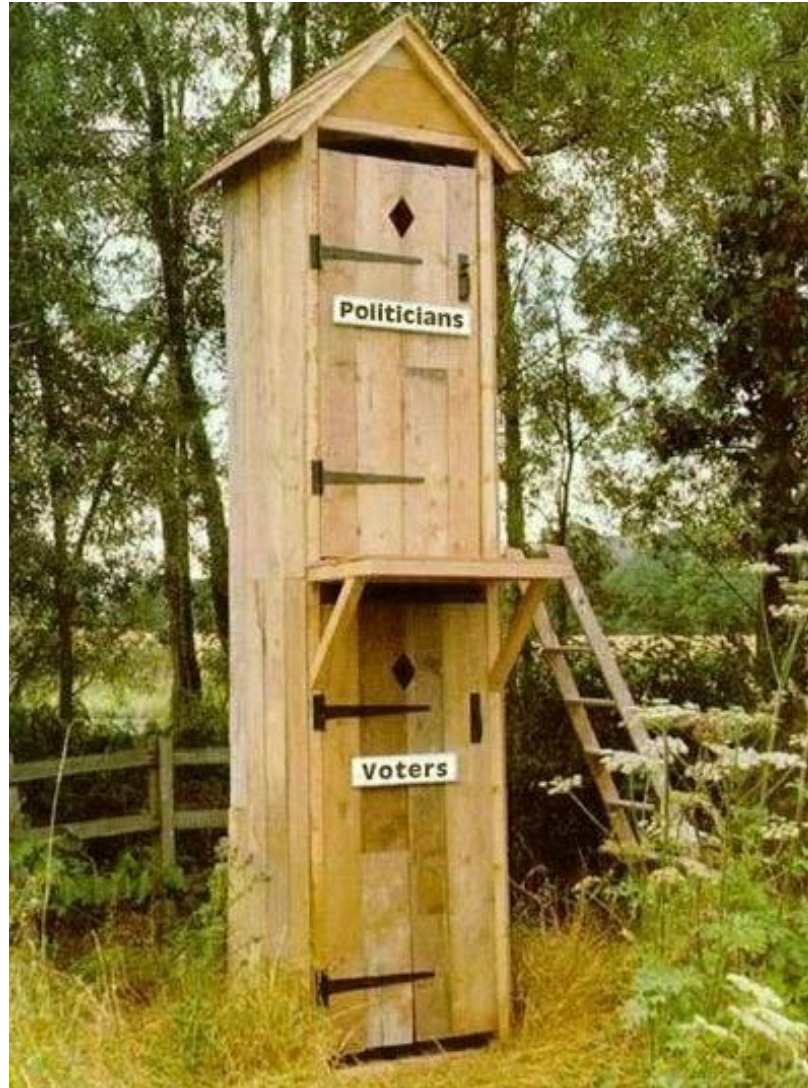


*Americans hope lobbyist Jack Weldon will finally give them a voice in Washington.*

WASHINGTON—Citing a desire to gain influence in Washington, the American people confirmed Friday that they have hired high-powered D.C. lobbyist Jack Weldon of the firm

the ONION®

# Another Interesting Perspective



**WHY DO WE NEED  
COMMUNITY INPUT (MANY TO GOV)?**

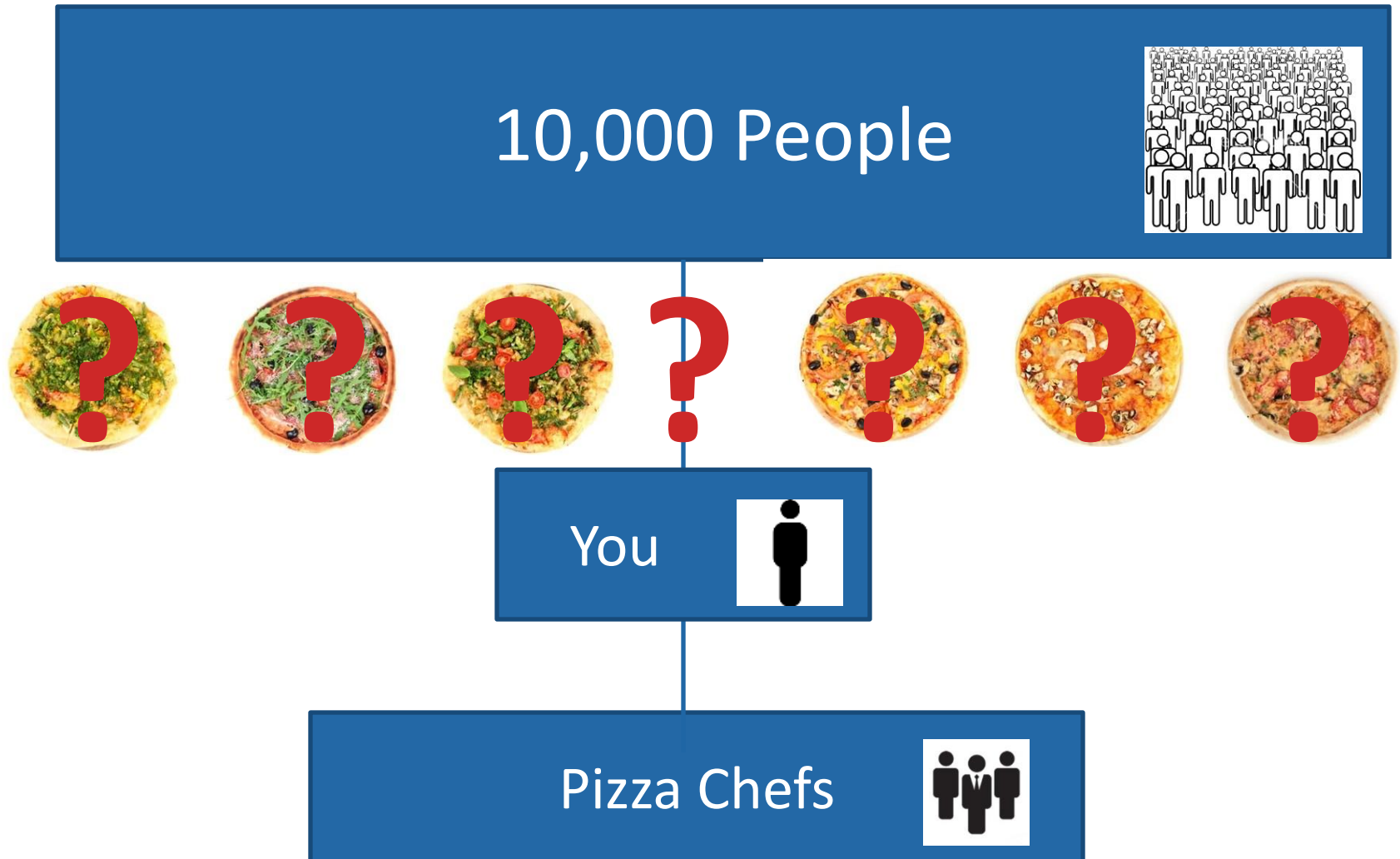
**YOUR PERSPECTIVE**

# 10,000 People Chip In For Pizza

- **YOU** have to figure out which toppings to get



# How Do You Figure This Out?

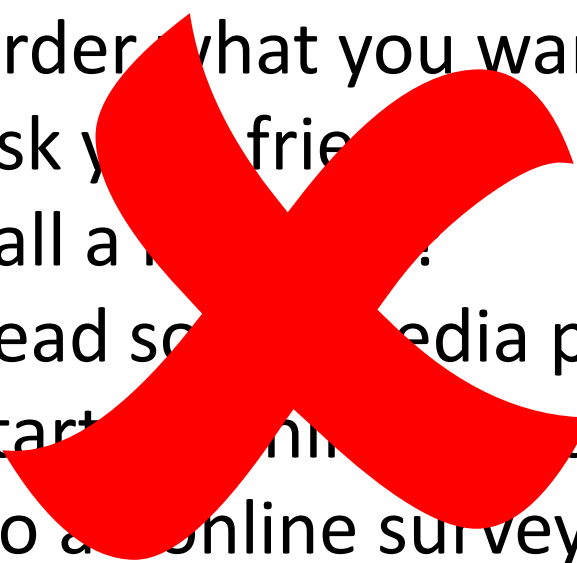


# Which of These Work?

---

- Order what you want?
- Ask your friends what they want?
- Call a meeting?
- Read social media posts?
- Start an online engagement forum?
- Do an online survey?

# None! They Are All Unrepresentative

- Order what you want?
  - Ask your friends?
  - Call a random number?
  - Read social media posts?
  - Start an online management forum?
  - Do an online survey?
- 

# So What Is the Right Answer?

- Order what you want?
- Ask your friends?
- Call a consultant?
- Read social media posts?
- Start an online management forum?
- Do an online survey?



- Take everyone's order

# Or... Also Good and Representative

- Order what you want?
- Ask your friends?
- Call a pollster?
- Read social media posts?
- Start an online management forum?
- Do an online survey?



- Take everyone's order



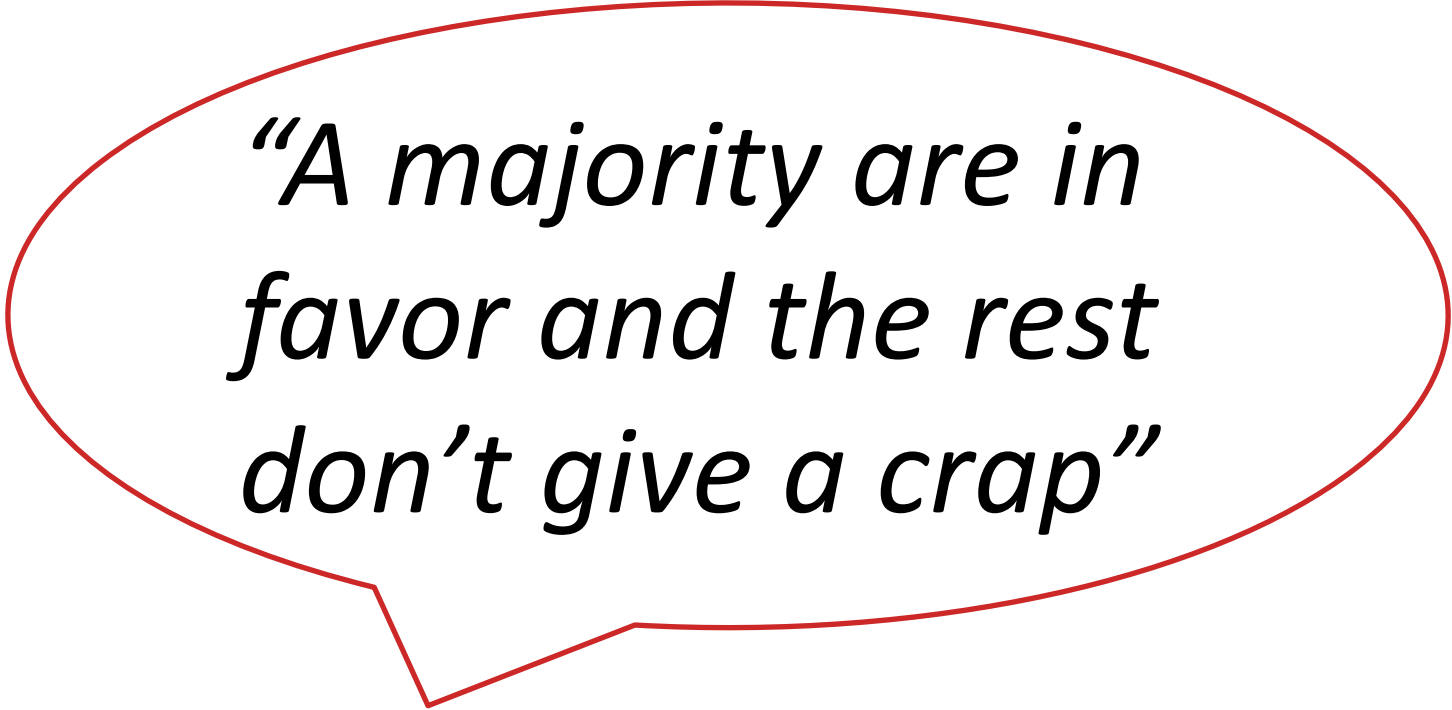
- Take a **scientific survey** of orders

# **WHY DO GOVERNMENTS NEED REPRESENTATIVE COMMUNITY INPUT?**

# Proposed Garbage Service Change

---

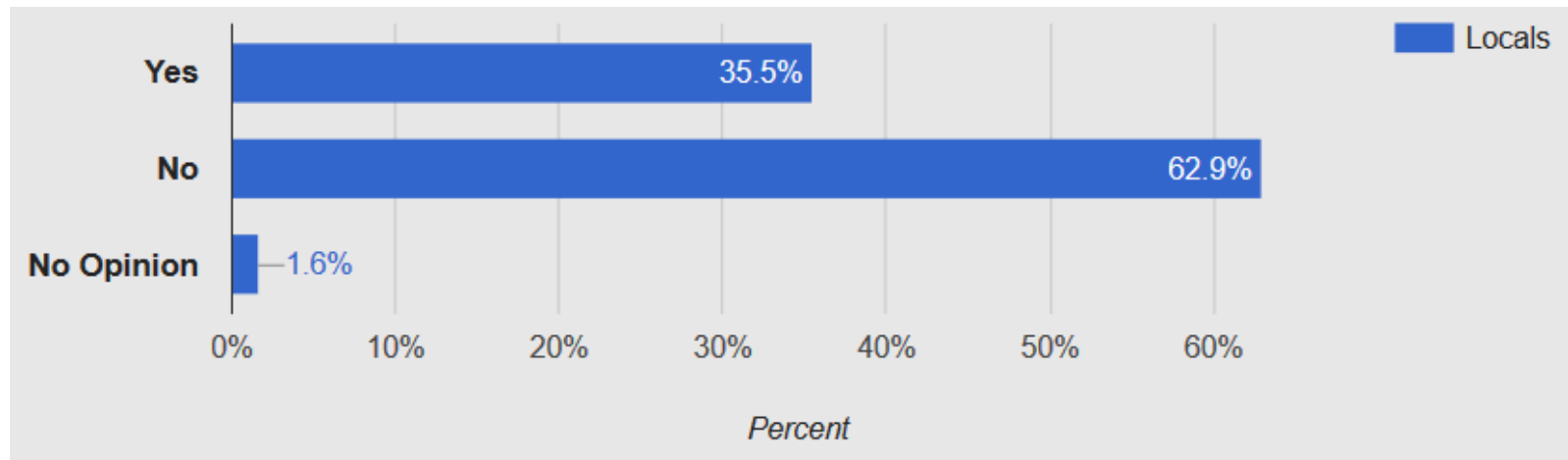
- Honest perception by well-intentioned official



*“A majority are in favor and the rest don’t give a crap”*

# A Majority Was Not In Favor

- Survey found almost 2 to 1 against



# Serious Problems Were Overlooked

- Citizens identified nonobvious flaws in the proposal and suggested better alternatives



# Data Changed the Decision

---

- Board **unanimously** voted against
- Avoided **10 years** of unwanted service
- Saved residents **\$7 million**

# **WHY DO CITIZENS NEED REPRESENTATIVE COMMUNITY INPUT?**

# QUICK POLL #4

In the year 1972, in the South, what percent of whites do you think favored segregation?

- ( ) 0% to 20%
- ( ) 21% to 40%
- ( ) 41% to 60%
- ( ) 61% to 80%
- ( ) 81% to 100%

# The Year is 1972 in the South

---

- What percent of whites favored segregation?

# The Year is 1972 in the South

---

- What percent of whites favored segregation?
- What percent of whites believed a majority of whites in their area favored segregation?

# The Year is 1972 in the South

---

- What percent of whites favored segregation?

15%

- What percent of whites believed a majority of whites in their area favored segregation?

# The Year is 1972 in the South

---

- What percent of whites favored segregation?

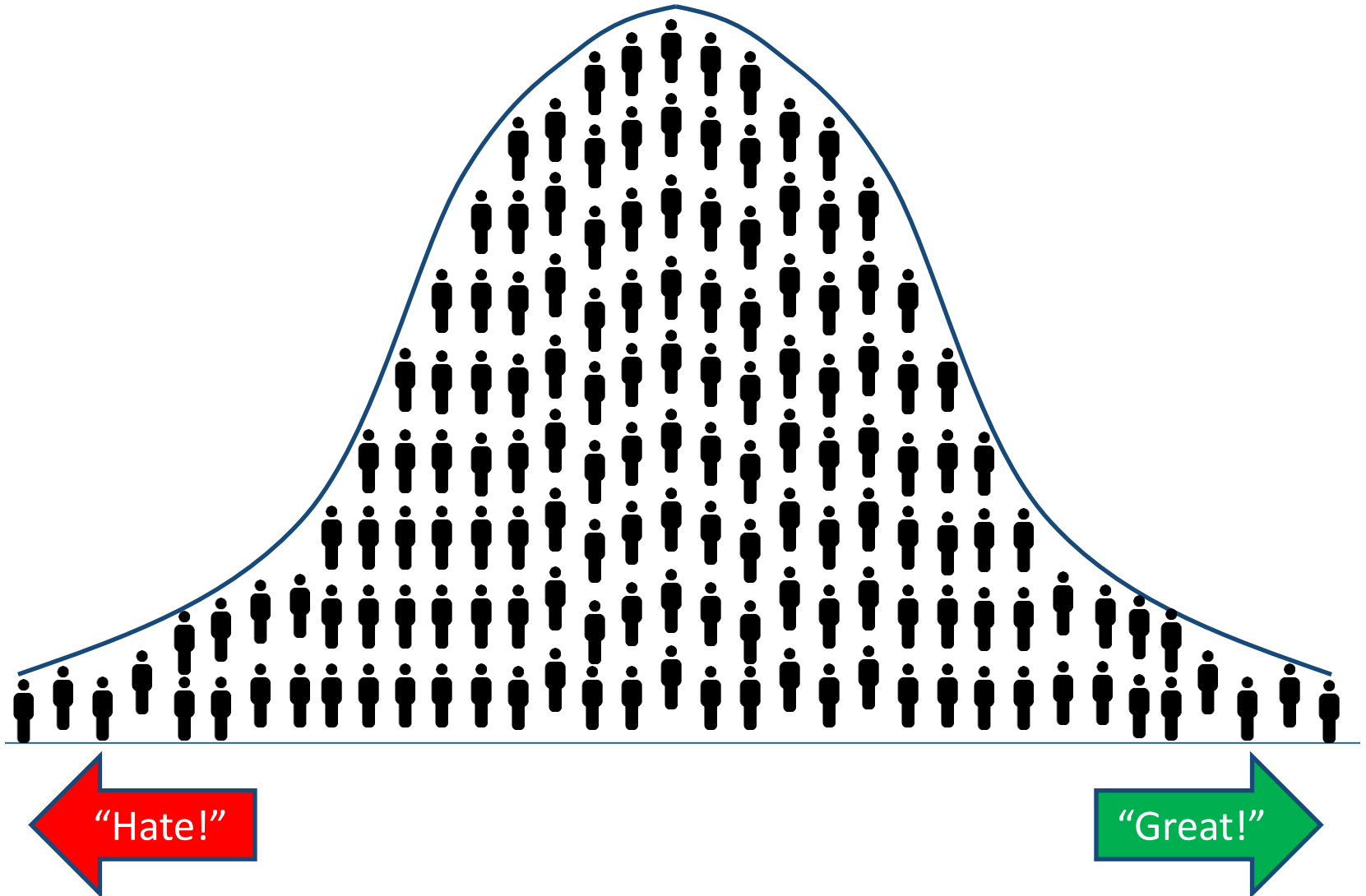
15%

- What percent of whites believed a majority of whites in their area favored segregation?

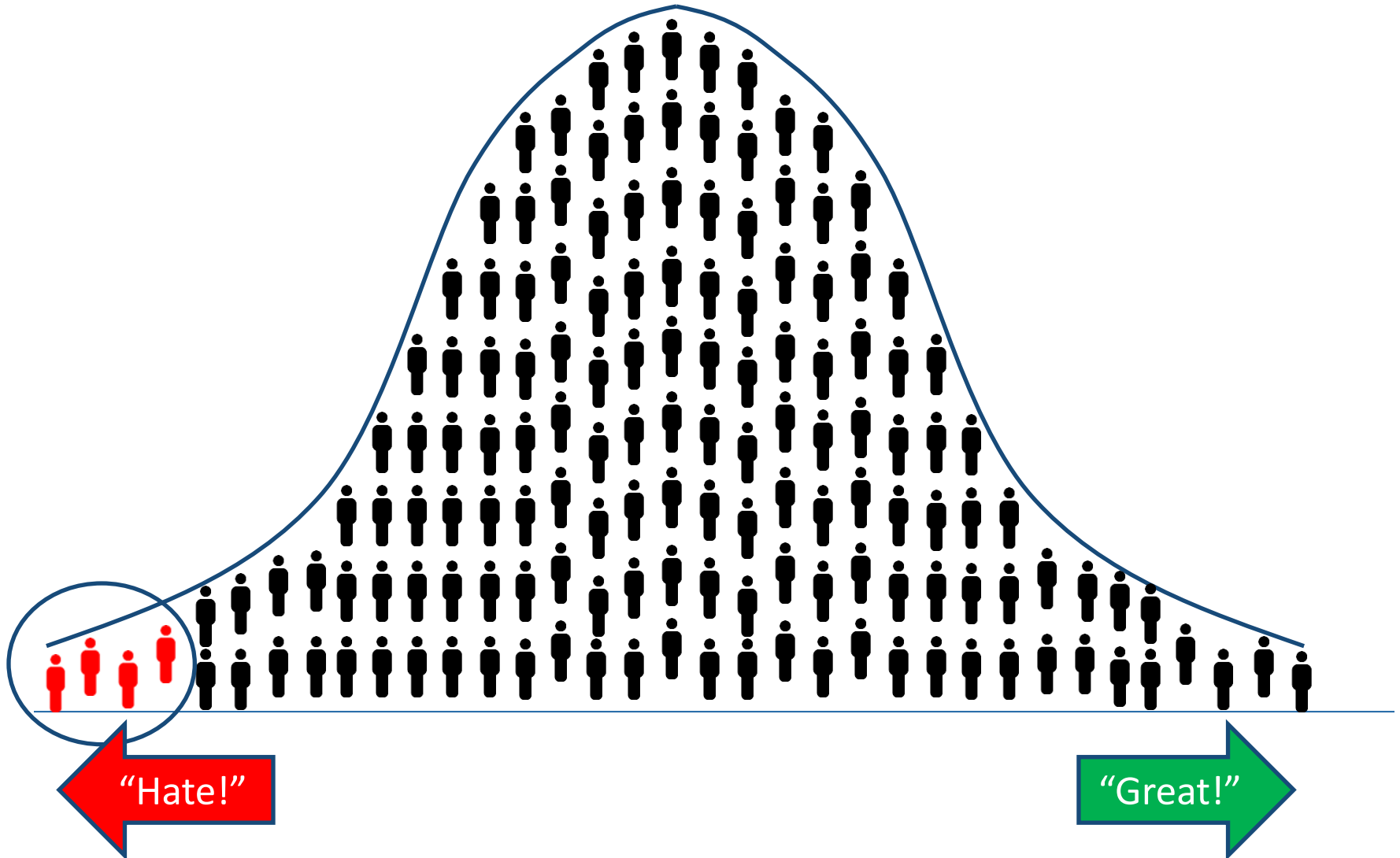
72%

# WHAT IS THE **GENERAL CHALLENGE** WITH COMMUNITY INPUT?

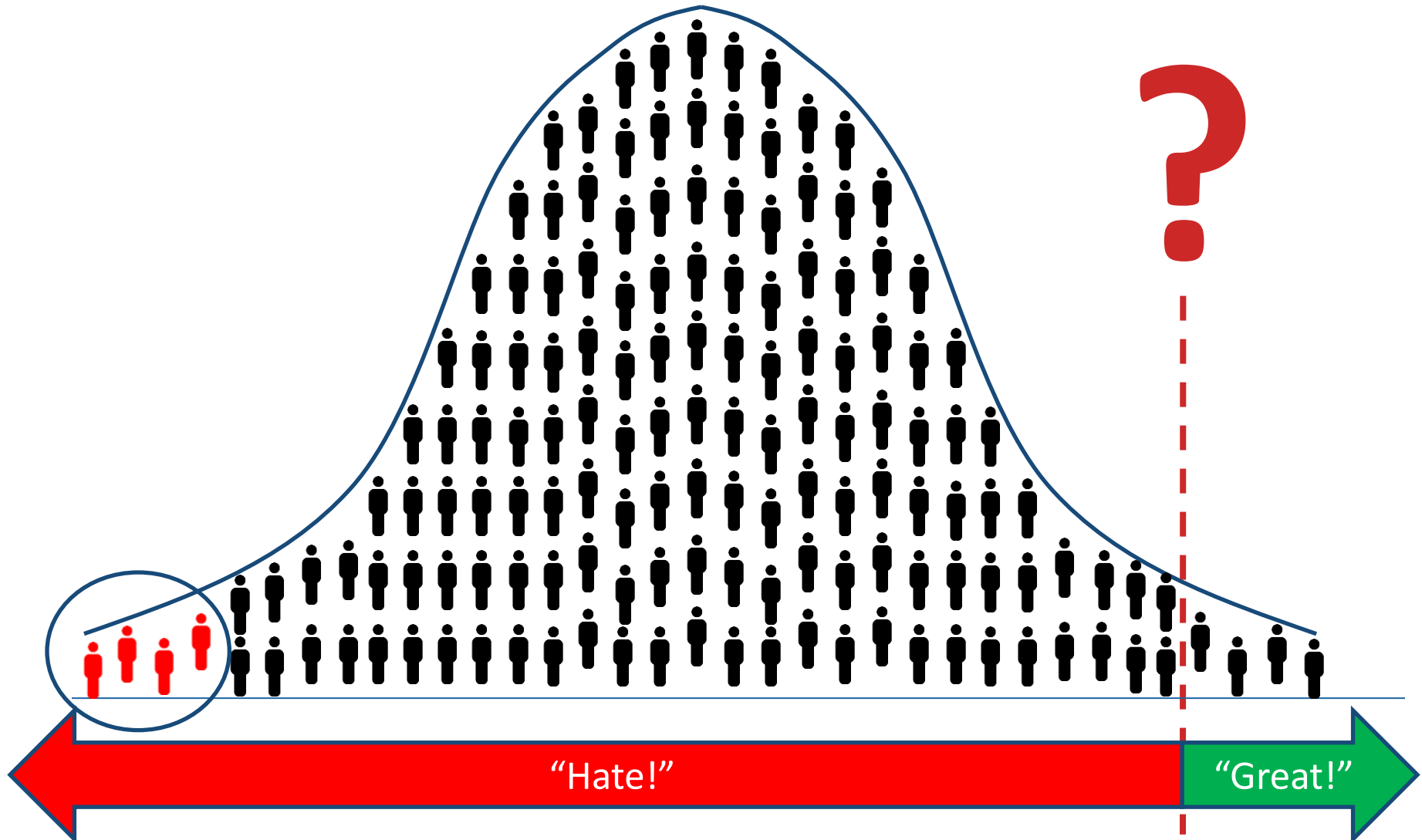
# Your Community



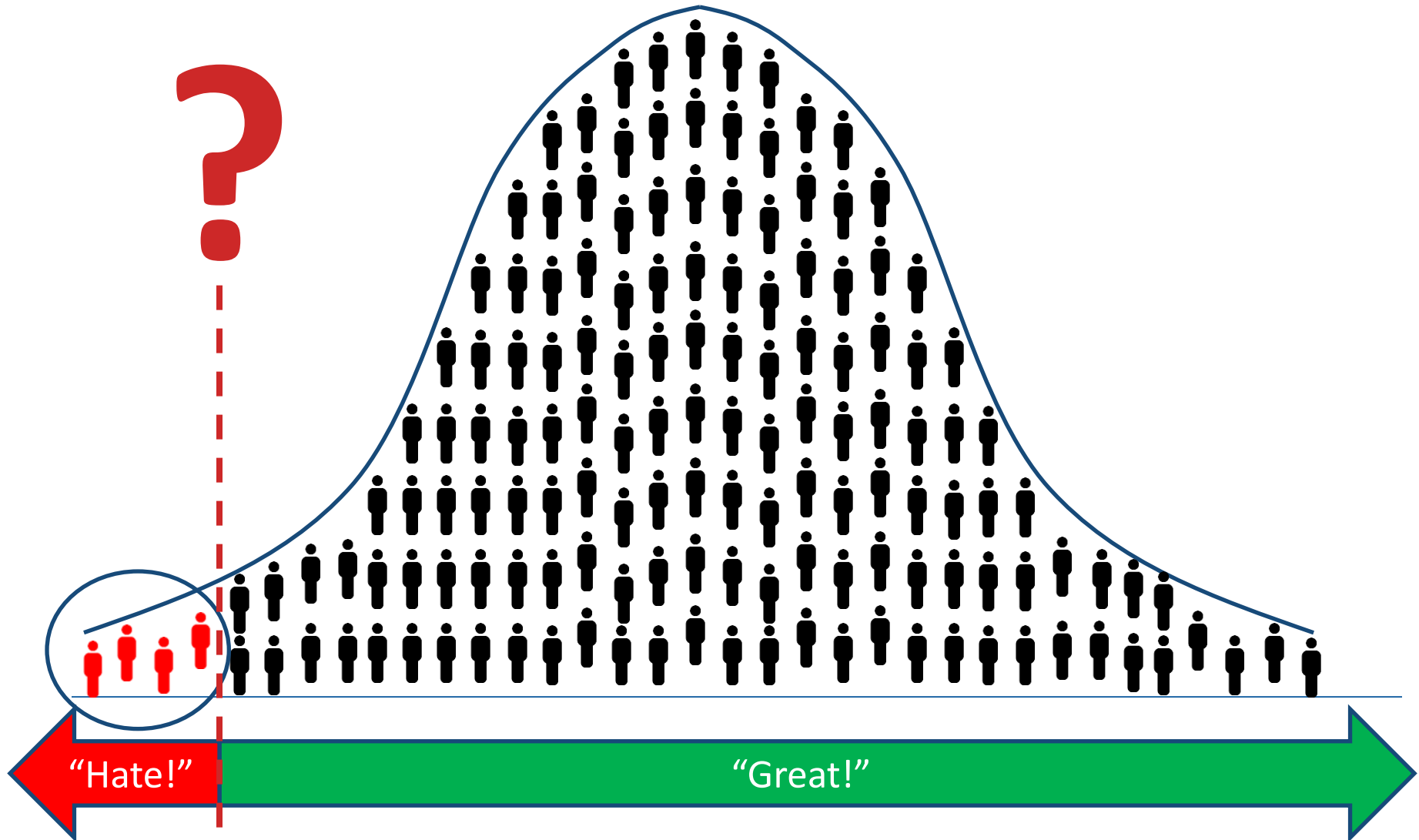
# Who You Usually Hear From



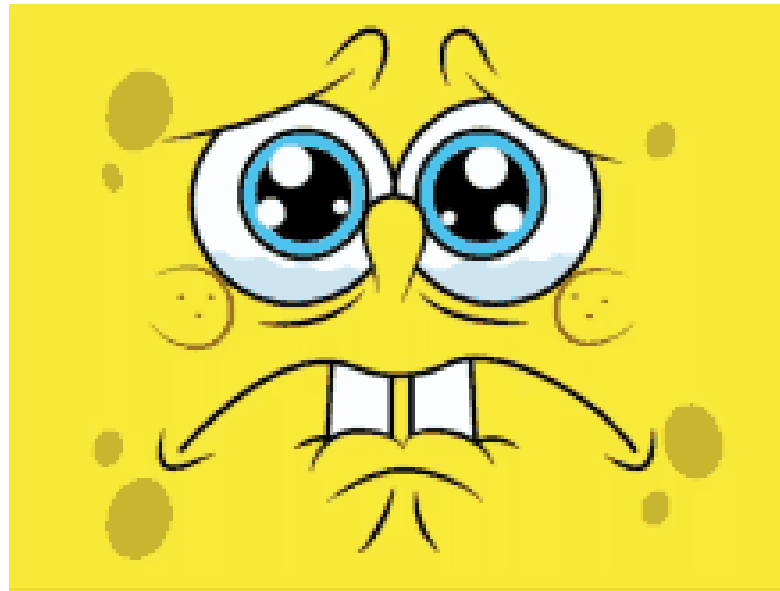
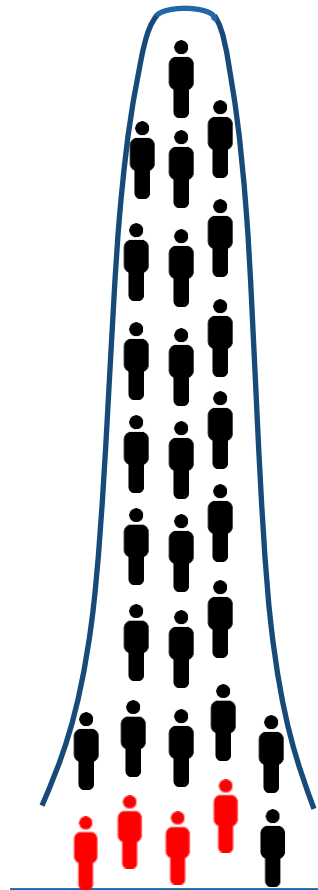
# Does The Community Think This?



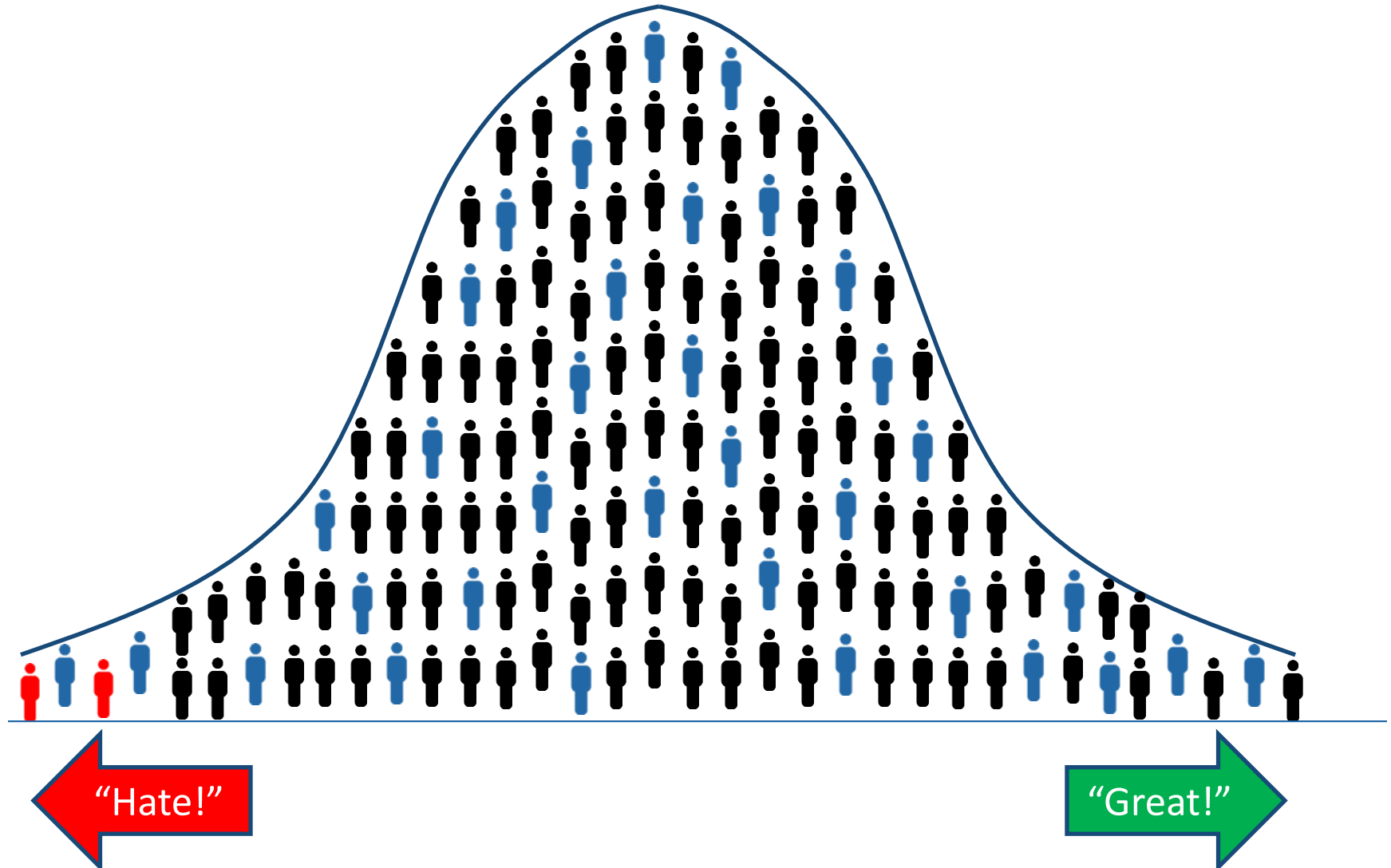
# Or This?... You Have No Idea!



# But You Know What It Feels Like

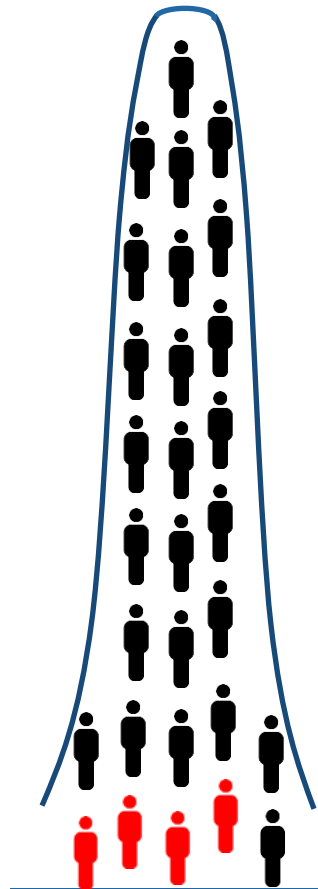


# Missing Representative Reality



# **HOW DOES INPUT PERCEPTION COMPARE WITH REPRESENTATIVE REALITY?**

# Perception: Park Quality



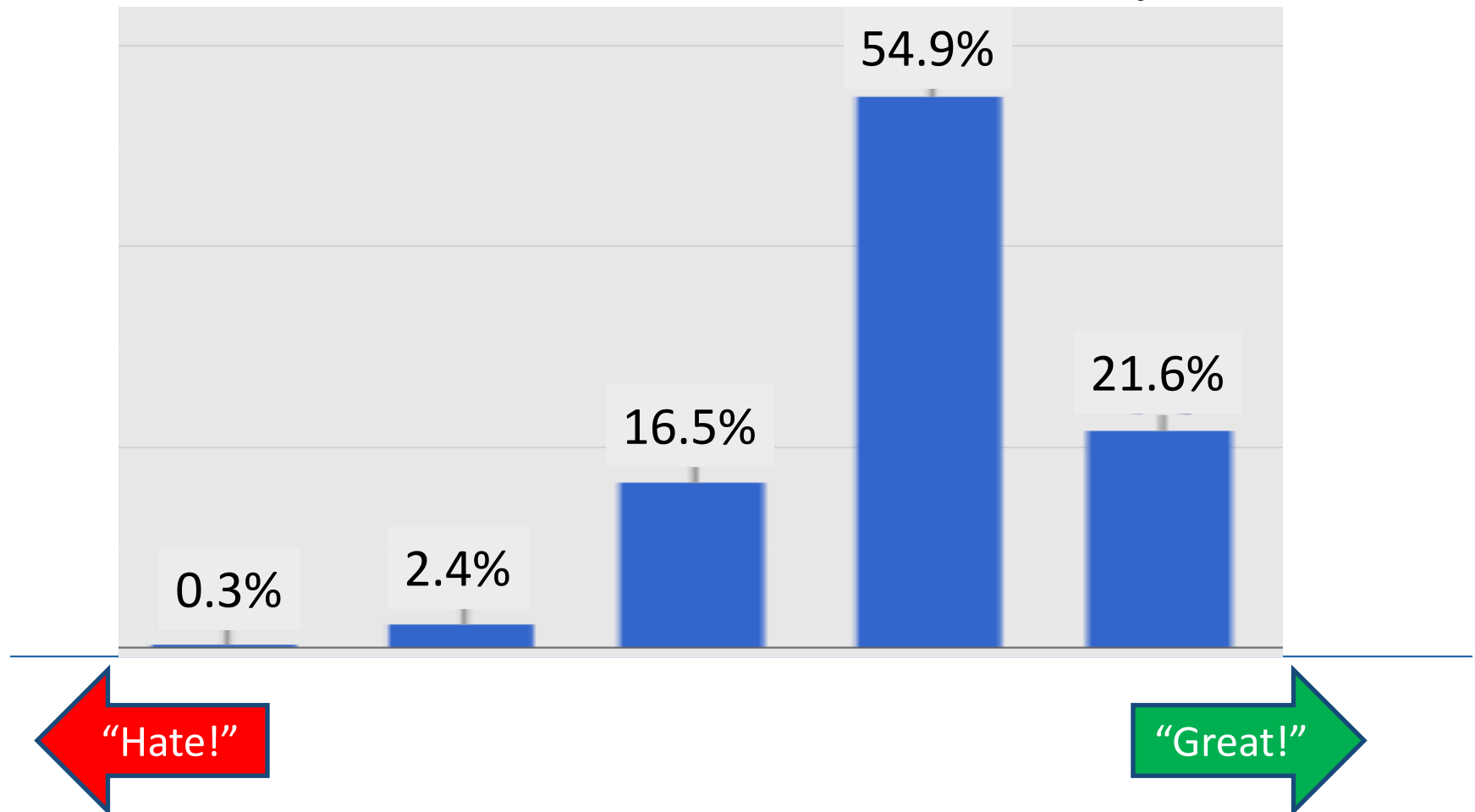
*“Nothing but complaints”*

*“Everyone hates our parks now!”*

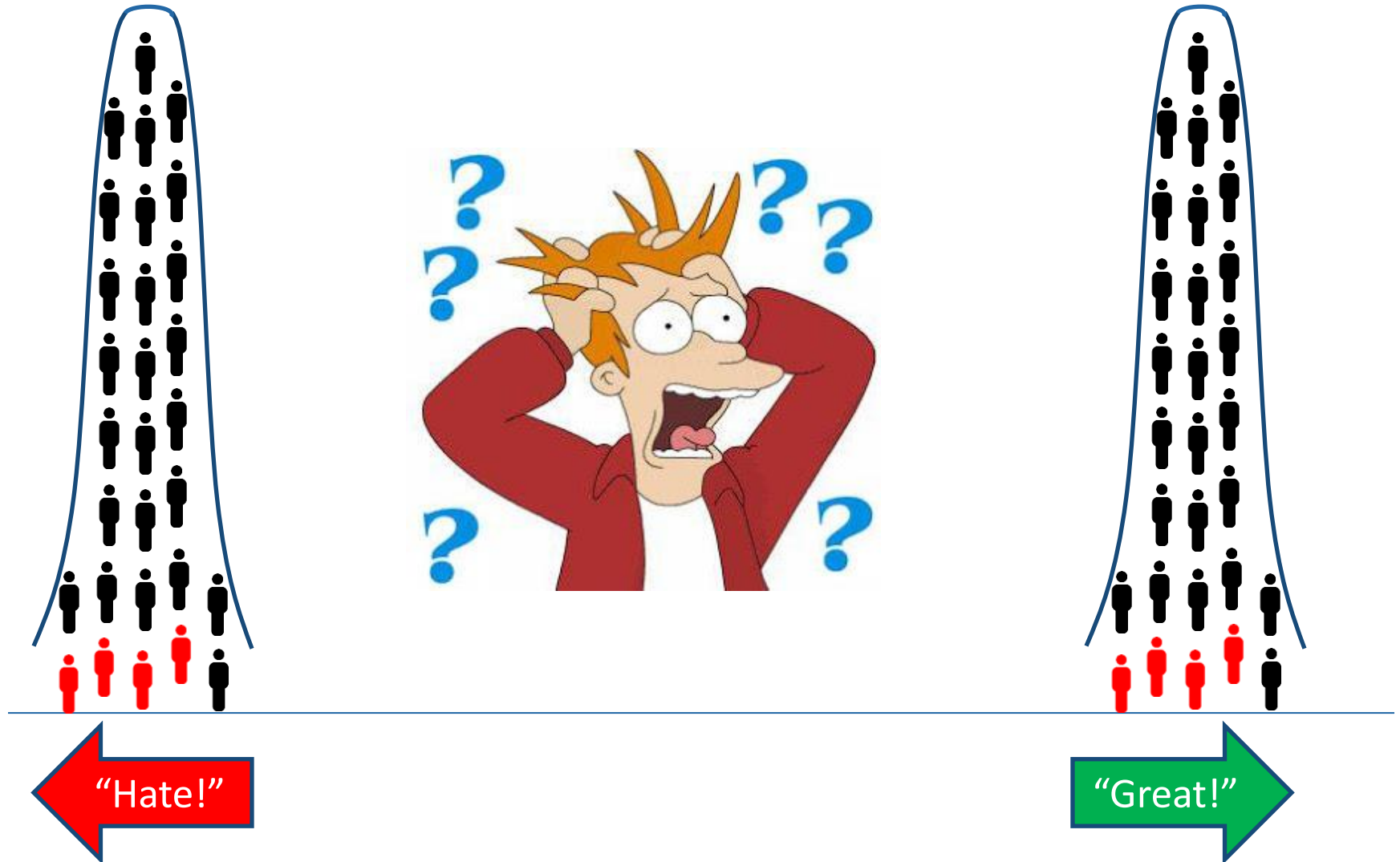


# Reality: Park Quality

4.0 out of 5: “Love, love, love the parks!”

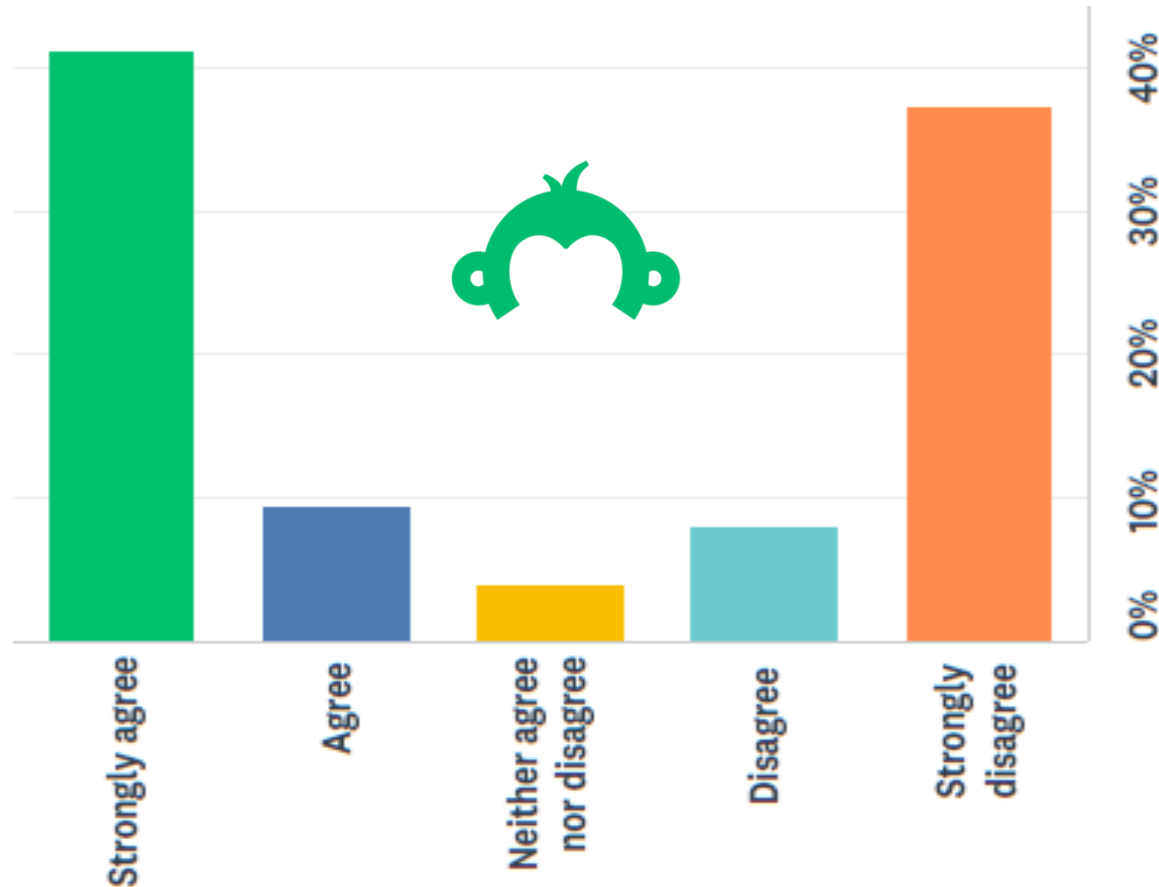


# Perception: School Sex Ed Curriculum



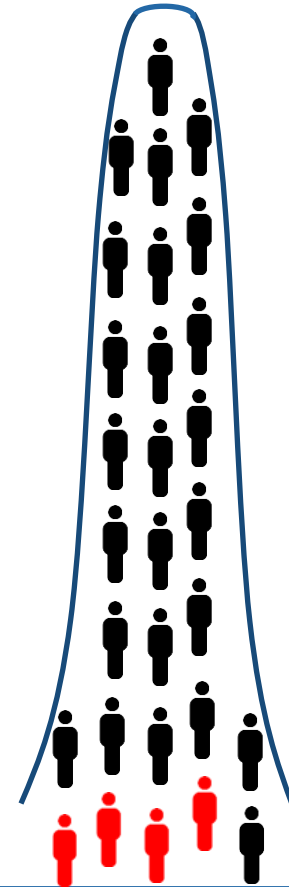
# The “Barbell” Distribution Behind It

Q4 How much do you agree or disagree that the topics presented in the proposed curriculum are appropriate for high school age students (ages 14-18)?



# Reality: School Sex Ed Curriculum

About **90% support** for each element on average

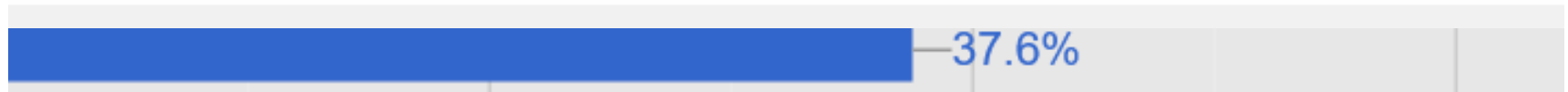


# Perception: Lockdown Protests



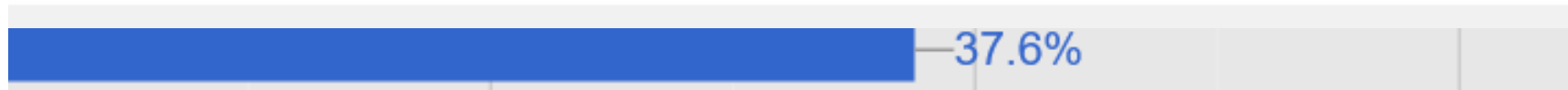
# Reality: Lockdown Protests

Things will open up too slowly, and the economy will get a lot worse

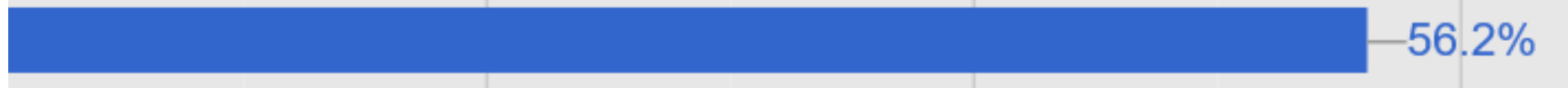


# Reality: Lockdown Protests

Things will open up too slowly, and the economy will get a lot worse



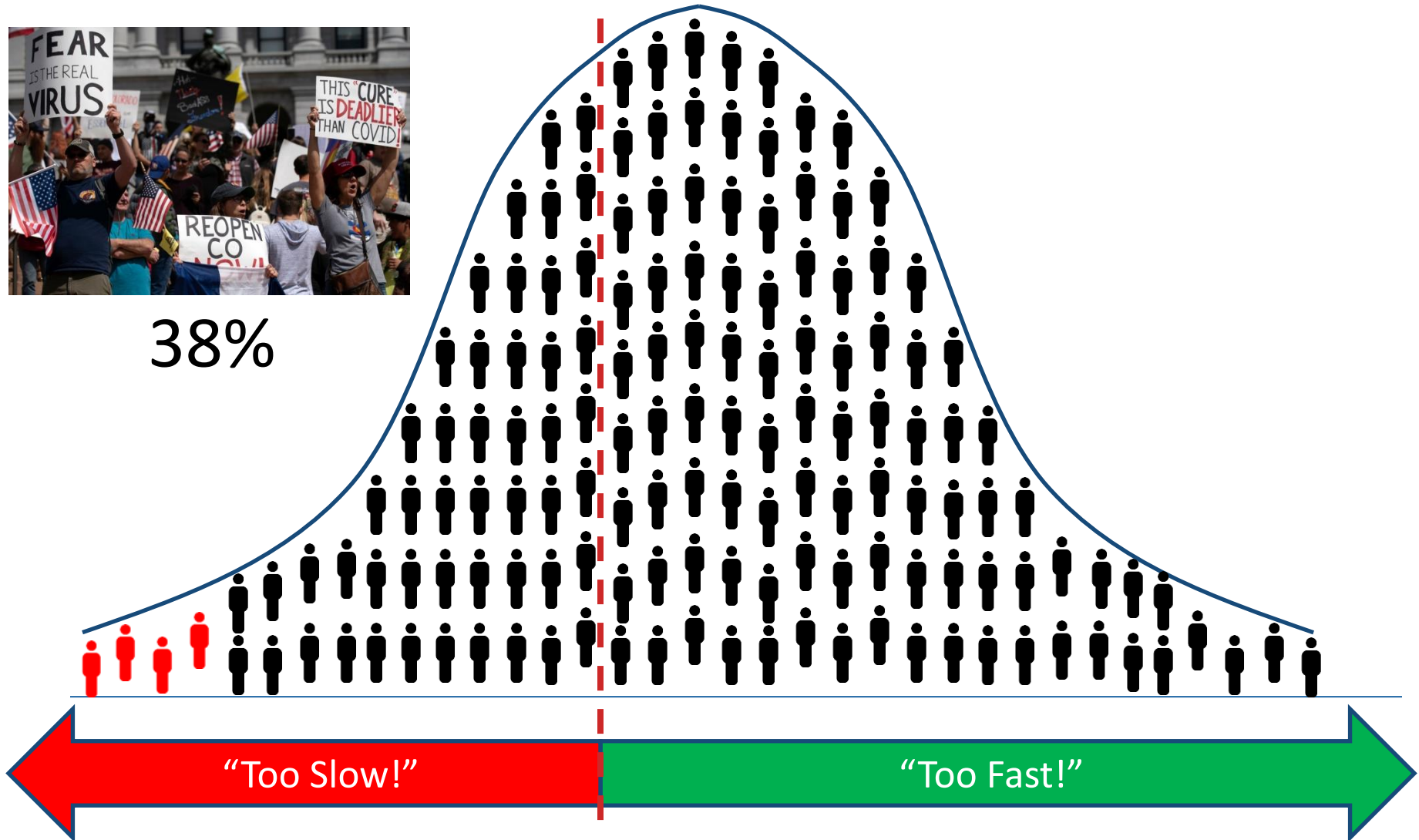
Things will open up too fast, and the outbreak will get a lot worse



# Lockdown Protest Support



38%

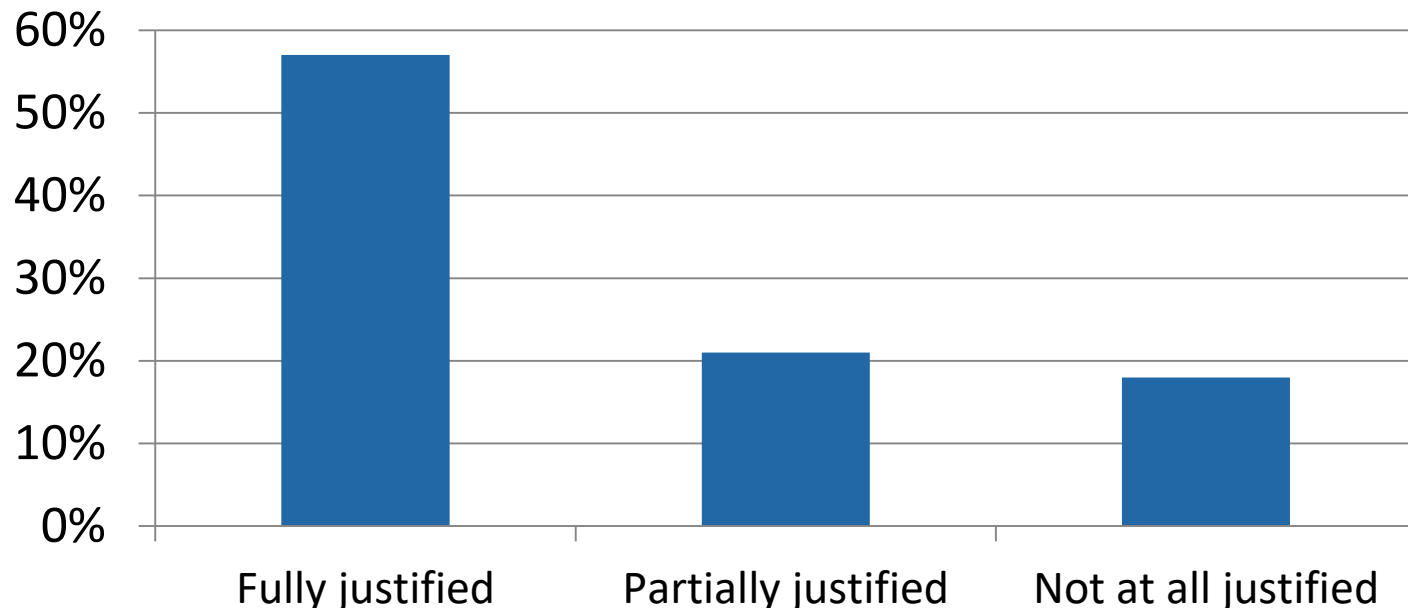


# Perception: Police Protests



# Reality: Police Protests

Regardless of the actual actions taken, do you think the anger that led to these protests was fully justified, partially justified, or not at all justified?

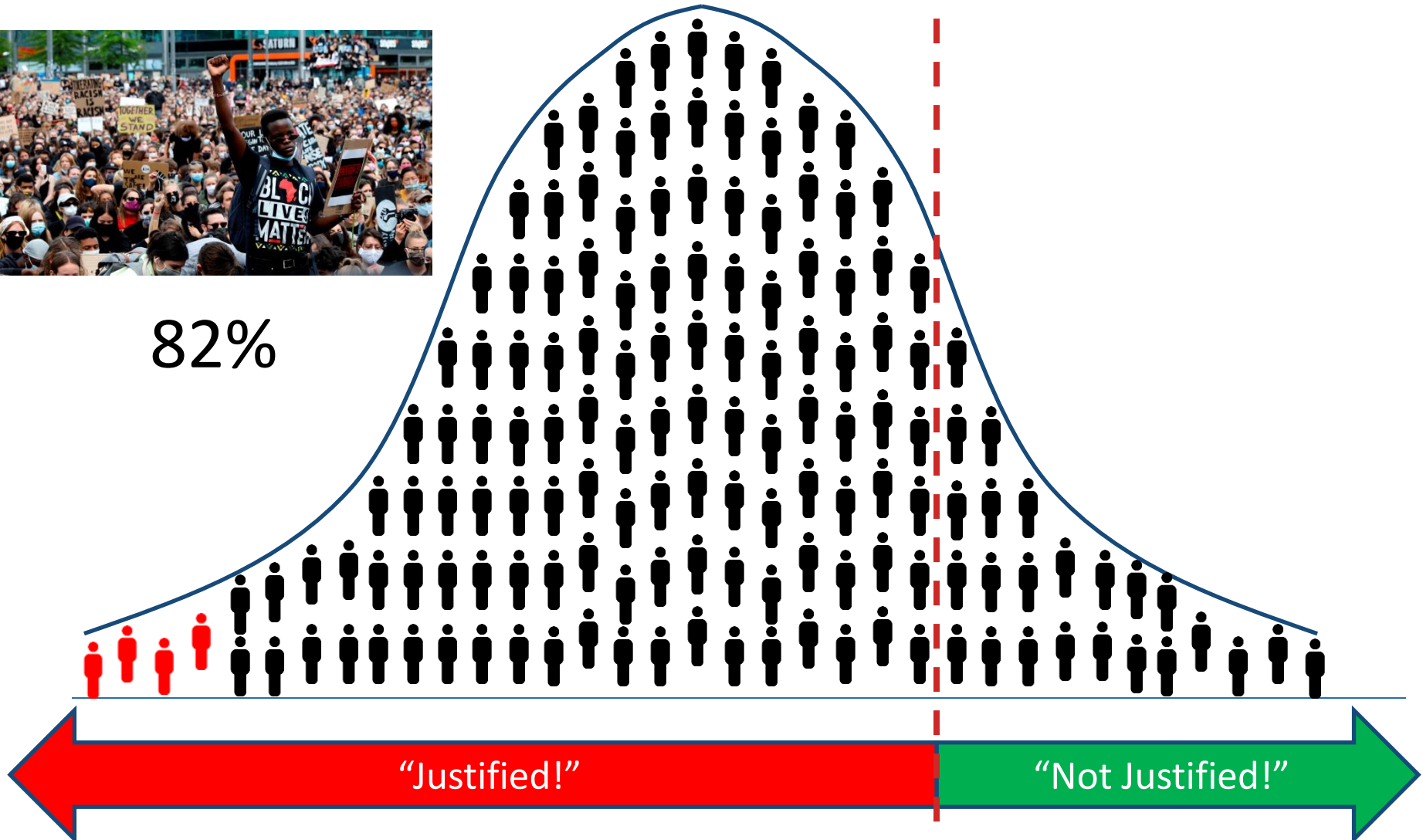


*Source: Monmouth University Poll, 6/2/20*

# Police Protest Support



82%



# HOW QUICKLY DOES INPUT GO BAD?

# More Engagement Can Be Worse





# What About “No Data”?

---

# What About “No Data”?

---

- How often is public input misleading?

(Never, Rarely, Sometimes, Usually, Always)

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---

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- What percentage of “upgrades” by Google/etc are typically NOT improvements when tested?

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(Never, Rarely, Sometimes, **Usually**, Always)

- What percentage of “upgrades” by Google/etc are typically NOT improvements when tested?

**50%**

# What About “No Data”?

---

- How often is public input misleading?  
(Never, Rarely, Sometimes, **Usually**, Always)
- What percentage of “upgrades” by Google/etc are typically NOT improvements when tested?

**50%**

So guessing doesn't work either...

# You Get The Problem... and Opportunity

---

- Need to **make more decisions with data**
- **Need good data** to make good decisions
- Now lets talk about **how to get good data...**

# PART 3: HOW TO GET GOOD DATA AND AVOID BAD

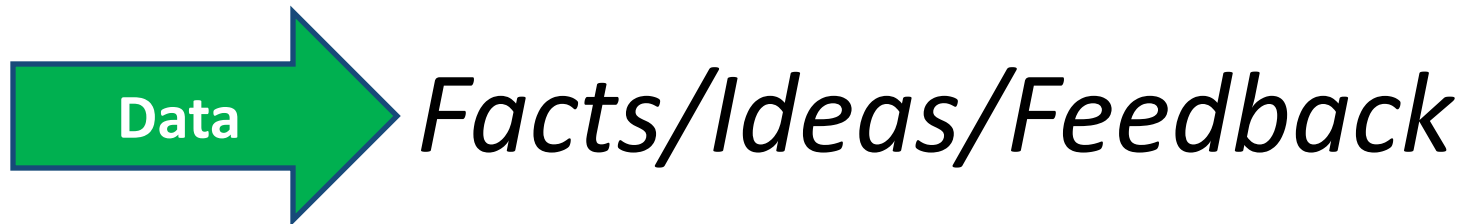
# TWO TYPES OF HELPFUL DATA

# Remember These?

“Wiser” = **What** to do

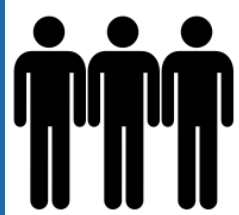


“Smarter” = **How** to do It

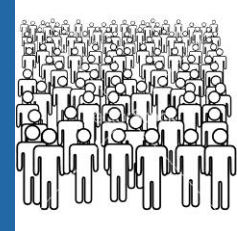


# Only Two Flavors

Individual  
Facts/Ideas



Community  
Preferences

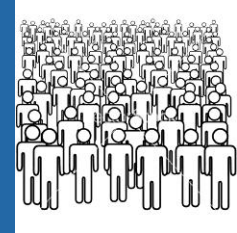


# Only Two Flavors

Individual  
Facts/Ideas



Community  
Preferences



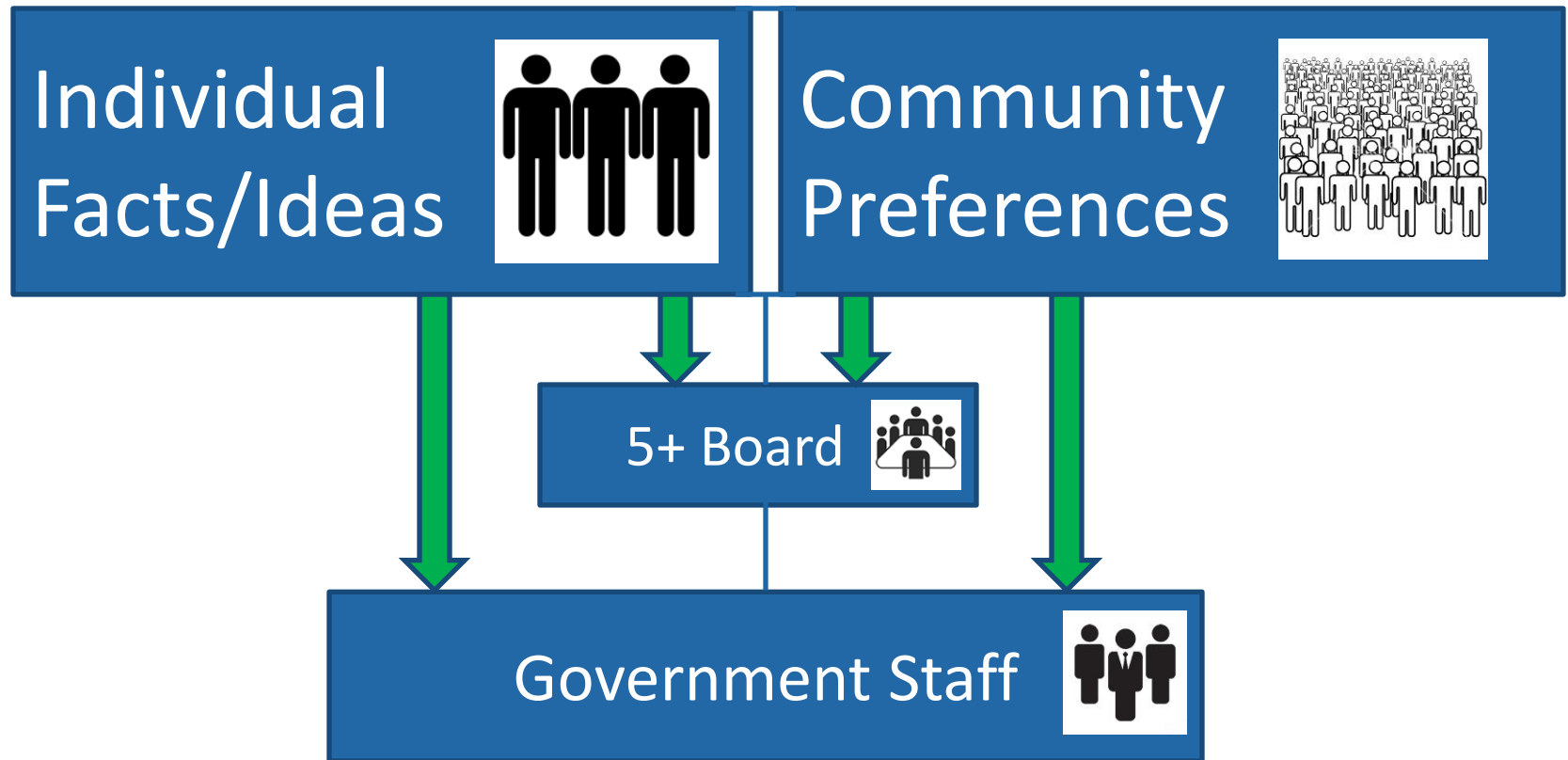
**Everything else is noise!**

# Value of Facts and Opinions

- Facts About Opinions
  - Scientific community preferences
- Facts About Facts
  - Valid/true observations or ideas
- Opinions About Facts
  - Unverified/uninformed statements
- Opinions About Opinions
  - Unscientific community preferences



# Both Can Be Helpful



# Usually You Want These

- What to Do?

- Community preferences
- Individual facts/ideas



Board



- How to Do It?

- Community preferences
- Individual facts/ideas



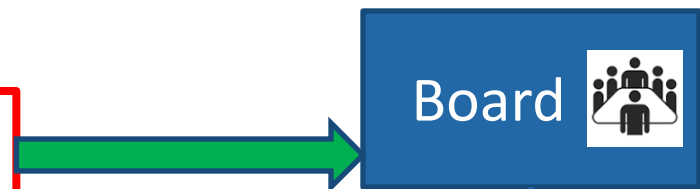
Staff



# But Don't Forget These

- What to Do?

- Community preferences
- Individual facts/ideas



- How to Do It?

- Community preferences
- Individual facts/ideas



# WHEN DO YOU NEED **COMMUNITY PREFERENCE DATA?**

# Quick Question

---

- Do you want something that is awesome?

Yes

# Quick Question

---

- Do you want something that is awesome?

Yes

- Do you want to pay more taxes?

No

# Tradeoffs Matter

---

- Do you want to pay for something awesome?

Maybe

# Tradeoffs Matter

---

- Do you want to pay for something awesome?

Maybe

- 1) What is the awesome thing?
- 2) How much does it cost?

# What Does Your Community Want?

|                        | <i><b>Get More</b></i> | <i><b>Get Less</b></i> |
|------------------------|------------------------|------------------------|
| <i><b>Pay More</b></i> | Maybe                  | No!                    |
| <i><b>Pay Less</b></i> | Yes!                   | Maybe                  |

# Find Out What To Do Here

|                 | <i>Get More</i>                                | <i>Get Less</i>                                |
|-----------------|------------------------------------------------|------------------------------------------------|
| <i>Pay More</i> | <div>Ask About Tradeoffs</div><br><b>Maybe</b> | <b>No!</b>                                     |
| <i>Pay Less</i> | <b>Yes!</b>                                    | <div>Ask About Tradeoffs</div><br><b>Maybe</b> |

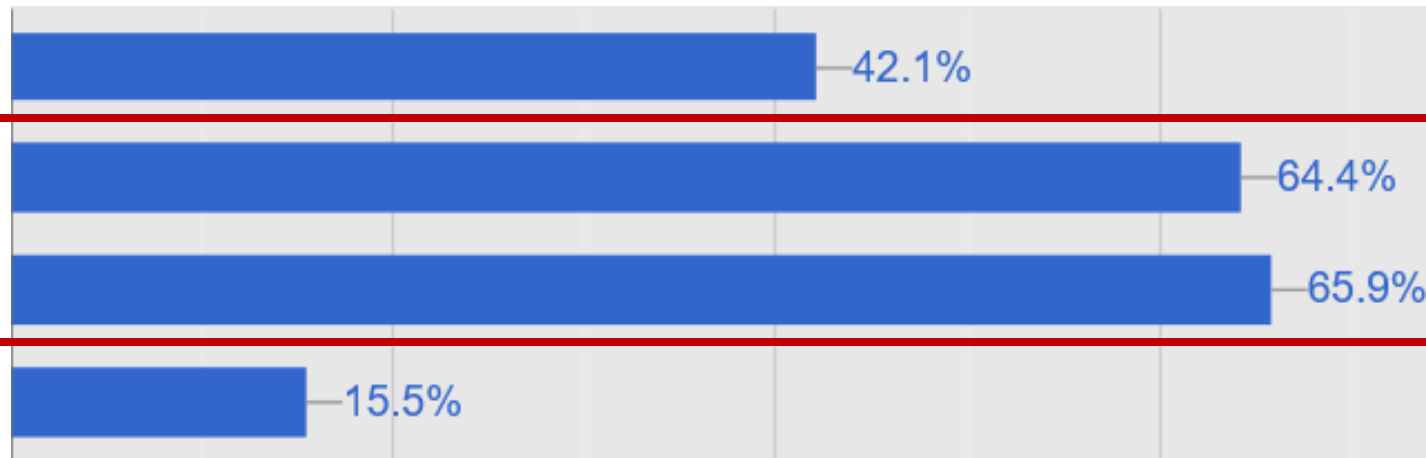
# Example: Recycling

---

- Pay more to keep service the same
- Pay the same, but do more sorting myself
- Pay the same, but cut from weekly to 2 weeks
- Give up recycling

# Example: Recycling

- Pay more to keep service the same
- Pay the same, but do more sorting myself
- Pay the same, but cut from weekly to 2 weeks
- Give up recycling



# HOW **NOT** TO GET **VALID** COMMUNITY PREFERENCE DATA

# Valid Community Preference Data

---

- **Unbiased responses** that are not self-selected
  - Representative sample (>50% response rate)
- **A large number** of unbiased responses
  - Statistically meaningful (250 to 600 is +/-6% to 4%)
- **Well structured** questions and answers
  - Unbiased questions targeted to resident knowledge

# Meetings

- Do you get sufficiently large numbers?



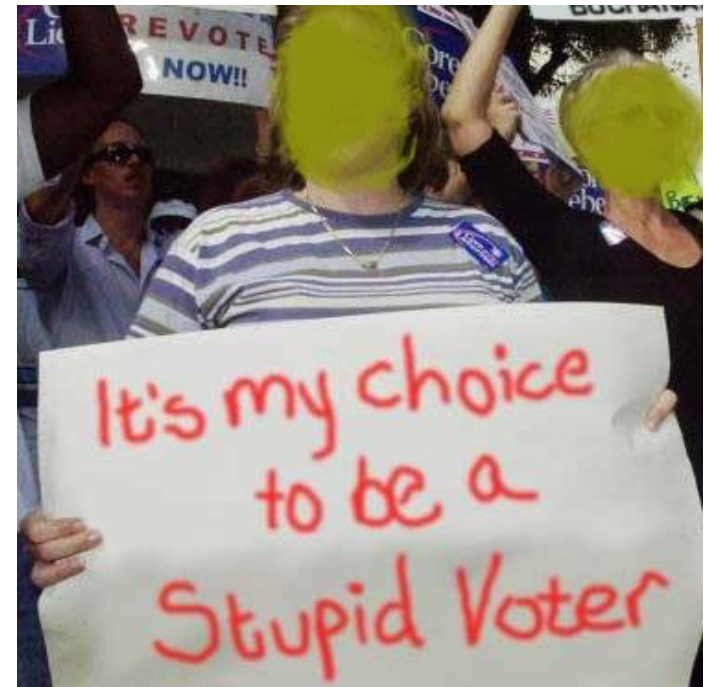
# Meetings

- Do you get representative participation?



# Meetings

- Do you get constructive and informed input?



# Emails

- Are emailers representative of non-emailers?



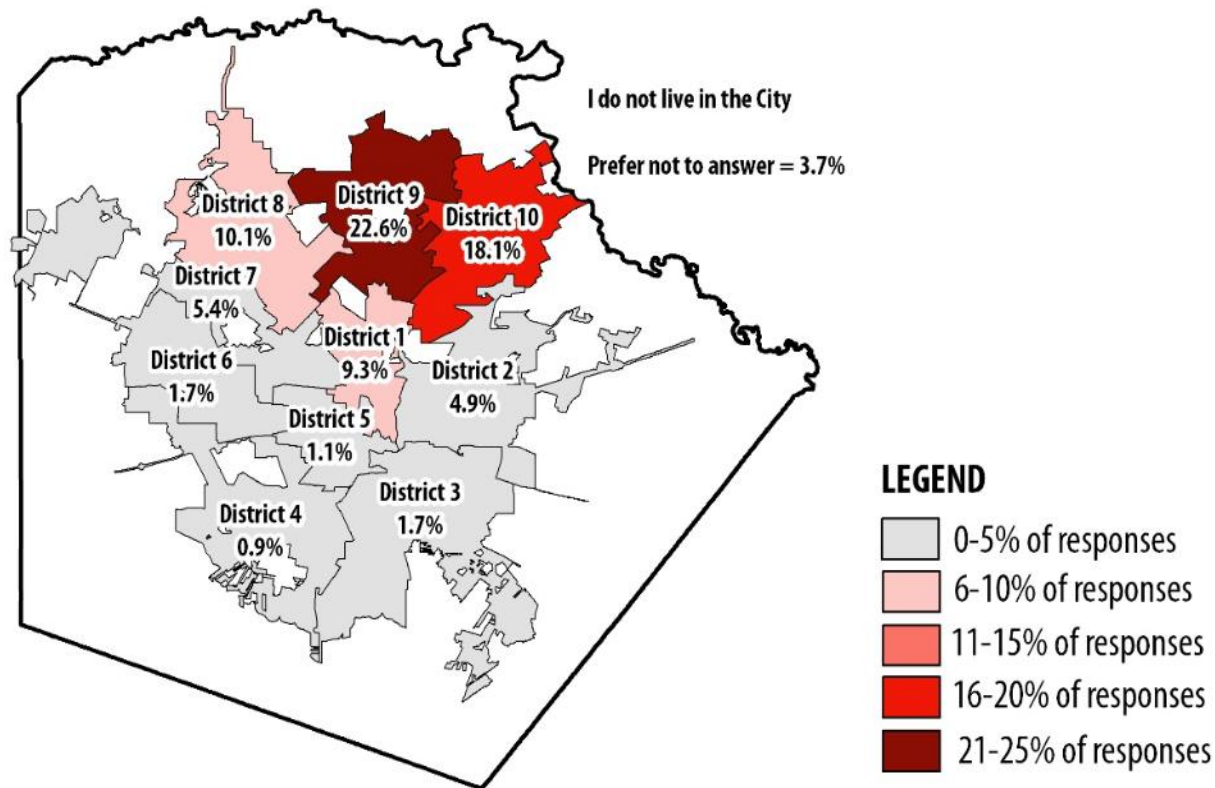
# Social Media

- Are posters representative of non-posters?

$$\frac{\text{Viewing}}{\text{Posting}} > 100x$$

# Online Engagement Tools

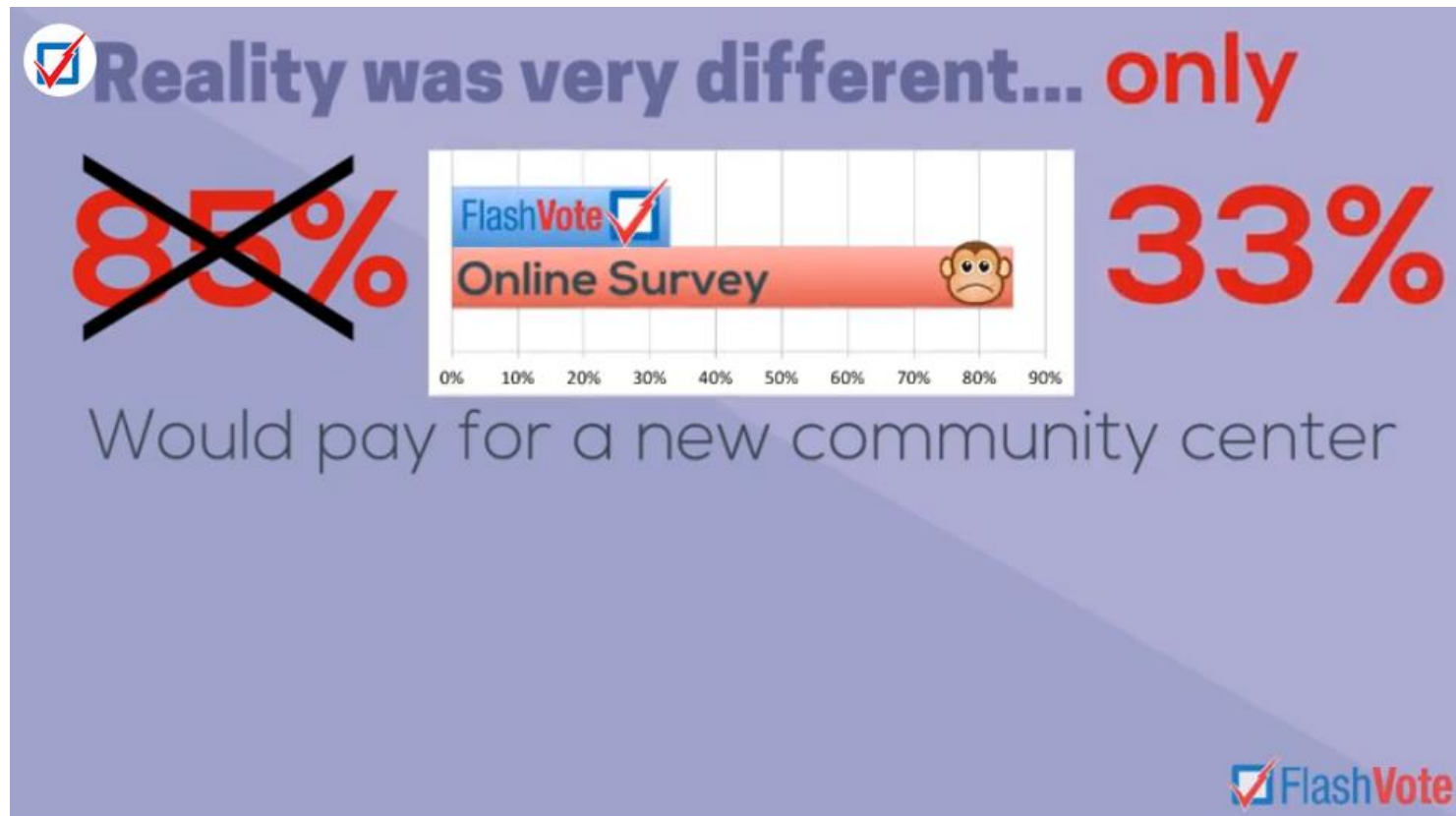
- Are users representative of non-users?



# of respondents (Survey #2): 494

# Online Surveys

- Are responders representative of non-responders?



# What Goes Wrong With All?

---

- The noisy are not representative of the many
  - People follow the topics they are interested in
  - They participate in a topic because of their interest
  - They tell like-minded friends to participate
  - They can participate multiple times if motivated

# What Goes Wrong With All?

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  - They tell like-minded friends to participate
  - They can participate multiple times if motivated



# HOW TO GET COMMUNITY PREFERENCE DATA THAT IS **VALID**

# Scientific Mailed Surveys



- What percentage of Americans are over 65?

# Scientific Mailed Surveys



- What percentage of Americans are over 65?

16%

# Scientific Mailed Surveys



- What percentage of Americans are over 65?

16%

- What is a typical percentage of completed surveys that come from people over 65?

# Scientific Mailed Surveys



- What percentage of Americans are over 65?

16%

- What is a typical percentage of completed surveys that come from people over 65?

50%

# Scientific Mailed Surveys



- What percentage of Americans are over 65?

16%

- What is a typical percentage of completed surveys that come from people over 65?

50%

# Scientific Phone Surveys

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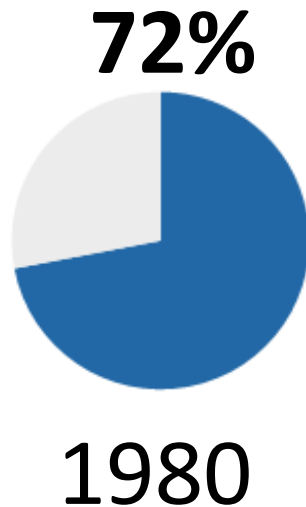
- Response rates to RDD phone surveys

1980

# Scientific Phone Surveys



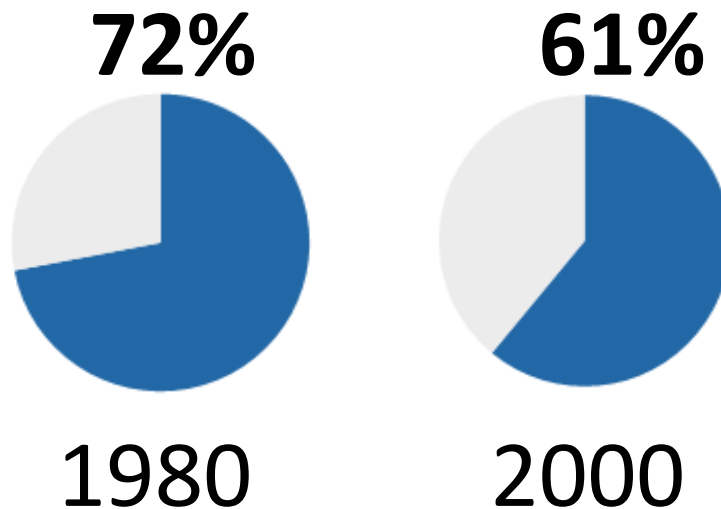
- Response rates to RDD phone surveys



# Scientific Phone Surveys



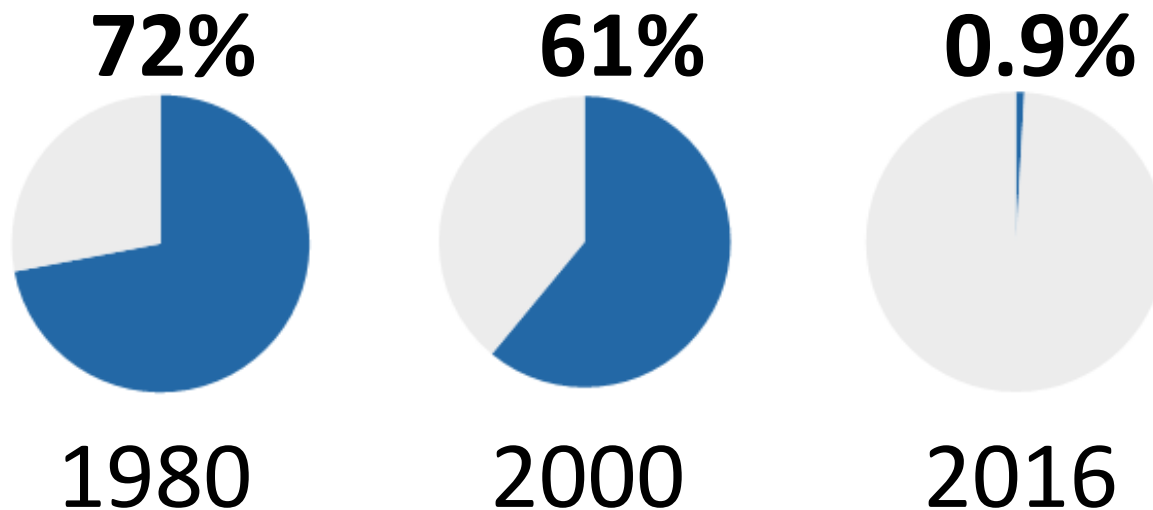
- Response rates to RDD phone surveys



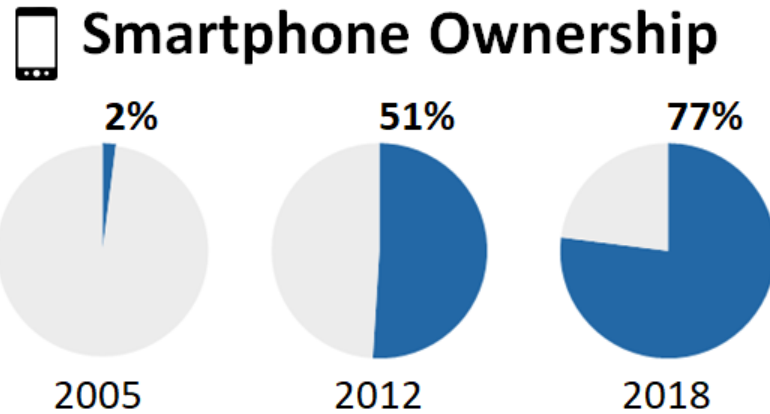
# Scientific Phone Surveys



- Response rates to RDD phone surveys



# Scientific Panels



Pew Research Center

SEARCH...

FEBRUARY 27, 2019



## What our transition to online polling means for decades of phone survey trends

BY COURTNEY KENNEDY AND CLAUDIA DEANE

From the 1980s until relatively recently, most national polling organizations conducted surveys by telephone, relying on live interviewers to call randomly selected Americans

### RELATED

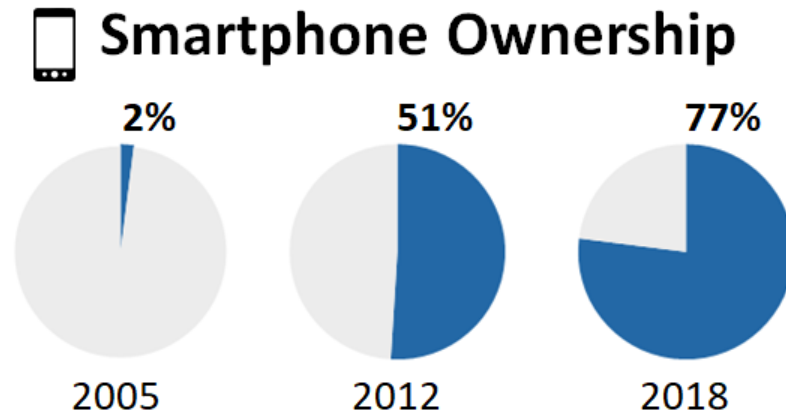
FACT TANK | FEBRUARY 27, 2019

Response rates in telephone surveys have resumed their decline

FACT TANK | JUNE 16, 2017

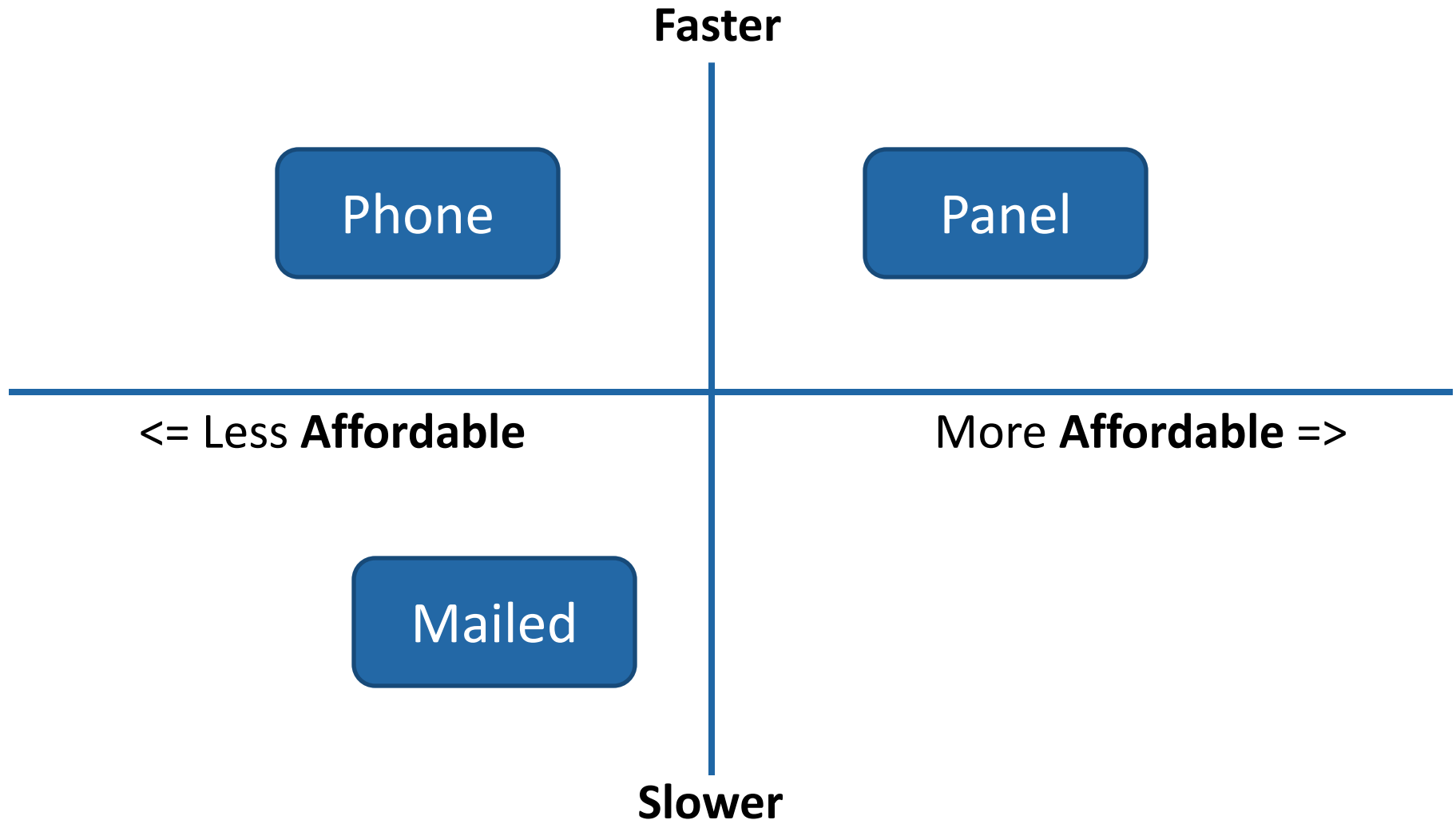
Q&A: Pew Research Center's president on key issues in

# Scientific Panels

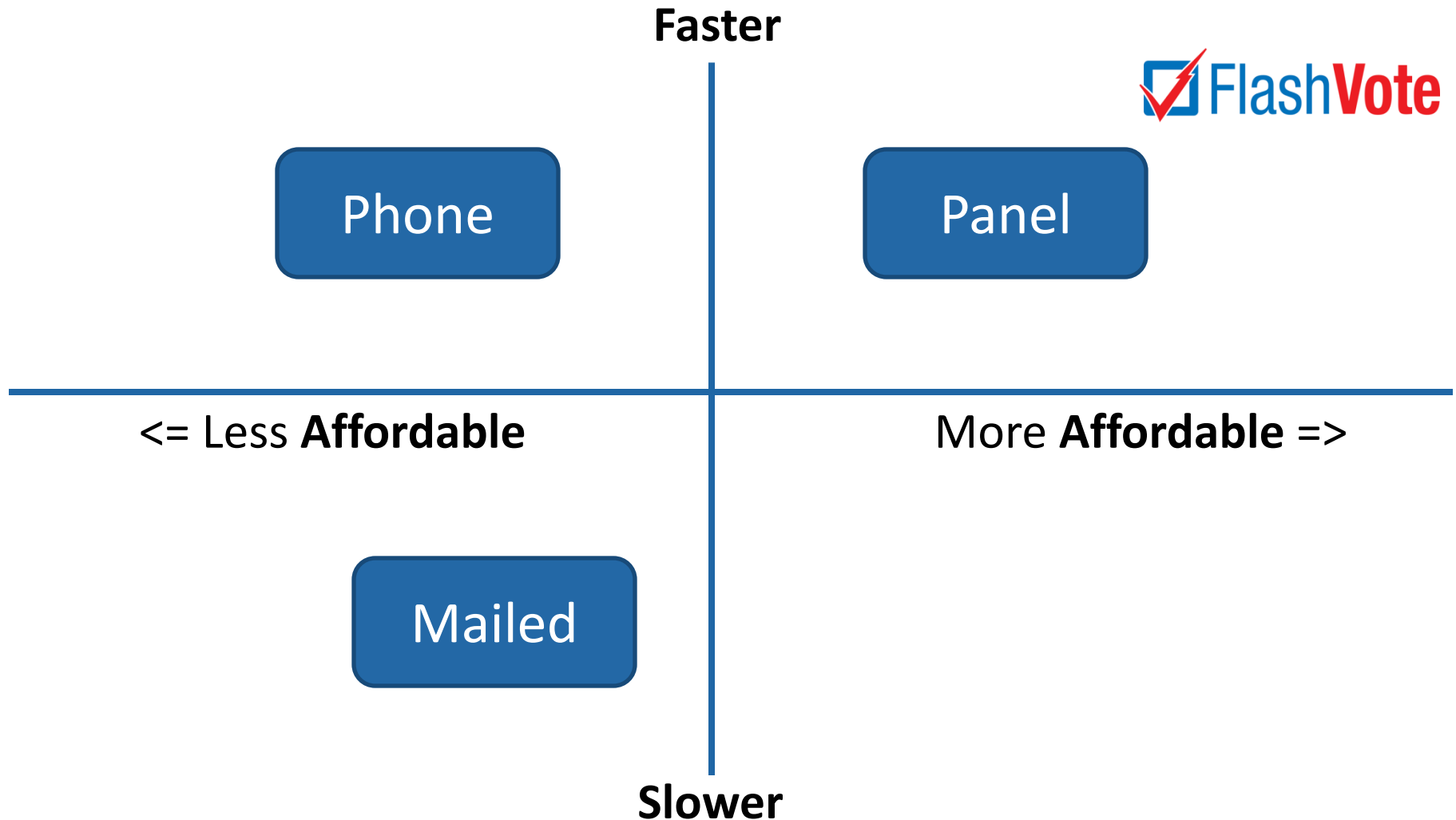


- Upfront effort to create good panel
- Needs to be random/uncorrelated
- Need to track potential biases relative to topics

# Rough Comparison



# For Local Governments



# **WHEN DO YOU NEED INDIVIDUAL FACTS/IDEAS/FEEDBACK?**

# Always... If “New? True? For You?”

---

- Is it **new**?
  - Do you already know it? (Yes/No/Not Sure)
- Is it **true**?
  - Is it a statement of fact? (Yes/No/Not Sure)
- Is it **for you**?
  - Does it pertain to your activities? (Yes/No/Not Sure)

# But You Need All Three

- Is it **new**?
  - Do you already know it? (YES)
- Is it **true**?
  - Is it a statement of fact? (YES)
- Is it **for you**?
  - Does it pertain to your activities? (YES)

**Need 3/3**



# New? True? For You? - Examples

- There is a pothole at Main and 1st

- Second report of the same pothole

- I used the new bike lane

- The community wants more bike lanes

# New? True? For You? - Examples



- There is a pothole at Main and 1st



- Second report of the same pothole

- I used the new bike lane



- The community wants more bike lanes



# HOW TO **GET** HELPFUL INDIVIDUAL FACTS/IDEAS/FEEDBACK?

# You Can Ask Open Questions

---

- Ask **open-ended factual** questions
  - Anyone know a good pizza place?
  - Any ideas for the vacant lot near the school?
  - What would you change about trash service?
- Never ask **preference** questions
  - Who makes the best pizza?
  - Should we build a field or a playground?
  - Should we change recycling to every other week?

# Good or Bad Online Question?

3. In response to the COVID-19 pandemic, the City is exploring ways to assist restaurants and businesses in meeting the COVID-19 safety protocols. One of those measures is **temporarily** utilizing adjacent parking spaces in the public right-of-way for outdoor dining and business use.

How supportive are you of this temporary measure in light of COVID-19 safety protocols?

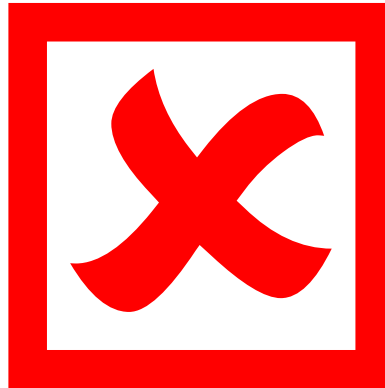
- ☐ Very Supportive
- ☐ Supportive
- ☐ Neutral
- ☐ Not Supportive
- ☐ Not at All Supportive

# Good or Bad Online Question?

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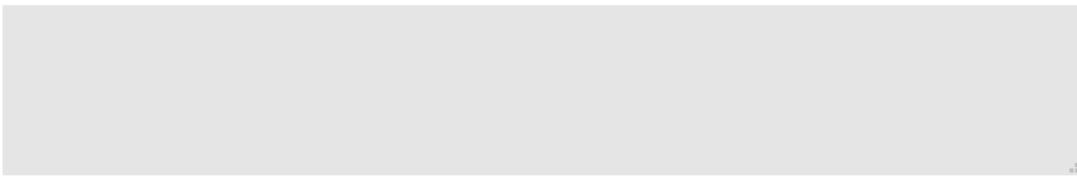
## Individual Preference = Junk Data!

# Good or Bad Online Question?

4. Businesses would be required to comply with City codes and regulations including:

- limit use to business operating hours, but no later than 10 PM,
- maintain sidewalk width for pedestrians,
- provide accessibility for all users,
- adhere to social distancing,
- comply with state requirements for alcohol service,
- provide traffic safety barriers,
- prohibit live entertainment and music, and
- maintain cleanliness.

Are there any additional considerations that should be addressed?

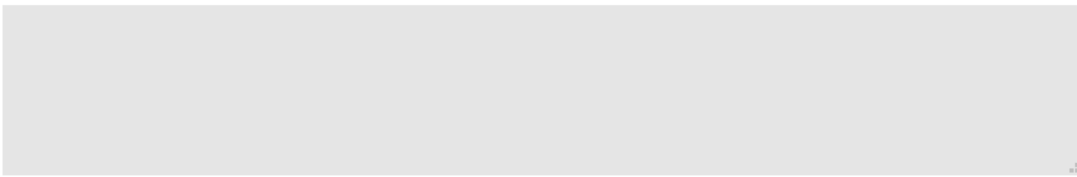


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Are there any additional considerations that should be addressed?



## Individual Fact/Idea = Good Data!

# Use Whatever You Have



DON'T HESITATE TO USE:

- Meetings
- Complaints
- Emails
- Social Media
- Online Engagement Tools
- Online Surveys

TO COLLECT **INDIVIDUAL FACTS/IDEAS/FEEDBACK**

# Just Not For Community Preferences!



## WARNING

NEVER ATTEMPT TO USE:

- Meetings
- Complaints
- Emails
- Social Media
- Online Engagement Tools
- Online Surveys

TO GAUGE **COMMUNITY PREFERENCES**

# Online Surveys Need Special Warning



**DANGER**



DO NOT ATTEMPT to use  
online survey tools to  
survey your community.

They are for small groups or  
amusement only.

**SO WHICH CHANNELS FOR  
WHICH INPUT?**

# Facts vs Community Preferences

## FACTS

- New?
- True?
- For You?

## COMMUNITY PREFERENCES

- Large number?
- Not self-selected?
- Good questions?

# Simple Guide to Community Input

|                              | Meetings, Emails, Social Media, Online Engagement/Surveys | Scientific Community Surveys |
|------------------------------|-----------------------------------------------------------|------------------------------|
| Interaction (Q&A)            | ✓ YES                                                     | ✗ NO                         |
| New Facts, Ideas or Feedback | ✓ YES                                                     | ✓ YES                        |
| Community Preferences        | ✗ NO                                                      | ✓ YES                        |

# Expanded Guide to Community Input

| Input Type        | What to Do?<br>-Ideas/Facts | What to Do?<br>-Preferences | How to Do?<br>-Ideas/Facts | How to Do?<br>-Preferences |
|-------------------|-----------------------------|-----------------------------|----------------------------|----------------------------|
| Meeting/Workshop  | Y                           |                             | Y                          |                            |
| Phone Calls       | Y                           |                             | Y                          |                            |
| Emails            | Y                           |                             | Y                          |                            |
| Social Media      | Y                           |                             | Y                          |                            |
| Online Surveys    | Y                           |                             | Y                          |                            |
| Online Engagement | Y                           |                             | Y                          |                            |
| 311               | Y                           |                             | Y                          |                            |
| Scientific Panel  | Y                           | Y                           | Y                          | Y                          |
| Scientific Mail   | Y                           | Y                           | Y                          | Y                          |
| Scientific Phone  | Y                           | Y                           | Y                          | Y                          |
| Elections         |                             | Y                           |                            |                            |

# REMEMBER QUICK POLL #3?

- Which best describes how you feel about online polls/surveys?

☒ (x) Good data, glad we can get it -- Facts/ideas

☐ ( ) Probably not great, but better than nothing

☒ (x) Bad data, would never use it -- Preferences

☐ ( ) Not Sure

# CONCLUSION: **ASK ME ANYTHING**

**THANK YOU!**

**[kevin@flashvote.com](mailto:kevin@flashvote.com)**

**END**

# BONUS: **TIPS AND TRICKS**

# Trick: Bait and Switch Survey

---

- Attract people based on one topic
- Sneak in a question(s) totally unrelated to topic
- Ex: “Take the community center survey”
  - “Do you recycle used oil?”

# Trick: Uncorrelated Intercept Sample

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- Go somewhere pretty much everyone goes
- Do quick in person interview questions
- Track demographics based on observation
- Get 50 to 100 responses (+/-14% to +/- 10%)

# Engagement Tips Part 1

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- Use **meetings, complaints, emails and social media** only to listen for interesting facts, ideas, and other helpful feedback (new/true/for you)
- **Ignore** all statements about personal or community preferences
- **Ignore** any percentages or sentiments observed online or in person

# Engagement Tips Part 2

---

- Use **online engagement** for public Q & A and “project pages” where you can centralize information and common interactions
- Use **online surveys** for small groups with similar interests like tennis players or even employees, where you can get high response rates (50%+)

# **BONUS EXERCISE: BOOTSTRAPPING A USABLE COMMUNITY SAMPLE**

# Unbiased Sample?



# Unbiased Sample?



# Unbiased Sample?



# Unbiased Sample?



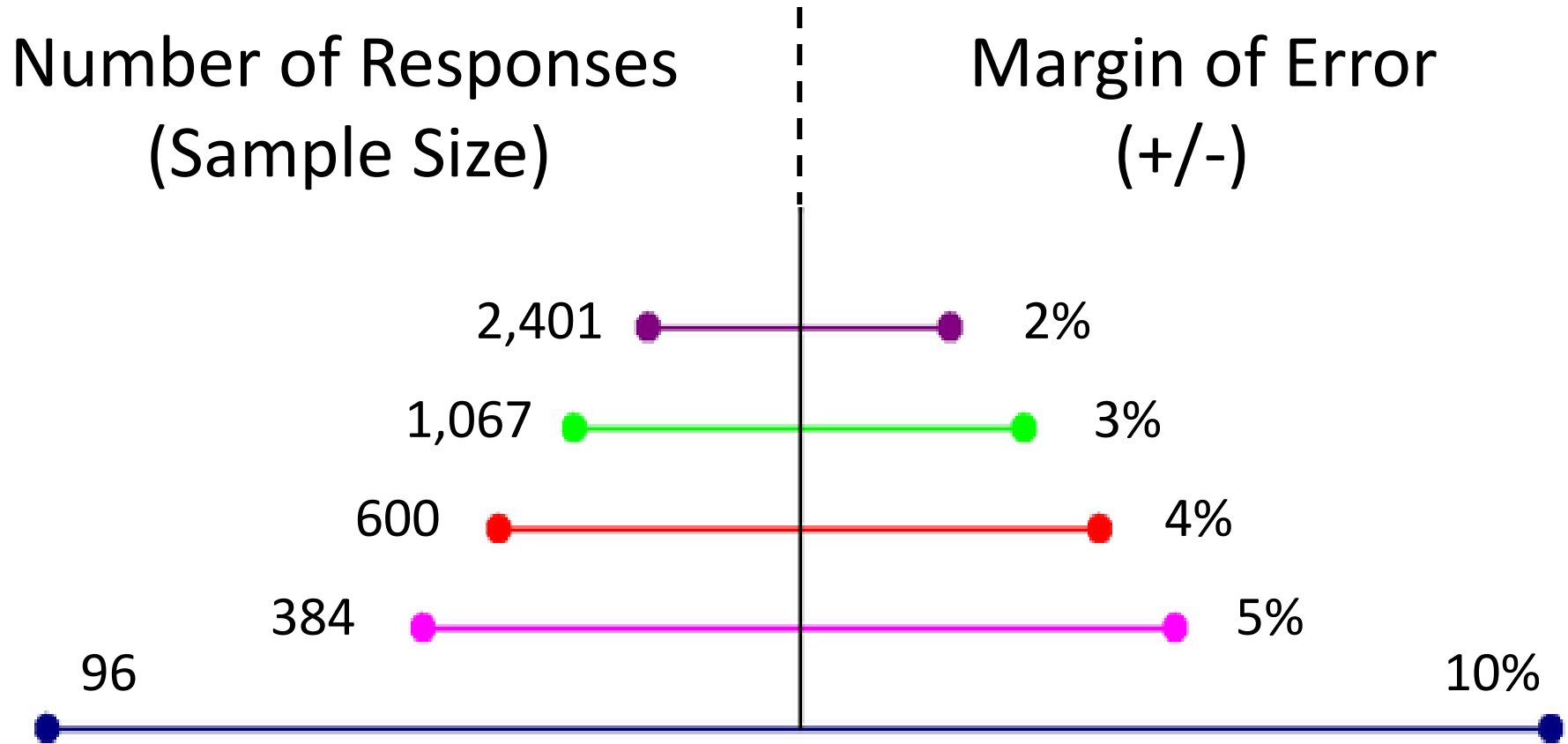
# Unbiased Sample?



# Unbiased Sample?



# Statistically Meaningful Numbers



Resource: [www.flashvote.com/margin-of-error](http://www.flashvote.com/margin-of-error)