

# The Surprising Science of Public Input

**What's Helpful? What's Useless?  
What's Dangerous? And What to Do  
Differently Tomorrow**

***Thursday, February 18, 2021 @ 1pm ET***

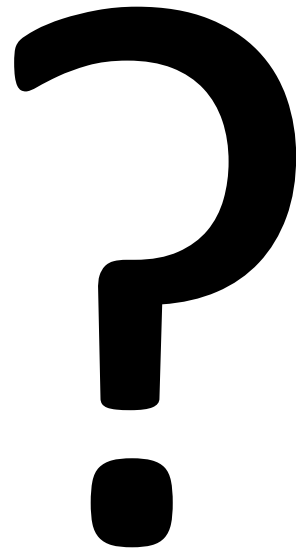
**Kevin Lyons, Chief Scientist, Governance Sciences Group**  
**[kevin@flashvote.com](mailto:kevin@flashvote.com) or 510-593-4901**



# What Do You Want to Know?

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- “Don’t tell me what you know... tell me what I want to know”
  - Let’s test the chat/meeting stuff



# Where Are We Going?

- Intro: What data is helpful? (5 min)
- Part 1: COVID data lessons (10 min)
- Part 2: Science of public input data (20 min)
- Part 3: Getting the right data (25 min)
- Q&A plus Workshop (30 min)

# QUICK POLL #1

- 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

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# INTRODUCTION: WHAT DATA IS HELPFUL?

# Two Ways to Move Rocks



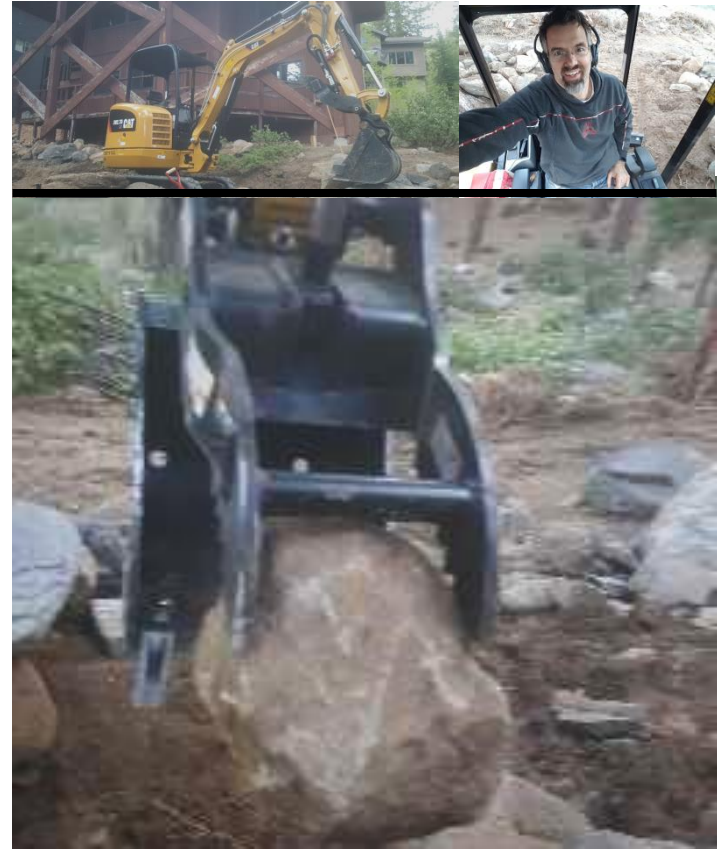
A

B

# Two Ways to Move Rocks



A



B

# Working Harder vs Smarter

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**Harder** = *“More time and effort”*

1 extra hour = ?



# Working Harder vs Smarter

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

1 extra hour = ?

# Working Harder vs Smarter

---

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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”?

**Harder** = *“More time and effort”*  
**How much you do**

**Smarter** = *“Better processes/tools”*  
 **How you do it**



# But... What About “Working Wiser”?

**Harder** = “*More time and effort*”

**How much** you do

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



**How** you do it



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

**What** you do

# Work Smarter vs Wiser

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

Ex: **\$4.8 million** saves **\$15 million (3x)**  
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Ex: **\$5 thousand** saves **\$7 million (1000x)**  
by changing **one decision** (*Survey Data*)



# Work Smarter vs Wiser

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

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

Ex: **\$5 thousand** saves **\$7 million (1000x)**  
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# But How Do You Get Wiser?



# Better Data for Better Decisions



# “What To Do” Matters Most



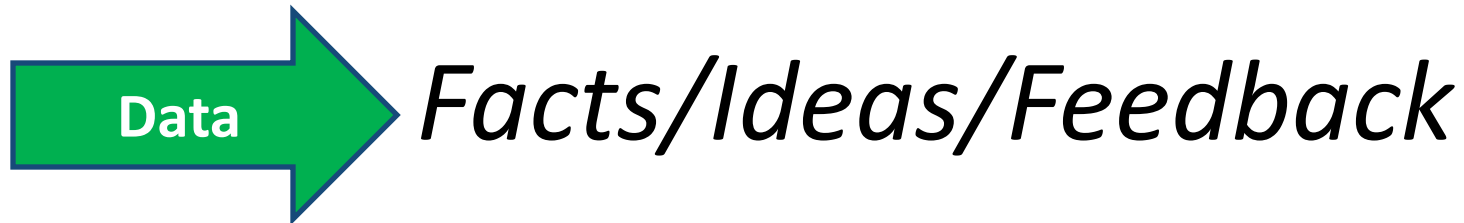
# “What To Do” Requires Input



# How Input Data is Helpful For You

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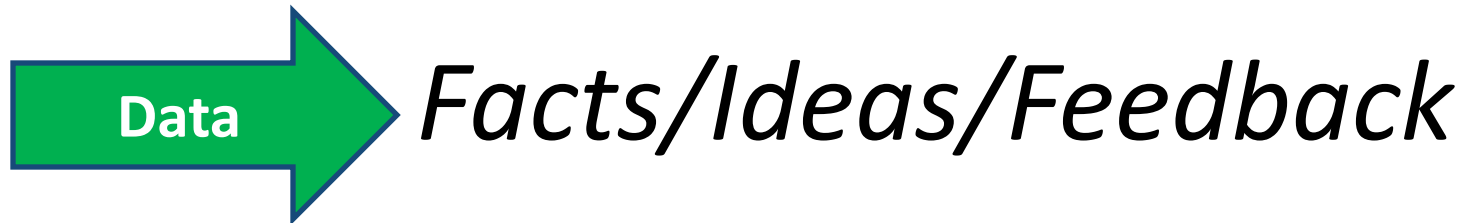
“Work Smarter” = **How** to do



# How Input Data is Helpful For You

---

“Work Smarter” = **How** to do



“Work Wiser” = **What** to do



# How Input Data is Helpful For You

“Smarter” = **2x to 10x+ Returns**

**Data** → *Facts/Ideas/Feedback*

“Wiser” = **100x to 1000x+ Returns**

**Data** → *Community Preferences*



# TWO DATA CHALLENGES TO KEEP IN MIND

# #1: We're Not Natural Statisticians

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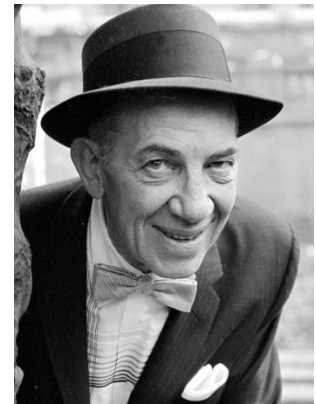
5 out of 4 Americans Do Not Understand Statistics

**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**

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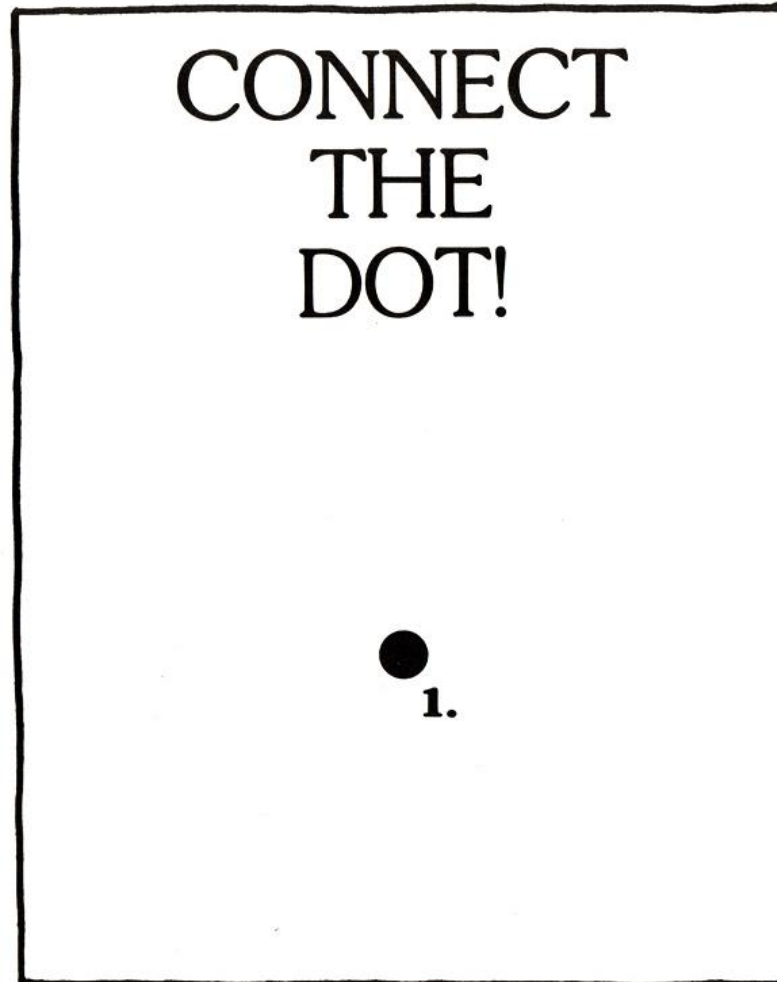
# PART 1: COVID-19 DATA

# 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?



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# A COVID-19 STORY: **DATA SAMPLES**

# QUICK POLL #2

For people that catch COVID-19, what do you think is the 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 (2/17/21)

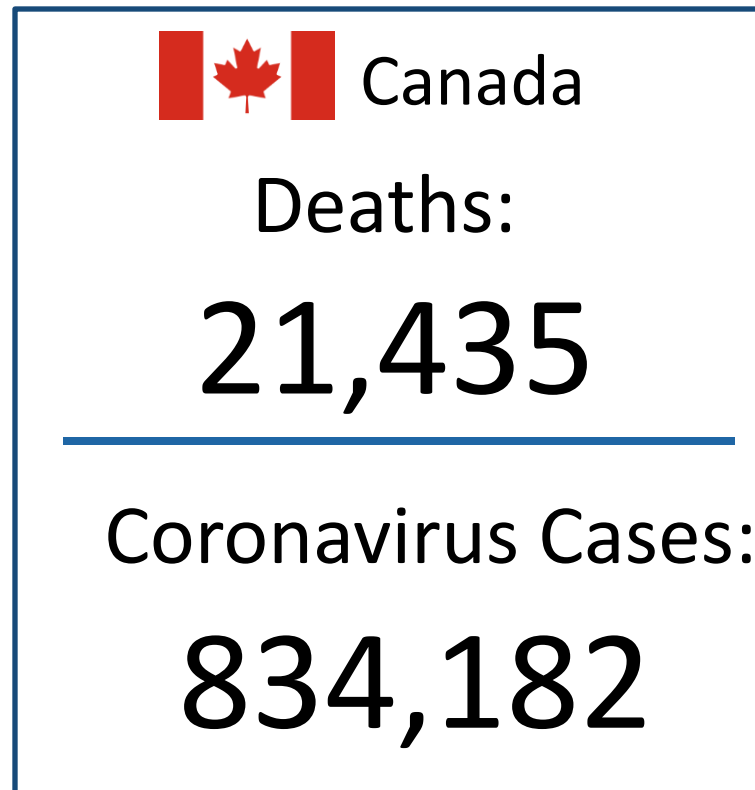
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- What is the risk of dying from COVID-19?

# COVID-19 Fatality Risk (2/17/21)

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

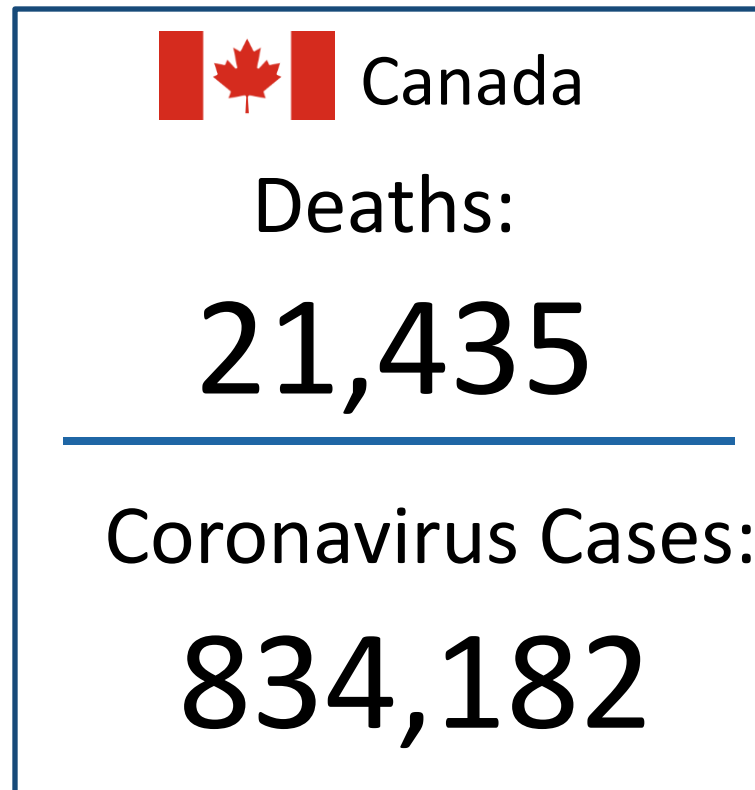
• **Hint:**



# COVID-19 Fatality Risk (2/17/21)

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

• Hint:



**= 2.6%**

# Hold On... Who Has Been Tested?

---

# 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

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- For “**Infection Fatality Rate**” (IFR) need to know **all infections** not just tested/confirmed cases

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- Need a **random** sample that is not **related** to positive test results (an **uncorrelated** 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)
- Specific Test: Have you **ever had** COVID-19?
  - “Blood Test” for antibodies

# April 17, 2020: First US Antibody Study

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**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

- 0.15% of county confirmed, but ~3% of sample positive

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



# 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

# Both Samples Biased By “Self-Selection”

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**✘ 0.1% IFR (too low)**

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

**✘ 3% IFR (too high)**

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

# BTW... Current IFR Best Estimate?

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US CDC Estimate

0.2% to 1.0%

# My Guess in May 2020: 0.3% to 0.5%

- 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 #2: ANSWER

For people that catch COVID-19, what do you think is the 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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More than 20% (201+ die)



# Guess Who Else Was Off?

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**  
@HIGGINSDUNN

SHARE



# Takeaway #1

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Self-selection makes COVID  
testing data unrepresentative

(and public input data too...)

# COVID-19: **AGGREGATING DATA**

# (Your) Mortality Risk from COVID-19?

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What does 0.4% risk mean  
for **you personally**?

# (Your) Mortality Risk from COVID-19?

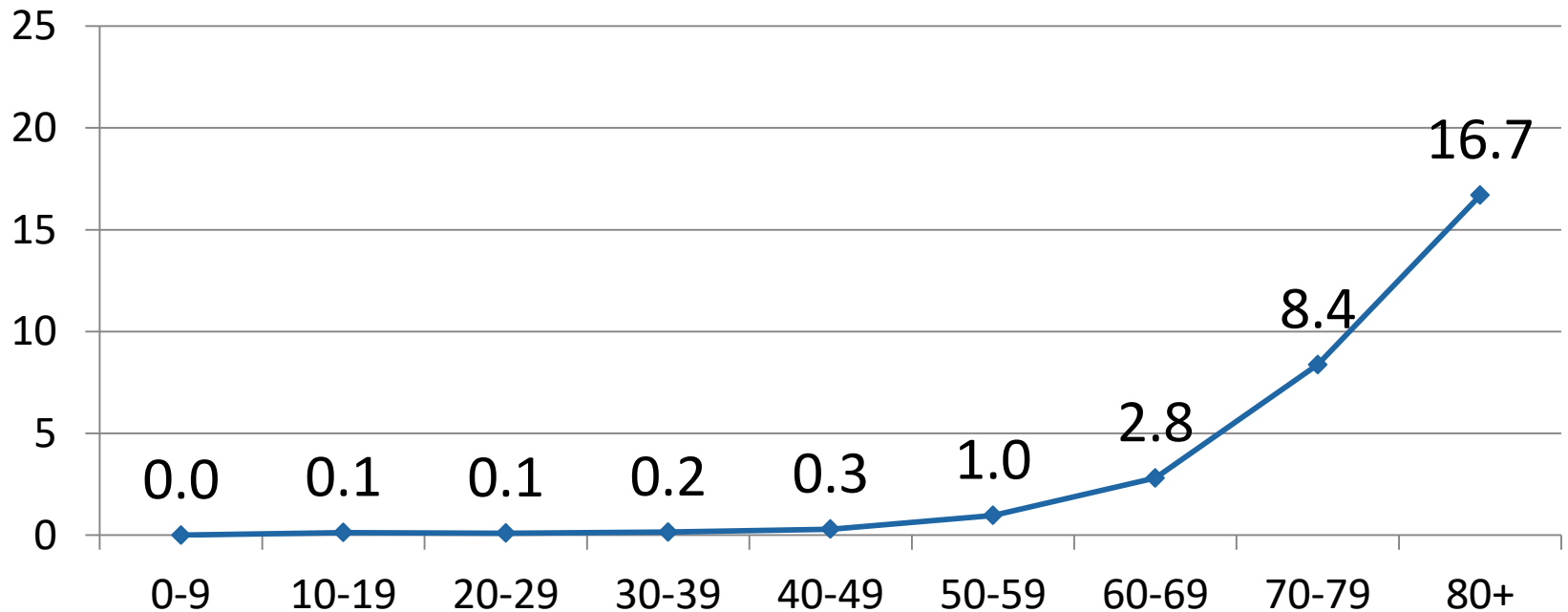
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What does 0.4% risk mean  
for **you personally**?

Almost nothing...

# COVID-19 Risk by Age – 5 Countries

## Average Case Fatality Rate (%)



# Under 40 in Canada

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- Percent of Canadians under 40

50%

- Percent of Canadian COVID deaths under 40

# Under 40 in Canada

---

- Percent of Canadians under 40

50%

- Percent of Canadian COVID deaths under 40

0.4% (97 total)



# 80 or Older in Canada

---

- Percent of Canadians 80 or older

3.5%

- Percent of Canadian COVID deaths 80 or older

# 80 or Older in Canada

---

- Percent of Canadians 80 or older

3.5%

- Percent of Canadian COVID deaths 80 or older

69.7% (14,581 total)

# Aggregated Data Hides Information

- Age 65-74 has **90x risk** of 18-29
- Age 75-84 has **220x risk** of 18-29

Rate ratios compared to 18-29 year olds	0-4 years	5-17 years	18-29 years	30-39 years	40-49 years	50-64 years	65-74 years	75-84 years	85+ years
HOSPITALIZATION <sup>1</sup>	4x lower	9x lower	Comparison Group	2x higher	3x higher	4x higher	5x higher	8x higher	13x higher
DEATH <sup>2</sup>	9x lower	16x lower	Comparison Group	4x higher	10x higher	30x higher	90x higher	220x higher	630x higher

# Aggregated Data Hides Information

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- Age 65-74 has **90x risk** of 18-29
- Age 75-84 has **220x risk** of 18-29
  
- So 0.4% tells you **almost nothing – need age!**

# Aggregated Data Hides Information

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- Age 65-74 has **90x risk** of 18-29
- Age 75-84 has **220x risk** of 18-29
- So 0.4% tells you **almost nothing – need age!**
- Need to **disaggregate** data to get information

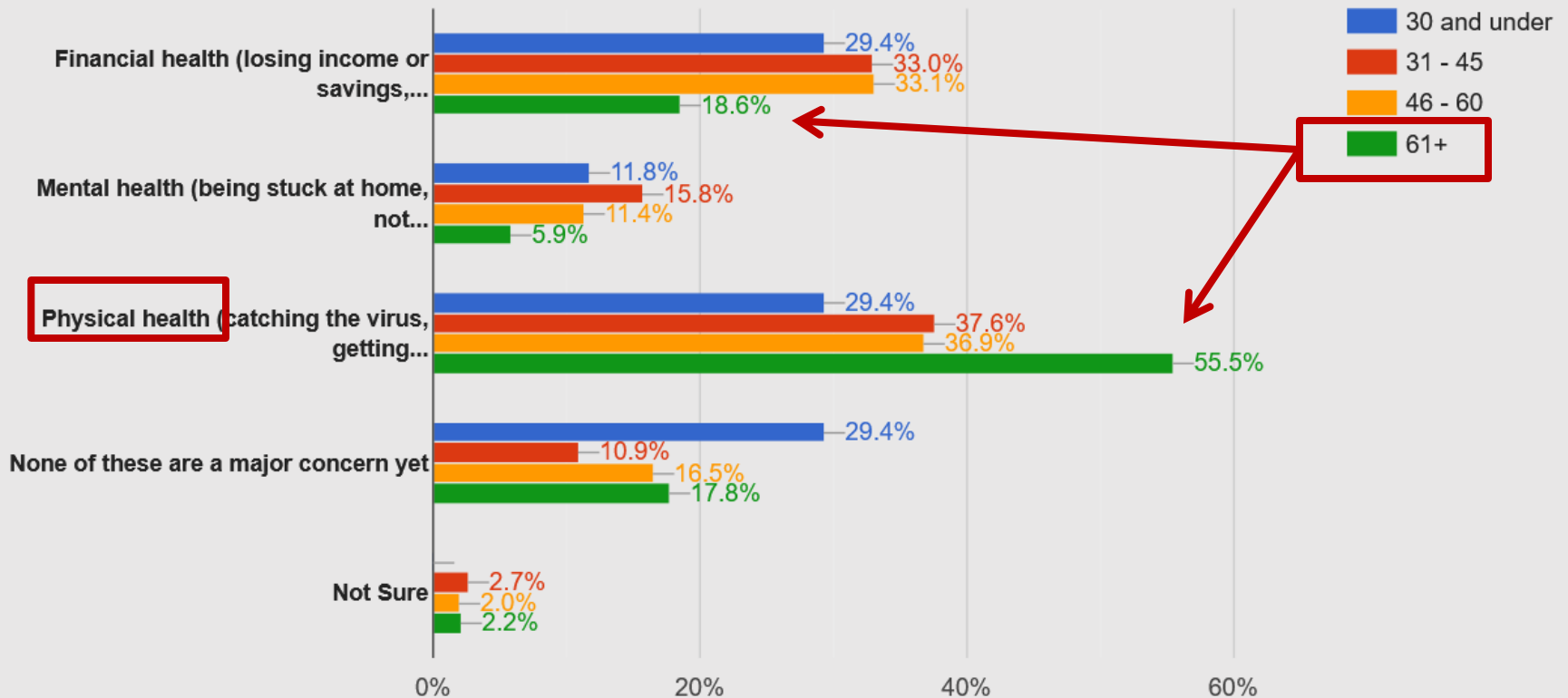
# People Seem to Know Age Risks

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

(1275 responses by age)

[Touch chart bars for details]

Show table view



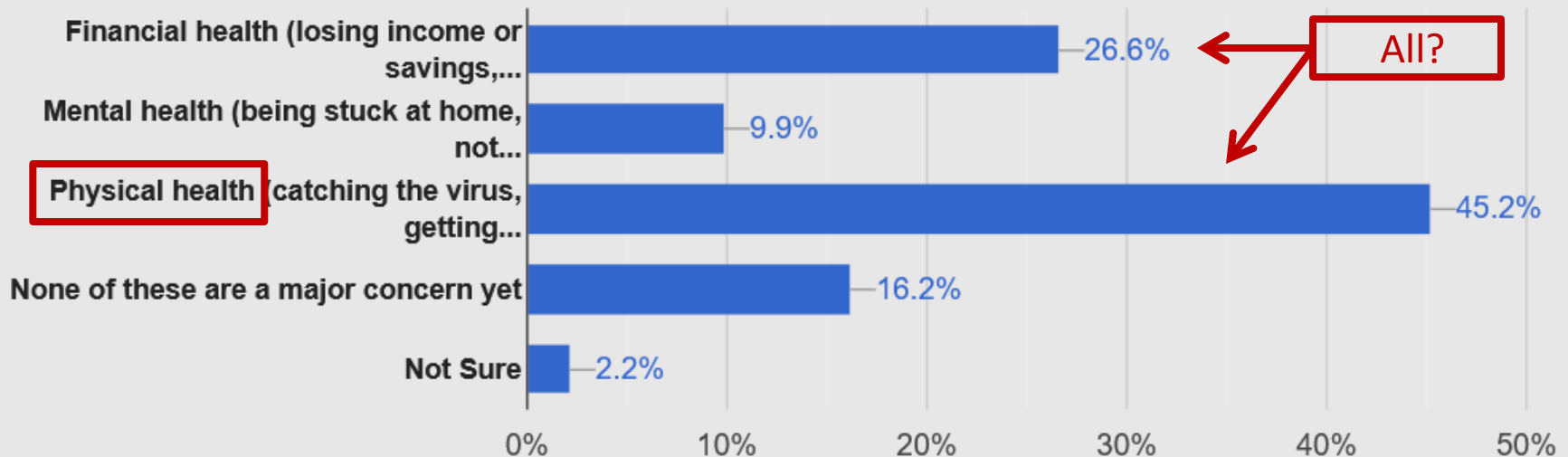
# But Aggregation Obscures

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 #3

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

- Cancer
- Heart Attack
- Dementia
- Flu
- Other

# QUICK POLL #3: ANSWER

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

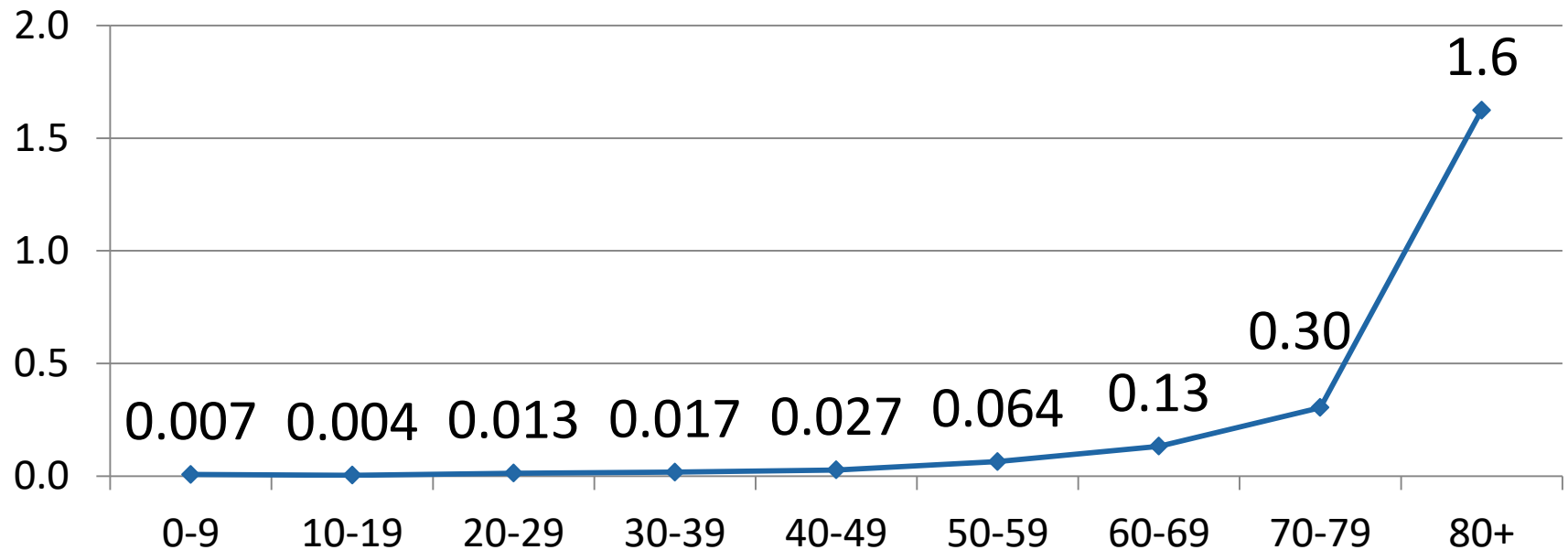
- Cancer
- Heart Attack
- Dementia
- Flu

Other  
**“Turning 75”**



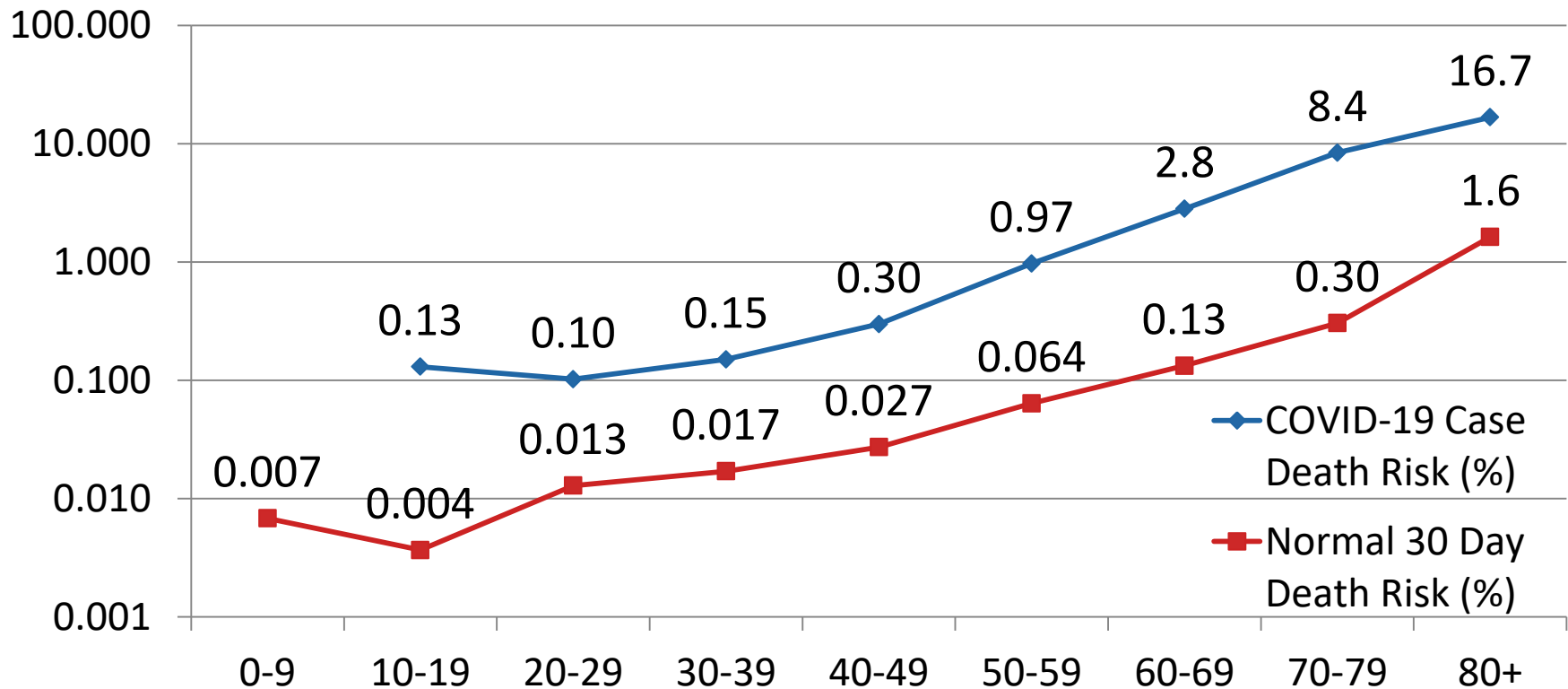
# Mortality Risk from “Being Alive”

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



# Normal Risk vs COVID-19 Case Risk

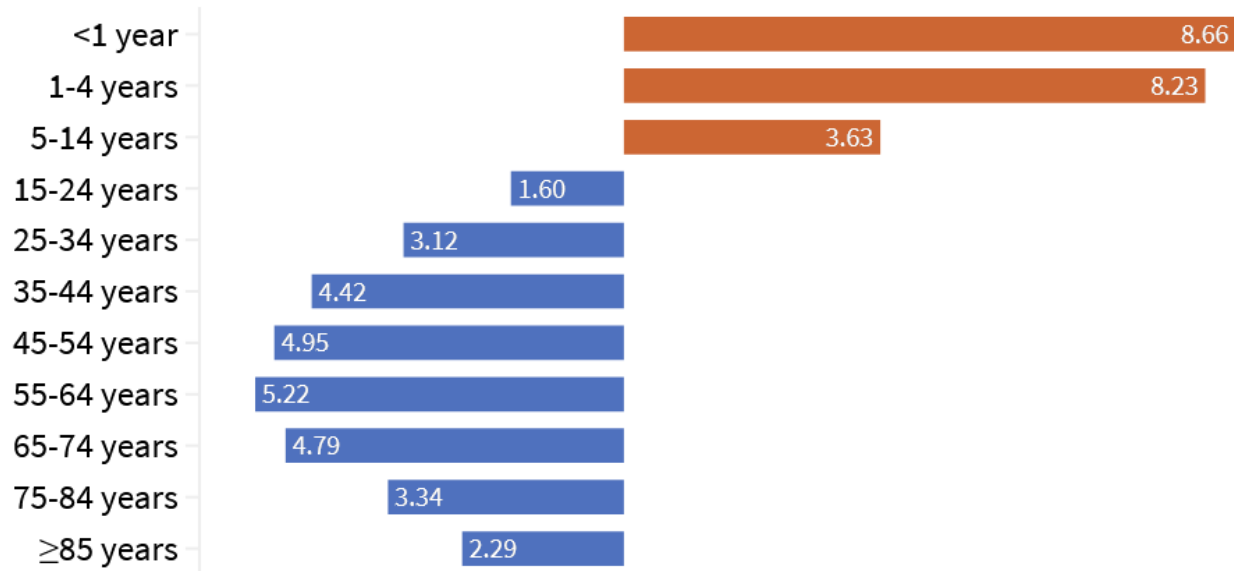
## COVID-19 Case Risk and Normal Risk (%)



# Context: COVID Risk vs Flu Risk By Age

## Estimated Relative Risk of Death from COVID-19 vs. Influenza or Pneumonia

(Assuming 200,000 Total COVID-19 Fatalities)



■ Greater risk of death from COVID-19 ■ Greater risk of death from influenza or pneumonia

Source: [Avik Roy, National Center for Health Statistics, CDC](#)  
Based on CDC data as of August 12, 2020

FREOPP.org

**BUT NOT “JUST THE FLU”**

# Deaths in New York City

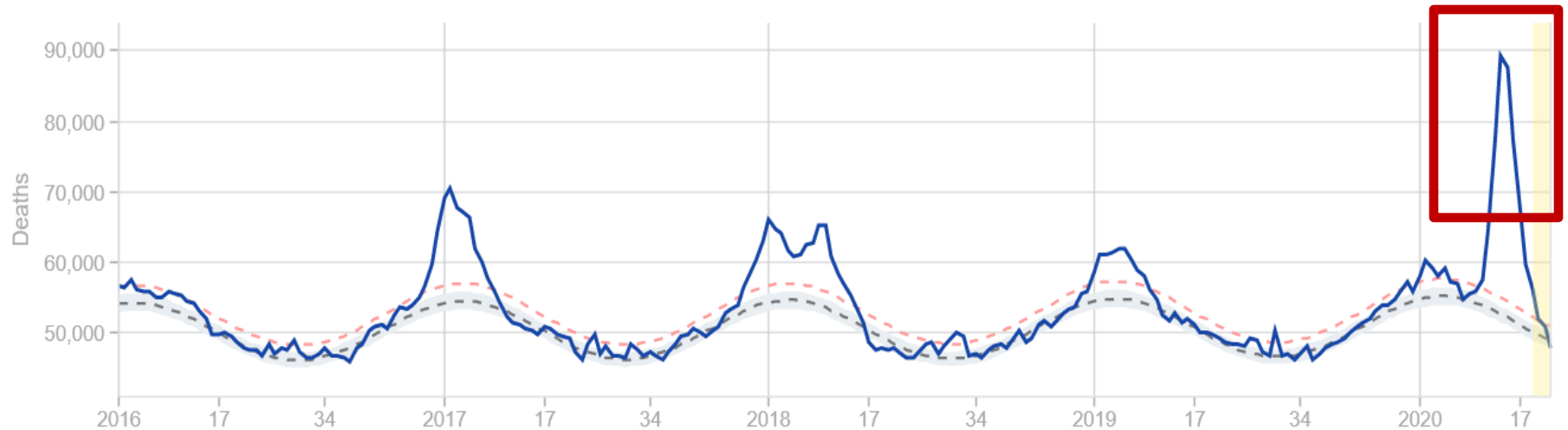
- Seasonal Flu = **0.1% IFR**
- 2/17/21: confirmed deaths in NYC is 28,493 out of 8.4M = **0.34% Population Fatality Rate**
- NYC by antibody test estimate = **0.5% IFR**



# “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

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- 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 deadliest for older age groups...

# How We Failed: Nursing Homes

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- **Good data** told us to overprotect elderly/sick
- US: 0.6% of population... 42% of deaths
- Canada: 1.2% of population... 81% of deaths
- 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...)

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# PART 2: SCIENCE OF PUBLIC INPUT DATA

# Etymology of The Word “Input”

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“input” (n.)

- 1753 "a **sum of cash** put in, a sharing contribution"

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- 1902 "**energy** supplied to a device or machine"

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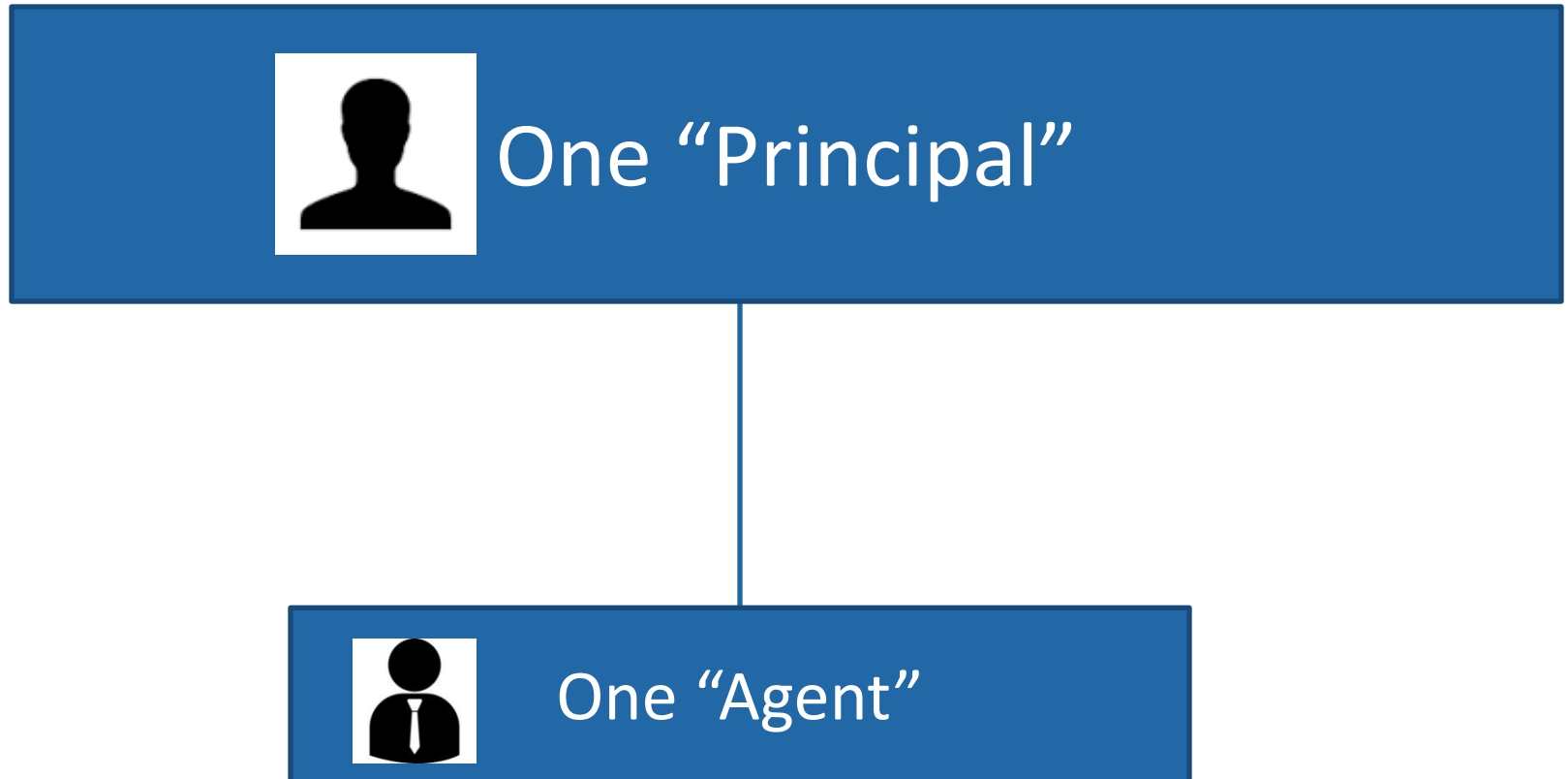
- 1753 "a **sum of cash** put in, a sharing contribution"
- 1902 "**energy** supplied to a device or machine"
- 1948 "**data** fed into a machine"



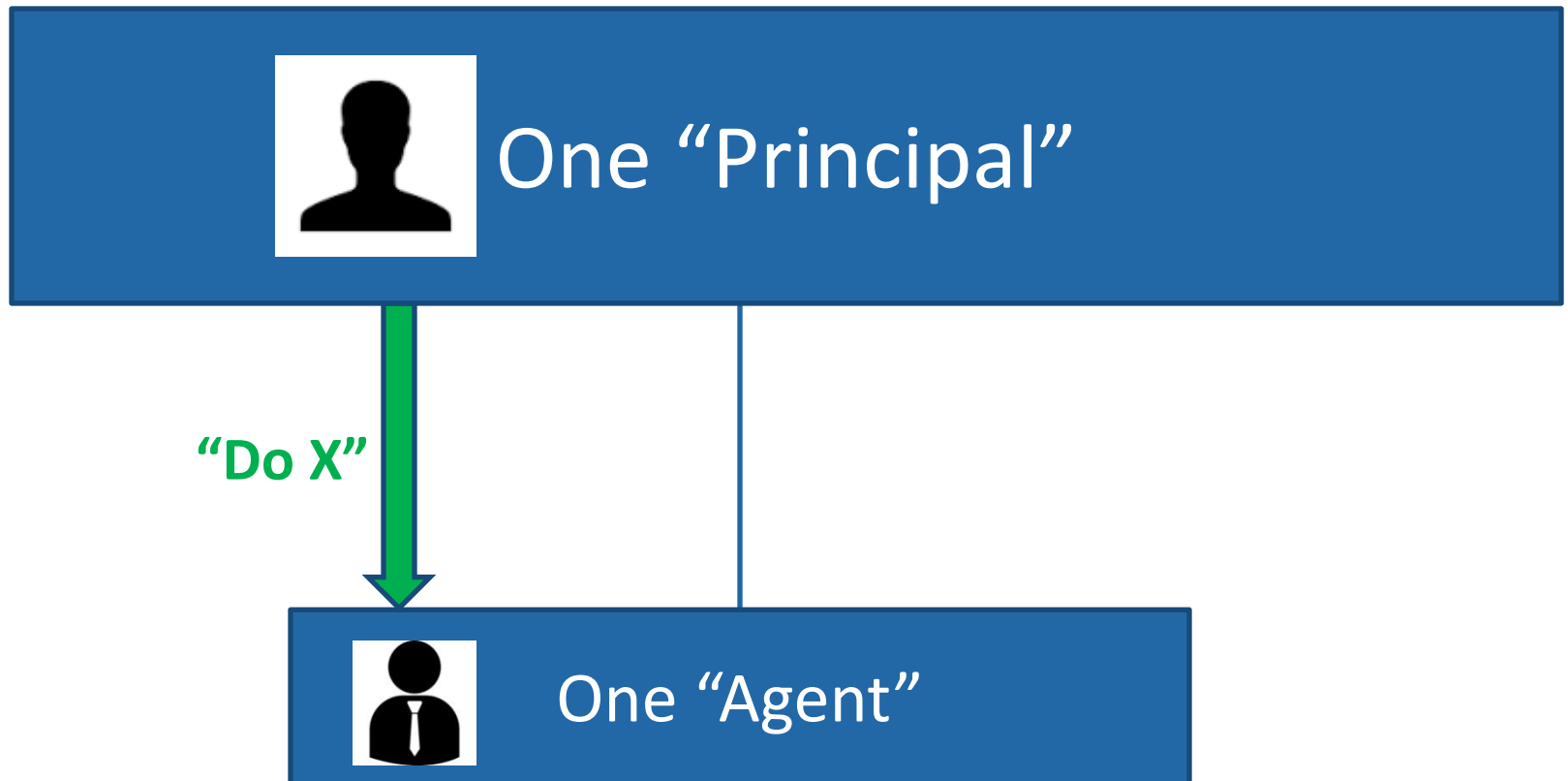
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# THE GOVERNMENT COMMUNICATIONS MACHINE

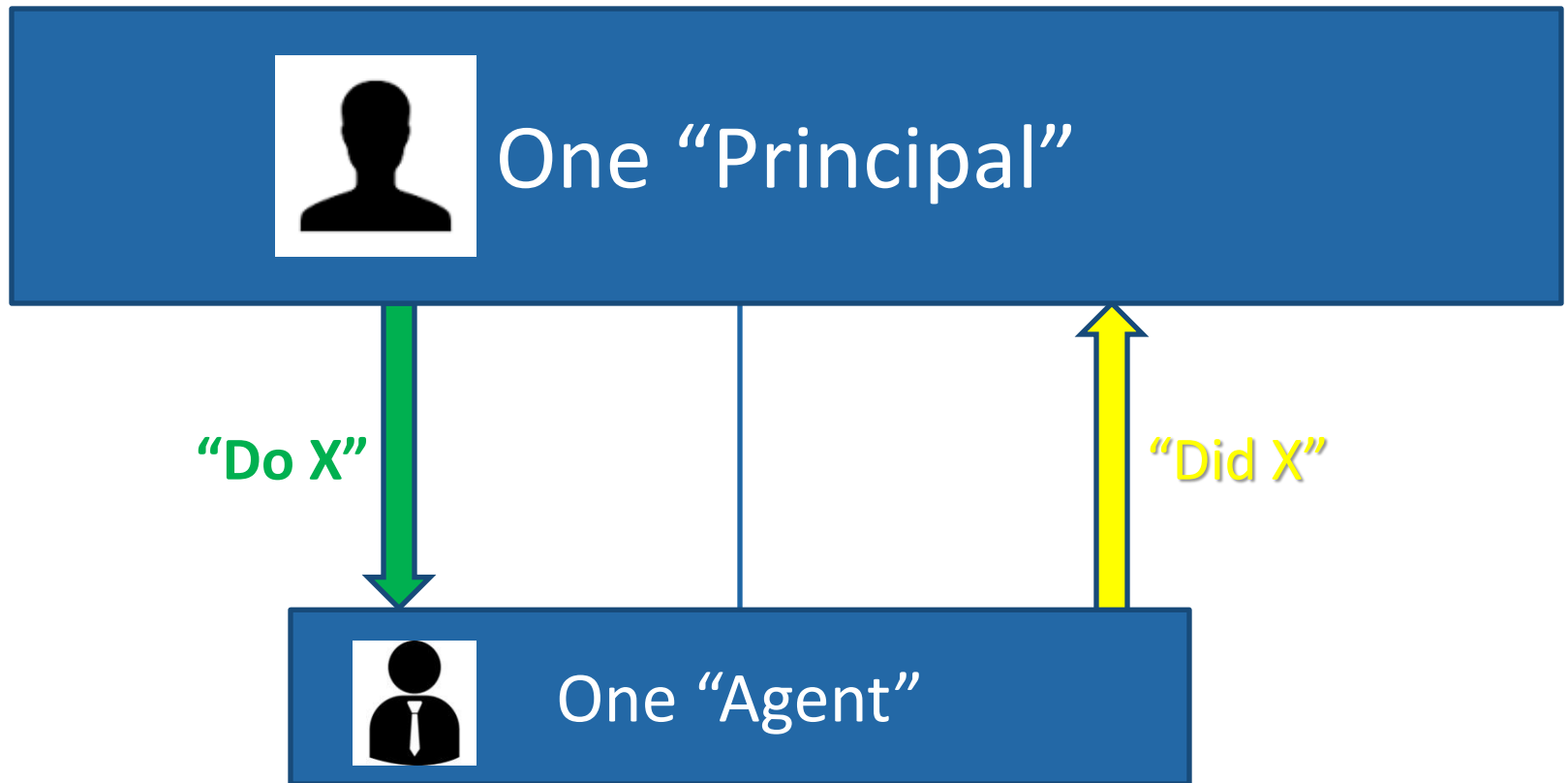
# Basic Fiduciary Org Chart



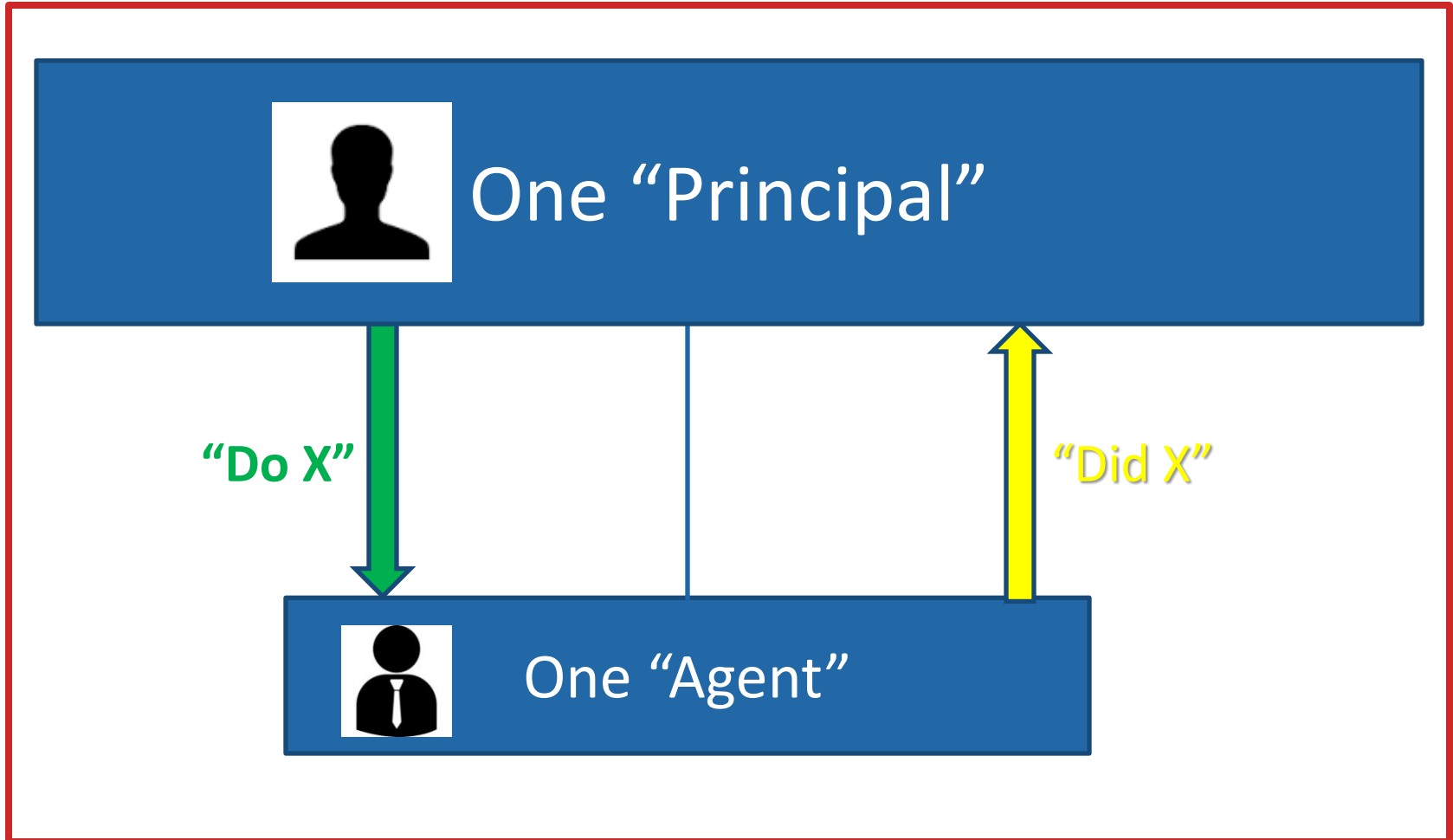
# Give Instructions



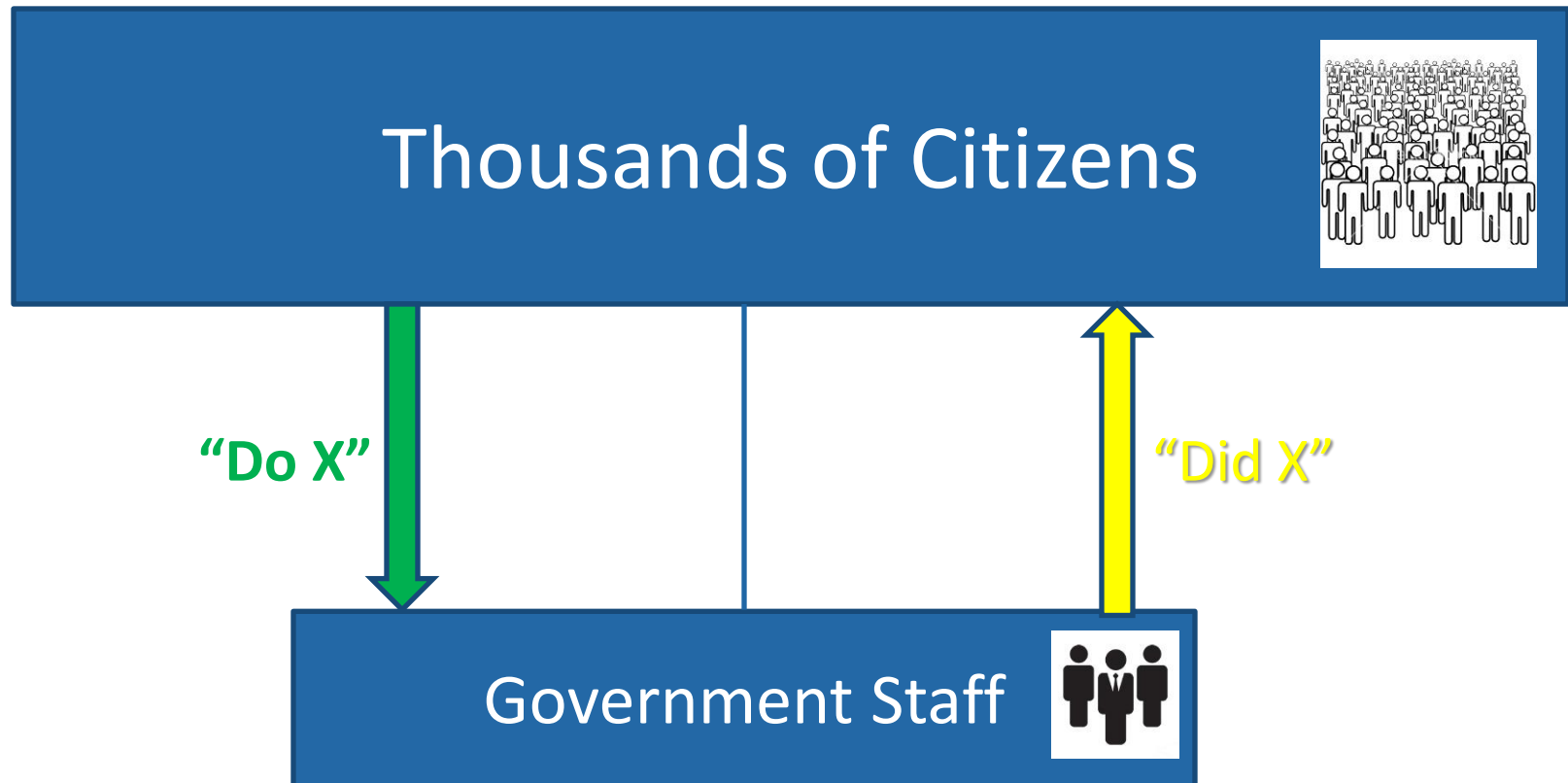
# Get Reports



# Complete Communication Loop



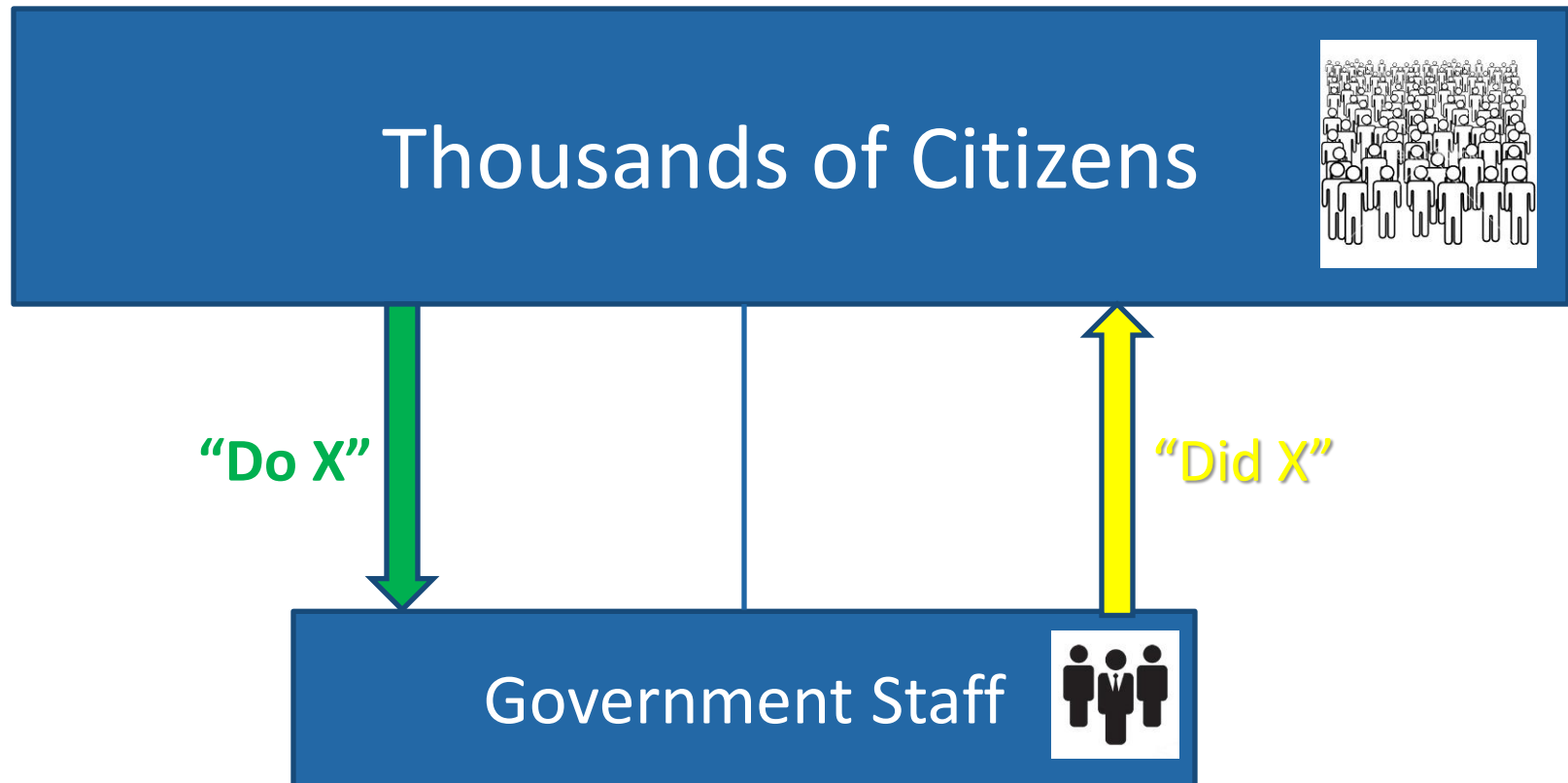
# Government Organizational Chart



# See Any Problems Yet?

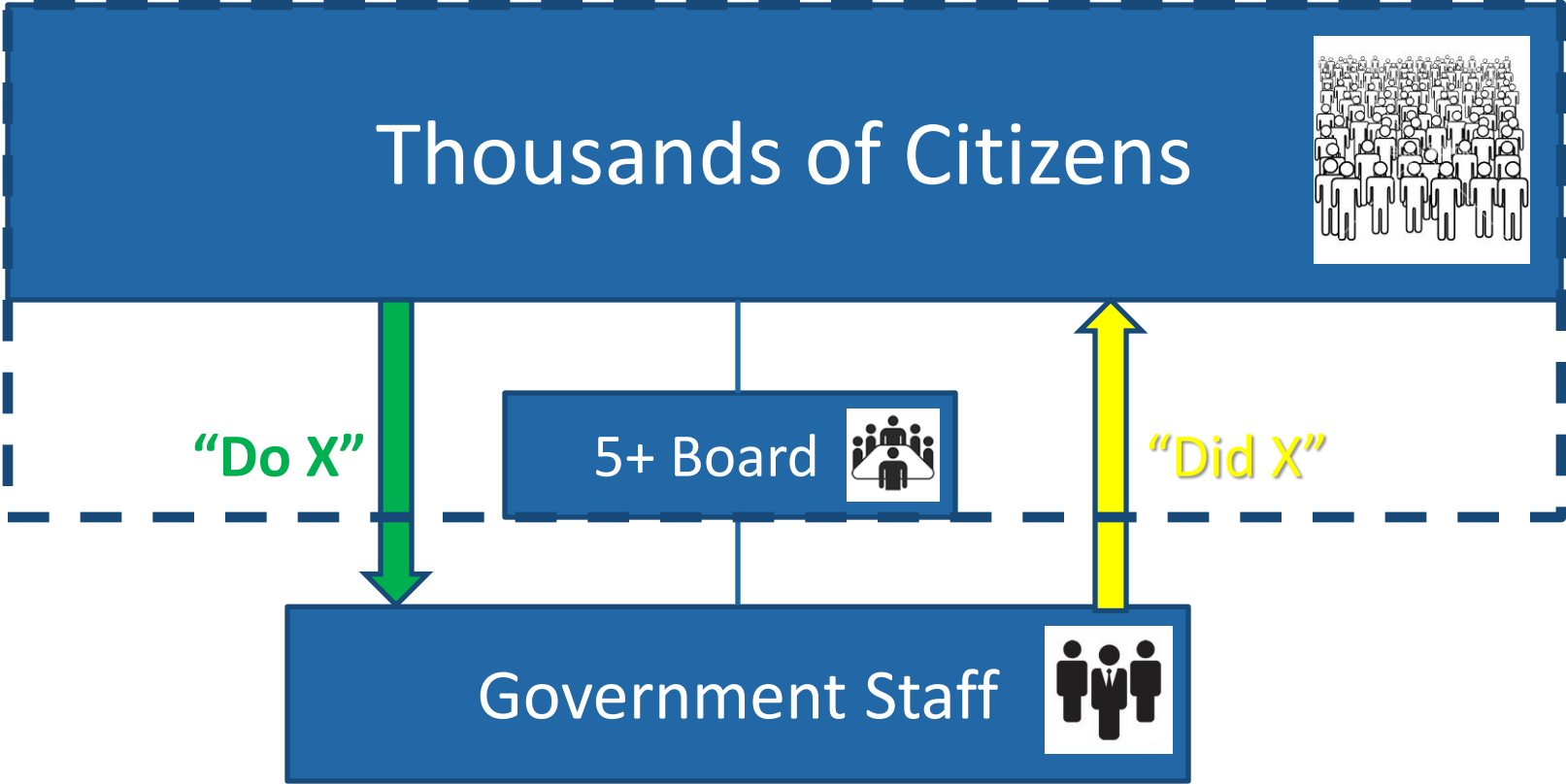


# Government Organizational Chart

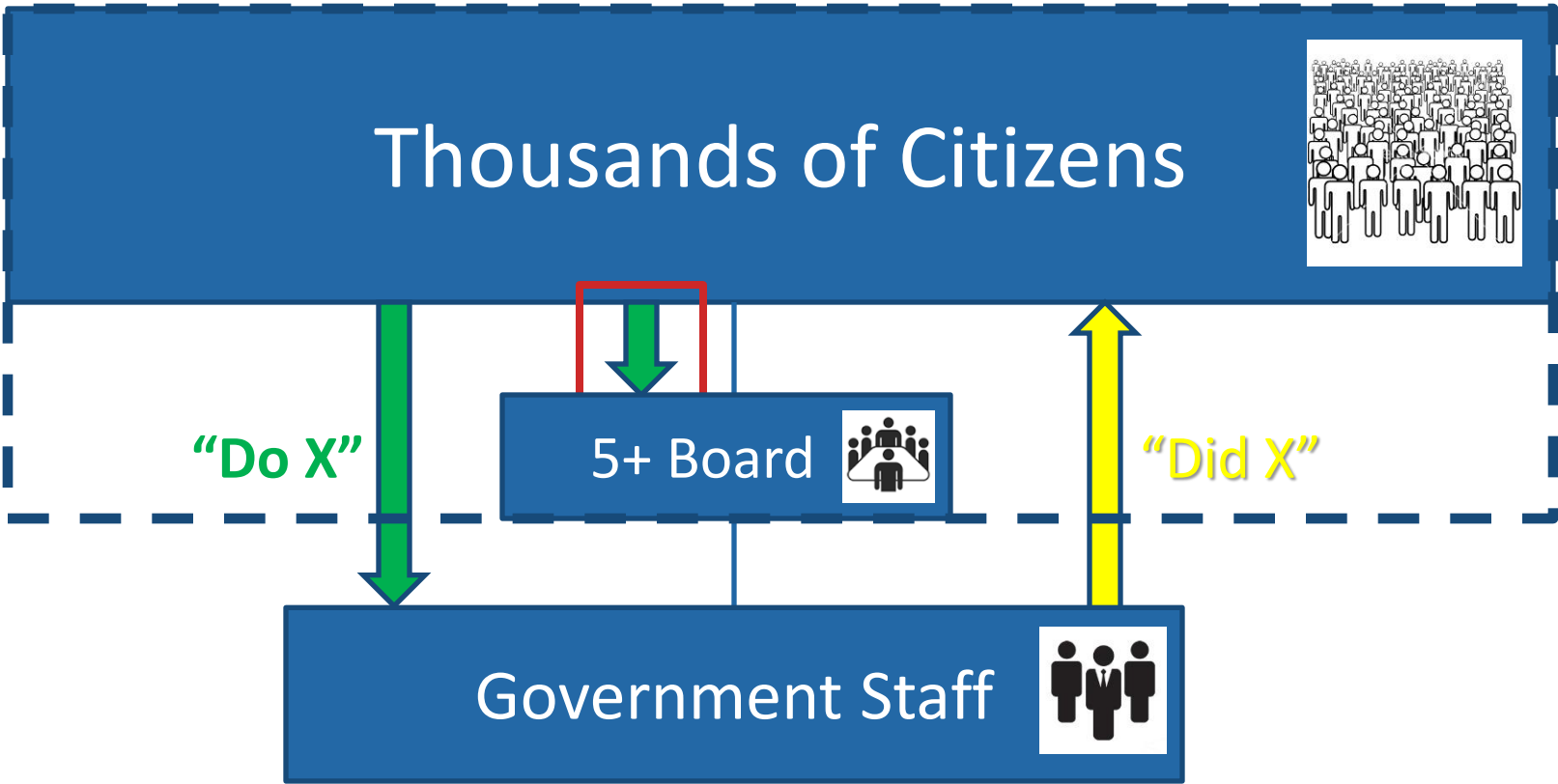




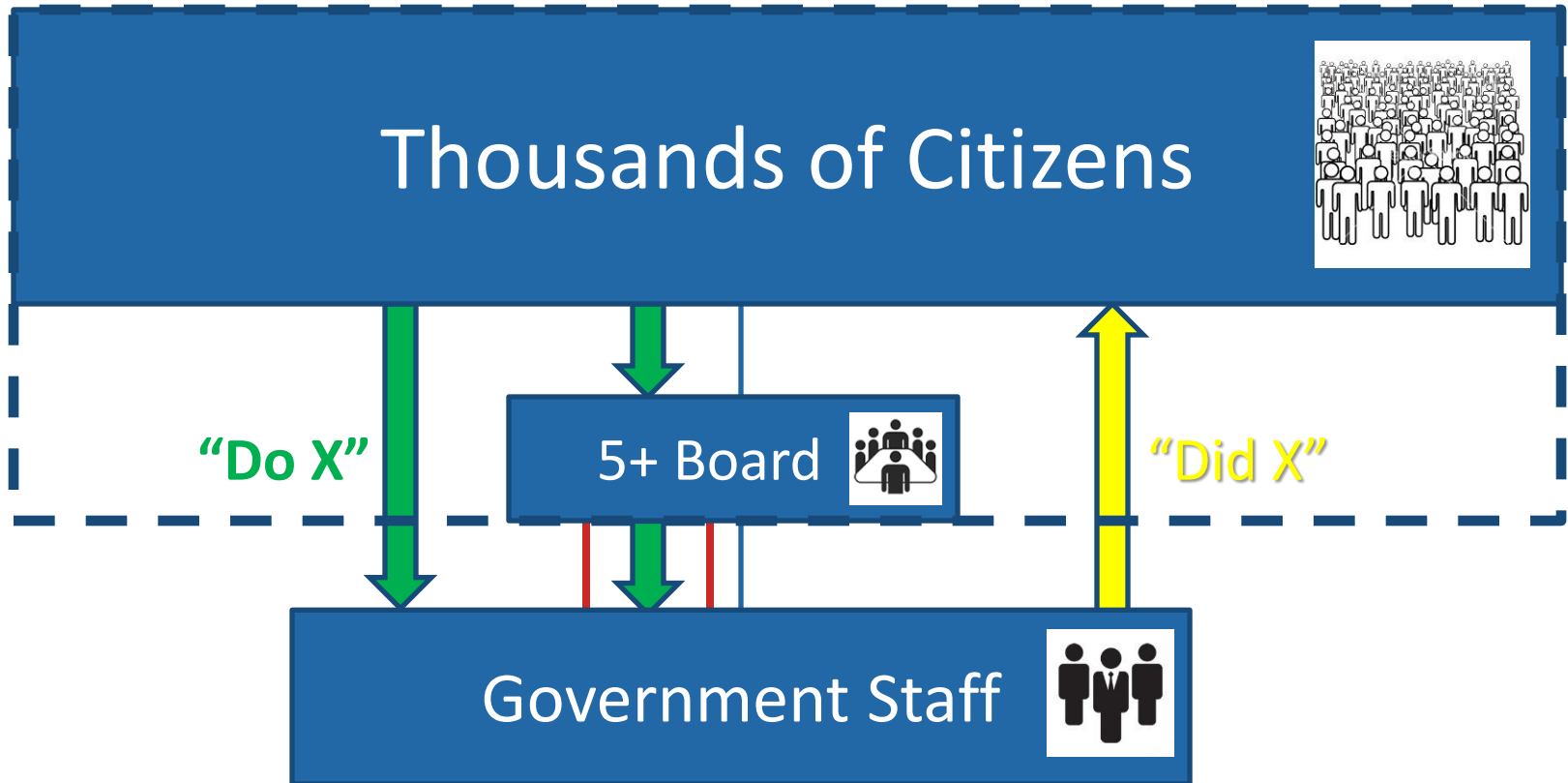
# Expanded Organizational Chart



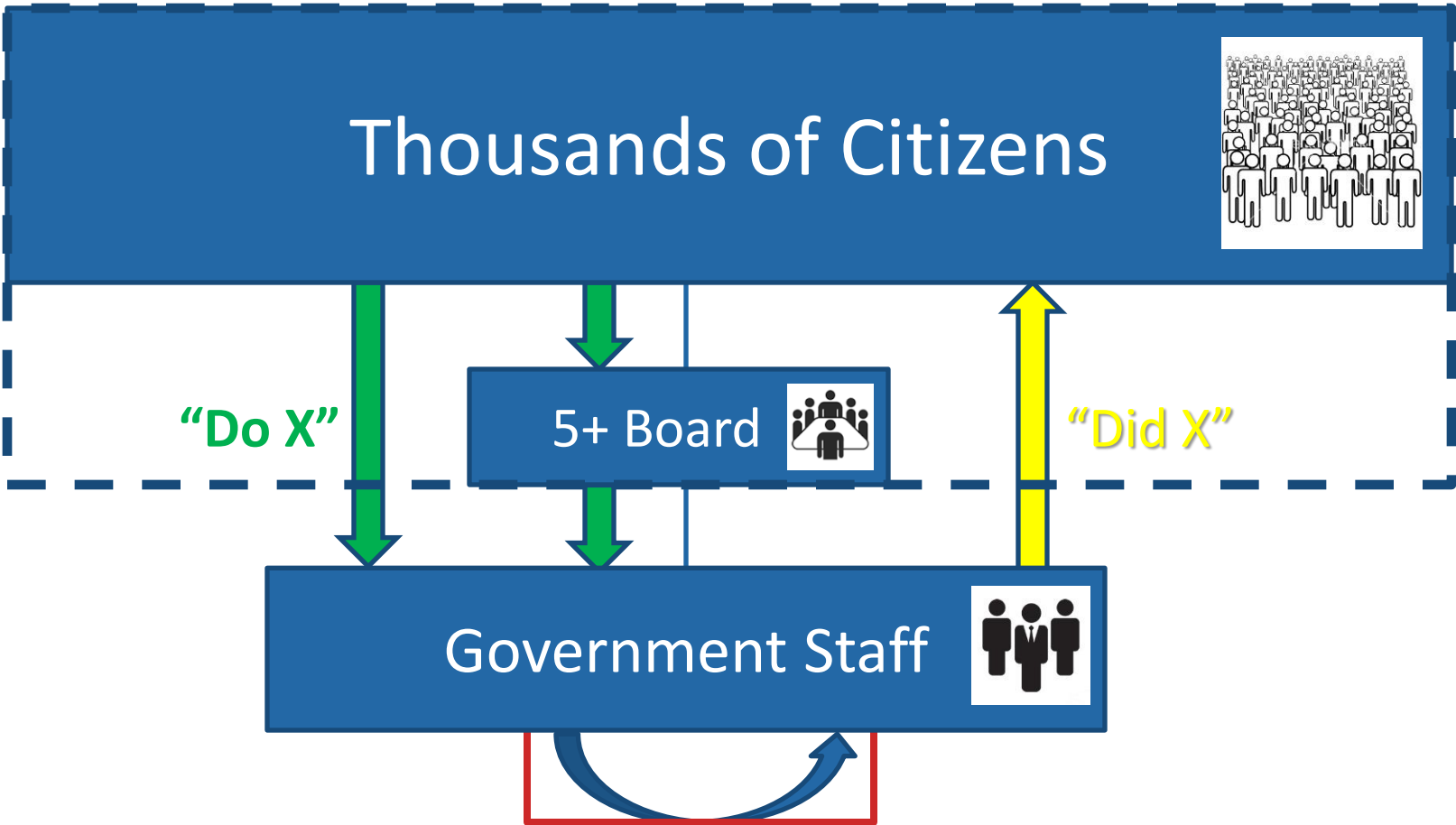
# Expanded Communications



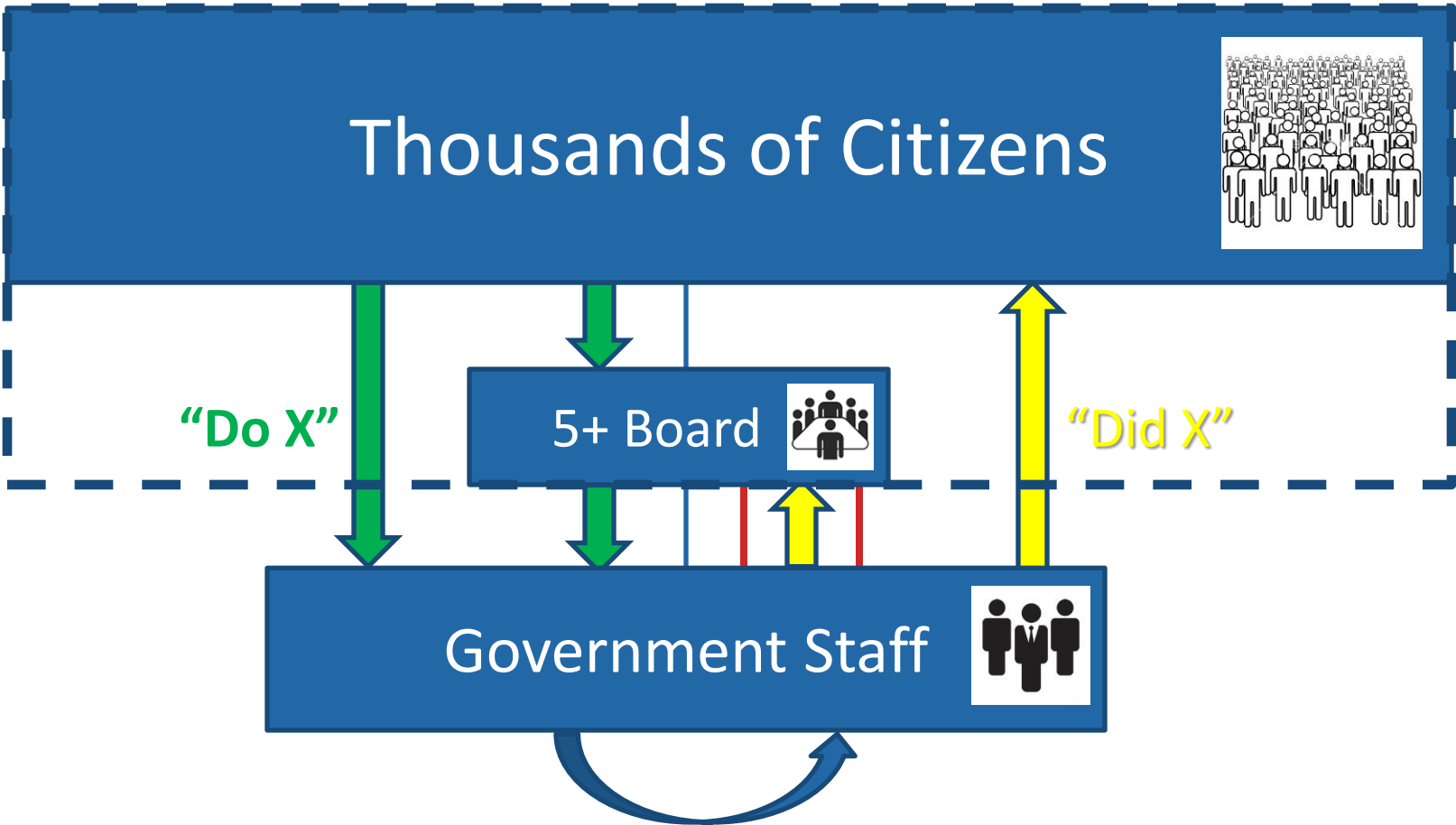
# Expanded Communications



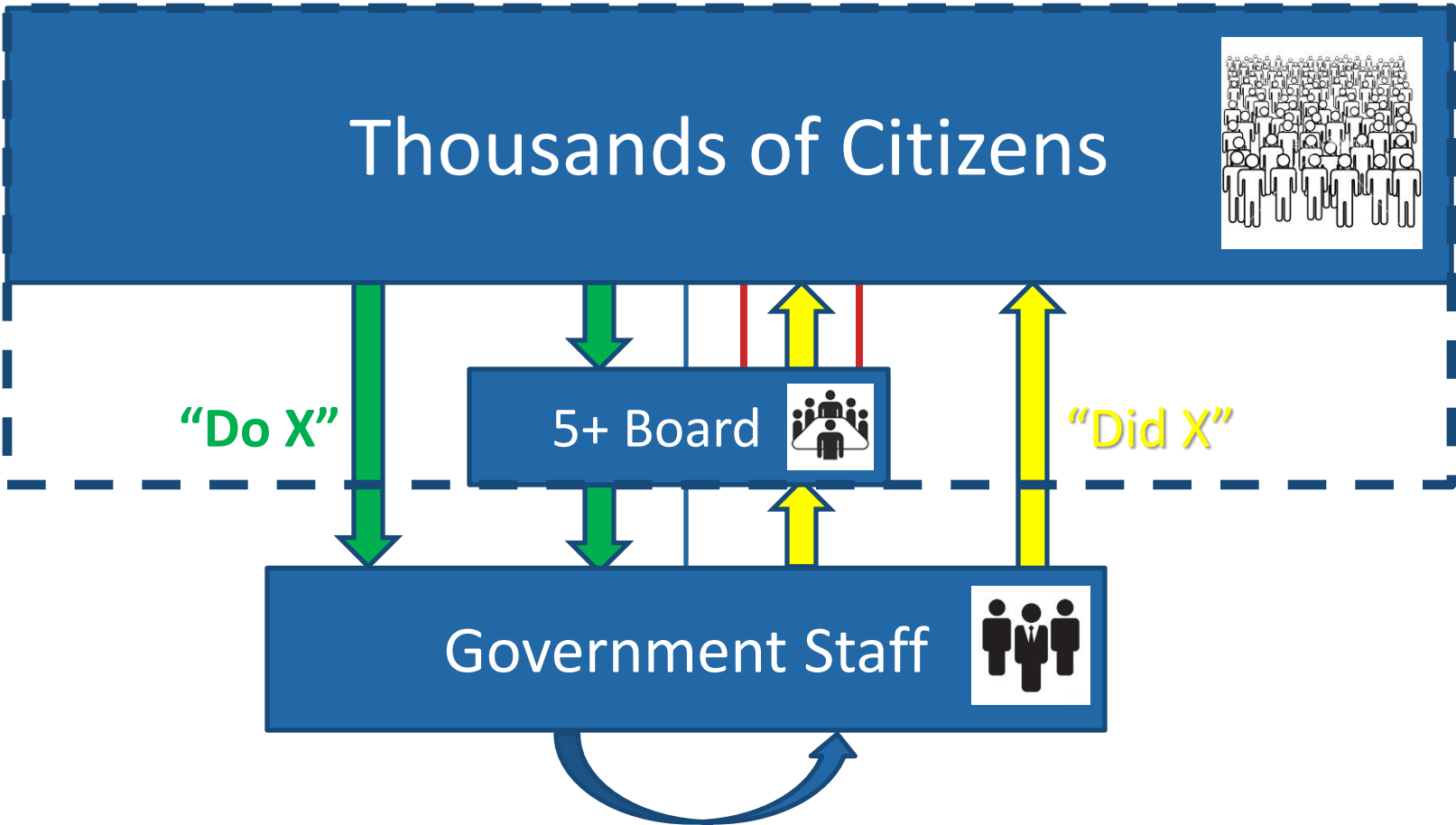
# Expanded Communications



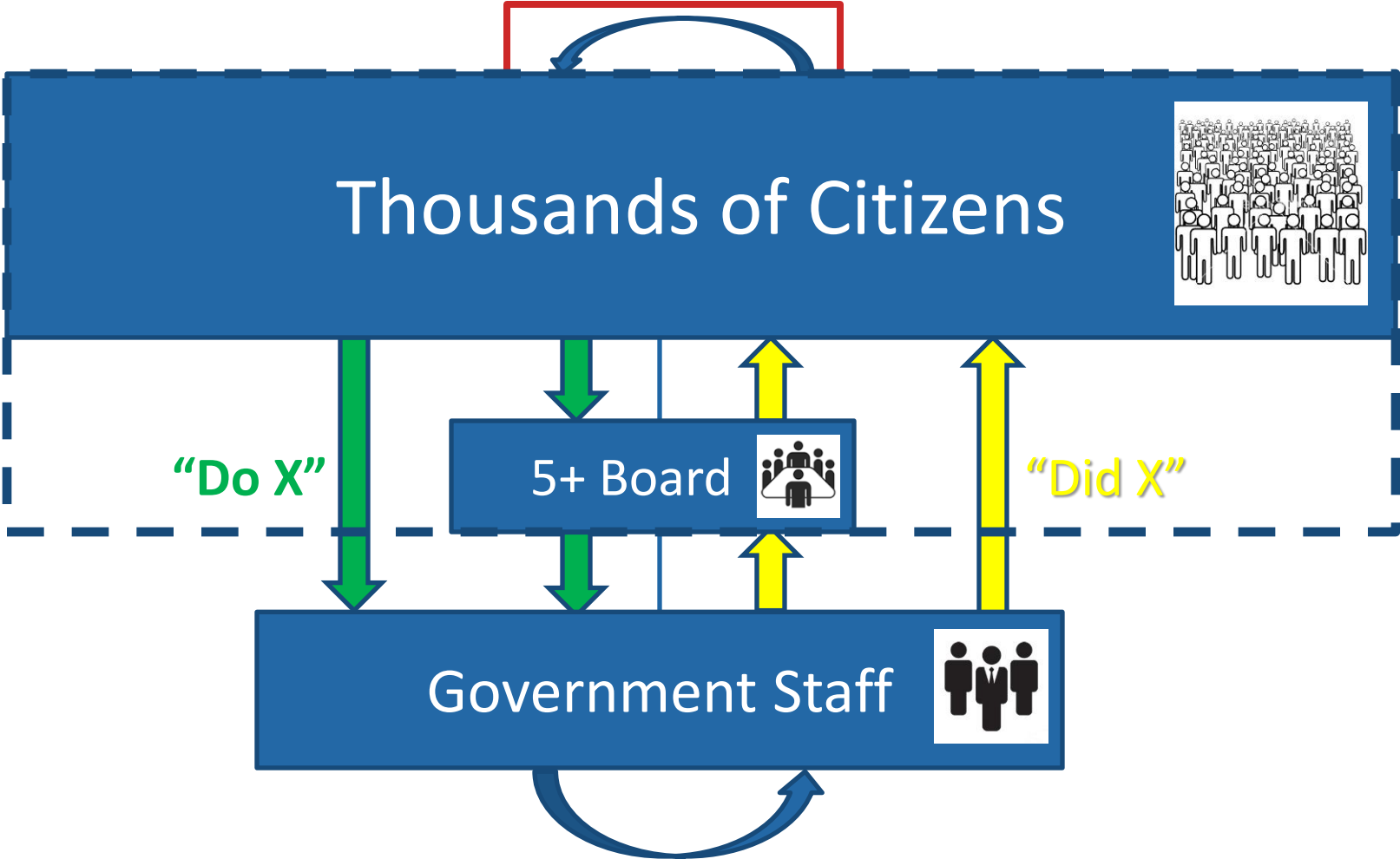
# Expanded Communications



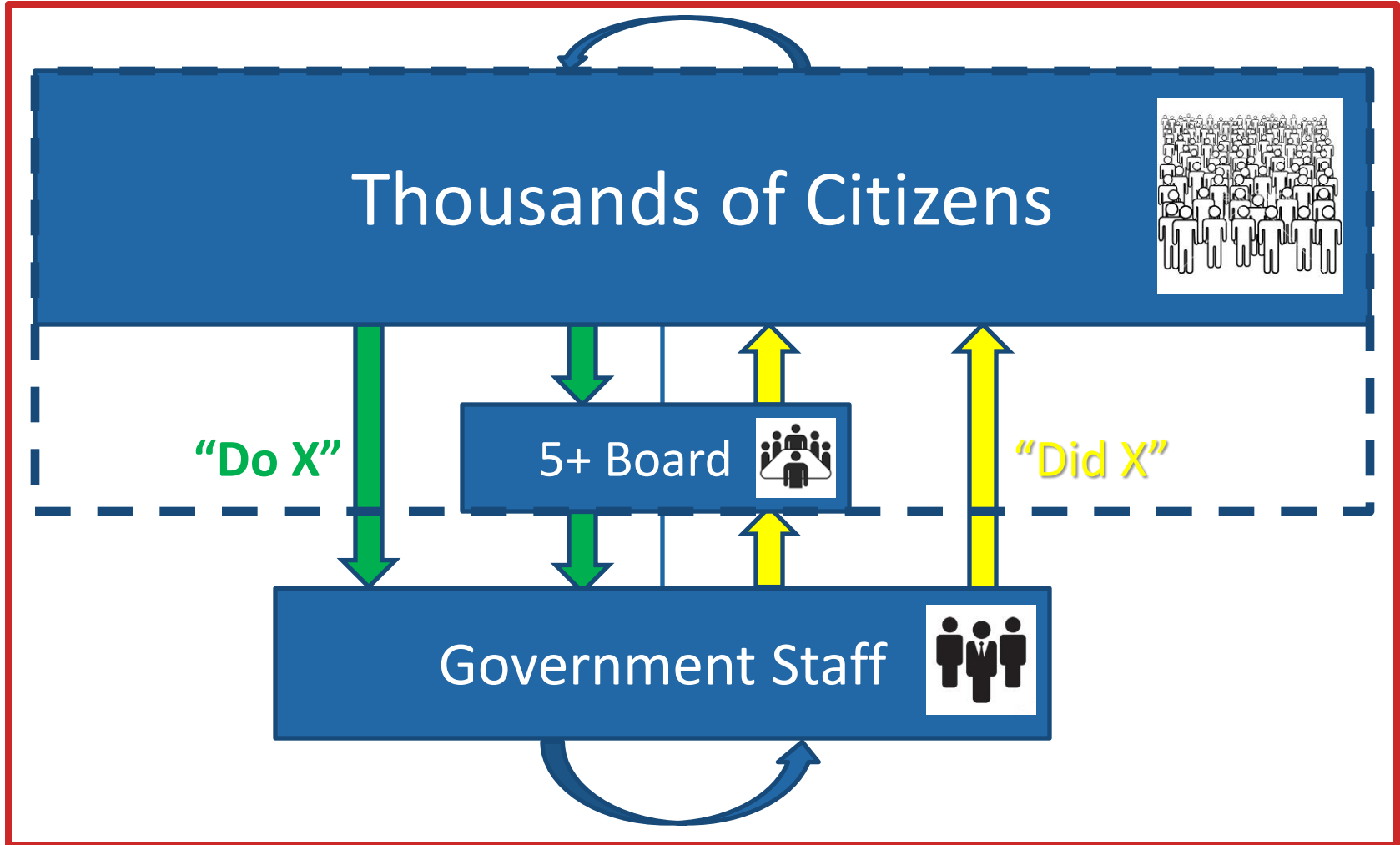
# Expanded Communications



# Expanded Communications



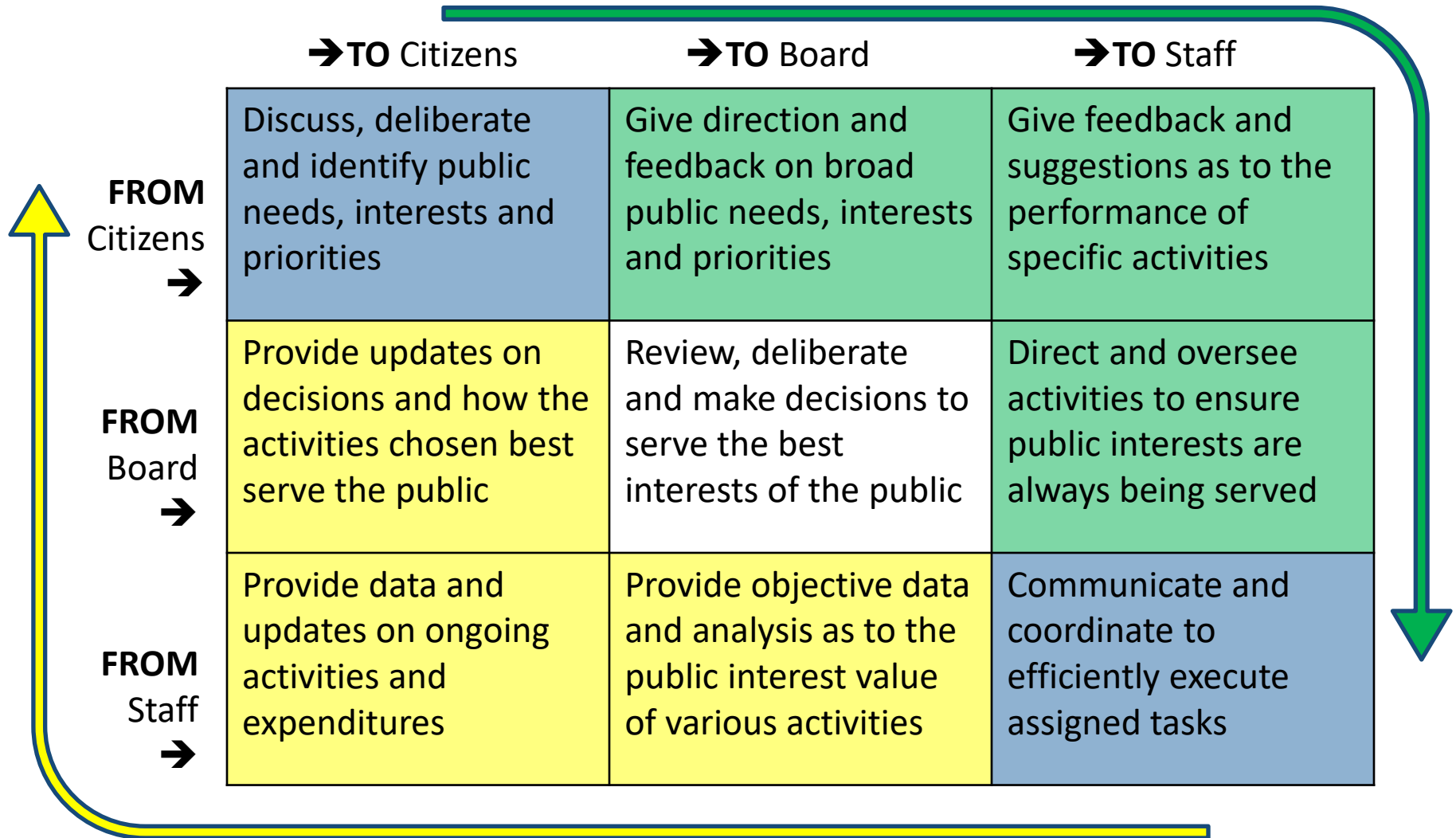
# Full Communications Loop



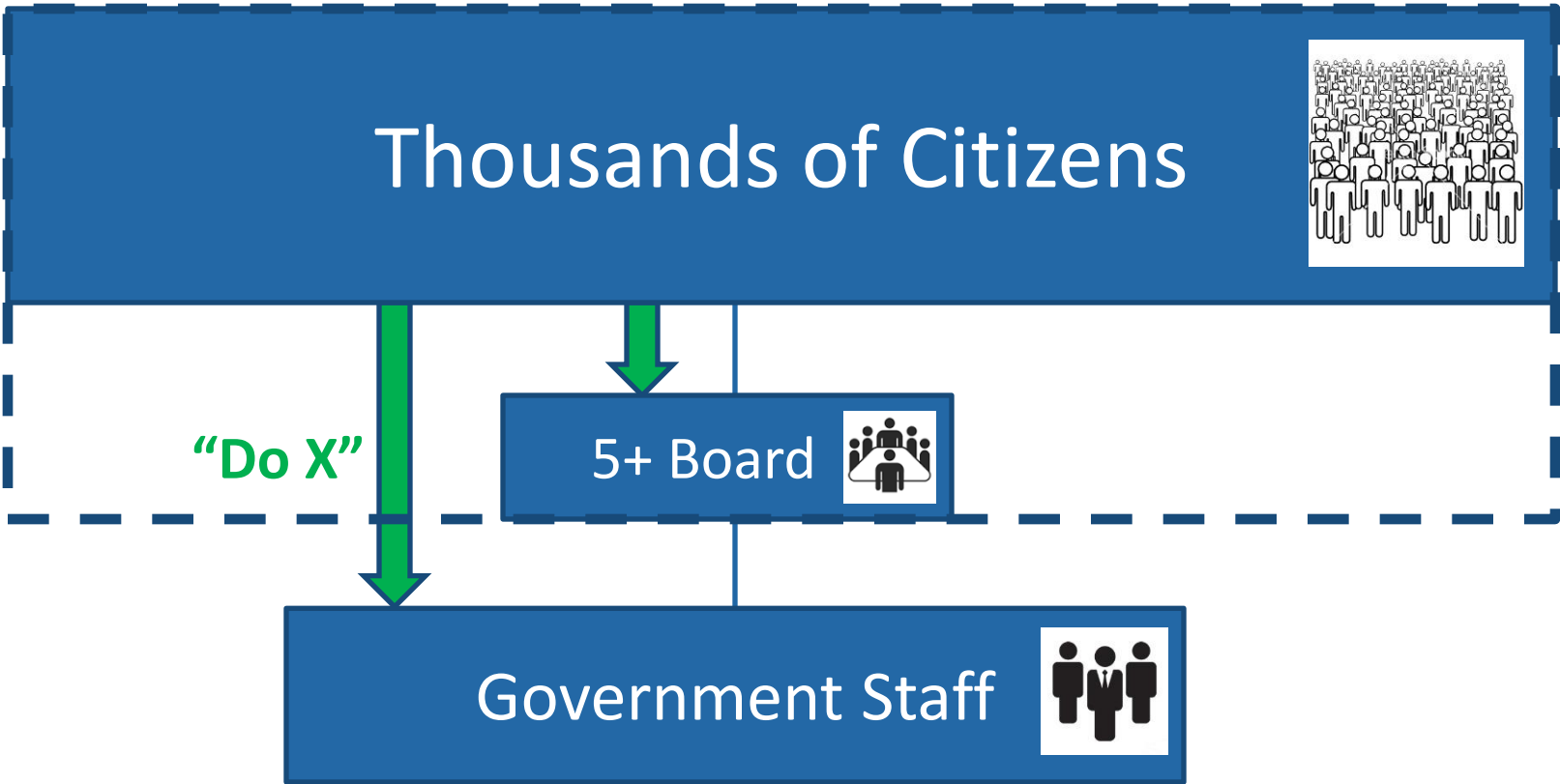


# **FUNCTIONAL FRAMEWORK FOR COMMUNICATIONS**

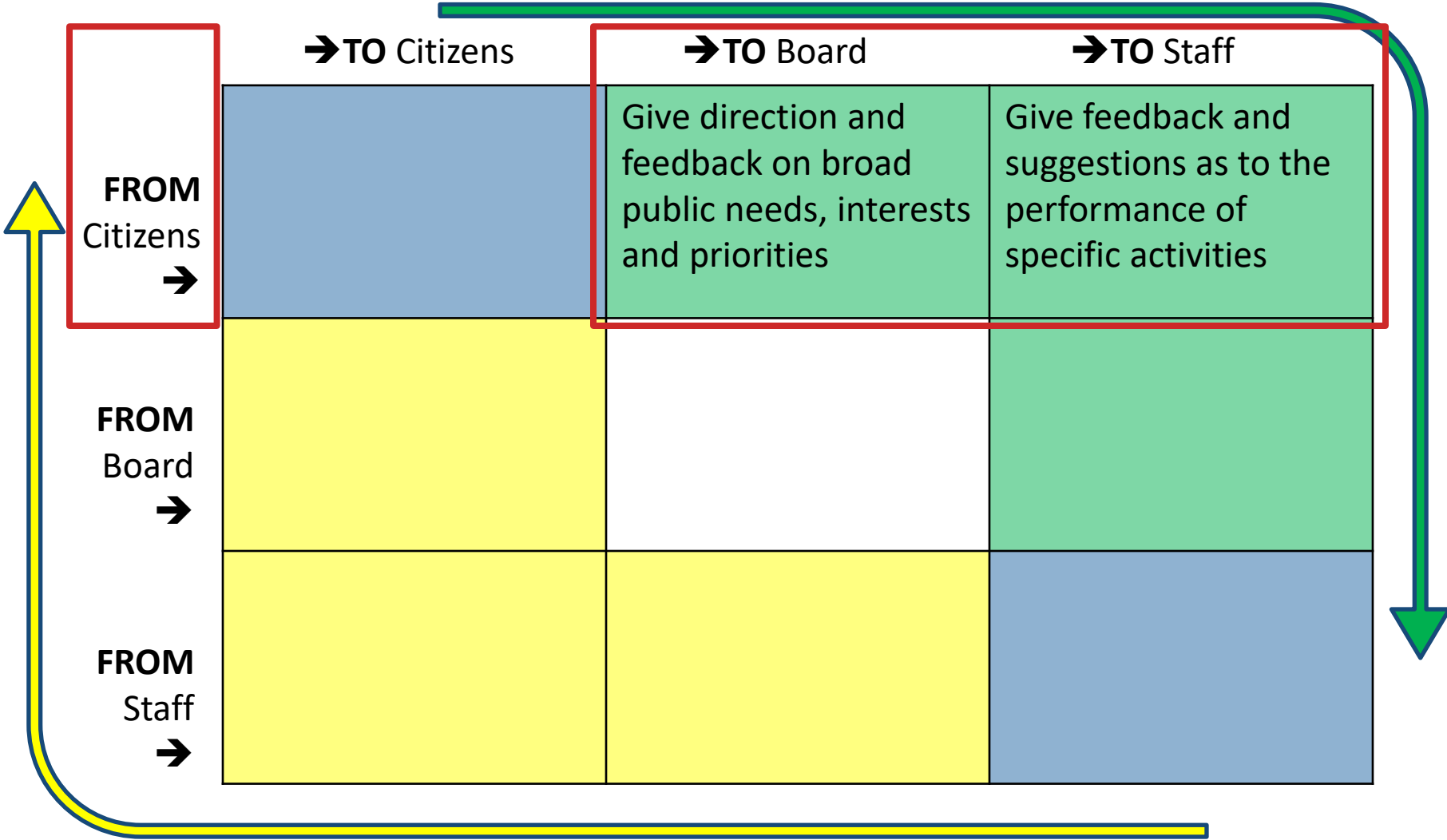
# Core Communications Purposes (All)



# Core Communications Purposes (“Input”)

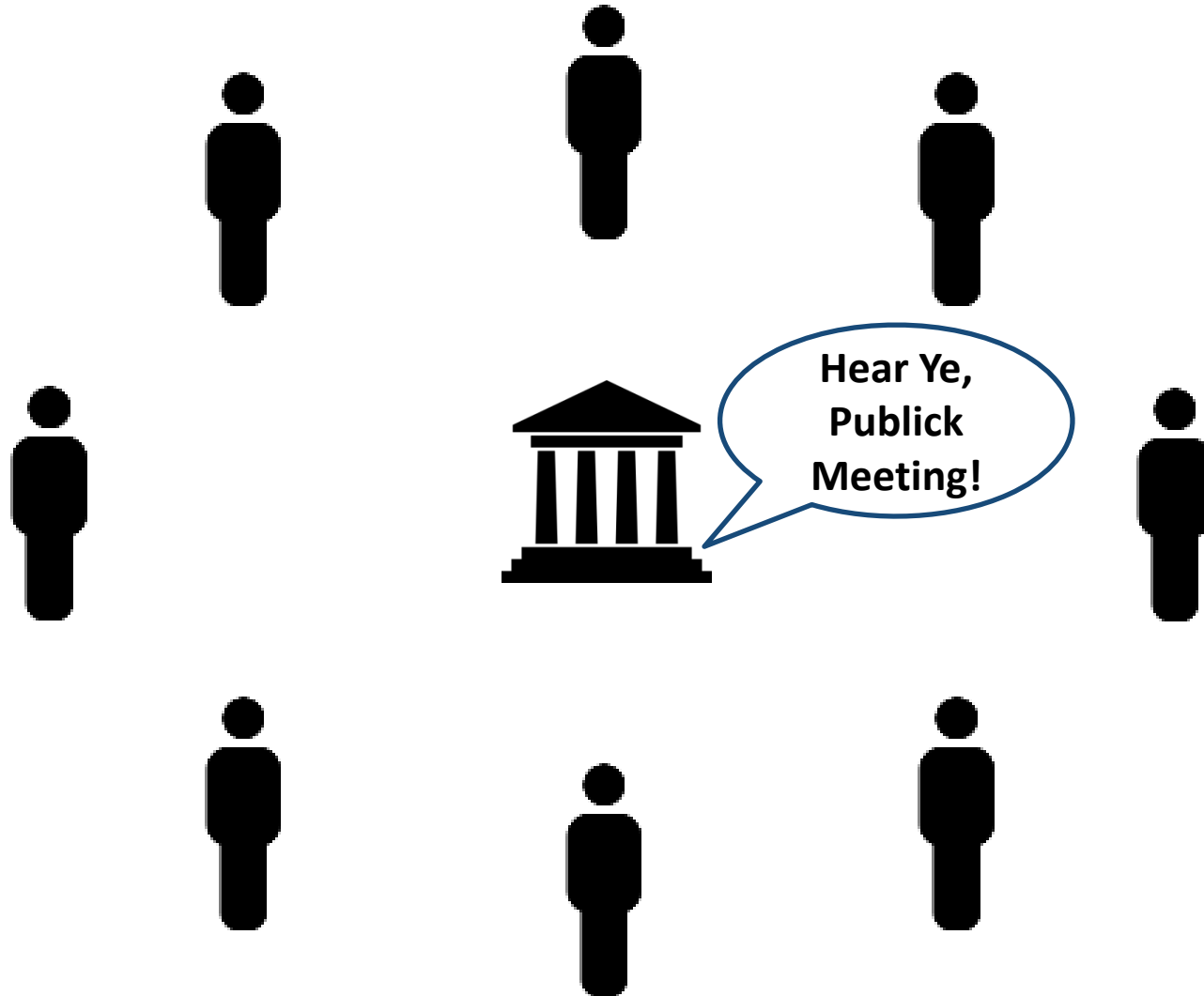


# Core Communications Purposes (“Input”)



# CHANNELS FRAMEWORK FOR COMMUNICATION

# Old Government Communications



# New Government Communications

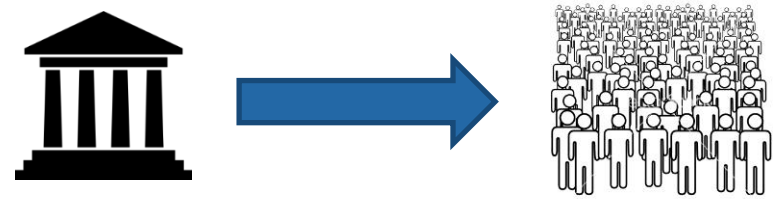


# Outbound and Inbound Channels

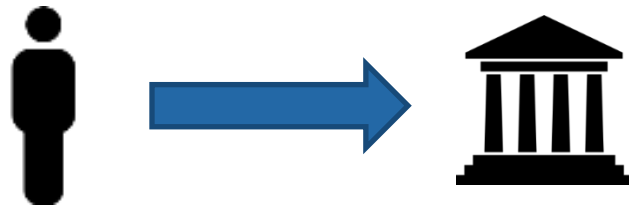
Gov to One



Gov to Many



One to Gov



Many to Gov

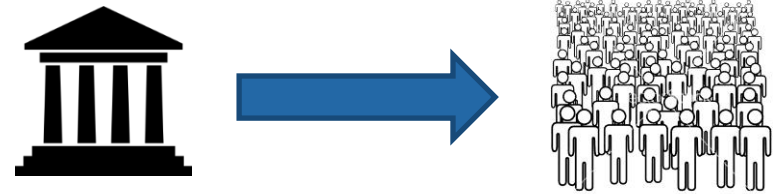




# Traditional Tools: Outbound

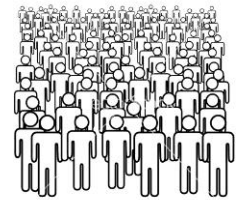


- Messenger
- Mailed letter
- Phone call



- Town crier
- Mass mailing
- Newspaper post

# New Tools: Outbound



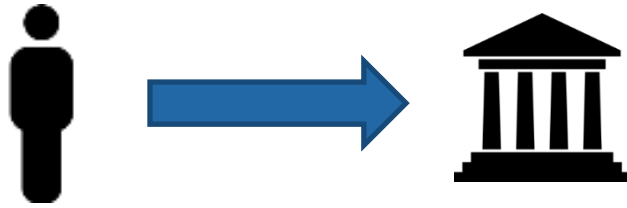
- Messenger
- Mailed letter
- Phone call

- 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

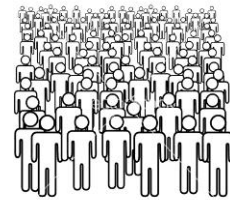


- Election
- Petition
- Scientific survey

# 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

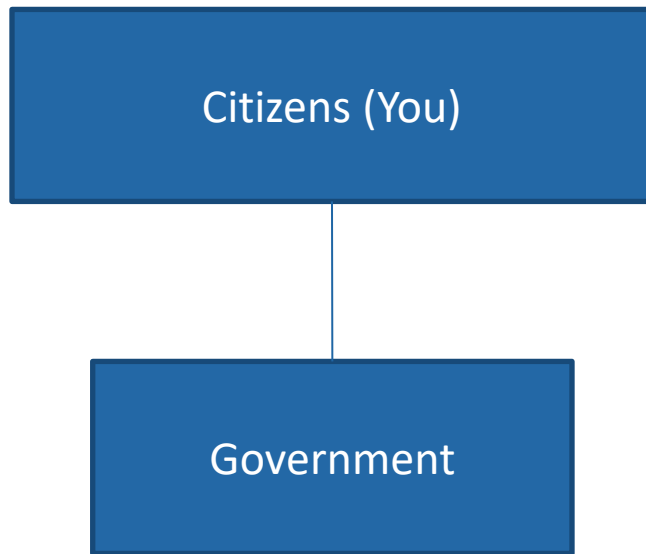
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# WHY DO WE NEED COMMUNITY INPUT (MANY TO GOV)?

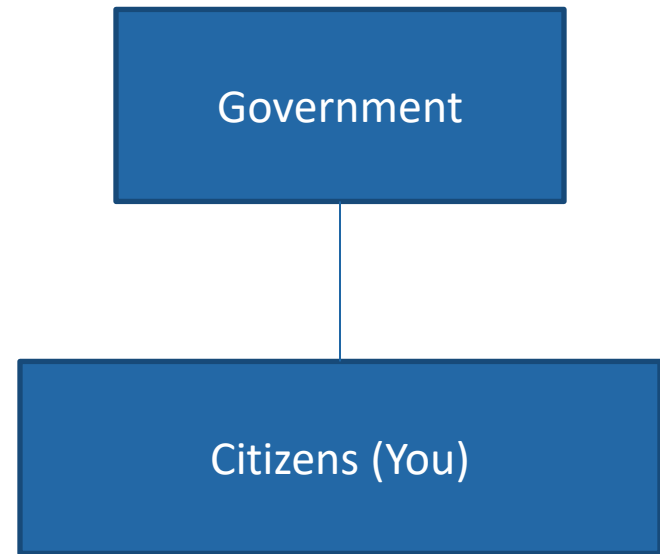
## CITIZEN PERSPECTIVES

# Government Basics

Which org chart would you rather be in?



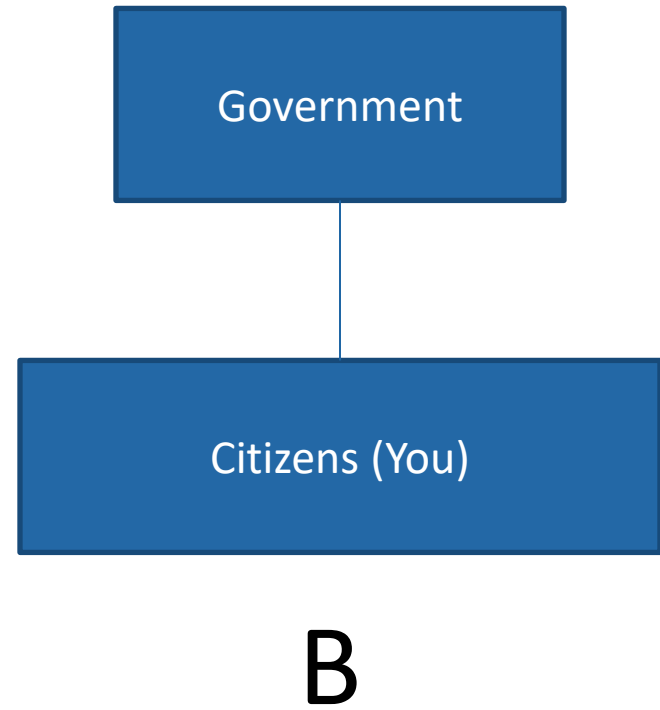
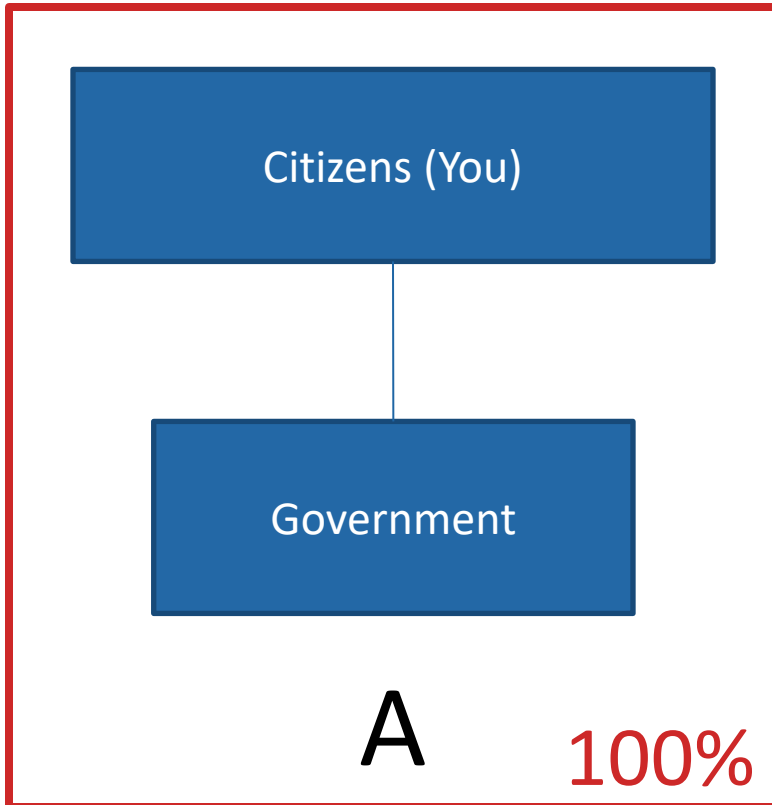
A



B

# Government Basics

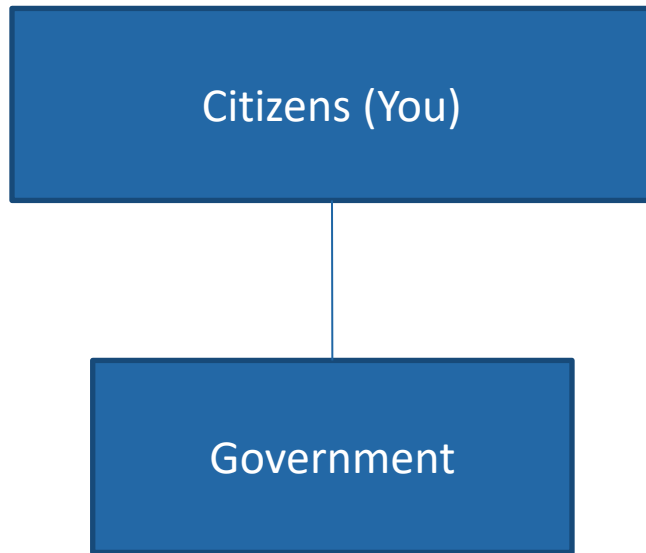
Which org chart would you rather be in?



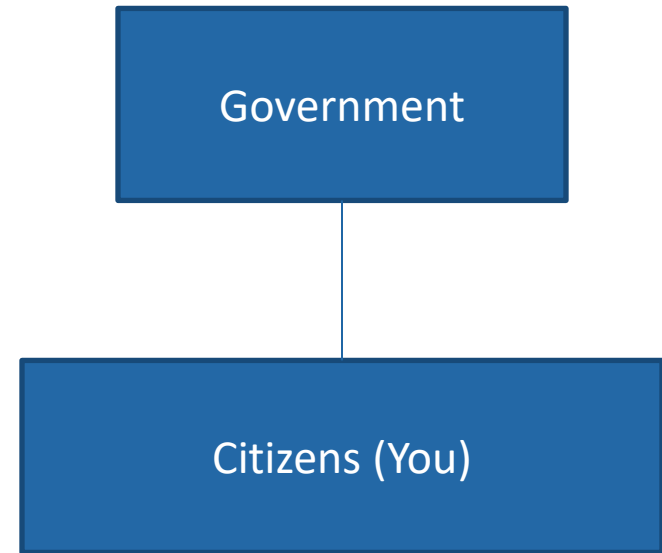


# Government Basics

Which org chart is “Democracy”?



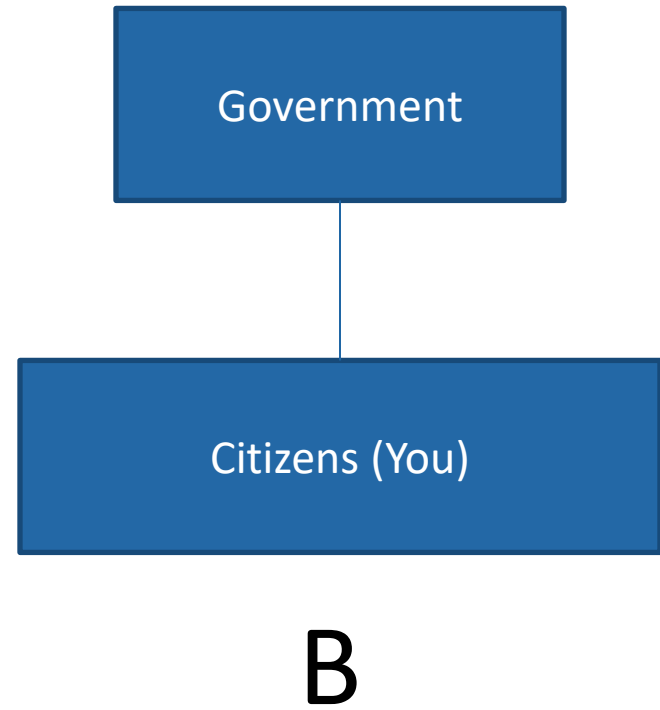
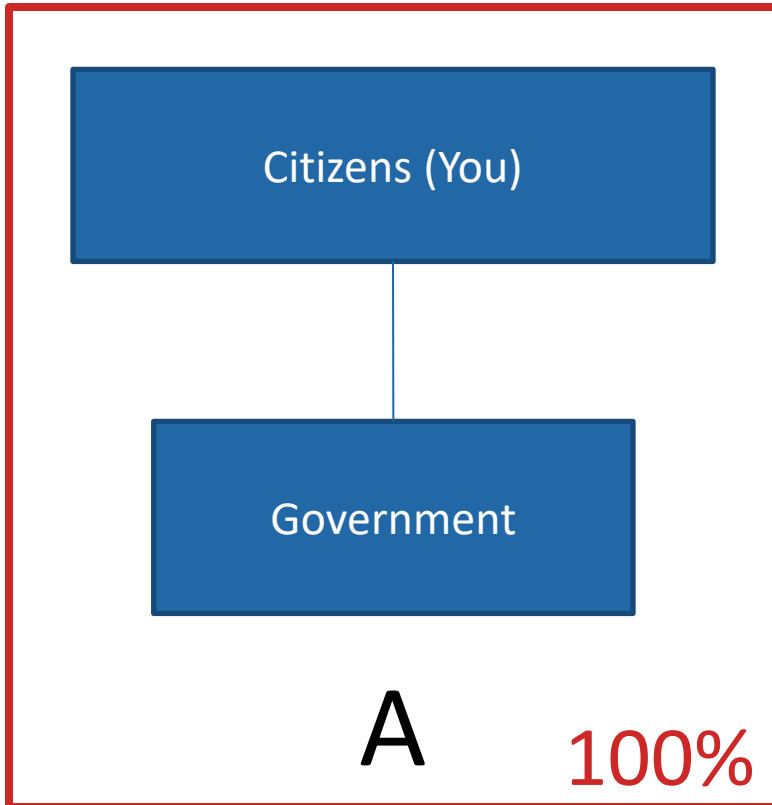
A



B

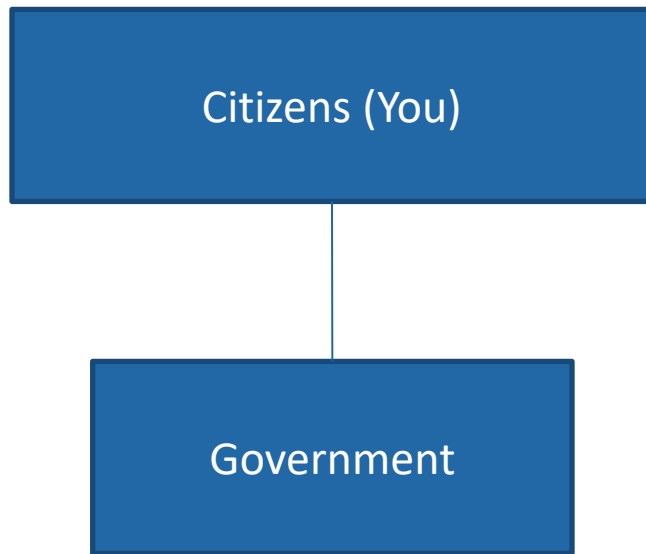
# Government Basics

Which org chart is “Democracy”?

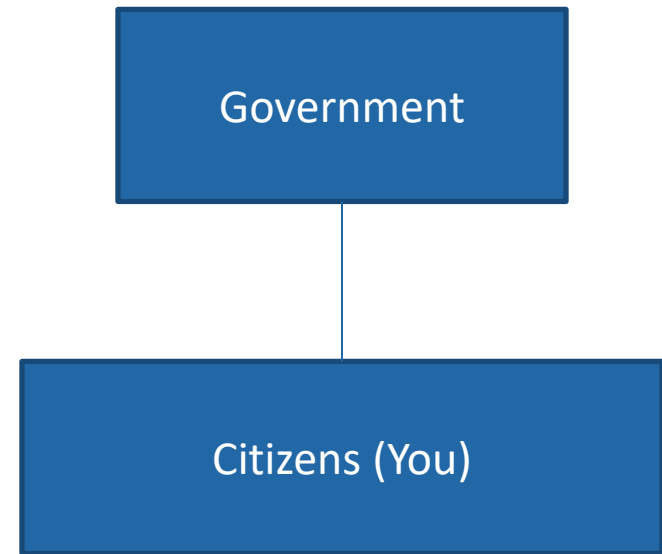


# Government Basics

Which org chart feels most like reality?



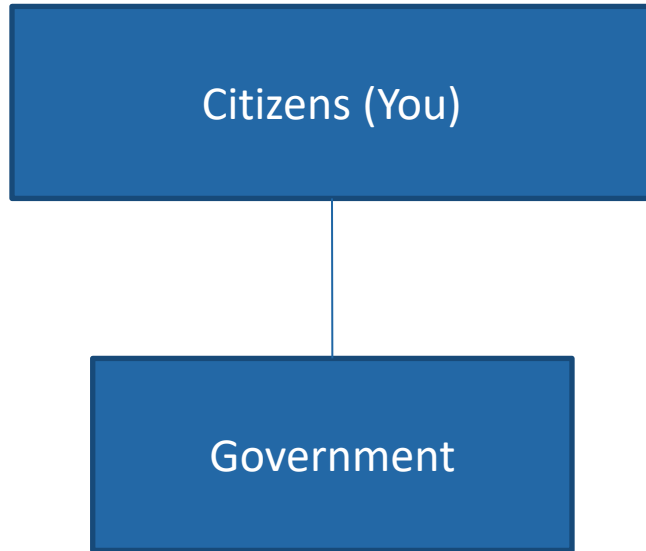
A



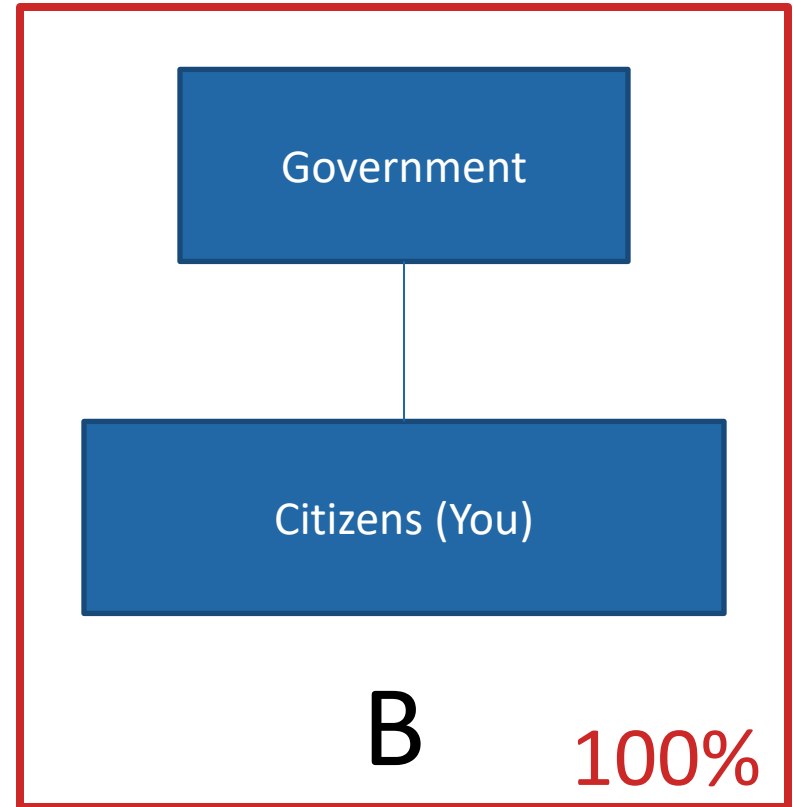
B

# Government Basics

Which org chart feels most like reality?



A

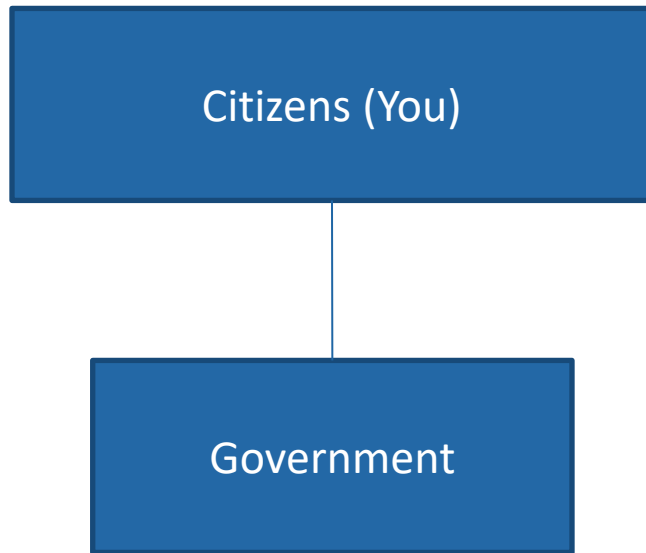


B

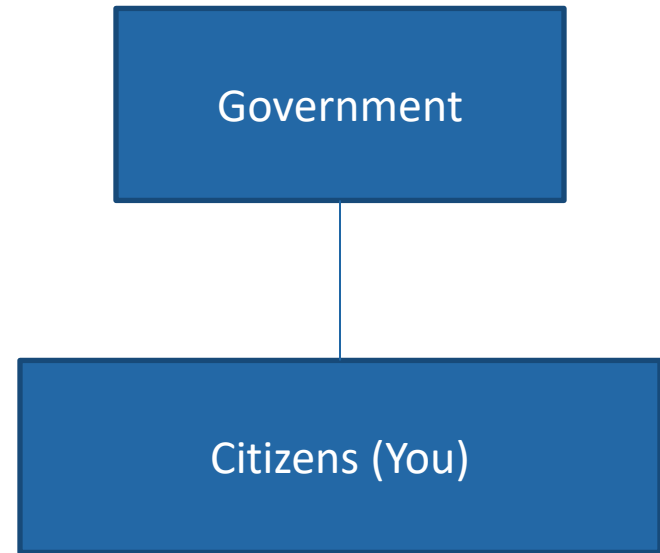
100%

# Government Basics

Which org chart is established by law?



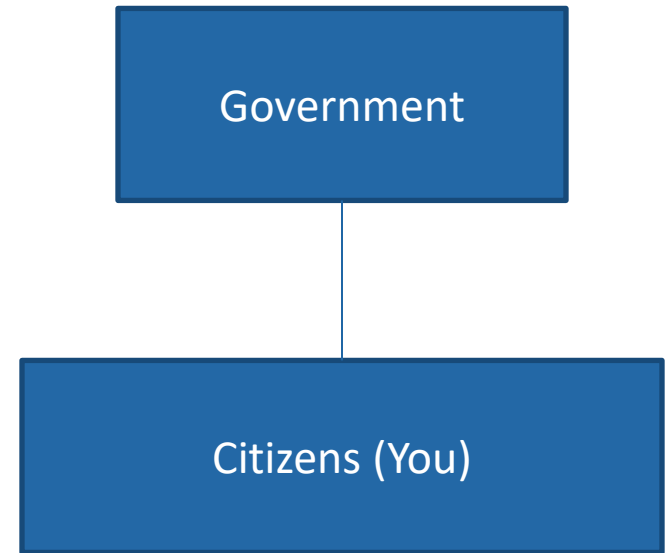
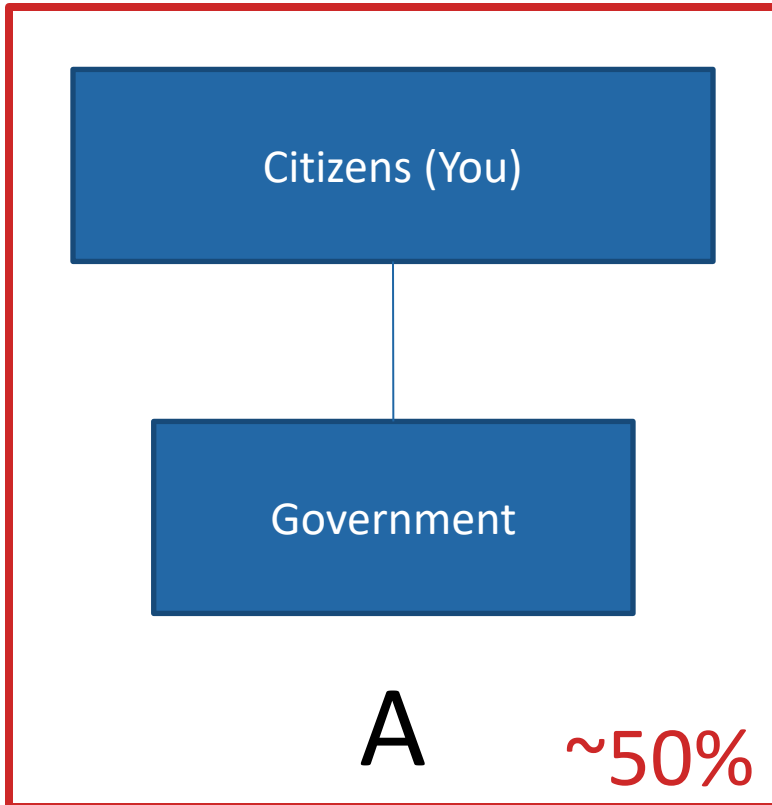
A



B

# Government Basics

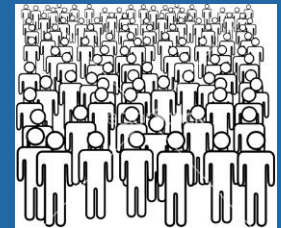
Which org chart is established by law?



# What Everyone Wants

We all want “A” to be reality...

Citizens (Public Masters)



WE'LL do what  
Y'ALL want

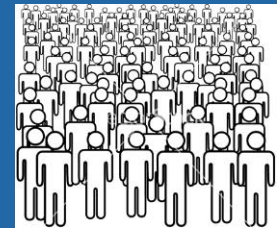
Public Servants



# What Everyone Gets

Unrepresentative input leads to “B” perception

Citizens (Public Masters)



YOU are just  
doing what  
YOU want!

Public Servants

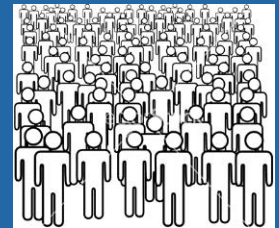




# What Everyone Needs

Representative input can solve the problem

Citizens (Public Masters)



So WHAT do  
Y'ALL want us to  
do?

Public Servants



# Been Influenced By The Noisy Few?

---

- What percent of local governments have had decisions influenced by a few noisy people?

# Been Influenced By The Noisy Few?

---

- What percent of local governments have had decisions influenced by a few noisy people?

97%

# Been Influenced By The Noisy Few?

---

- What percent of local governments have had decisions influenced by a few noisy people?

97%

- What percent of local government decisions *should be* influenced by a few noisy people?

# Been Influenced By The Noisy Few?

---

- What percent of local governments have had decisions influenced by a few noisy people?

97%

- What percent of local government decisions *should be* influenced by a few noisy people?

0%

# One Interesting Citizen Perspective

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

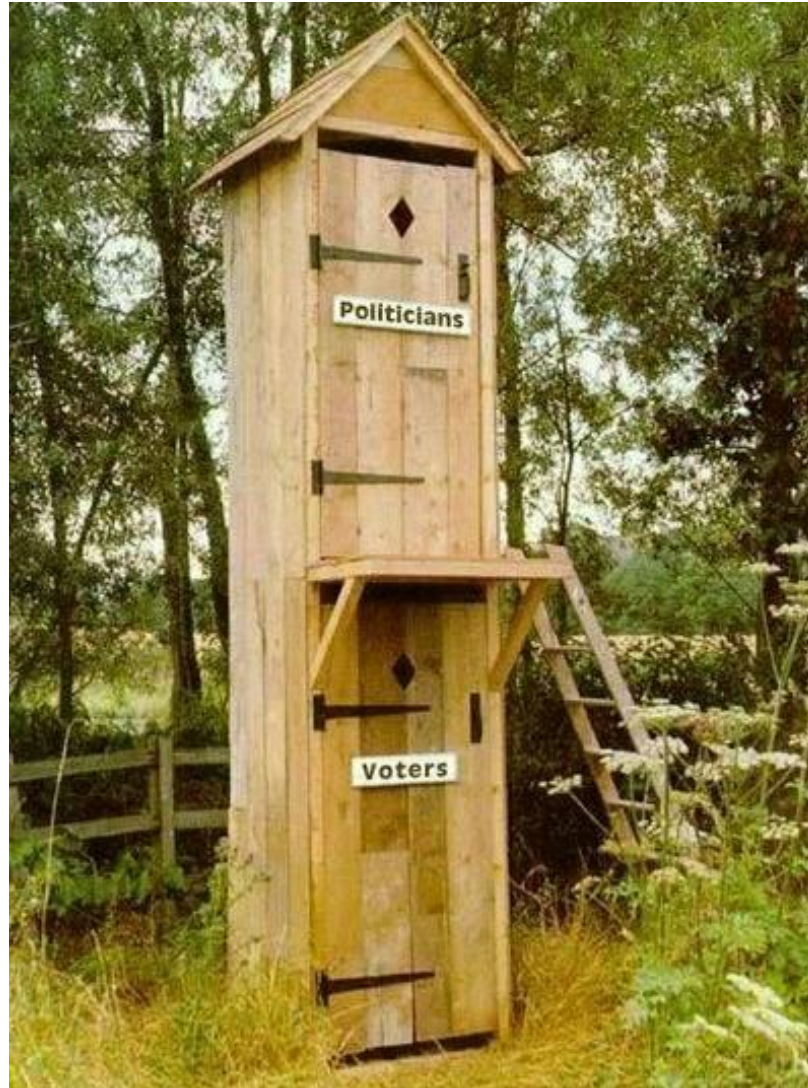


*Americans hope lobbyist Jack Weldon will finally give them a voice in Washington.*

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 WHOLE  
COMMUNITY INPUT (MANY TO GOV)?**

**YOUR PERSPECTIVE**



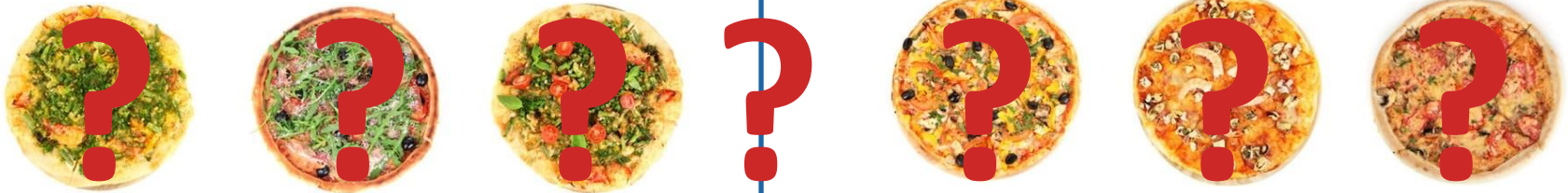
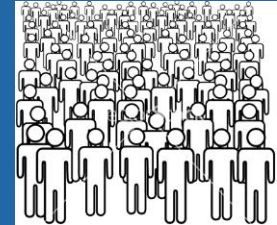
# 10,000 People Chip In For Pizza

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



# How Do You Figure This Out?

10,000 People



You



Pizza Chefs



# Which of These Work?

---

- Order what you want?

# Which of These Work?

---

- Order what you want?
- Ask your friends what they want?

# Which of These Work?

---

- Order what you want?
- Ask your friends what they want?
- Call a meeting?

# Which of These Work?

---

- Order what you want?
- Ask your friends what they want?
- Call a meeting?
- Read social media posts?

# 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?

# 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 pollster?
  - 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 pollster?
- 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

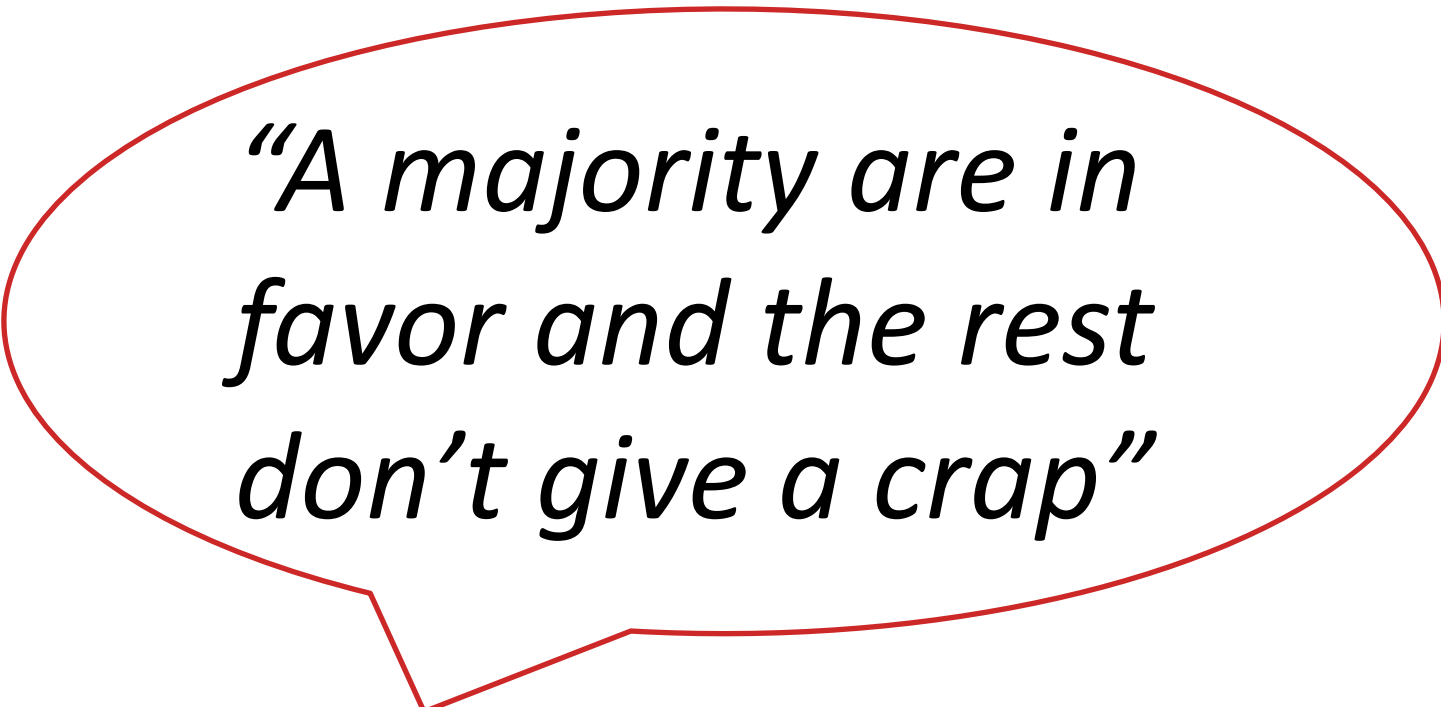
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# **WHY DO GOVERNMENTS NEED REPRESENTATIVE COMMUNITY INPUT?**

# Proposed Garbage Service Change

---

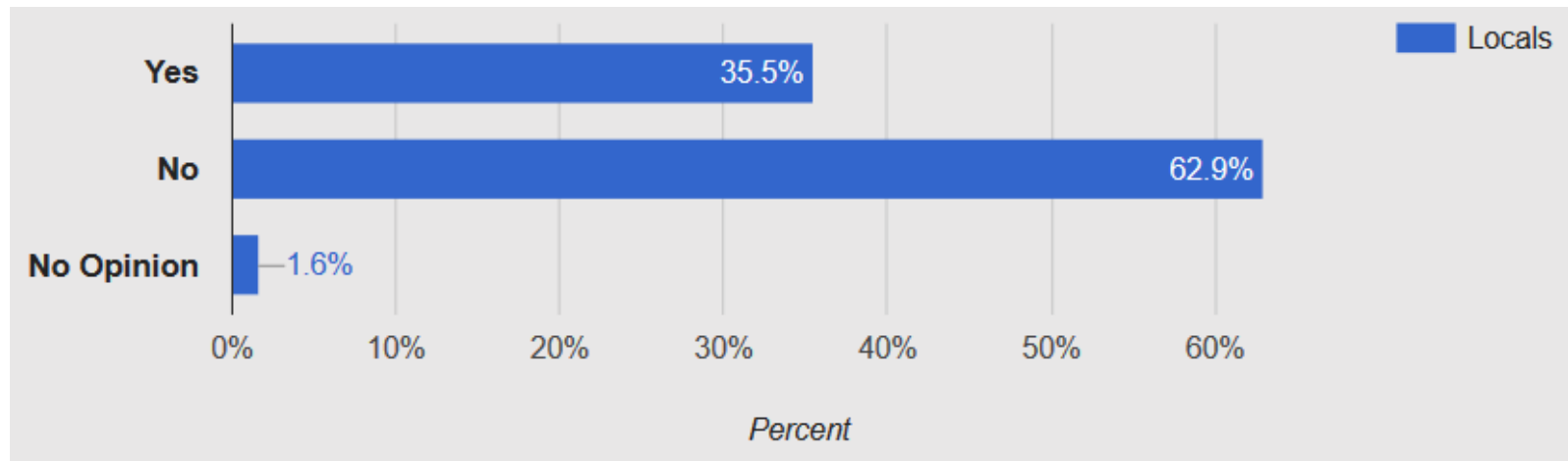
- Honest perception by well-intentioned official



*“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 US 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 US South

---

- What percent of whites favored segregation?

# The Year is 1972 in the US 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 US 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 US South

---

- What percent of whites favored segregation?

15%

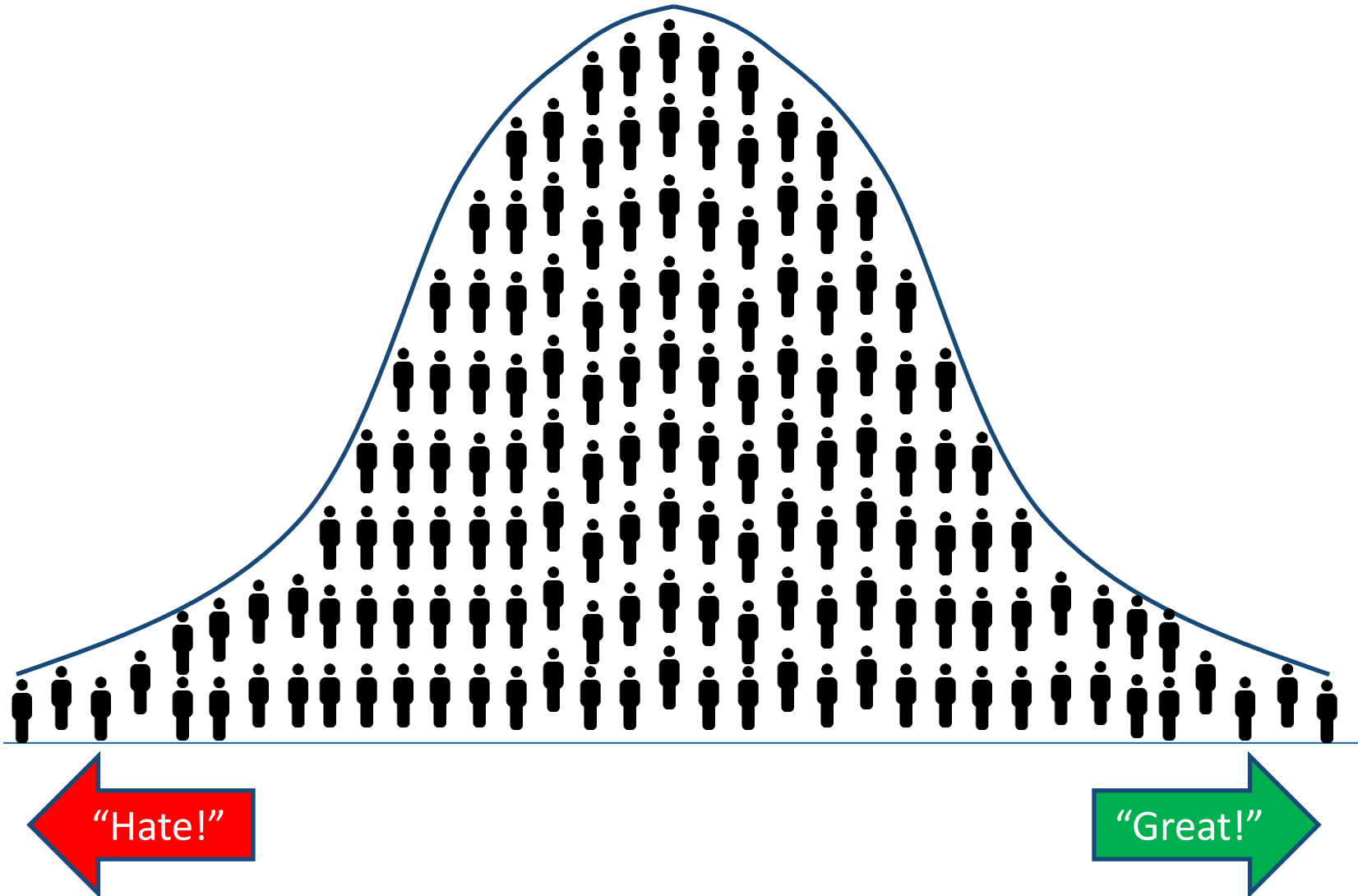
- What percent of whites believed a majority of whites in their area favored segregation?

72%

---

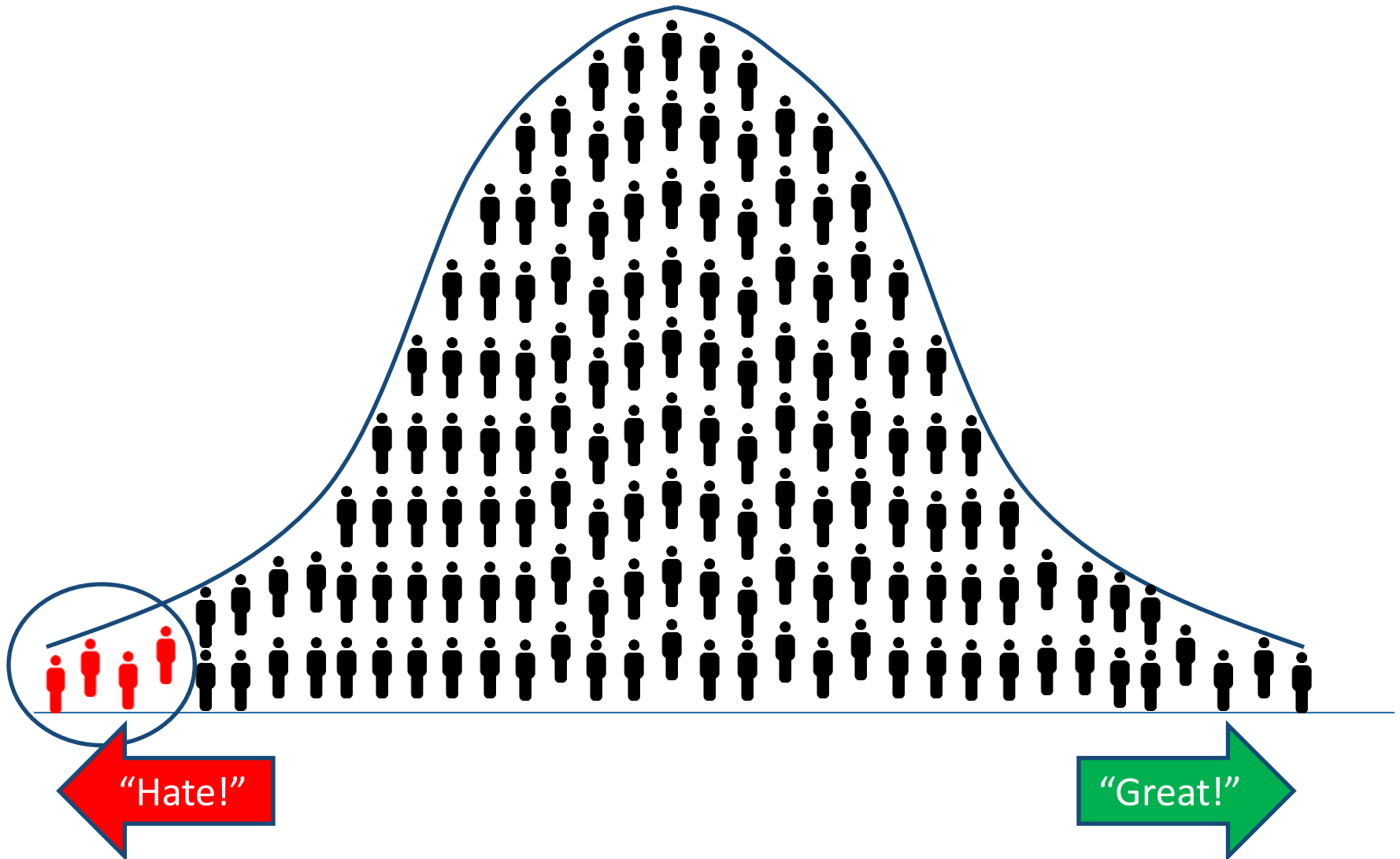
# WHAT IS THE **GENERAL CHALLENGE** WITH COMMUNITY INPUT?

# Your Community

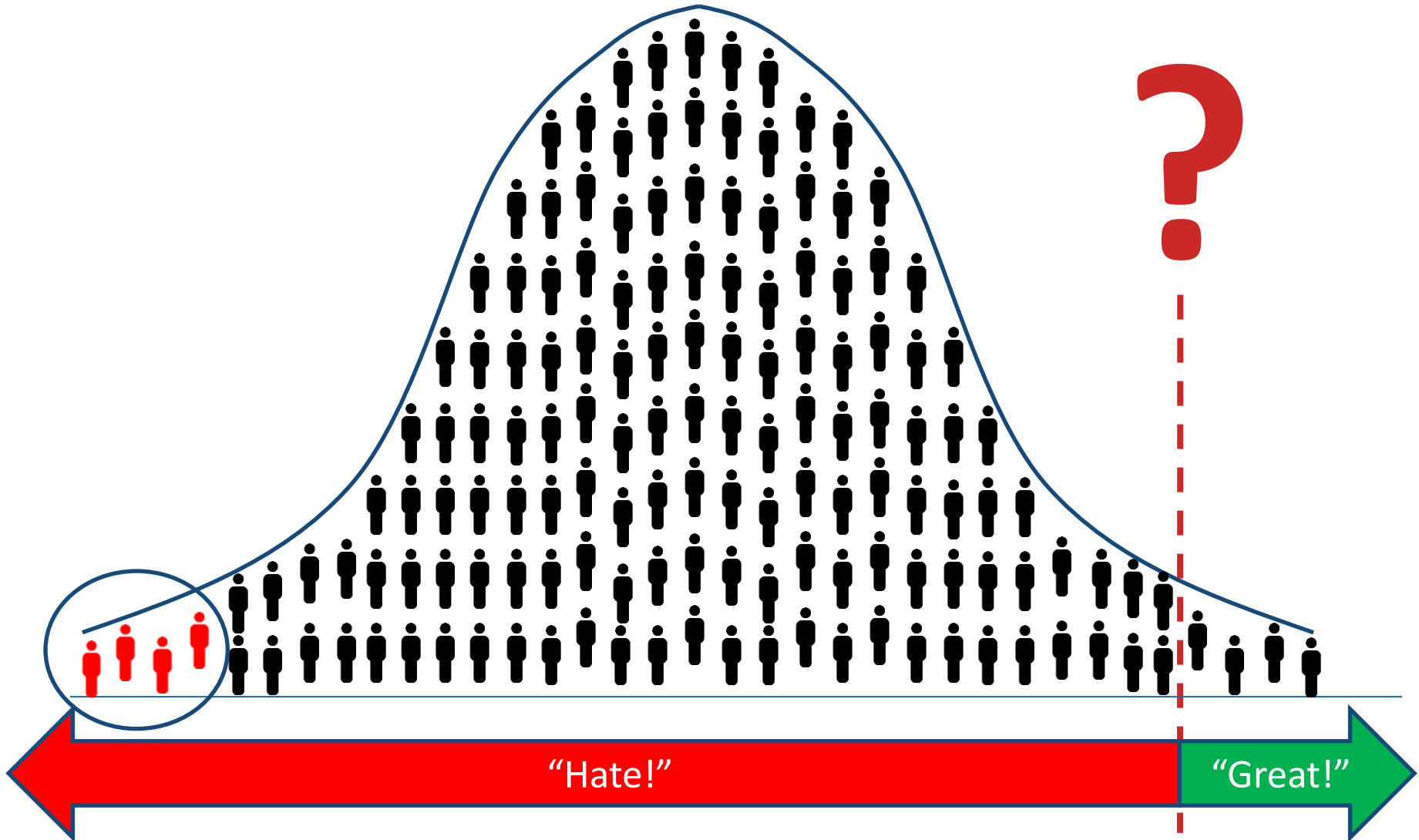




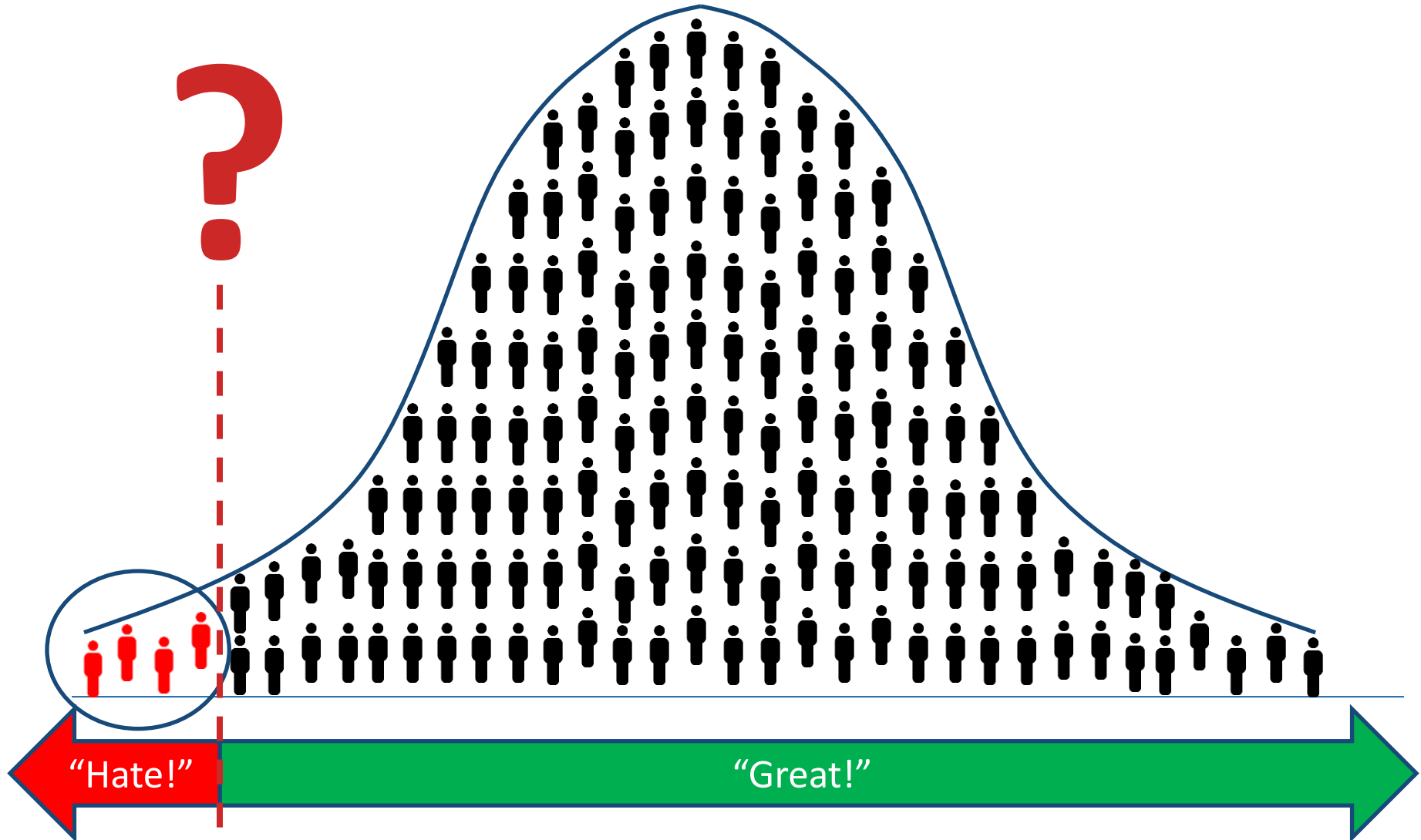
# Who You Usually Hear From



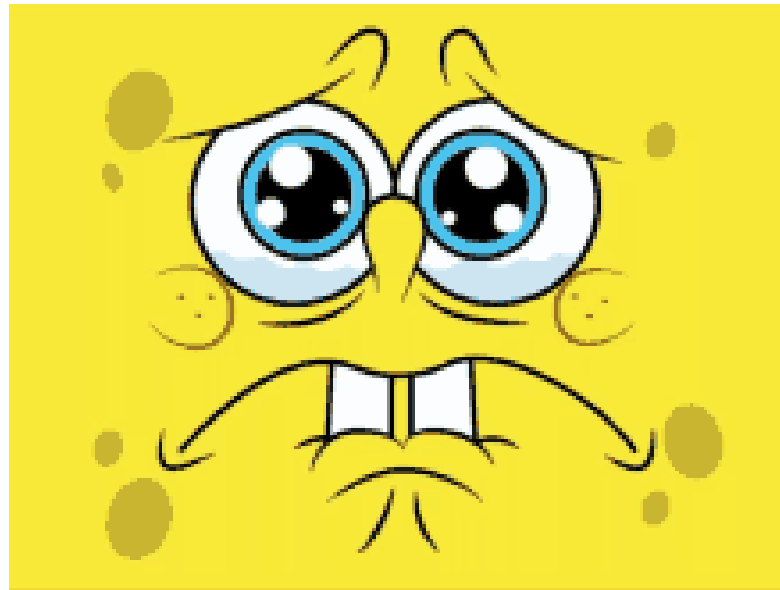
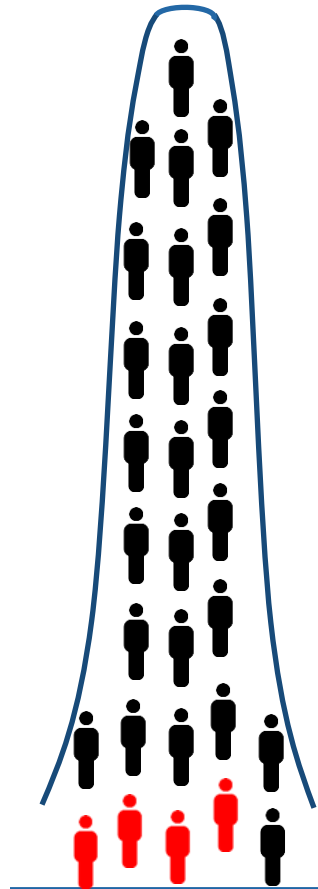
# Does The Community Think This?



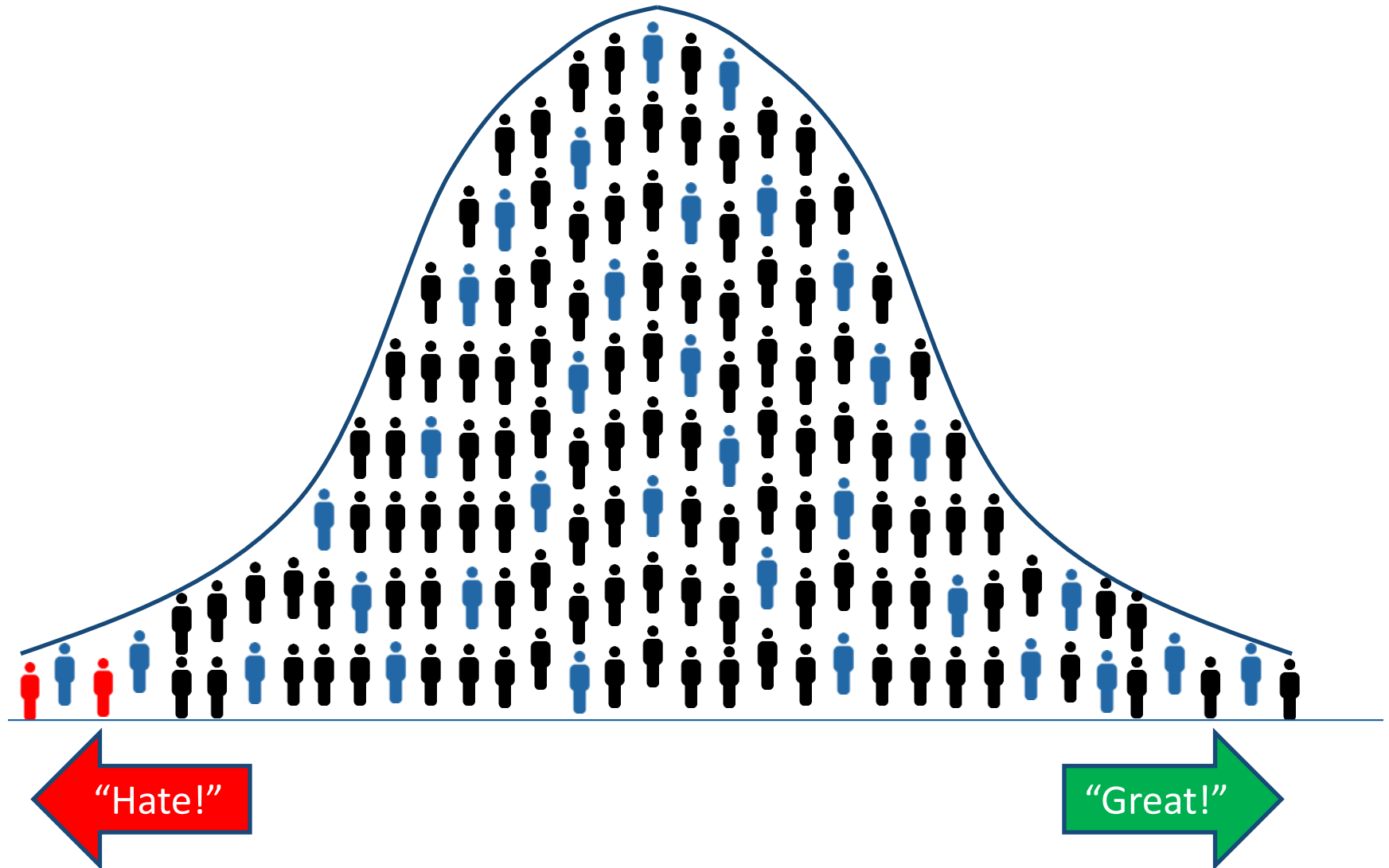
# Or This?... You Have No Idea!



# But You Know What It Feels Like



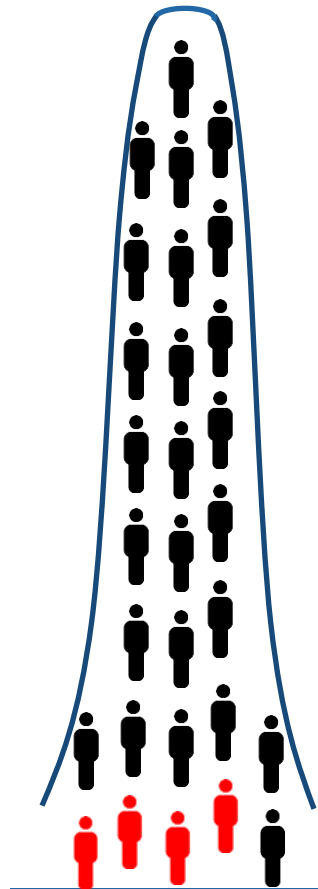
# Missing Representative Reality



---

# HOW DOES INPUT PERCEPTION COMPARE WITH REPRESENTATIVE REALITY?

# Perception: Park Quality



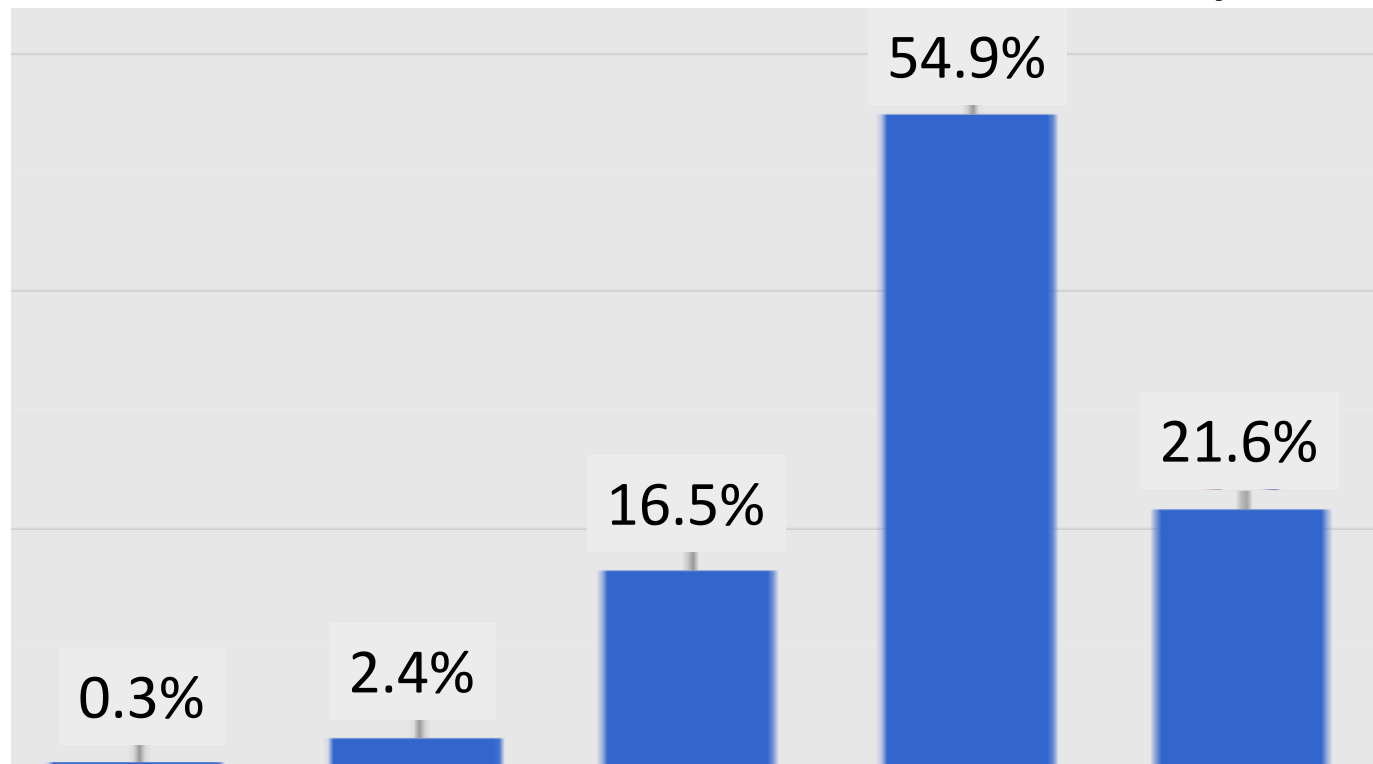
*“Nothing but complaints”*

*“Everyone hates our parks now!”*



# Reality: Park Quality

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

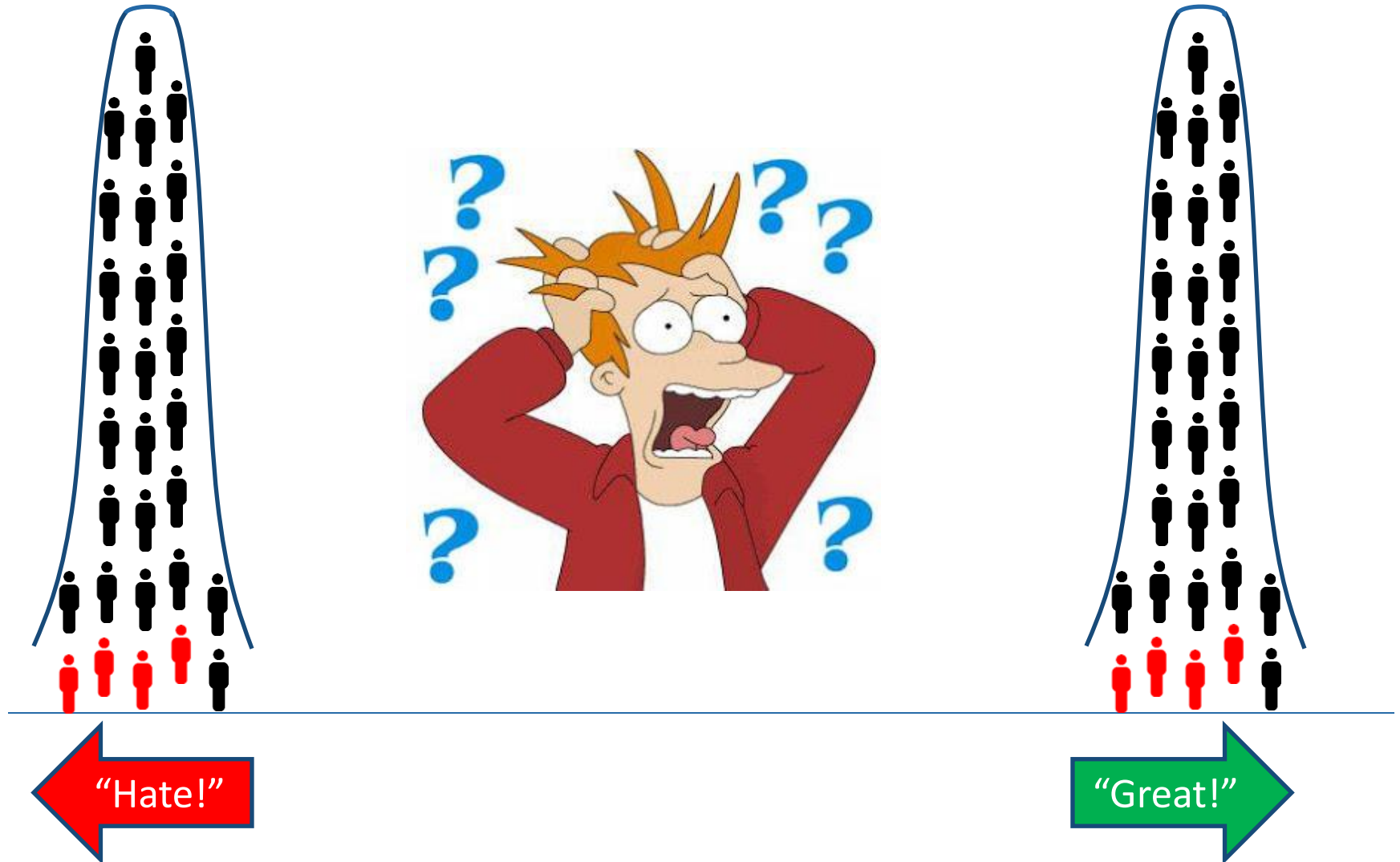


“Hate!”

“Great!”

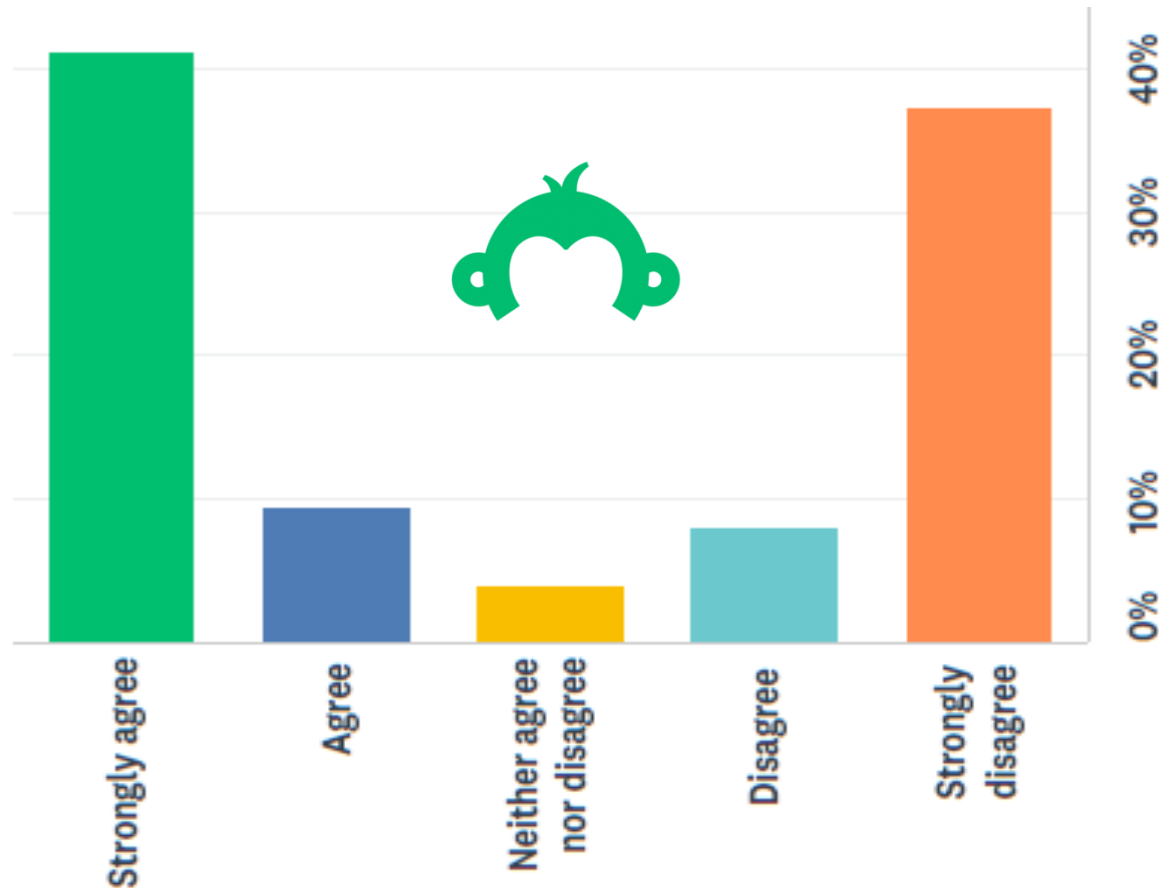


# Perception: School Sex Ed Curriculum



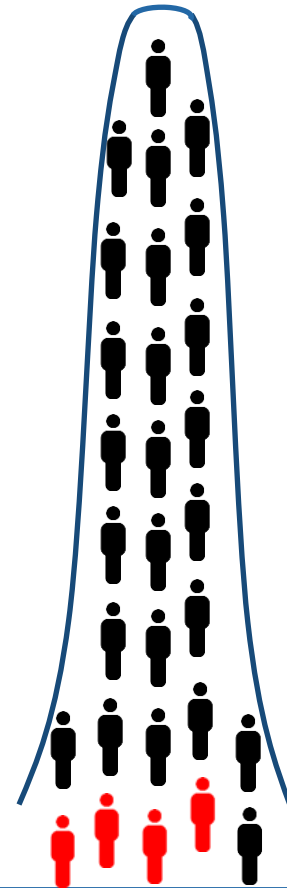
# The “Barbell” Distribution Behind It

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

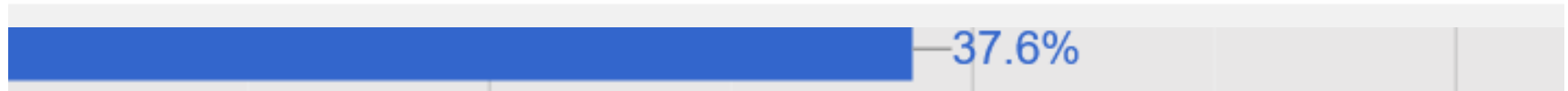


# Perception: Lockdown Protests



# Reality: Lockdown Protests

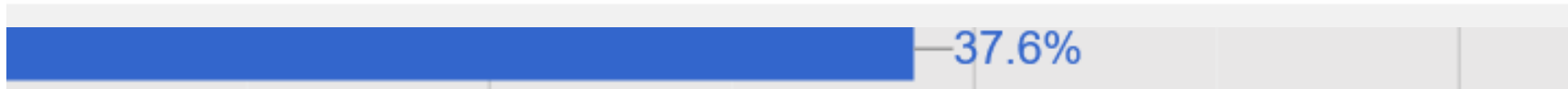
Things will open up too slowly, and the economy will get a lot worse



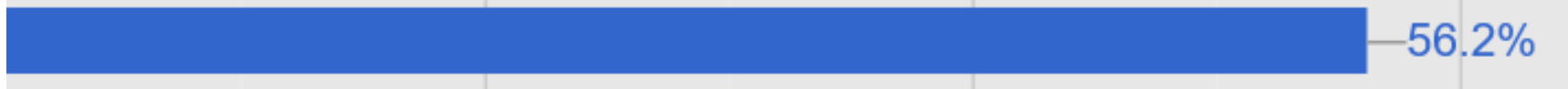
# Reality: Lockdown Protests

---

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



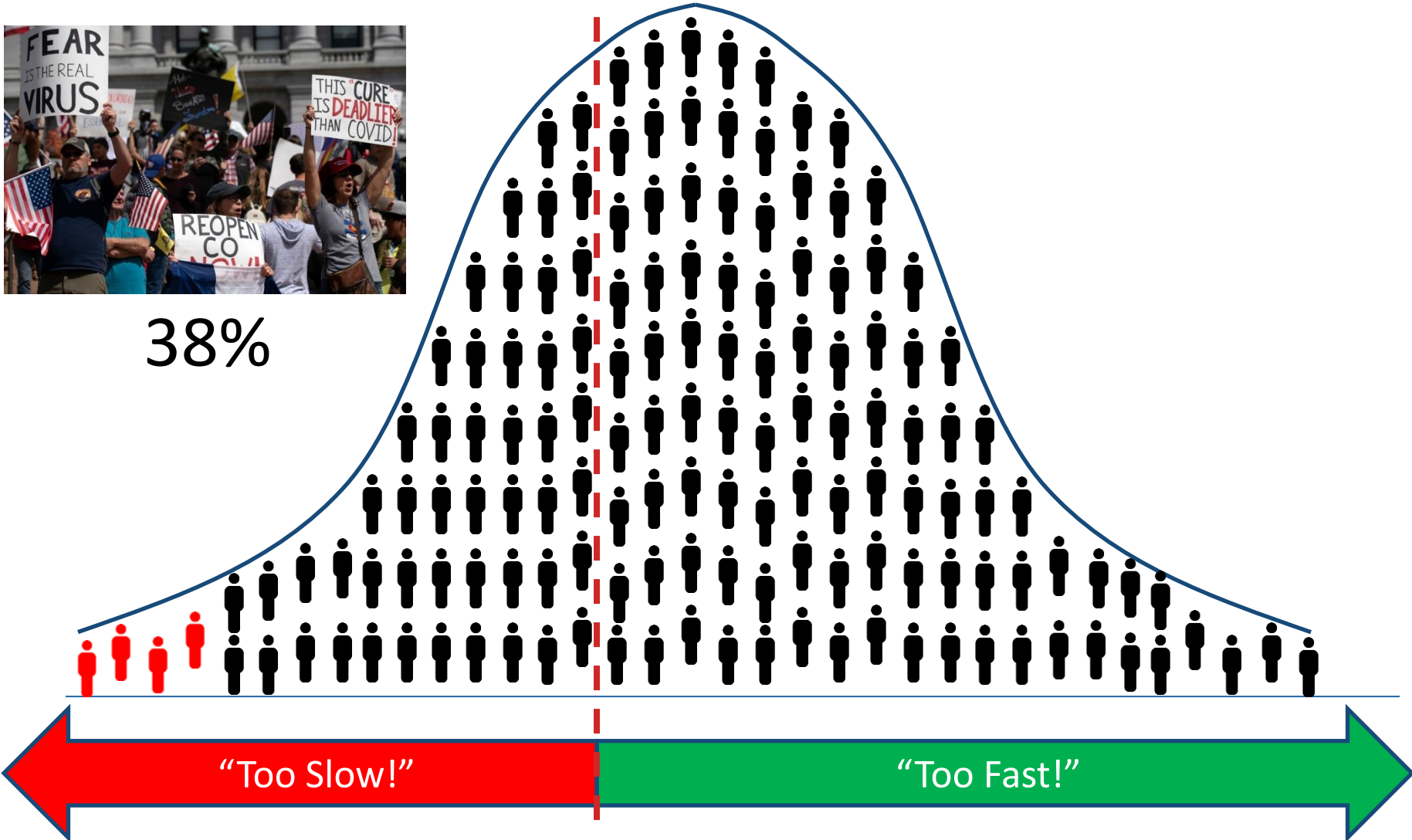
Things will open up too fast, and the outbreak will get a lot worse



# Lockdown Protest Support



38%



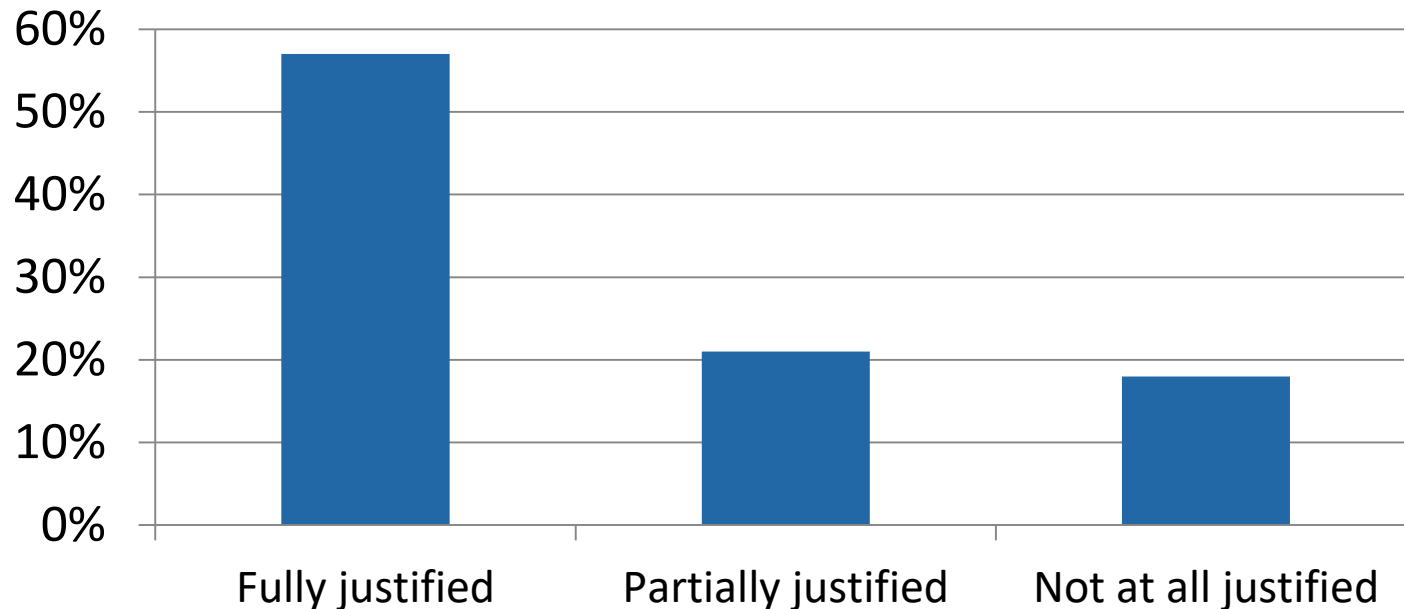
# Perception: Police Protests





# 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?

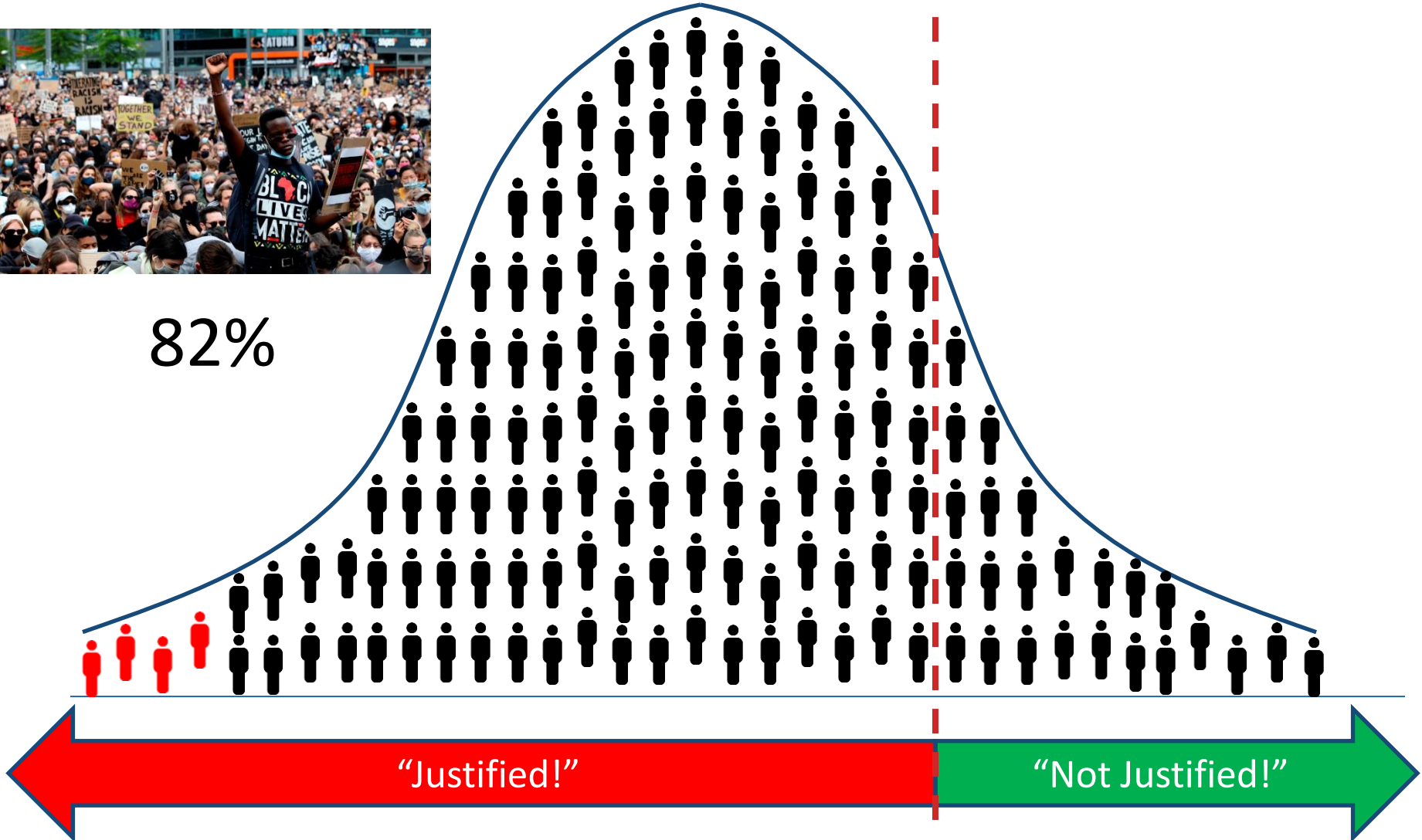


*Source: Monmouth University Poll, 6/2/20*

# Police Protest Support



82%

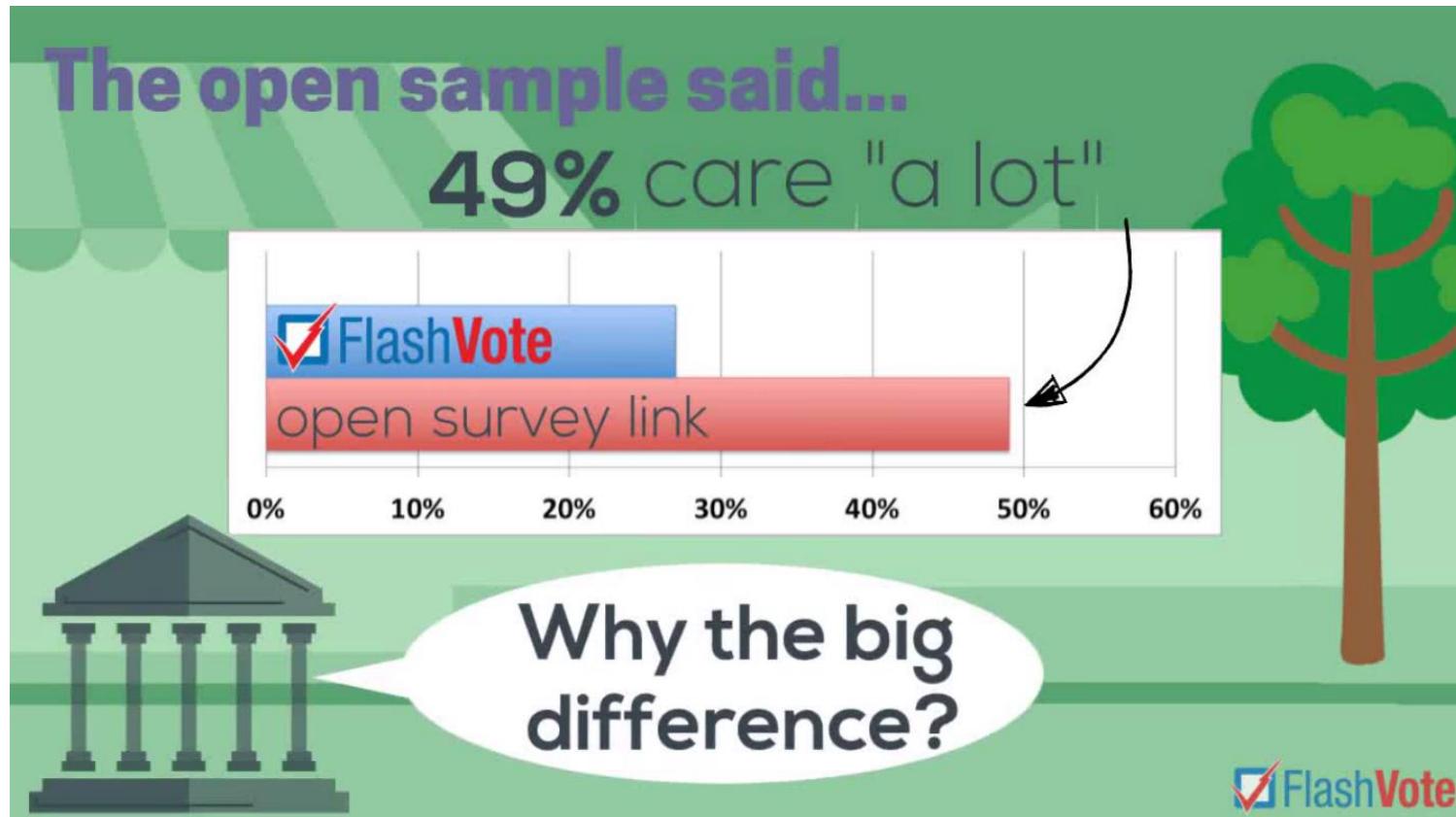


# HOW QUICKLY DOES INPUT GO BAD?

# More Engagement Can Be Worse



# Video Break (90 seconds)



<https://www.flashvote.com/videos#online-engagement>



# What About “No Data”?

---

# What About “No Data”?

---

- How often is existing public input misleading?  
(Never, Rarely, Sometimes, Usually, Always)



# What About “No Data”?

---

- How often is existing public input misleading?  
(Never, Rarely, Sometimes, **Usually**, Always)

# What About “No Data”?

---

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

# What About “No Data”?

---

- How often is existing public input misleading?  
(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 existing 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**

---

# THE TWO TYPES OF HELPFUL DATA AGAIN

# Remember These?

“Smarter” = **How** to do

 *Facts/Ideas/Feedback*

“Wiser” = **What** to do

 *Community Preferences*

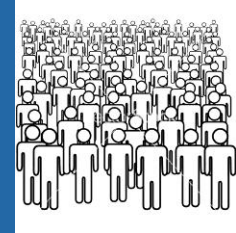


# The Two Types of Useful Input

Individual  
Facts/Ideas



Community  
Preferences

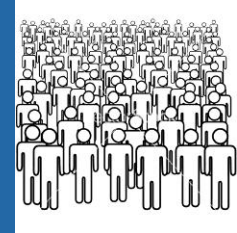


# The Two Types of Useful Input

Individual  
Facts/Ideas



Community  
Preferences



**Everything else is noise!**

# Need Valid Facts and Preferences

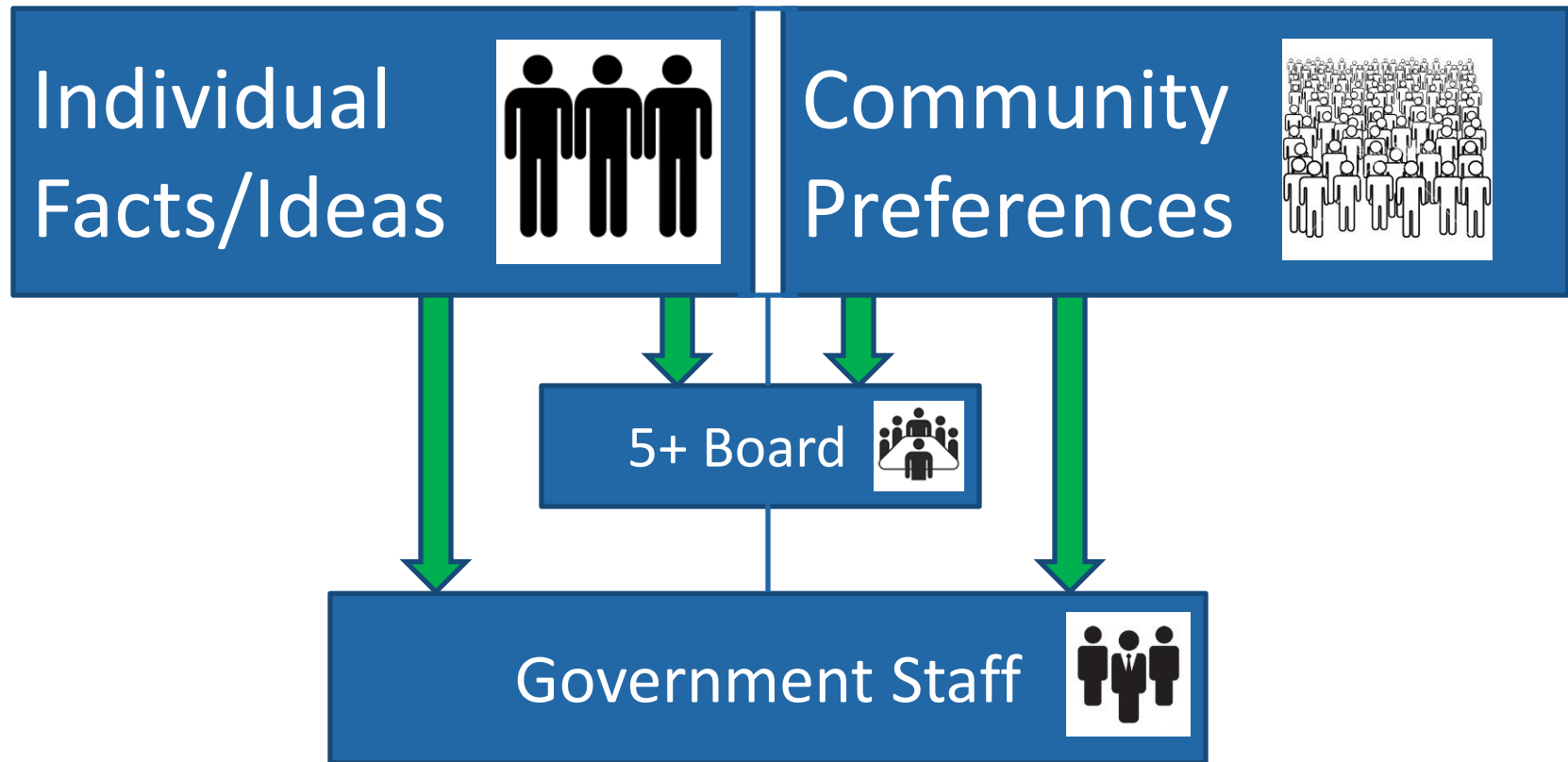
- Facts About Opinions
  - Scientific community preferences
- Facts About Facts
  - Valid/true observations or ideas

---

- 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



- How to Do It?

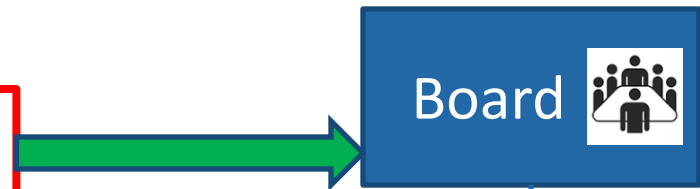
- Community preferences
- Individual facts/ideas



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

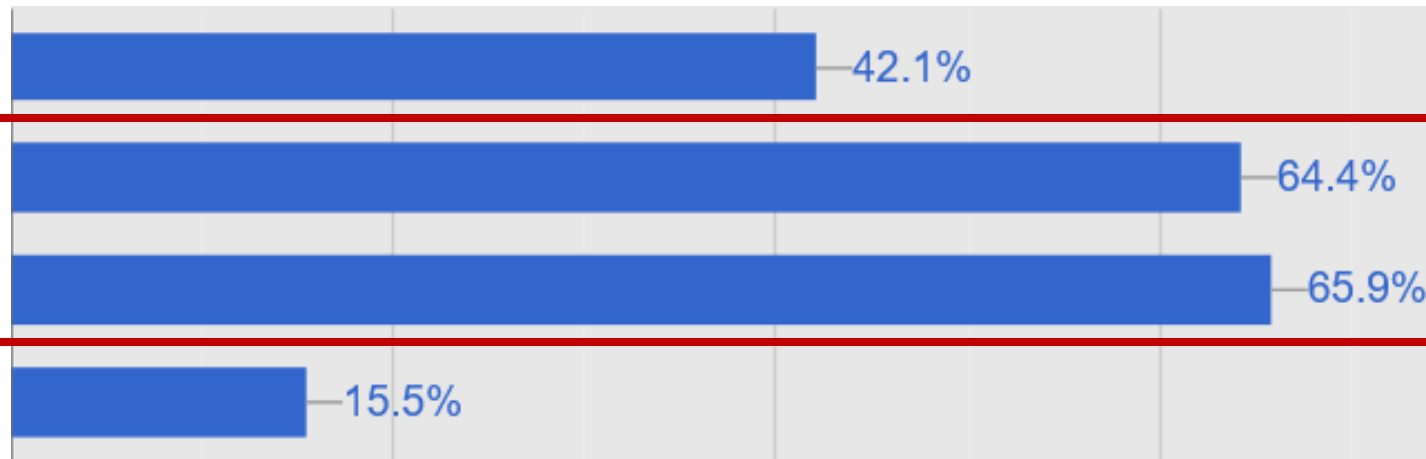
# Example: Recycling

---

- 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



---

# **WHEN DO YOU NOT NEED COMMUNITY PREFERENCE DATA?**



# Delegation to Expertise (and Pizza)

## ✓ What they want



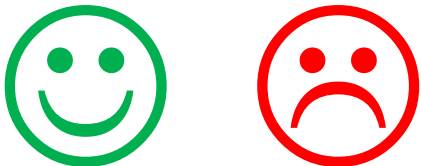
- Pick toppings
- Pick crust (thin/thick)
- Pick flour (gluten free)

## ✗ How to make it



- Pick good recipe
- Pick flour producer
- Pick oven type

## ✓ How it comes out



- Tastes good?

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

# Valid Community Preference Data?

---

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

# Meetings

- Do you get sufficiently large numbers?



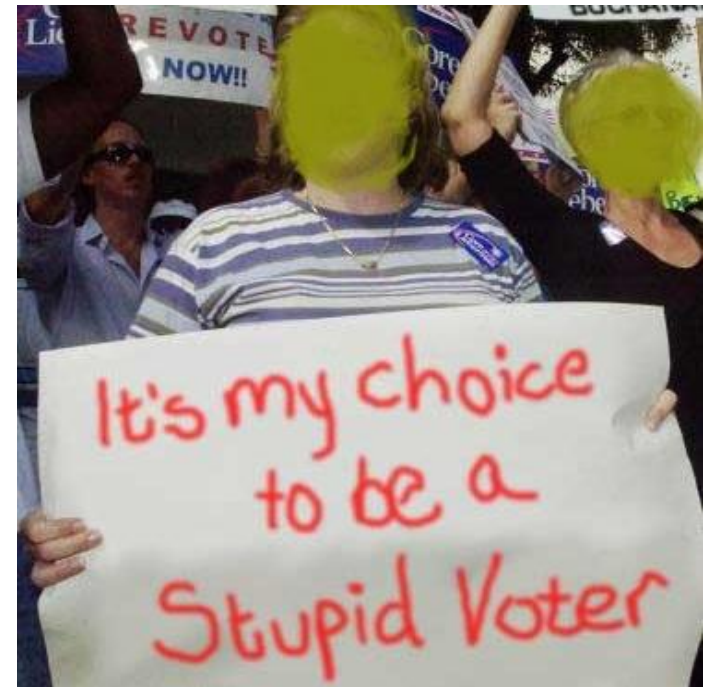
# Meetings

- Do you get representative participation?



# Meetings

- Do you get constructive and informed input?



# Meetings (To Be Fair...)



<https://www.youtube.com/watch?v=k6gjl2NtdE>

# Emails

- Are emailers representative of non-emailers?





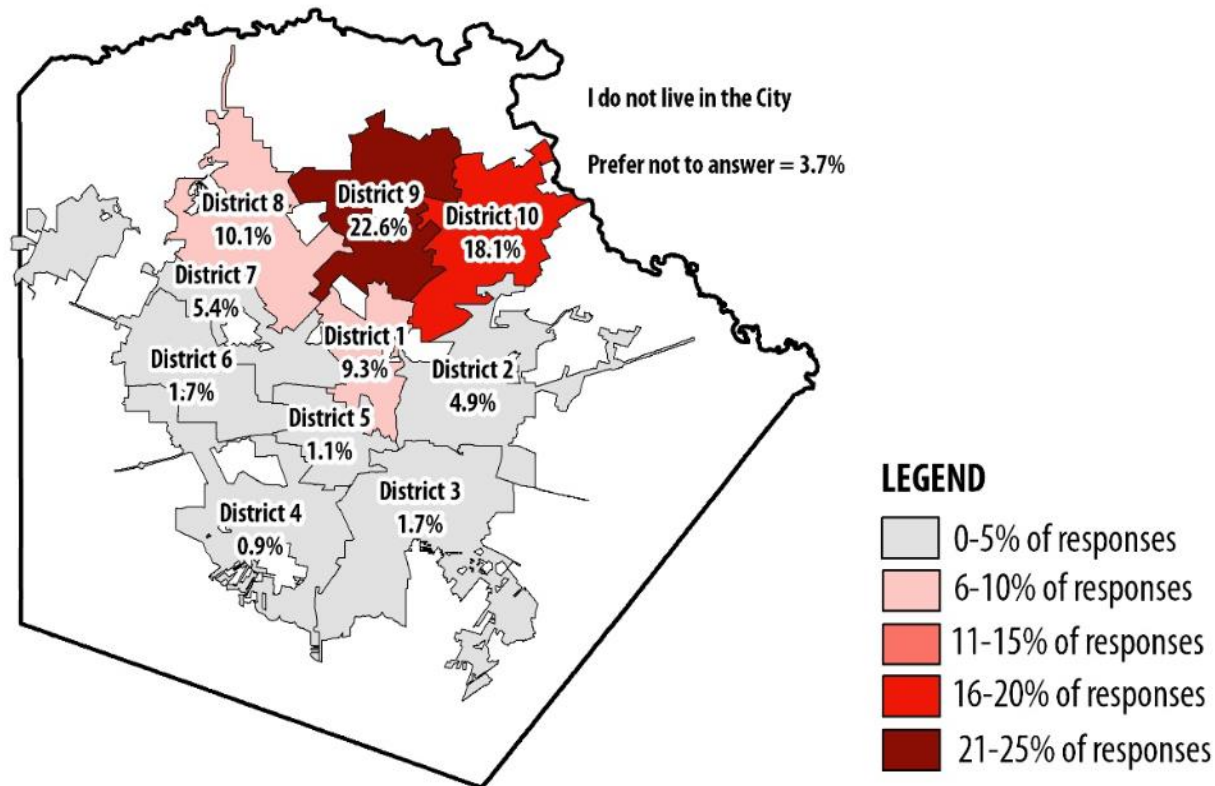
# Social Media

- Are posters representative of non-posters?

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

# Online Engagement Tools

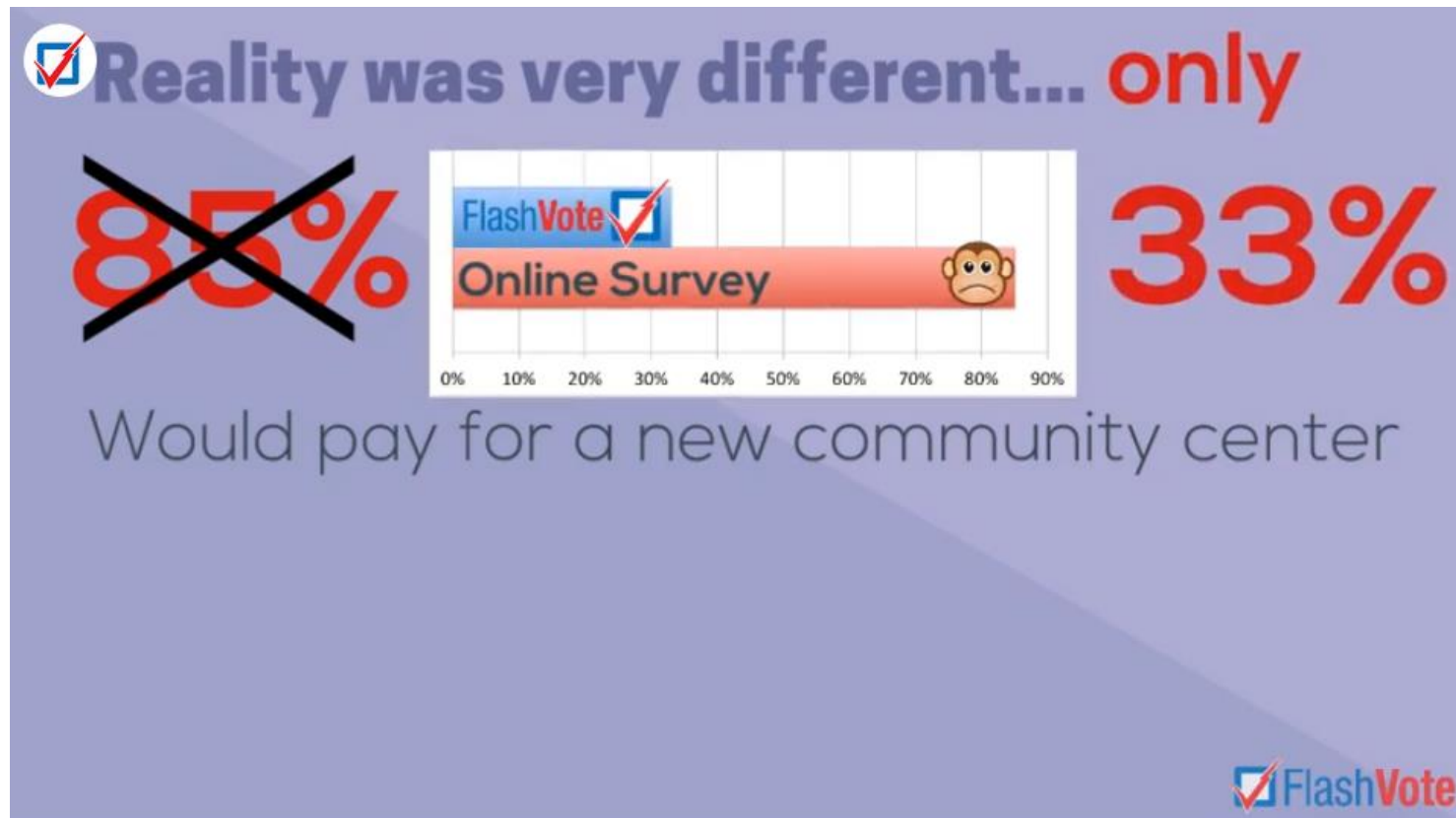
- Are users representative of non-users?



# of respondents (Survey #2): 494

# Online Surveys

- Are responders representative of non-responders?



# What Goes Wrong With All These?

---

- 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 These?

- 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



---

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

# Scientific Mailed Surveys

---



- What percentage of Canadians are over 65?

# Scientific Mailed Surveys

---



- What percentage of Canadians are over 65?

17%



# Scientific Mailed Surveys



- What percentage of Canadians are over 65?

17%

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

# Scientific Mailed Surveys



- What percentage of Canadians are over 65?

17%

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

50%

# Scientific Phone Surveys

---



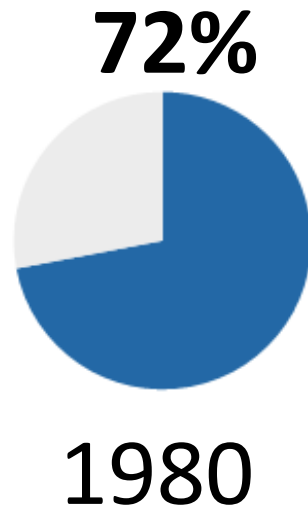
- Response rates to random digit dial surveys

1980

# Scientific Phone Surveys



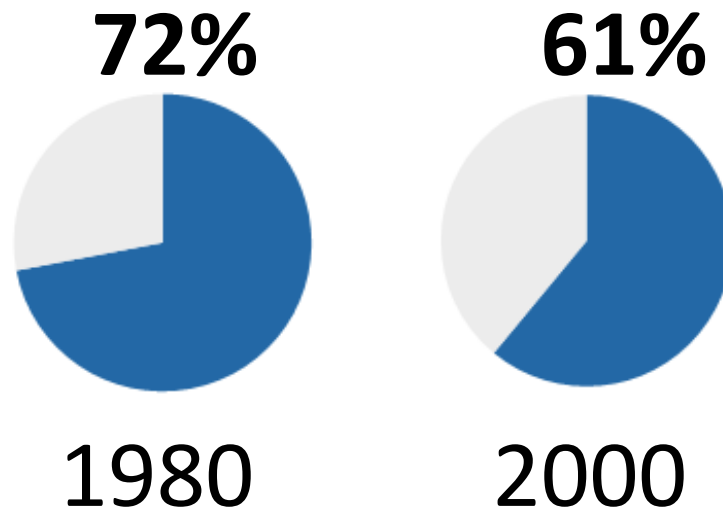
- Response rates to random digit dial surveys



# Scientific Phone Surveys



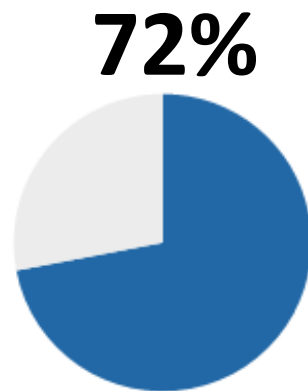
- Response rates to random digit dial surveys



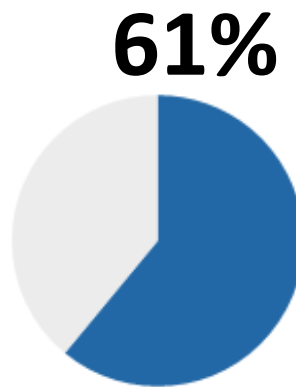
# Scientific Phone Surveys



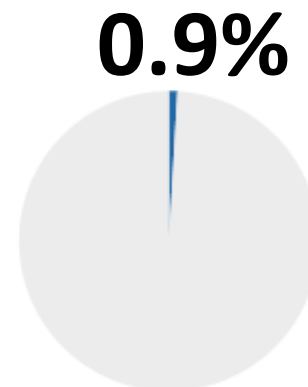
- Response rates to random digit dial surveys



1980



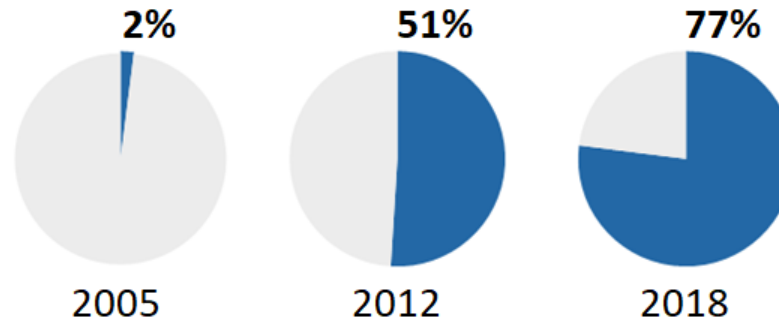
2000



2016

# Scientific Panels

## Smartphone Ownership



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

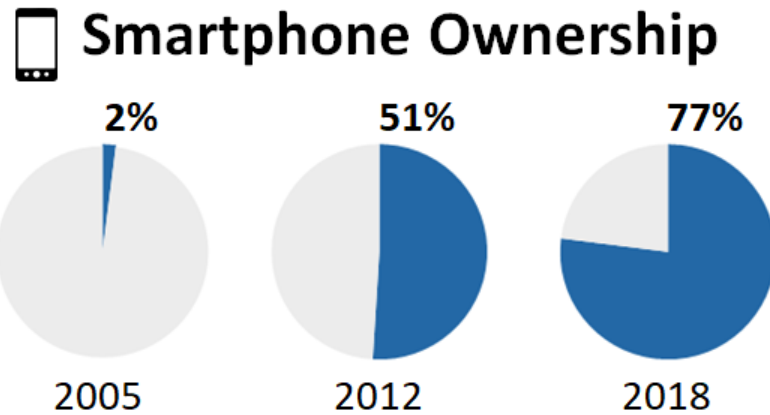
FACT TANK | FEBRUARY 27, 2019

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

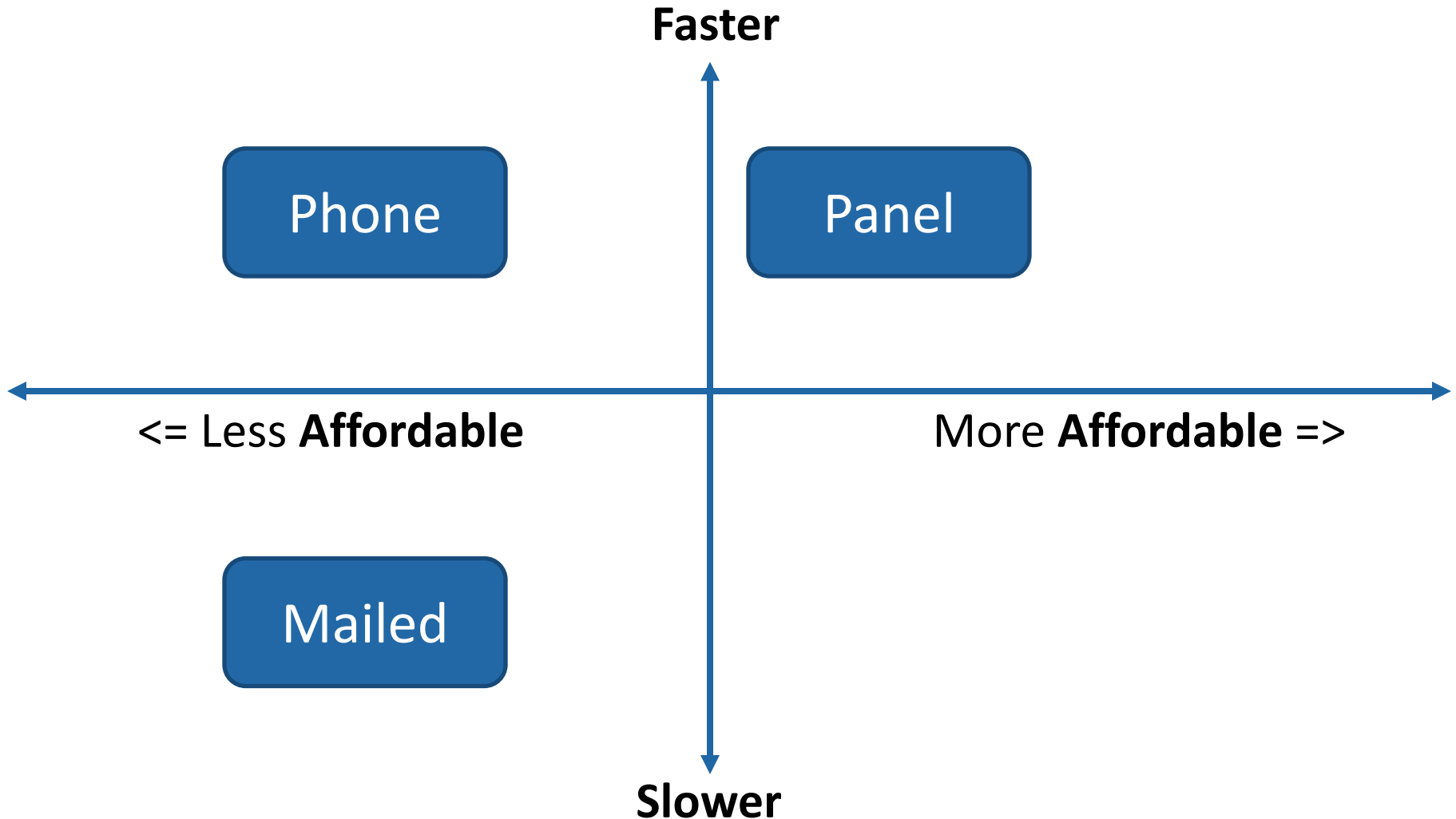
# Scientific Panels



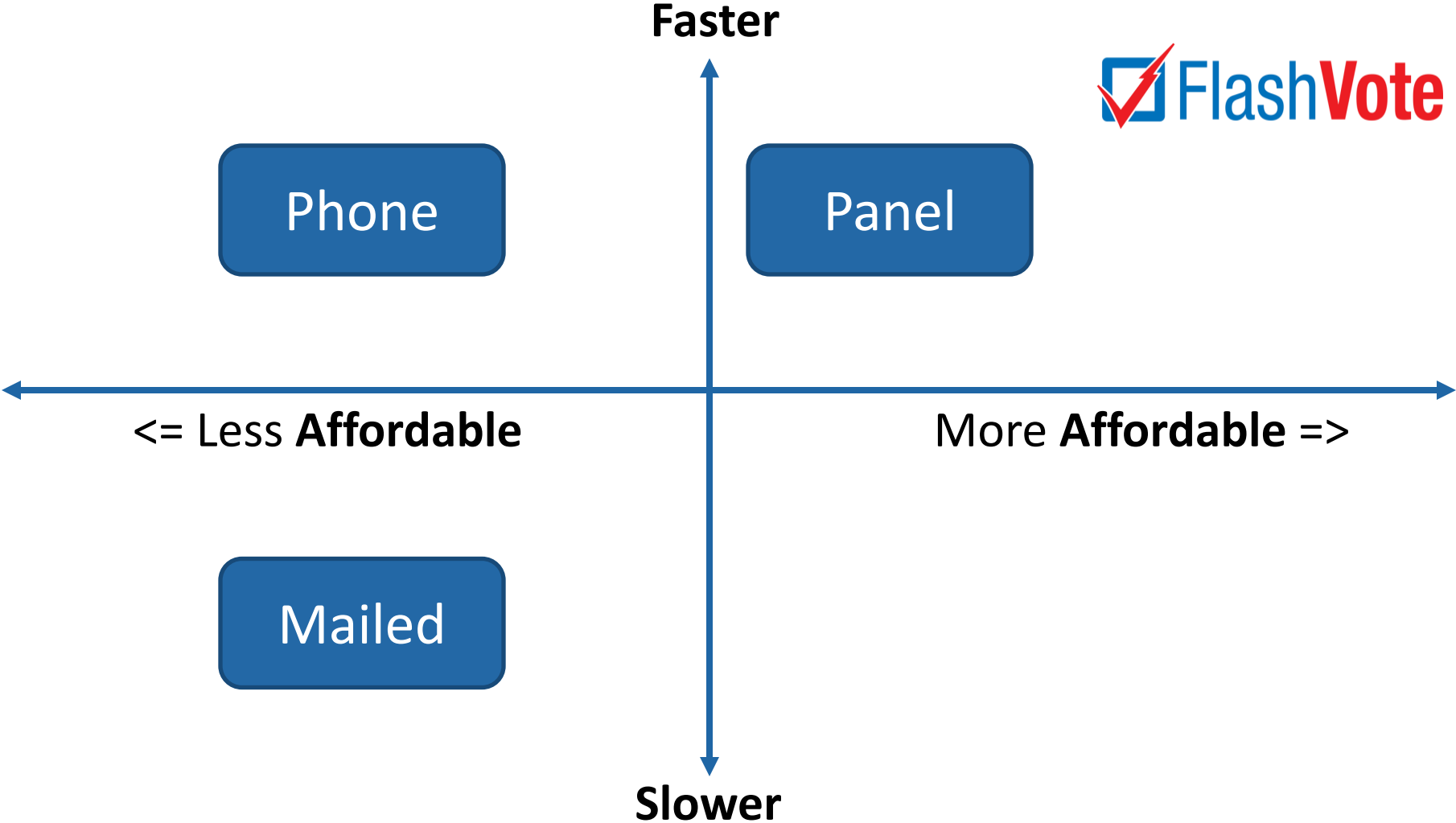
- Upfront effort to create good panel
- Needs to be random/uncorrelated to topic
- Need to track potential biases relative to topics



# Rough Comparison for Scientific Data



# For Governments

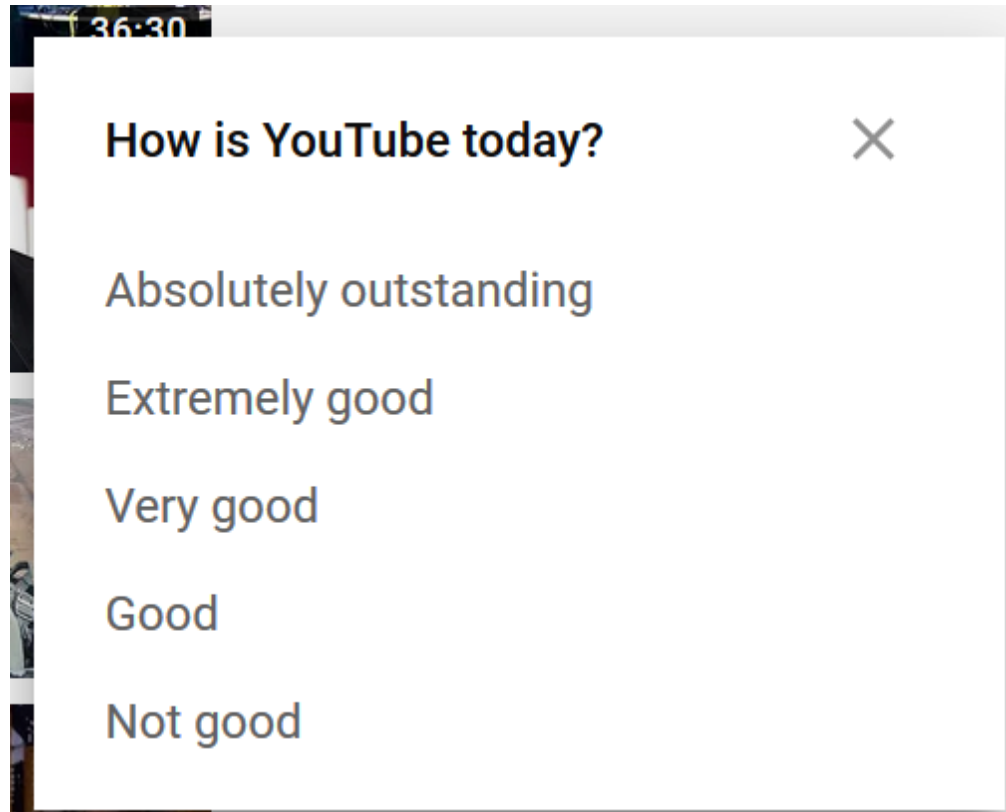


# Valid Question?

- How great are we?
  - A) Great
  - B) Really great



# Valid Question?



# Valid Question?

---

- How should we design our new waste treatment plant?



# Trick 1: Bait and Switch Survey

---

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

# Trick 2: Uncorrelated Intercept Sample

---

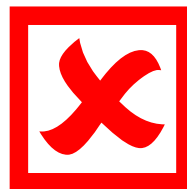
- Go somewhere pretty much everyone goes
- Do quick in person interview question(s)
- Track demographics based on observation
- Get 25 to 40 responses (+/-20% to +/- 15%)

# Uncorrelated? (Public Meeting)





# Uncorrelated? (Public Meeting)



# Uncorrelated? (Local Store)



# Uncorrelated? (Local Store)



# Uncorrelated? (Local Diner)



# Uncorrelated? (Local Diner)



# Uncorrelated? (Public Spaces)



# Uncorrelated? (Public Spaces)



---

**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

# New? True? For You? - Examples



- There is a pothole at Main and 1st



- Second report of the same pothole

# New? True? For You? - Examples



- There is a pothole at Main and 1st

- I used the new bike lane



- Second report of the same pothole

- 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?

# Ask Open Ended Questions Anywhere

---

- **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 (percentages)**
  - 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 Questionnaire?

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?

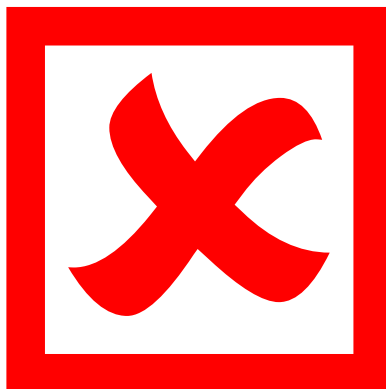
- Very Supportive
- Supportive
- Neutral
- Not Supportive
- Not at All Supportive

# Good or Bad Online Questionnaire?

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



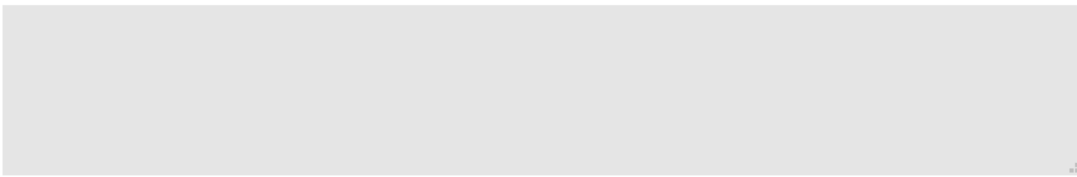
## Individual Preference = Junk Data!

# Good or Bad Online Questionnaire?

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?



# Good or Bad Online Questionnaire?

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,
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- 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?



Individual Fact/Idea = Good Data!

# Use Whatever You Have for Facts



**DON'T HESITATE TO USE:**

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

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

# But 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 questionnaires to  
survey your community.

They are for small groups  
or amusement only.

# Or “Don’t End Up Like This Guy” ...



WEATHER  
E-EDITION  
SUBSCRIPTION LOGIN  
SIGN UP FOR NEWSLETTERS

## LOCAL NEWS

### Pacific Grove **survey roundly criticizes city manager**



Harvey on Monday **stressed the survey was non-scientific** and that **respondents could log in as many times as they wanted.**

“There were multiple very similar answers,” he said.



# Unscientific “Engagement” Tips

---

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

---

# HOW TO MANAGE WHATEVER INPUT YOU GET

# Tool: Filing System for Input

---

- “Bug Report” or “Feature Request”?
  - Bug = Problem with existing activity?
  - Feature = Proposed new or changed activity?

# Tool: Filing System for Input

- “Bug Report” or “Feature Request”?
  - Bug = Problem with existing activity?
  - Feature = Proposed new or changed activity?
- If Bug Report... **New/True/For You?**
  - Record, validate and assign (311 systems)

# Bug Report (This Again)

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

**Need 3/3**



# Proactive Individual Input on Problems

	<i>Current Activity</i>	<i>Proposed Activity</i>
<i>Current Problem</i>	Bug Report	User Testing
<i>Future Problem</i>	Bug Prediction	User Ideation

# Advanced Tools

- Simulated User Testing – Role play test as residents
  - Generic resident role play
  - Different resident personas
- Red Teaming – Try to break something
  - “help commanders and staffs think critically and creatively; challenge assumptions; mitigate groupthink; reduce risks by serving as a check against complacency and surprise; and increase opportunities by helping the staff see situations, problems, and potential solutions from alternative perspectives.”

# Tool: Filing System for Input

- “Bug Report” or “Feature Request”?
  - Bug = Problem with existing activity?
  - Feature = Proposed new or changed activity?
- If Bug Report... New/True/For You?
  - Record, validate and assign (311 systems)
- If Feature Request... **How Important?**
  - Cost/benefit or statistically valid preferences



# Feature Request (This Again)

	<i>Get More</i>	<i>Get Less</i>
<i>Pay More</i>	<div style="border: 1px solid red; padding: 2px;">Ask About Tradeoffs</div> <b>Maybe</b>	<b>No!</b>
<i>Pay Less</i>	<b>Yes!</b>	<div style="border: 1px solid red; padding: 2px;">Ask About Tradeoffs</div> <b>Maybe</b>

# Input Sources on Bugs vs Features

---

- Individual Input
  - Bug report (X is not working)
  - New feature request (You should do X)
- Community Input
  - Bug importance (X is a big problem)
  - Feature prioritization (We want X)

---

# HOW TO **DISARM/DEFUSE** WHATEVER INPUT YOU GET

# Magic Questions



Help me understand...

(IF NEW FEATURE) how doing that would benefit everyone in the community?

# Magic Questions



## Help me understand...

(IF NEW FEATURE) how doing that would benefit everyone in the community?

(IF CHANGE) how doing that would benefit everyone more than doing \_\_\_\_\_?

# Magic Questions



How do we know...

(IF NEW FEATURE) that is a priority for the whole community?

# Magic Questions



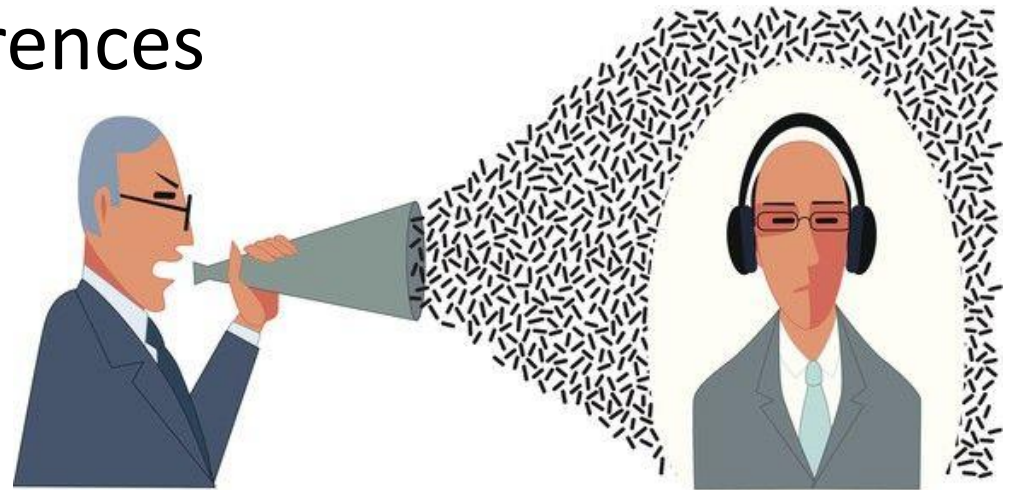
## How do we know...

(IF NEW FEATURE) that is a priority for the whole community?

(IF CHANGE) the whole community would prefer that over doing \_\_\_\_\_?

# Ignore With Scientific Precision

- **Ignore** claims about community preferences



- **Ignore** personal sentiments or percentages observed online or in person



---

**SO WHICH CHANNELS FOR  
WHICH INPUT?**

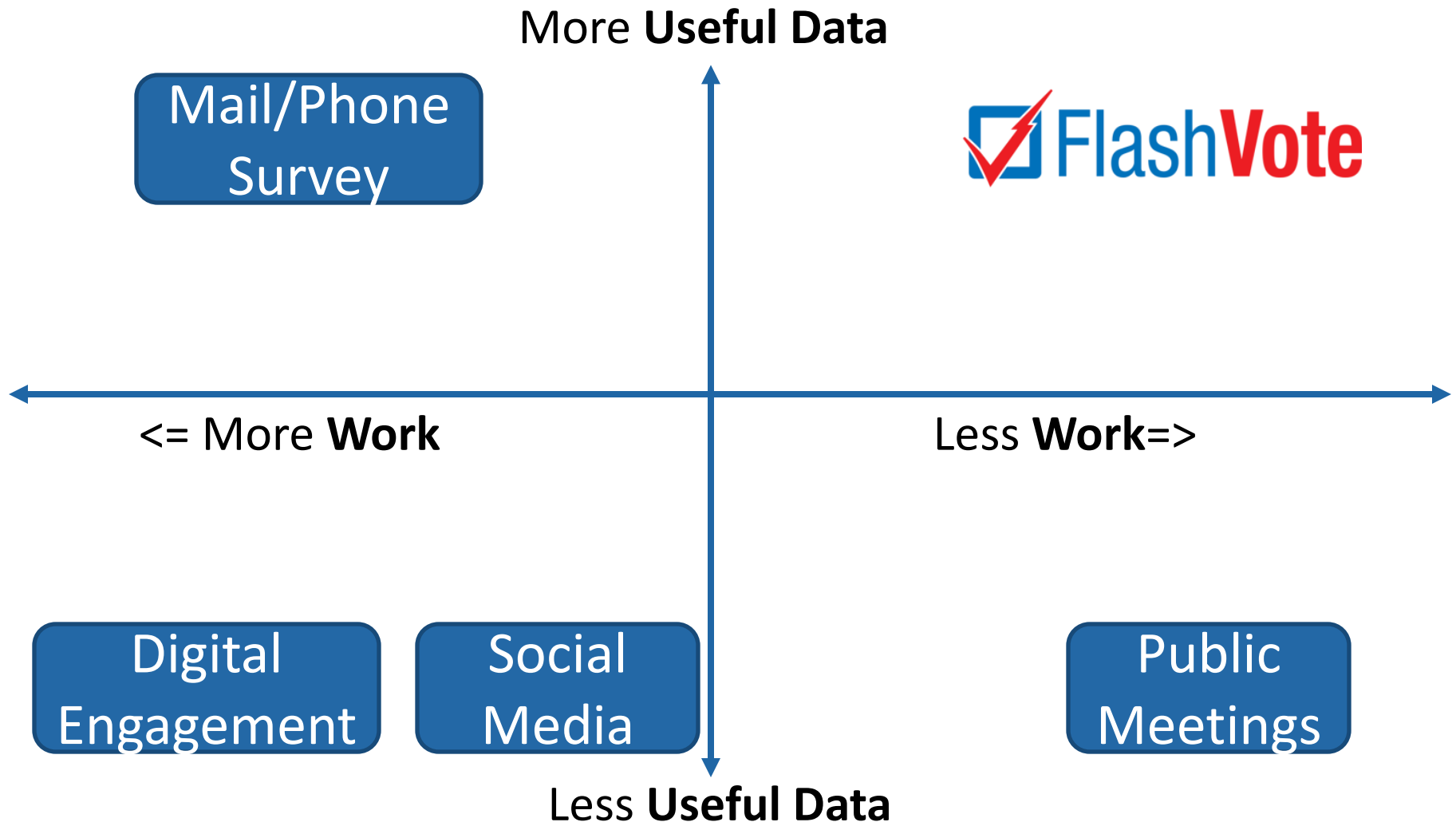
# Guide to Community Engagement

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

# Full Guide to Community Input

Type of Input	How to Do? -Ideas/Facts	How to Do? -Preferences	What to Do? -Ideas/Facts	What to Do? -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

# Input Work vs Input Value



# REMEMBER QUICK POLL #1?

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

Good data, glad we can get it – If Facts/ideas

Probably not great, but better than nothing

Bad data, would never use it – If Preferences

Not Sure

# CONCLUSIONS

# Signal or Noise?

## FACTS

- New?
- True?
- For You?

## COMMUNITY PREFERENCES

- Large Number?
- Not Self-Selected?
- Good Questions?

# Helpful!

## FACTS

- New
- True
- For You

## COMMUNITY PREFERENCES

- Large Number
- Not Self-Selected
- Good Questions



# Useless or Dangerous!

## USELESS

- Opinions about Opinions
- Opinions about Facts



## DANGEROUS

- Unrepresentative Loud Voices
- False Facts



# The Good, The Bad, The Ugly

- Facts about Opinions



- Facts about Facts



- Opinions about Facts



- Opinions about Opinions



- Misinformation about Facts



- Misinformation about Opinions



# Individual Input $\neq$ Community Input

---

*“I don’t like the cell phone tower”*

*“We don’t need the cell phone tower”*

*“The cell phone tower will cause cancer”*

*“The community doesn’t want or need the cell phone tower”*

# Individual Input $\neq$ Community Input

*“I don’t like the cell phone tower”*

*“We don’t need the cell phone tower”*

*“The cell phone tower will cause cancer”*

*“The community doesn’t want or need the cell phone tower”*



# Final Thought: The Third “E”

- **Effective** = Do the right things (“**Work Wiser**”)
  - What pizza toppings do we get?
- **Efficient** = Do those things right (“**Work Smarter**”)
  - How do we get the pizza made?
- **Equitable** = Do right by all (“**Work Fairer**”)
  - Who didn’t get good pizza, or any pizza?

# That's Enough... Question Time

---

**Ask me anything!**

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

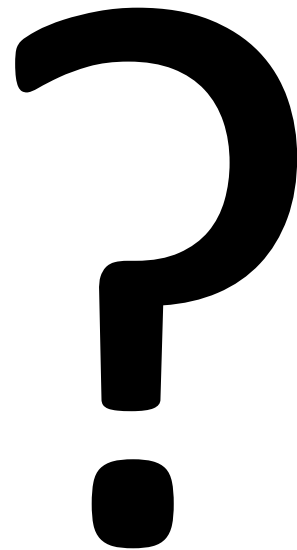
---

# **PART 4: WORKSHOP FOR YOUR CHALLENGES**

# Workshop Time!

---

- Your input challenges/problems do you have?
  - Lets use the chat and unmute





# Workshop Time!

---

- Samantha -
  - How can we best share this understanding with Council as the noisy are often the ones that have their ears as well?

# Workshop Time!

- Jessica -
  - Our Council often defers reports to gather input from the residents, and it's always the same 4-5 people commenting they don't support it and it always puts us in a tough spot.
  - Too many requests for public input makes it appear staff can't do their job adequately and we need advice from our 'local experts', as some Council refers to them as. How can we communicate that we know what we are doing, and sometimes their input is not required?

# Workshop Time!

---

- Zac -
  - Working with a municipality trying to find ways to better support their constituents on social media.

# Workshop Time!

---

- Tracey -
  - How do you solicit meaningful community input without setting high expectations? (i.e. Ratepayers may think that because several people agreed with their opinion, then it is a done deal.)

# Workshop Notes

---

# My Questions

---

- What did you like least?
- What did you like most?
- Thank you!

# That's All Folks

---

**Ask me anything else!**

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

**Direct: 510-593-4901**