



## **Community Task Force Meeting #12**

Department of Community Services  
Transportation Division

February 10, 2020

# Agenda

1. Welcome, Introductions & Housekeeping
2. Public Comment
3. Project Update
4. Preferred Alternative Process and Timeline
5. Evaluation Criteria Topics Weightings
6. Closing Remarks





# Project Update

## Recent Activities

- Briefings
- Workshops

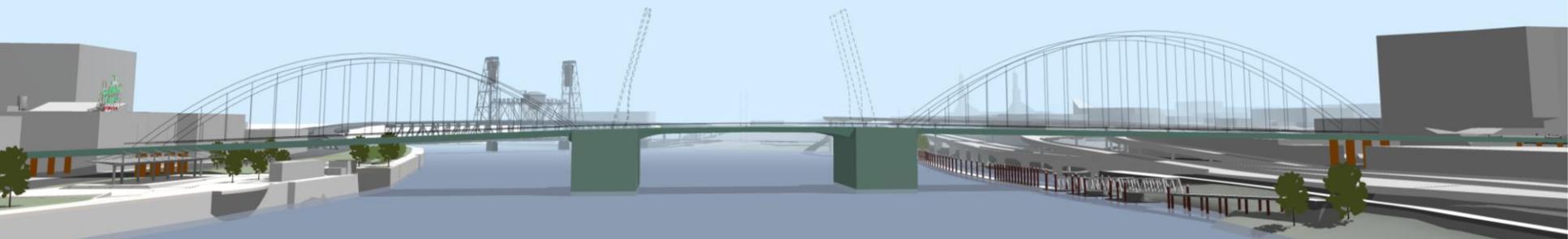


# Project Update

## In-kind Replacement: Long-span / Conventional Bridge Comparison

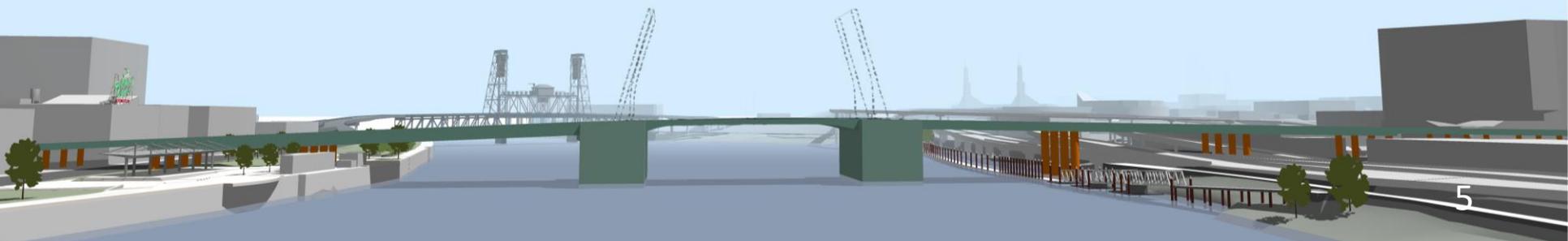
- Long-span Bridge Key Objectives
  - Reduce geotechnical hazard risk by eliminating 1 support on each side
  - Reduce many construction impacts
  - Maintain all vehicular and bike/ped lanes, widths, and connections

### Sample Long-span Bridge Concept



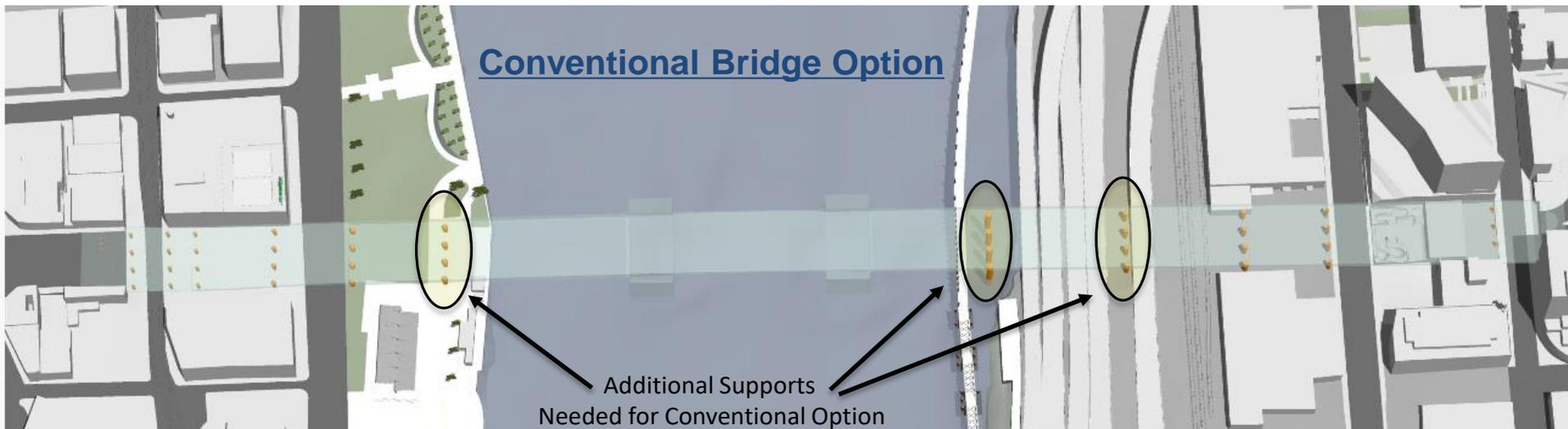
*Note: Eastbank Esplanade connections not shown for clarity*

### Sample Conventional Bridge Concept



# Project Update

## In-kind Replacement: Long-span / Conventional Bridge Comparison



# Preferred Alternative Process

CTF's job is to recommend a Preferred Alternative to decision makers

Objective is to make a recommendation based on:

-  Recognizing and understanding a broad range of stakeholder values
-  Balancing those multiple and sometimes conflicting values
-  Comparing alternatives on an “apples to apples” basis
-  Exploring tradeoffs among alternatives
-  Achieving consensus on the best choice

You have been working through a process to accomplish that objective



# Preferred Alternative Process

## 1. Recognize and understand a broad range of stakeholder values

- Developed **criteria** to represent stakeholder values
- Developed **measures** to rate the performance of an alternative in delivering on those values

Criteria Groups	
<b>1. Seismic Resiliency</b>	
Long Term	<b>1a.1</b> Maximize confidence in post-earthquake crossing operability and reparability. • Measure: Qualitative assessment for how much reliance on original components is needed for seismic resiliency. • Measure: Ability to implement reliable seismic performance mechanisms and devices.
	<b>1a.2</b> Maximize ability for all modes to use the crossing post-earthquake. • Measure: Ability to accommodate over-dimensional vehicles and loads. • Measure: Ability to simultaneously accommodate all travel modes.
	<b>1a.3</b> Minimize risk that adjacent buildings could damage or block the bridge after a major earthquake, and minimize risk that crossing construction could lessen the seismic resilience of adjacent buildings. • Measure: Quantify level of risk exposure from adjacent buildings, weighting those alternatives that are at risk due to URM exposure from adjacent buildings at a higher risk.
During Const.	<b>1b.1</b> Minimize delay in achieving a seismically resilient crossing. • Measure: Estimated duration of construction



# Preferred Alternative Process

## 2. Balance those multiple and sometimes conflicting values

- Next step is to assign **value weights** to each of the criteria to reflect their relative importance
  - **Today’s meeting** – assign weightings to Criteria Topics
  - February 24<sup>th</sup> – assign weights to short term and long term subcategories

<i>Criterion</i>	<i>Rating</i>	<i>Weight</i>	<i>Score</i>
1 SEISMIC RESILIENCY	1	10	10
2 COMMUNITY QUALITY OF LIFE	2	5	10
3 EQUITY & ENVIRONMENTAL JUSTICE	3	10	30
4 CRIME REDUCTION & PERSONAL	1	-	-

**Weight = Importance as Percentage of all Criteria Topics**



# Preferred Alternative Process

## 3. Compare alternatives on an “apples to apples” basis

- Calculate a **score** for each alternative
  - Based on performance rating developed by technical staff
  - Value weights developed by CTF

**EXAMPLE**

**ALTERNATIVE X**

Criterion	Rating	Weight	Score
1 SEISMIC RESILIENCY	1	10	10
2 COMMUNITY QUALITY OF LIFE	2	5	10
3 EQUITY & ENVIRONMENTAL JUSTICE	3	10	30
4 CRIME REDUCTION & PERSONAL SAFETY	1	5	5
5 BUSINESS AND ECONOMICS	2	10	20
6 PARKS & RECREATION RESOURCES	3	5	15
7 HISTORIC RESOURCES	1	10	10
8 VISUAL & AESTHETICS	2	5	10
9 NATURAL RESOURCES, CLIMATE CHANGE & SUSTAINABILITY	3	10	30
10 PEDESTRIANS, BICYCLISTS & PEOPLE WITH DISABILITIES	1	5	5
11 MOTOR VEHICLES, FREIGHT & EMERGENCY VEHICLES	2	10	20
12 TRANSIT	3	5	15
13 FISCAL RESPONSIBILITY	1	10	10

Rating: 1 to 3  
Weight Total = 100

Alternative X - Total Score **190**



# Preferred Alternative Process

- Compare scores – highest score represents highest total value

**EXAMPLES**

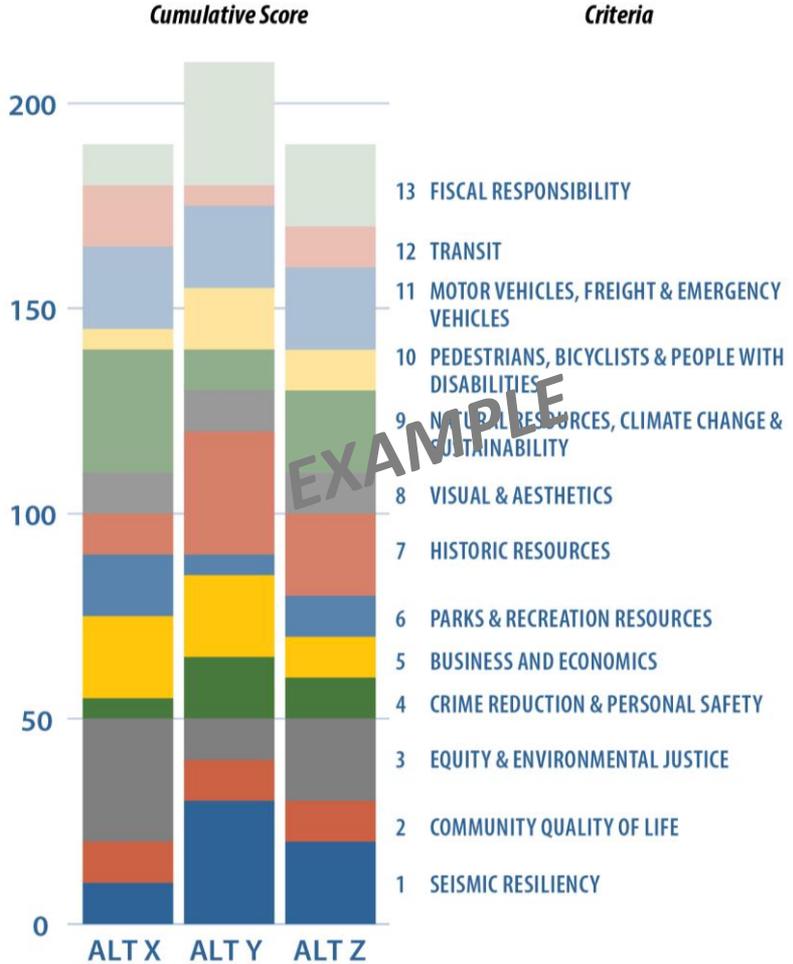
Criterion	ALTERNATIVE X			ALTERNATIVE Y			ALTERNATIVE Z		
	Rating	Weight	Score	Rating	Weight	Score	Rating	Weight	Score
1 SEISMIC RESILIENCY	1	10	10	3	10	30	2	10	20
2 COMMUNITY QUALITY OF LIFE	2	5	10	2	5	10	2	5	10
3 EQUITY & ENVIRONMENTAL JUSTICE	3	10	30	1	10	10	2	10	20
4 CRIME REDUCTION & PERSONAL SAFETY	1	5	5	3	5	15	2	5	10
5 BUSINESS AND ECONOMICS	2	10	20	2	10	20	2	5	10
6 PARKS & RECREATION RESOURCES	3	5	15	1	5	5	2	10	20
7 HISTORIC RESOURCES	1	10	10	3	10	30	2	5	10
8 VISUAL & AESTHETICS	2	5	10	2	5	10	2	10	20
9 NATURAL RESOURCES, CLIMATE CHANGE & SUSTAINABILITY	3	10	30	1	10	10	2	5	10
10 PEDESTRIANS, BICYCLISTS & PEOPLE WITH DISABILITIES	1	5	5	3	5	15	2	10	20
11 MOTOR VEHICLES, FREIGHT & EMERGENCY VEHICLES	2	10	20	2	10	20	2	5	10
12 TRANSIT	3	5	15	1	5	5	2	10	20
13 FISCAL RESPONSIBILITY	1	10	10	3	10	30	2	10	20
			<b>Alternative X - Total Score 190</b>			<b>Total Score 210</b>			<b>Total Score 190</b>



# Preferred Alternative Process

## 4. Explore tradeoffs among alternatives

- Apply sensitivity tests to scores
  - To what extent a criterion influences the results
  - To what extent a change in the criterion weight would change the results



## 5. Achieve consensus on the best choice

- Discuss results from previous steps and arrive at a recommendation through discussion



# Preferred Alternative Timeline

## Getting to a Preferred Alternative

2019	2020												2021	
	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB
<p><b>CTF</b> Develop criteria &amp; measures</p>		<p><b>CTF</b> Weight criteria by topic</p> <p><b>CTF</b> Weight long term and short term impacts</p>		<p><b>CTF</b> Review draft technical report findings</p>	<p><b>CTF</b> Round #1: Alternatives evaluation results review</p> <p><b>CTF</b> Round #2: Alternatives evaluation results review (as needed)</p>	<p><b>CTF</b> Recommend PA</p>			<p><b>CTF</b> Review community input &amp; finalize recommended PA for PG</p>					
<p><b>SASG</b> Review &amp; input on criteria &amp; measures</p>			<p><b>SASG</b> Review CTF assigned weightings on criteria and measures</p>	<p><b>*</b> Agency workshop to review ratings (CTF members invited)</p>		<p><b>SASG</b> Review CTF recommended PA</p>			<p><b>SASG</b> Review community input &amp; recommended PA for PG</p>					
<p><b>COMMUNITY</b> Review &amp; input on criteria &amp; measures</p>								<p>Review &amp; input on: • early environmental study findings • results of alternatives evaluation &amp; the recommended PA</p>					<p>Publish DEIS for agency &amp; community review &amp; formal comment</p>	
<p><b>PG</b> Review &amp; approval of criteria</p>									<p><b>PG</b> PG approval: recommended PA for DEIS publication</p>					

**Legend:**  
 PA Preferred Alternative  
 DEIS Draft Environmental Impact Statement  
 CTF Community Task Force  
 SASG Senior Agency Staff Group  
 PG Policy Group





# Evaluation Criteria Topics Weightings

## Overview of Weighting Exercise

**Which criteria topic is more important?**

Group 1: Seismic Resiliency	A	A	A	A	A	A	A	A	A	Result: B			
Group 2: Community Quality of Life	B	C	D	B?	E	F	G	B	B	J	K	L	M
Group 3: Equity & Enviro. Justice	C	D	C	F	G	H	H?	C	J	K	L	M	
Group 4: Crime Reduction & Personal Safety	D	E	F	D	E	J	K	H	J	K	L	M	
Group 5: Business and Economics	E	F	E	F	G	J	K	E	J	K	E	M	
Group 6: Park and Recreation Resources	F	G	F	G	J	K	L	F	J	K	L	M	
Group 7: Historic Resources	G	G	J	K	L	M	G	J	K	L	M		
Group 8: Visual and Aesthetics	H	H	J	K	L	M	H	H	J	K	L	M	
Group 9: Natural Resources, Climate Change & Sustainability	I	J	K	I	M	I	J	K	I	M			
Group 10: Peds, Bikes, & People with Disabilities	J	J	J	M	J	J	J	J	J	J	M		
Group 11: Motor Vehicles, Freight and Emergency Vehicles	K	K	M	K	K	M	K	K	M				
Group 12: Transit	L	M	L	M									
Group 13: Fiscal Responsibility	M												

**SAMPLE ENTRIES - For Illustrative Purposes Only**

*With emphasis on preference*  
**A** = A is of greater importance than the comparative factor



# Evaluation Criteria Topics Weightings

## Overview of Weighting Exercise

Which criteria topic is more important?														TOTAL	%
Group 1: Seismic Resiliency	A	A	A	A	A	A	A	A	A	A	A	A	A	13.0	14.3%
Group 2: Community Quality of Life	B	C	D	B	F	G	B	B	J	K	L	M		4.0	4.4%
Group 3: Equity & Enviro. Justice		C	D	C	F	G	C	C	J	K	L	M		5.0	5.5%
Group 4: Crime Reduction & Personal Safety			D	E	F	D	H	H	J	K	L	M		4.0	4.4%
Group 5: Business and Economics				E	F	E	H	E	J	K	E	M		5.0	5.5%
Group 6: Park and Recreation Resources					F	G	F	F	J	K	L	M		7.0	7.7%
Group 7: Historic Resources						G	H	G	J	K	L	M		5.0	5.5%
Group 8: Visual and Aesthetics							H	H	J	K	L	M		6.0	6.6%
Group 9: Natural Resources, Climate Change and Sustainability								I	J	K	I	M		2.0	2.2%
Group 10: Peds, Bikes, and People with Disabilities									J	J	J	M		11.0	12.1%
Group 11: Motor Vehicles, Freight & Emerg. Vehicles										K	K	M		10.0	11.0%
Group 12: Transit											L	M		7.0	7.7%
Group 13: Fiscal Responsibility												M		12.0	13%
														91.0	100%

*SAMPLE ENTRIES - For Illustrative Purposes Only*

- Using the Matrix:**
- Group 5 is labeled "E"
  - 5 "E's" assigned
  - 91 total matrix selections
  - $5 \div 91 = 5.5\%$

**Result:**  
Group 5 has a 5.5% Weighting Factor

- Other Notes:**
- Max WF = 14.3%
  - Min WF = 1.1%

*With emphasis on preference*  
A = A is of greater importance than the comparative factor



# Evaluation Criteria Topics Weightings

## Overview of Weighting Exercise

**EARTHQUAKE READY BURNSIDE BRIDGE**  
**BETTER – SAFER – CONNECTED**  
**CRITERIA TOPIC DESCRIPTIONS** February 2020

Topic	Description	Weighting
1 SEISMIC RESILIENCY	Supports reliable post-earthquake operations, rapid emergency response, and evacuation and recovery operations after a major earthquake; Promotes rapid resiliency implementation	
2 COMMUNITY QUALITY OF LIFE	Promotes land use compatibility and minimizes impacts to community facilities and events	
3 EQUITY & ENVIRONMENTAL JUSTICE	Promotes transportation equity and minimizes impacts to social service providers and historically marginalized populations	
4 CRIME REDUCTION & PERSONAL SAFETY	Promotes crime prevention and safety through design	
5 BUSINESS AND ECONOMICS	Minimizes impacts to businesses and economic activity, including river-based businesses	
6 PARKS & RECREATION RESOURCES	Minimizes impacts to parks	
7 HISTORIC RESOURCES	Minimizes impacts to historic resources	
8 VISUAL & AESTHETICS	Protects and enhances views, view corridors and aesthetic experience	
9 NATURAL RESOURCES, CLIMATE CHANGE & SUSTAINABILITY	Promotes sustainability in design and construction and minimizes impacts to natural resources	
10 PEDESTRIANS, BICYCLISTS & PEOPLE WITH DISABILITIES	Supports daily access and safety for bicyclists, pedestrians, and people with disabilities both during and after construction	
MOTOR VEHICLES, EMERGENCY	Supports daily safety and operations for motorists, freight, and emergency service providers	

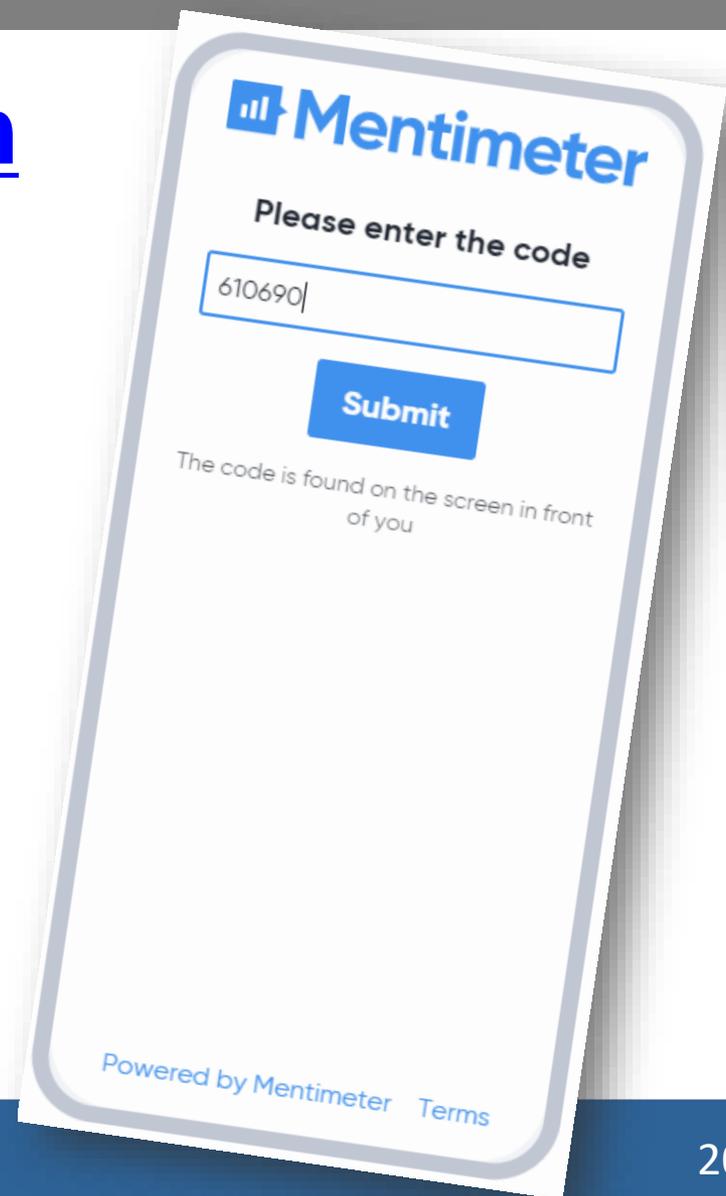




## Weighting Exercise

Go to: [www.menti.com](https://www.menti.com)

Use Code: 610690



## **CTF Discussion:**

How does the group feel about the results?



# Closing Remarks and Adjourn



Thank you!

