

Examining Disaster Planning Interfaces of the COVID-19 Emergency Meals-to-You

Environmental Science Seminar, March 16, 2022



Project Aim

- To examine disaster planning and health interfaces with the COVID-19 Emergency Meals-to-You program by developing strategies for mitigating food insecurity before, during and after pandemics and disasters.

Project Objectives

- Examine disaster interfaces from the perspective of service providers and recipients the COVID-19 program.
- Understand environmental public health services and delivery system characteristics of communities involved in the Emergency Meals-to-You program.
- Develop a disaster related food security and resilience action plan for at risk communities.
- Establish a plan for rapid set-up of Emergency Meals-to-You in a pandemic and disaster situation.

The background of the image is a solid green color. In the upper portion, there are dark silhouettes of several buildings with pointed roofs and spires, characteristic of the architecture of Baylor University. The text "Emergency Meals to You" is centered in the middle of the image in a white, bold, sans-serif font.

Emergency Meals to You

COVID-19 Emergency Meals-to-You

- An estimated 29.4 million children benefit from the services provided by the National School Lunch Program offered by the United States Department of Agriculture (USDA)
- Program provides food access for children who qualify for free or reduced priced lunches at school.
- The COVID-19 pandemic left thousands of school-aged children with limited access to essential meal services provided by public schools.
- On March 17, 2020, USDA, the Baylor Collaborative on Hunger and Poverty (BCHP), Chartwells, McLane Global, and PepsiCo announced a plan to deliver meals to students in rural areas affected by COVID-19 school closures.
- An expansion of a pilot the Collaborative conducted in 2019 called Meals to You.
- The EMtY program was much larger than the pilot project.

Outcome



Almost **40 million meals** were provided for children affected by nationwide school closures over the summer of 2020



The program was **rolled out across 43 states** and reached as many as **127,00 households and 348 school districts**



Boxes contained 20 nutritious meals (10 breakfasts and 10 lunches) to cover what would normally be received at school over two school weeks



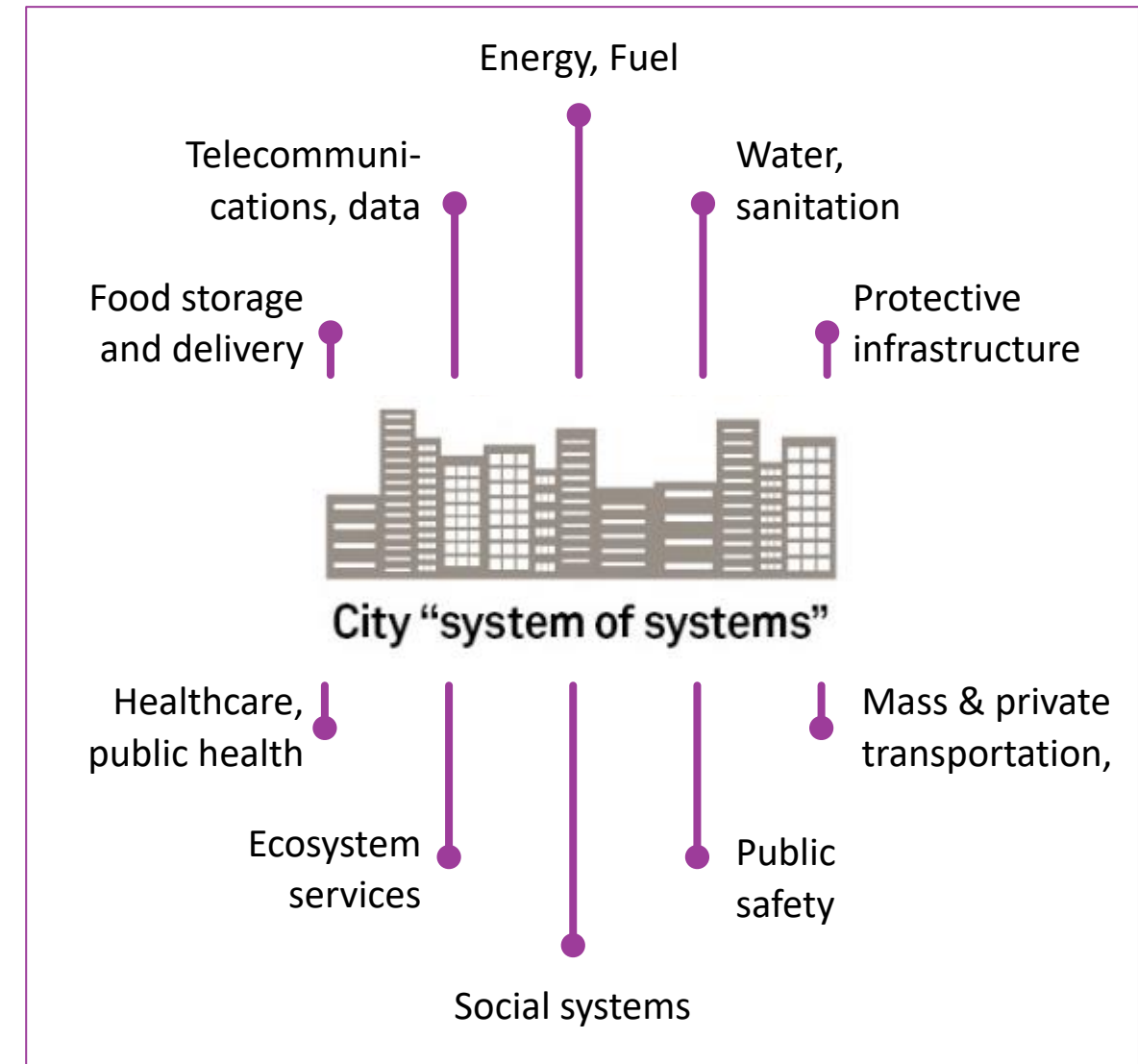
It was a **multi-sectoral program** that included leaders from the business, government, and academic sectors.



Emergency Meals to You and Community Resilience

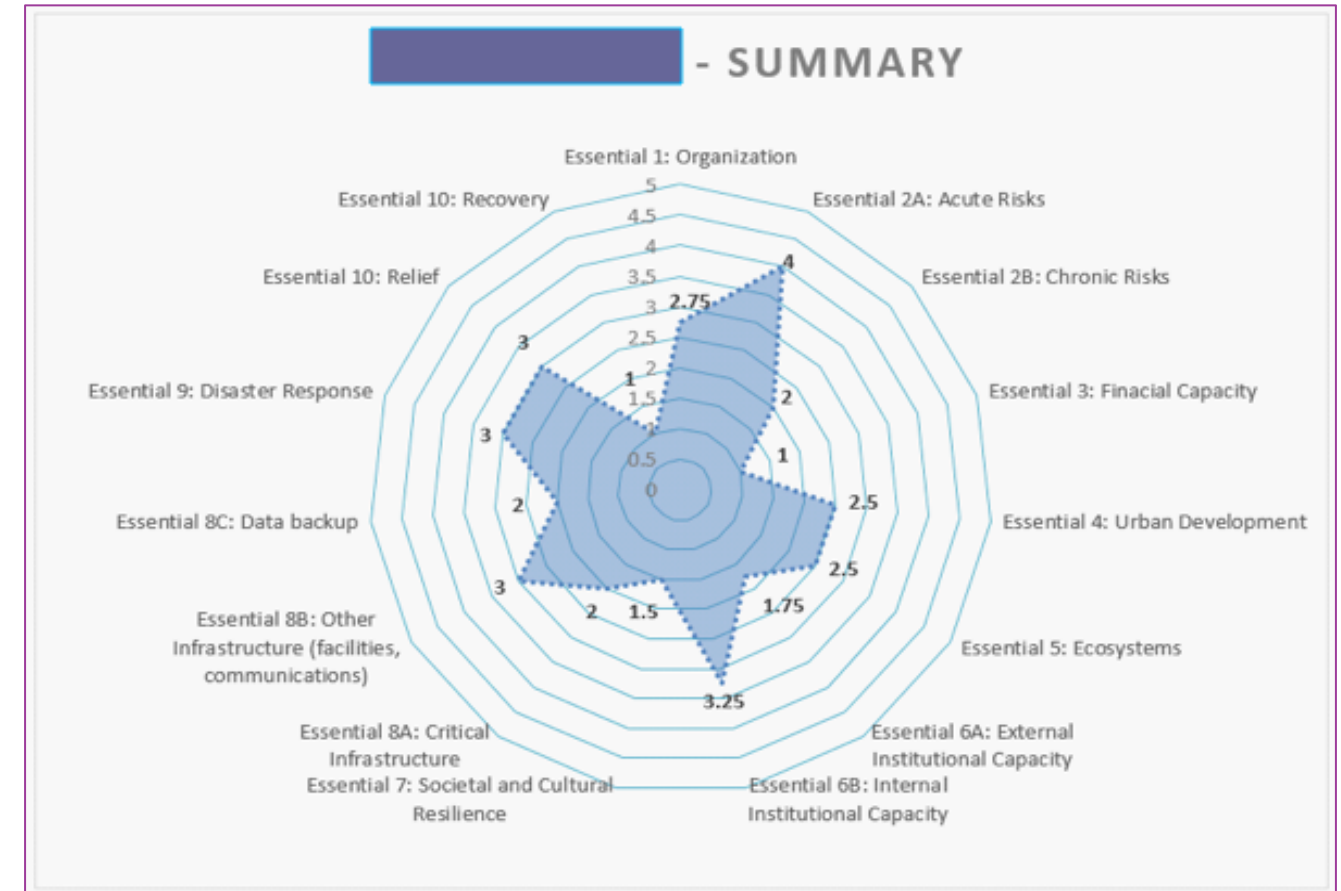
Resilience Must Embrace a “Systems of Systems”

- Communities are complex because they are where multiple systems interact.
- Connections abound both causal, and those related to resources and data.
- Often, those connections can be a source of strength and resilience.
- However, connections can be missed, and some may only emergent when a disaster happens.
- This reduces resilience, because unforeseen consequences occur that may be disastrous.

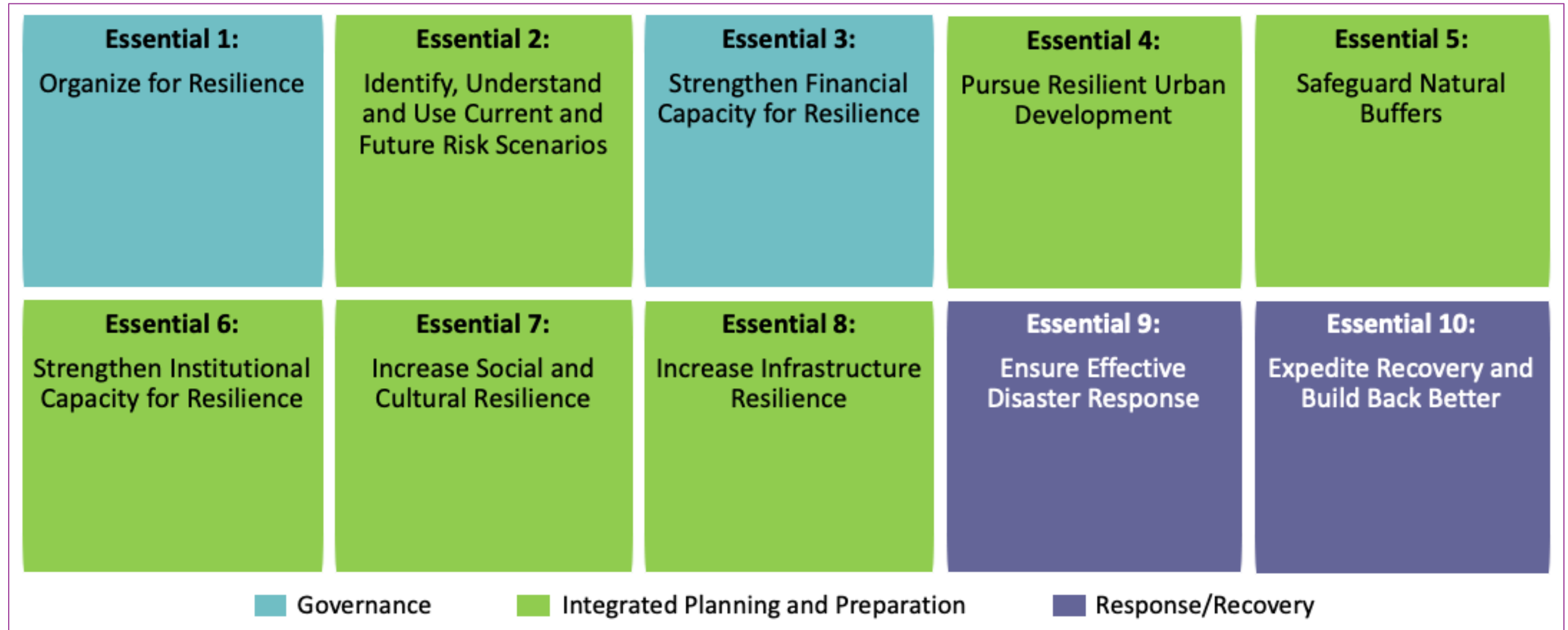


The Disaster Resilience Scorecard for Cities

- The Disaster Resilience Scorecard for Cities was co-authored by IBM and AECOM on behalf of the United Nations Office for Disaster Risk Reduction (UNDRR) and officially launched in 2017.
- The City Scorecard breaks the UNDRR’s “Ten Essentials” for Making Cities Resilient into around 47-117 measurements, each scored 0 – 3 (preliminary version) and 0 – 5 (detailed version). It:
 - ... has now been used by ~ 200 cities worldwide, as well as by the EU for critical infrastructure resilience.
 - ... has been translated into 13 languages.
 - ... can be downloaded for free from: <https://www.unisdr.org/campaign/resilientcities/home/toolkitblkitem/?id=4>
- A further version of the Scorecard, for industrial or commercial buildings and campuses was recently published and is available for free from: <https://www.preventionweb.net/publications/view/69845>.



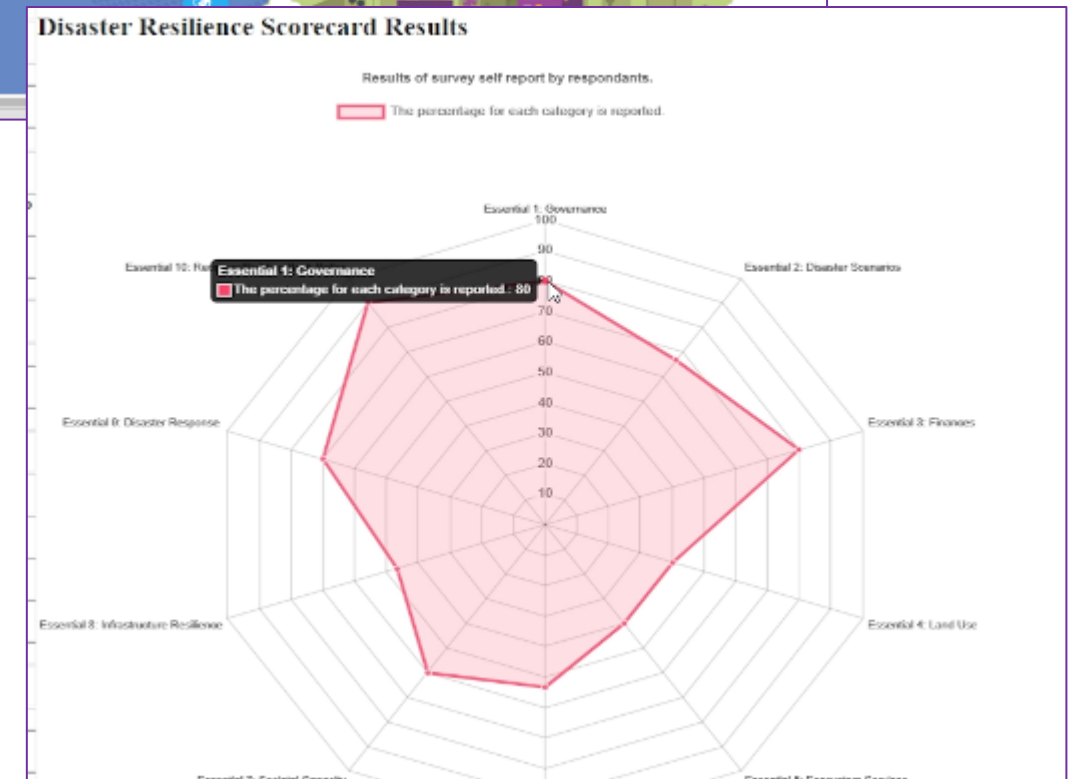
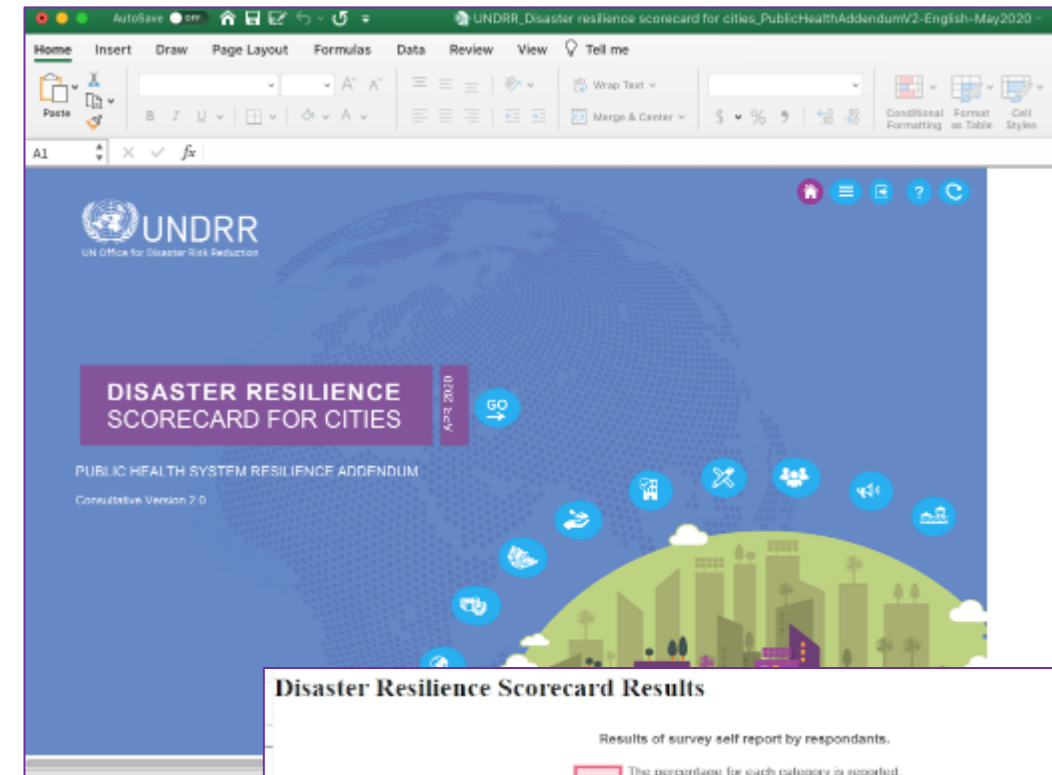
The UNDRR's "Ten Essentials" For Making Cities Resilient



- Pros:
 - Relatively holistic, complete coverage of the field – both by subject and by different timescales.
 - Allows “systems of systems” (technological, social, economic) to be addressed – great for making connections between these.
- Con: *public health* issues don't emerge clearly from this structure.

Public Health Addendum to the City Disaster Resilience Scorecard

- There are two tools available to help complete the PHA:
 - an Excel spreadsheet created by UN DRR, accessed from the same web page as the PHA
 - An on-line tool created by Baylor University at: <https://unbox.ecs.baylor.edu/> **.
- The tools could be used before the workshop, with results distributed as part of the data package referenced in Step 3, earlier.
 - Or, if you have enough laptops, results could be captured “live”, during the workshop itself.
 - Either way, the results would then be projected for the entire workshop and discussed.
 - Differences in scoring levels would be discussed, and ideally resolved in the workshop.
- If you are using either tool in “live” mode, be sure that the meeting rooms have reliable internet access.



Food System Resilience Scorecard

- Based on the public health system scorecard
- Proven methodology for assessing resilience and developing translatable plans.
- Resilience has many definitions:
 - Merriam-Webster's: "An ability to recover from or adjust easily to misfortune or change".
- When thinking about resilience, there are many perspectives that need to be considered.
- The scorecard endeavors to balance these perspectives.

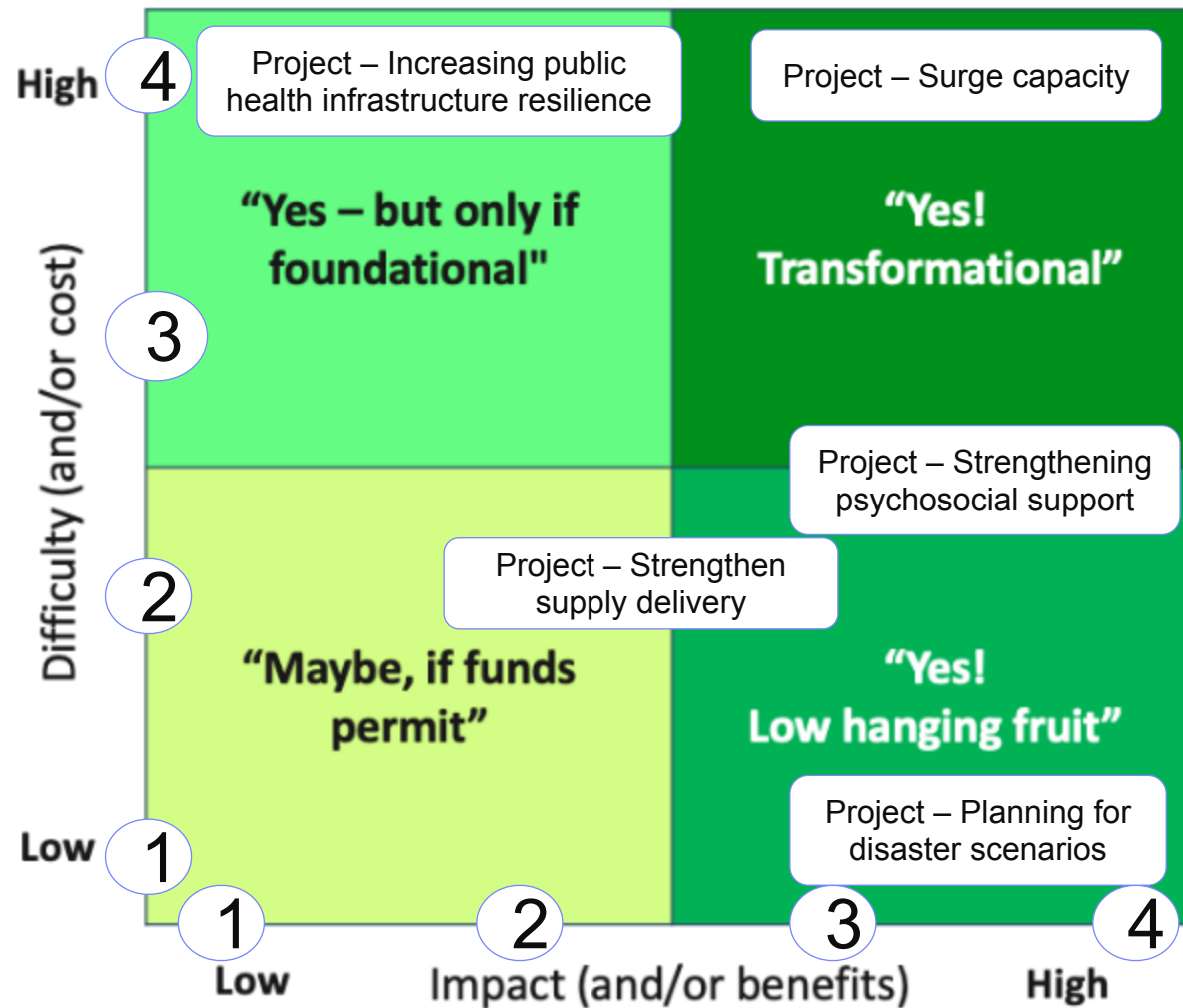
Process for workshop participants

- Download/access an App for the scorecard
- Review all 21 scorecard questions and discuss
- Scored the questions 0-5 based on your knowledge and interpretation
- Once completed we discussed and prioritized the lowest 3-5 indicators/measurements

A.1	Integration of the food sector and governance			
A1.1	<p>The food sector is part of multisectoral disaster risk management governance</p>	<p>To what extent does/do the governance mechanism(s) for disaster risk management integrate the full breadth of food availability and access needs?</p>	<p>5 – The full spectrum of food availability and access functions routinely provide input to disaster resilience governance mechanism/meetings, and routinely contribute to all major disaster resilience programs and documents. (Participation may be through a nominated focal point combining input from many disciplines).</p> <p>4 – Representatives of most food sector functions usually attend major city disaster resilience meetings and contribute to major programs, but they may not be involved in all relevant activity.</p> <p>3 – Food availability and security functions have their own disaster resilience fora and mechanisms but, while including the full spectrum of functions, these are not thoroughly coordinated with other actors such as city governments, logistics operators or community groups. The focus may be narrowly on immediate event response, rather than broader resilience issues such as longer run impacts.</p> <p>2 – Some food sector disciplines are involved in some city disaster resilience activities, but there is not complete engagement.</p> <p>1 – Only rudimentary engagement of food availability and access disciplines in city disaster resilience activities exists.</p> <p>0 – There is no food availability and access functions in the region, or if there is, it is not engaged in disaster resilience at all.</p>	<p>The full breadth of the food sector, availability and access includes but is not restricted to, the following:</p> <ul style="list-style-type: none"> • Chefs, cooks and other food handlers; • Care home staff; • Environmental health specialists (e.g. food inspectors); • Supply chain workers; • Companies and organizations involved supplying and coordinating food delivery • School administrators and lunchroom managers • Child nutrition specialists • Emergency managers • Emergency workers such as national guard troops, community volunteers and student aides <p>Representatives of these functions need to be in a position to speak authoritatively about resources available to maintain the food supply system.</p>

Example of Scoring/Priority system – Sample Pandemic Scorecard with Description of Difficulty and Impact Scoring

4. Highly complex, multi-year project with multiple stakeholders and technology challenges. Risky.
3. Complex project with more than one stakeholder. May have some risk.
2. Less complex project – will require careful management but appears entirely feasible.
1. Relatively trivial to execute.



1. Minor Impact

2. More significant impact but in a narrow area of resilience.

3. Relatively significant impact over a wider area.

4. Transformational impact upon many areas of resilience.



Workshops

Workshops

- Waco, TX, August 3, 2021 – 16 participants (11 in-person and 5 virtual)
- Montgomery, AL, August 5, 2021 – 20 participants (16 in-person and 4 virtual)
- Fargo, ND, August 12, 2021 – 14 participants (11 in-person and 3 virtual)
- St. Louis, MO, September 15, 2021 – 10 participants in-person
- Charleston, SC, January 11, 2022 - 10 participants (8 in-person and 2 virtual)

Waco Results

Ref. Q.	Subject/Issue	Avg. Score
A1.1	The food sector is part of multisectoral disaster risk management governance	2.6
A1.2	The emergency meals-to-you program was part of COVID-19 disaster governance	2.9
A2.1	Inclusion of food availability/access emergencies as disaster scenarios for disease outbreaks, pandemics, water shortages and other events in their own right	2.8
A2.2	Inclusion of foreseeable food sector impacts on disaster risk scenarios such as a flood, hurricane, tornado, or earthquake.	2.4
A2.3	Inclusion of pre-existing chronic health issues and nutritional needs in food sector disaster planning	1.9
A3.1	Funding for food availability and access as part of resilience	2.3
A4.1	Conformance of key sector facilities with resilient land zoning and building codes	2.1
A5.1	Preservation and management of ecosystem services that provide food sector benefits	2.6
A6.1	Availability of the food sector workforce with relevant competencies and skills for disaster resilience	2.4
A6.2	Sharing of food sector systems data with other stakeholders	2.7
A7.1	Effectiveness of food sector systems in community engagement in context of disaster risk management	2.4
A7.1.2	Community access to the Emergency Meals-to-You program	2.4
A7.2	Ability of the Emergency Meals-to-You program to meet community food availability and access needs during an epidemic, pandemic or disaster	2.8
A8.1	Strengthening of the structural and non-structural safety and functionality of food sector infrastructure	2
A8.2	Surge capacity for food supply and access	2.1
A8.3	Continuity of food service delivery to schools	2.6
A9.1	Early warning systems for food-related emergencies	2.5
A9.2	Integration of the food sector with emergency management	2.3
A9.3	Ability to deliver food supplies to people in need.	2.5
A10.1	Mitigating long term impacts on the food sector and well-being	2.6
A10.2	Learning and improving	2.8

Waco Priority Actions

- Sharing of data about nutritional needs at the school level
- Mapping farm to school to table to identify resilience needs
- Strengthening of local food providers
- Surge capacity for rural locations

Montgomery Priority Actions

- Representation on local emergency committee (school/food sector)
- Representation on multi-sectoral committees (school)
- Local plans for food availability and access (school district with church etc)
- Meeting nutritional needs and sharing allergy needs with local emergency committee

Fargo Priority Actions

- The emergency meals-to-you program was part of COVID-19 disaster governance
- Inclusion of food availability/access emergencies as disaster scenarios for disease outbreaks, pandemics, water shortages and other events in their own right
- Inclusion of foreseeable food sector impacts on disaster risk scenarios such as a flood, hurricane, tornado, or earthquake
- Inclusion of pre-existing chronic health issues and nutritional needs in food sector disaster planning
- Funding for food availability and access as part of resilience
- Community access to the Emergency Meals-to-You program

St. Louis Priority Actions

- Preservation and management of ecosystem services that provide food sector benefits
- The emergency meals-to-you program was part of COVID-19 disaster governance
- Mitigating long term impacts on the food sector and well-being
- Availability of the food sector workforce with relevant competencies and skills for disaster resilience
- Early warning systems for food-related emergencies

Charleston Priority Actions

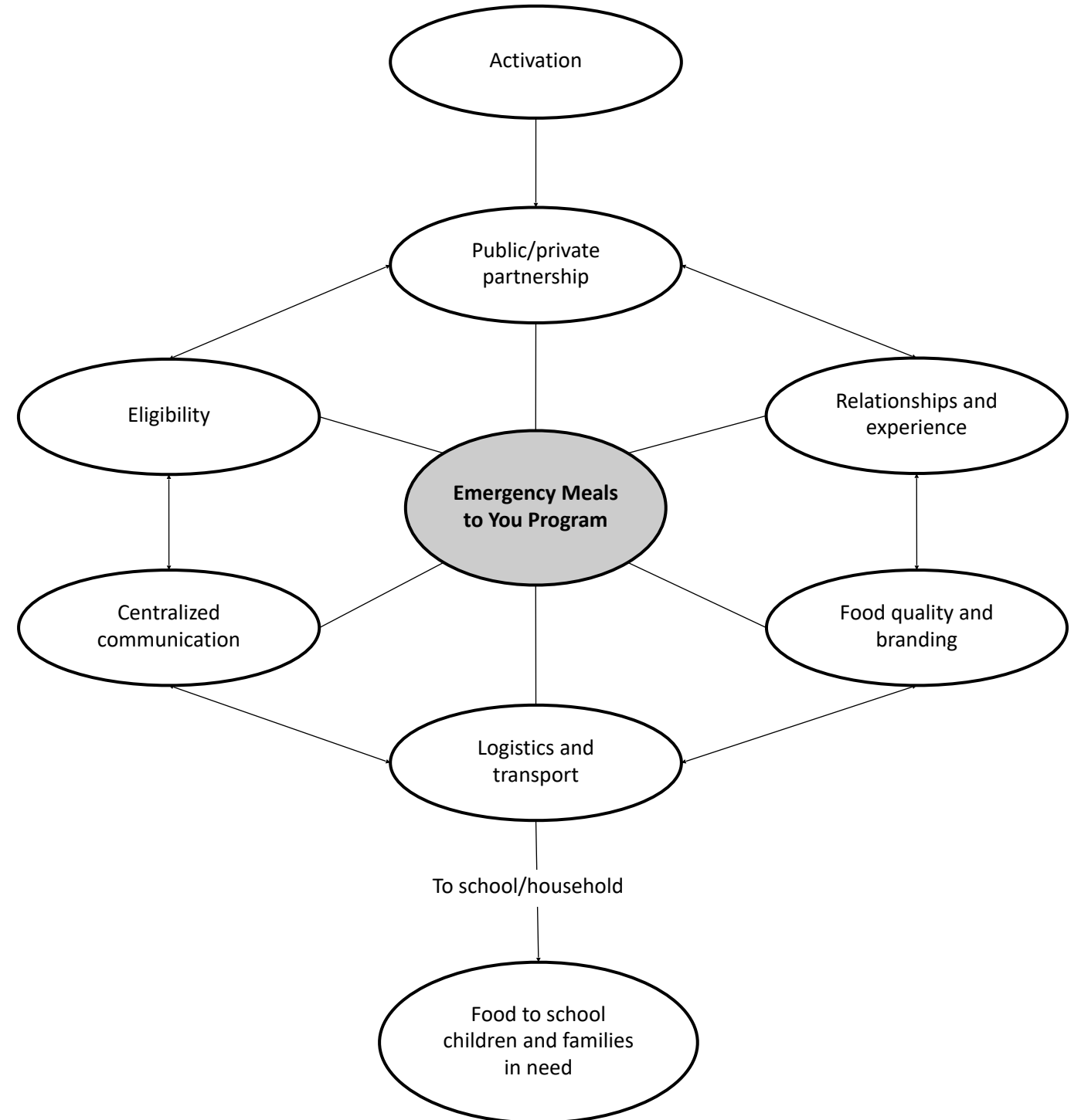
- Promoting, monitoring, and assessing school and community foodservice needs through local emergency management structures
- Leverage existing food sector capacities to establish and improve disaster risk management mechanisms
- Identify lead stakeholders and engage priority responders in local food availability and access
- Develop and establish adaptable early warning systems for local food sector disruption



Focus Groups and Interviews

Focus Groups and Interviews

- **Three focus groups**
 - McLane Global (n=3)
 - PepsiCo Food for Good (n=3)
 - Chartwells (n=5)
- **Nine interviews**
 - BCHP (n=3)
 - UPS (n=2)
 - USDA
 - Canteen
 - General Mills
 - Emergency management professional
- **Manuscript completed, submitted for publication**



Focus Groups and Interviews – Strategies Recommended

- Establishing a fully procurable menu that is costed and compliant with school needs and the USDA.
- Understanding and documenting population served as part of school lunch programs, such as dietary needs, and sharing this with the local emergency management committee.
- Identifying surge capacity in transportation and supplies at the local level.
- Incorporating food access and security at schools to emergency operations center functions/activities (local and district level).
- Exercising plans, agreements, protocols, and for providing food during a disaster situation.
- Tailoring communication strategies to suit the school community (e.g. email or text message).
- Maintaining a list of individuals and addresses for targeted deliveries



Summary and Potential Next Steps

Accomplishments to Date

- Disaster Plan Completed
- All Workshops and Workshop Reports Completed
- Summary Report on All Workshops in Progress
- Manuscript “Mobilizing and delivering essential meals to children and families affected by school closures during COVID-19 and beyond” accepted for publication by The Journal of School Health
- Panel presentation about the project scheduled for the National Environmental Health Association annual conference, June 28 - July 1, 2022.
- Drs. Ryan, Brooks and Brickhouse met with Baylor lobbyist Arnold and Porter, and staff from Senator Cornyn’s Office in Washington DC, January 6 and 7, 2022.
- A No-Cost-Extension has been requested, to complete a national survey of EMTY participants

Selected Priority Actions

- Include pre-existing chronic health issues and nutritional needs in food sector disaster planning (**focus groups, interviews and workshops**)
 - For example, sharing de-identified data about nutritional needs from the school level with local emergency management committee (i.e. number kids with diabetes, peanut allergies, etc).
- Create maps of distribution hubs, social determinants of health, disaster footprints, critical infrastructure, etc. (**focus groups and interviews**)
- Incorporate schools and the food sector into the local emergency committee structure (**workshops**)
- Strengthening of local food providers, and coordination mechanisms especially in urban areas (**workshops**)
- Capture regional strengths of vendors and shippers to develop response plan. Merge for nation-wide disasters (**focus groups and interviews**)
- Establish adaptable early warning systems for local food sector disruption (**workshops**)
- Distinct differences in urban and rural food and community resilience needs (**workshops**):
 - Rural areas more austere in resources and transport, EMTY may be only option in future emergencies
 - Urban areas sometimes have too many programs, but poorly coordinated
 - Role for Baylor to address these needs in new community-based efforts?

Future Considerations

- Each community has a different vision for improving food and community resilience
- BCHP has established community-based partnerships
- Are sources of funding available to help bring these plans to fruition?
- The potential for mapping food deserts, co-morbidities, disaster footprints, critical infrastructure, etc., could provide roadmap for most impactful infrastructure investments
- Potential to develop these roadmaps for forthcoming federal infrastructure funding?
- Intersection with emergency management system - Work with local emergency committees to map and strengthen local food supply chains to schools.
- This could also link in nutrition by mapping and strengthening local access to healthy foods, especially in rural areas and urban food deserts.
- Consider options for enhancing environmental health services at the school level (for example, there are 254 County's in Texas but just over 100 health departments)

Thank you – Questions?

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