Contents

Briefing document

Full report
CONFIDENTIAL AND PROPRIETARY:

DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE.

Any use of these materials without specific permission is strictly prohibited. This deck does not constitute legal, medical, accounting, tax, or other regulated advice, such as professional advice normally provided by licensed or certified practitioners.
Reminder: Context and objectives

Context

In August 2020, Hurricane Laura made landfall in southwestern Louisiana, causing ~$12B in damages in LA and TX, and 27 deaths in LA. Hurricane Delta’s landfall in October 2020 compounded the region’s devastation with significant flooding.

With over 50K housing damaged overall as of late Oct., housing recovery is anticipated to be a complex process given pre-existing employment and health issues resulting from COVID-19 and the associated economic impact.

The Community Foundation of Southwest Louisiana is playing an important role for the Lake Charles community in recovering from Hurricane Laura.

Objectives

• **Assess impact of Hurricanes Laura and Delta on housing** in Calcasieu Parish, including expected timeline for recovery.

• **Develop a perspective on the dual effects of COVID-19 and Hurricanes Laura and Delta** and the downstream impact on the recovery approach.

• **Identify options for housing recovery** in Calcasieu Parish, leveraging best practices in recovering from natural disasters and including practical steps to recovery / implications on economic development.
### Approach and key sources leveraged

**Stakeholder interviews**
- City of Lake Charles
- Louisiana Office of Public Health
- Lake Charles Housing Authority
- Calcasieu Police Jury
- SWLA Economic Development Alliance
- Louisiana Office of Community Development
- Community Foundation of SW Louisiana
- Baton Rouge Area Foundation
- Alliance for Positive Growth
- Nellie Lutcher Neighborhood Alliance

**Data collection & analysis**

**Housing situation pre-COVID-19**
- U.S. Census Bureau
- HUD
- Bureau of Labor Statistics
- FRED
- Dept. of Homeland Security
- City of Lake Charles
- Greater Baton Rouge Industrial Alliance
- Moody’s Analytics

**COVID-19 and Hurricanes Laura/Delta impact**
- U.S. Census Bureau
- FEMA
- Local NGOs
- McKinsey Global Institute

**Housing recovery**
- Case studies based on publicly available report and press search
- Expert interviews
Selected statistics on pre-COVID and Hurricanes housing status of Calcasieu Parish

- Yearly increase in housing stock per year since 2013: +1 - 3%
- Vacancy rate, on the rise since 2016 and 5p.p. above national average: 17%
- Yearly increase in median rent since 2013: +2%
- Of ~23K households that rent in Calcasieu are rent burdened: 48%
- Median rent (without burden) that white households vs black households can afford: 2x

1. Spending 30% or more of income on rent; ~93K housing units of which ~16K vacant and ~77K occupied; of the occupied ~51K owned and ~26K rented; of the rented data on rent as share of income for ~23K households

Source: Census Bureau, HUD, LA United Way

DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE.
Starting in 2013 Calcasieu Parish and Lake Charles MSA experienced significant economic expansion, with signs of a slow down in 2019.
Since 2013, housing supply increased 1-3% per year with vacancy rates beginning to increase in 2016

Calcasieu Parish

**Housing stock and vacancy rate evolution**

- Vacancy rate: 9%, 14%, 12%, 13%, 15%, 17%
- Yearly change in housing stock: +2%, +1%, +1%, +3%, +2%, +1%

**Housing stock composition**

- 93K total units
- 60K single units (64%)
- 16K multi-family units (17%)
- 18K mobile units (19%)

**Difference vs 2012**

- +9K single units
- +3K multi-family units
- +3K mobile units

**Homeownership rate**

- 77K occupied units
- Owners: 66%
- Renters: 34%

Source: US Census Bureau

DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE.
Rent levels increased 2% per year and home value increased by 6% per year since 2013
Calcasieu Parish

Evolution of rent levels

<table>
<thead>
<tr>
<th>Median Rent ($)</th>
<th>2013</th>
<th>2019</th>
<th>CAGR: 2% p.a.</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,500 or more</td>
<td>1%</td>
<td>7%</td>
<td>+6pts</td>
</tr>
<tr>
<td>$1,000 to $1,499</td>
<td>13%</td>
<td>30%</td>
<td>+17pts</td>
</tr>
<tr>
<td>$500 to $999</td>
<td>69%</td>
<td>48%</td>
<td>-11pts</td>
</tr>
<tr>
<td>Less than $500</td>
<td>17%</td>
<td>15%</td>
<td>-2pts</td>
</tr>
</tbody>
</table>

Evolution of home value

<table>
<thead>
<tr>
<th>Median Value ($)</th>
<th>$115K</th>
<th>$166K</th>
<th>CAGR: 6% p.a.</th>
</tr>
</thead>
<tbody>
<tr>
<td>$300K+</td>
<td>8%</td>
<td>16%</td>
<td>+8pts</td>
</tr>
<tr>
<td>$200-299K</td>
<td>15%</td>
<td>22%</td>
<td>+7pts</td>
</tr>
<tr>
<td>$150-190K</td>
<td>15%</td>
<td>20%</td>
<td>+5pts</td>
</tr>
<tr>
<td>$100-149K</td>
<td>18%</td>
<td>16%</td>
<td>-2pts</td>
</tr>
<tr>
<td>$50-99K</td>
<td>26%</td>
<td>15%</td>
<td>-11pts</td>
</tr>
<tr>
<td>Less than $50K</td>
<td>18%</td>
<td>11%</td>
<td>-7pts</td>
</tr>
</tbody>
</table>

Source: US Census Bureau

DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE.
Economic and housing vulnerability disproportionately impacts minorities – in particular the women, elderly and Black communities. Calcasieu Parish

Estimated median monthly affordable rent without burden by profile, 2019

- **Married couple**: ~$2,240
- **Single father**: ~$1,270
- **Single mother**: ~$715
- **Male**: ~$830
- **Female**: ~$505

Fair market rates:
- **Studio**: ~$620
- **1 Bedroom**: ~$660
- **2 Bedroom**: ~$840
- **3 Bedroom**: ~$1,060

Source: US Census Bureau

~48% of ~23K households that rent in Calcasieu are considered rent burdened.

**Family households**
- Married couple: 45%
- Single father: 5%
- Single mother: 19%

**Non-family households**
- Male: 14%
- Female: 17%

**Race**
- White: 72%
- Black: 25%

Note: Householder with Section 8 Voucher pays 30% of their income on rent

Source: US Census Bureau

Document intended to provide insight based on currently available information for consideration and not specific advice.
Calcasieu also displays one of the highest levels of residential segregation between Black and White communities in the US

Source: US Census Bureau, MGI

DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE.
Selected statistics on impact from COVID-19 and Hurricanes Laura & Delta on housing situation in Calcasieu

~50% jobs at risk in 2020 due to COVID-19

1.5 - 2x increase in rent/mortgage delinquency observed in June across the state

~3 yrs estimated to return to pre-crisis GDP levels from COVID impact alone

~50% Calcasieu housing stock damaged by Hurricanes Laura and Delta

Source: Census Bureau, FEMA, local NGOs, MGI
Of all Louisiana parishes, Calcasieu & Cameron Parishes have the two highest shares of jobs at risk due to COVID-19

AS OF JUNE 2020

<table>
<thead>
<tr>
<th>Share of jobs at risk, % all employees by parish</th>
<th>Jobs at risk, K</th>
<th>Share of jobs at risk, % all employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALLEN PARISH</td>
<td>2.0</td>
<td>25%</td>
</tr>
<tr>
<td>BEAUREGARD PARISH</td>
<td>3.0</td>
<td>33%</td>
</tr>
<tr>
<td>CALCASIEU PARISH</td>
<td>54.8</td>
<td>47%</td>
</tr>
<tr>
<td>CAMERON PARISH</td>
<td>7.4</td>
<td>54%</td>
</tr>
<tr>
<td>JEFF DAVIS PARISH</td>
<td>3.2</td>
<td>37%</td>
</tr>
</tbody>
</table>

Source: MGI

DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE.
Hospitality & Food, Construction and Retail industries are expected to account for more than 60% of total jobs at risk in Calcasieu

Calcasieu Parish

Share of jobs at risk, 2020

Source: MGI

Confidential and Proprietary

DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE.
While extensive damage from Hurricanes Laura and Delta reduces overall “livable” supply and poses a temporary housing challenge in Calcasieu Parish.

~44K housing units damaged in Calcasieu by Hurricane Laura and/or Delta¹

Corresponding to nearly 50% of total housing stock, with damage to:

~55% of mobile home stock
~40% of single family home stock and apartment/condo stock

Hurricane Laura & Delta damage by level of damage² and type of housing³

1. Estimates as 41K units damaged by Laura, and an extra 3K units damaged only by Delta. No visibility into # of units that were already damaged by Laura, and suffered additional damage from Delta
2. Destroyed – Non-Livable/total loss; Major - Non-Livable/Home with structural damage or other significant damage that requires extensive repairs; Minor – Livable/Home with repairable non-structural damage; Affected – Livable/Home considered affected if damage is mostly cosmetic
3. Assuming “single-family” correspond to “single-unit” in census data, and “apartment/condo” corresponds to “multi-family” in census data

Source: FEMA, local NGOs, US Census Bureau

DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE.
Key resulting potential considerations for housing recovery in Calcasieu Parish following Hurricanes Laura & Delta

**Objectives**

**Short-term response**
- Get affected populations safe shelter and financial assistance to rebuild as quickly as possible

**Mid-to-long term recovery**
- Rebuild the community to ensure overall goals of resiliency, economic development, and equity are achieved

**Key potential considerations**

1. Get financial assistance to vulnerable populations as soon as possible to fund repairs/temporary expenses given context of exceptional economic hardship with COVID-19

2. Drive speed in providing livable (temp) housing options for affected populations: minor vs major damage, options for renters vs homeowners

3. Integrate housing rebuild in broader economic development plan for the Parish to boost long-term competitiveness & sustainability

4. Evaluate optimal housing mix to address key affordability and community disparity challenges, based on damage assessment

5. Build stronger/more resilient housing to better withstand future impact of climate change

6. Leveraging the private sector to drive increased speed, innovation and funding

7. Building strong community buy-in and empowerment to rebuild a “home”

*Leveraging and building on experience accumulated recovering from past disasters*
## Case study: Partnering with home sharing services for emergency housing

<table>
<thead>
<tr>
<th>Context</th>
<th>Initiatives</th>
<th>Impact</th>
</tr>
</thead>
</table>
| **Hurricane Sandy- 2012** | **Matching services** are offered to evacuees and relief workers.  
  - **To book**, individuals can arrange housing on Open Homes directly or through a non-profit  
  - **To host**, any individual meeting the hospitality standard can offer his or her home to those seeking temporary housing | **50K** Temporary homes found on Open Homes  
**5K** Estimated cost of an evacuation |
| After the hurricane, NY Airbnb hosts offered their homes for free to help evacuees and displaced persons. | **Verification and Safety**  
  - **Documentation** such as proof of employment or address needed to apply for Open Homes  
  - **Advanced screenings** are regularly run against those booking and hosting on Airbnb against terrorist, sanctions and other regulatory watch lists  
  - **Reimbursements for damage** are provided to hosts up to $1 million for damage from guests | |
| Airbnb then incorporated this idea of **technological co-sharing** into its app **Open Homes** | **COVID-19 considerations:** Health risk likely limiting people’s willingness to host individuals in their homes |
| **Open Homes**, an Airbnb branch, connects hosts with those in need, free of charge. These people include medical patients, relief workers, evacuees, and refugees | | |

“A glaring need, that is, a way to connect those in need with those willing to help” ~ David Paul, Chief Meteorologist

Source: Airbnb

DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE.
Facilitate access to repair materials and “quality” contractors

<table>
<thead>
<tr>
<th>Rationale</th>
<th>Specific examples of actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sharp demand increase in construction materials, tools, and expertise due to extent of damage across the Parish</td>
<td>Contractors</td>
</tr>
<tr>
<td>Compound effects of Hurricanes Laura and Delta, with COVID-19 led to limited availability and rise in costs from distribution disruptions and limited supply of local contractors</td>
<td>- <strong>Accelerate licensing process</strong> for out of state contractors</td>
</tr>
<tr>
<td></td>
<td>- <strong>Provide local housing</strong> options for out of state construction workers</td>
</tr>
<tr>
<td></td>
<td>- <strong>Waive fees</strong> for applications and permits to rebuild damaged properties to attract contractors</td>
</tr>
<tr>
<td>Materials</td>
<td>- <strong>Facilitate corporate partnerships</strong> to:</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Raise awareness on demand changes across volumes and items to drive more accurate local forecasting for supply</td>
</tr>
<tr>
<td></td>
<td>- Set up potential CSR program or collaboration to support community recovery (e.g., merchandise donation/rebates, and financial support)</td>
</tr>
</tbody>
</table>

Case studies Examples

During COVID-19, several states lifted licensing requirements for out-of-state healthcare professionals

~1,300 homes built for which permit application and permit fees could be waved through NY Build it Back program following Hurricane Sandy

Leverage example from Walmart using Katrina as an opportunity to help those in need while dramatically improving its own public image (incl. $34M total donations to local NGOs and Walmart Associates Fund; 100+ truckloads of donated merchandise) ~ *See separate case study*
# Case study: Educating community members to perform some repairs

<table>
<thead>
<tr>
<th>Context</th>
<th>Initiatives</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>India Earthquakes – 2001</strong></td>
<td>Despite limited number of engineers and masons, <strong>communities were empowered to rebuild their own homes</strong> with local materials to stimulate the economy through coordination of a network of local NGOs</td>
<td><strong>1,270</strong> Model houses in 90 villages</td>
</tr>
<tr>
<td>Gujarat province commonly experiences cyclones, flash floods and droughts every three years and earthquakes every 30. This earthquake was 6.9-7.9 and affected 21 of 25 state districts. -$3.5 B economic damage -20,000+ deaths -300,000 injuries -100,000 destroyed homes -300,000 substantially damaged homes</td>
<td><strong>Demonstration houses</strong>&lt;br&gt;▪ Accessible, to each community to teach disaster resilience techniques for retrofit and rebuilding&lt;br&gt;▪ Provided to most vulnerable population once built</td>
<td><strong>8,000</strong> Trained Masons</td>
</tr>
<tr>
<td><strong>Expertise training network</strong></td>
<td><strong>Resilience awareness</strong>&lt;br&gt;Education provided on disaster resilience safety designs to meet gov. certifications &amp; reimbursement requirements</td>
<td><strong>COVID-19 considerations:</strong>&lt;br&gt;Meetings / demonstrations would have to be mainly virtual to limit risk of outbreaks</td>
</tr>
</tbody>
</table>

Source: RAND Center for Domestic and International Health Security
Integrate housing rebuild in broader economic development plan for the Parish to boost long-term competitiveness & sustainability
**Case study: Housing rebuild within broader economic plan**

<table>
<thead>
<tr>
<th>Context</th>
<th>Initiatives</th>
<th>Impact</th>
</tr>
</thead>
</table>
| **Columbia Parc, LA –** St. Bernard housing complex 25% vacant and facing high poverty levels in 2005 **Nearly all households evacuated following flooding from Katrina** Post disaster recovery based on holistic approach to build a vibrant neighborhood around affordable housing (1/3 subsidized low-income, 1/3 tax credit affordable, and 1/3 market rate units) | **Infrastructure and amenities** built around the units to deliver high quality of life for renters, including:  
- **Health clinics** with a permanent onsite facility  
- **Education pipelines** including a high quality early childhood care center and on-site charter schools  
- **Recreational centers** including a playground, gym, pool, golf course and football field  
- **Shopping** with on site grocery stores and other shops to provide centers for community investment  
- **Public transit** and the ability to tie the neighborhoods streets into the city’s transportation systems | **Impact**  
30 Design awards including LEED certifications  
685 Mixed-income units & 120 senior-housing units 100% leased  
700 Temporary jobs created  
100 Permanent jobs created  
99% Reduction in number of felonies over three years  
0 Homicides in three years, down from 42 in five years |

Source: Columbia University, Apolitical

DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE.
Case study: Resilience Planning to limit vulnerability – Home building techniques

Initiatives

“NY Build it Back” program created a Hurricane Strong Home test site featuring hurricane resilient features

- **Concrete Roof Tiles** placed on a MAPEI poly-glass system with underlined ZIP roof decking and ICP seaming and spray foam
- **Insulating concrete form** replaces wood frame for a stronger structure between stacked foam blocks
- **Reinforced concrete stairway** with T h e R E X decking material (95% recycled wood and plastic film)
- **Helix steel formation** weaves steel within concrete outer form to reducing total reinforcing steel
- **Lightening protection** such as strike termination devices, and grounding electrode systems
- **Fiber cement siding** is resilient made from cement and wood pulp
- **Dual function flood vent** ensures home’s air flow under house allowing flood water to pass as needed
- **Reinforced concrete closed foundation and supporting fins** elevating home 15 feet above sea level and 3 more above projected flooding

Source: Columbia University, Wired Magazine, NY Build it back report

Impact

20 K Households assisted in repairs, resiliency upgrades, rent pymt. and reimbursements

$11 Made for every $1 spent on resilience

Illustration resilient house NYC

1. Estimated based on job creation and increased use of local construction materials usage (i.e., GDP generated by every $ spent)
Proposed path forward

- Kickoff 3 working groups to discuss and recommend set of prioritized initiatives, respectively along:
  - Temporary housing
  - Financial assistance
  - Community Engagement

- Leverage grant awarded to Community Foundation of SWLA to develop comprehensive Master Plan for Calcasieu Parish early 2021 – integrating goals of resiliency, economic development, and equity

- Explore leveraging FEMA ESF14 planning process
Contents

Briefing document

Full report

- Situation before COVID-19, Laura and Delta
- COVID-19 impact
- Hurricanes Laura and Delta impact
- Housing recovery framework
## Executive Summary

### Observations on housing situation in Calcasieu Parish

<table>
<thead>
<tr>
<th>Temporary housing crisis from</th>
<th>Implications for recovery plan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>i. Extensive damage caused by back-to-back hurricanes</strong> combining wind and flood damage (Nearly all households filed IA claims with FEMA; half of which were renters; nearly 50% of housing stock confirmed damaged incl &gt;12% with major damage/destroyed)</td>
<td>~2,000 non-congregate temporary homes still needed 8 weeks after 1st disaster as estimated by local authorities – with additional challenge of finding land to put homes given number of renters affected</td>
</tr>
<tr>
<td><strong>ii. Limited congregate sheltering options</strong> due to COVID-19 risk</td>
<td>Level of financing, speed and innovation required to get affected populations safe shelter/rebuild and limit trauma likely to require significant involvement from the private sector</td>
</tr>
</tbody>
</table>

### Pre-existing affordability challenges successively enhanced by COVID-19 and hurricanes
- Economic hardship increasing demand for affordable housing while hurricanes reduced livable supply – leading to increased rent burden, financial instability and homelessness (48% of households rent burdened pre-crisis; ~25% of LA adults reporting loss in income since COVID-19; 40% struggling to pay household expenses;~50% fearing eviction/foreclosure)

### Economic and housing vulnerability disproportionately impacting minorities
- Especially Black households, with residential racial segregation within the parish among the highest in the US pre-crisis

### COVID-19 alone estimated to put nearly 1 out of 2 jobs at risk in 2020, and require~3yrs to return to pre-crisis GDP levels
- Hurricanes could extend how long it takes GDP to recover, based on the impact of Hurricane Rita on GDP in the region

### Emotional fatigue and risk of outmigration
- For a community suffering from the economic impacts of COVID-19 and back-to-back hurricanes; in addition risk of constraints in contractors capable of rebuilding and needed materials potentially delaying the recovery timeline further

### Source:
- Census Bureau, HUD, FEMA, multiple NGDs, MGI, stakeholder interviews, expert interviews

**VERY PRELIMINARY**
Contents

Briefing document

Full report

- Situation before COVID-19, Laura and Delta
- COVID-19 impact
- Hurricanes Laura and Delta impact
- Housing recovery framework
Selected statistics on pre-COVID and Hurricanes housing status of Calcasieu Parish

- **+1 - 3%**
  - Yearly increase in housing stock per since 2013

- **17%**
  - Vacancy rate, on the rise since 2016 and 5p.p. above national average

- **+2%**
  - Yearly increase in median rent since 2013

- **48%**
  - Households in Calcasieu are rent burdened\(^1\), incl. ALICE households

- **2x**
  - Higher median affordable rent without burden for White households vs Black households

---

1. Spending 30% or more of income on rent

Source: Census Bureau, HUD, LA United Way

---

DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE.
Starting in 2013 Calcasieu Parish and Lake Charles MSA experienced significant economic expansion, with signs of a slow down in 2019

Real GDP growth, % difference vs 2013 levels

Unemployment rate evolution, % unemployed labor force


DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE.
Large petrochemical capital projects supporting industrial construction, and leisure & hospitality drove most of the job growth

$110B
In capital investment projects announced between 2012-2020 — mainly in the petrochemical industry and Liquified Natural Gas (LNG) export, driving boom in construction

+25K
jobs at the peak of industrial expansion in 2018, a ~17% increase in total jobs compared to 2013

Non Farm jobs by industry Calcasieu Parish, K


1. Arts, Entertainment, and Recreation; Accommodation and Food Services.; 2. Half completed or under way; others pending or paused

DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE.
The influx of industrial workers moving to the Lake Charles MSA doubled historical population net growth levels – most Construction jobs being temporary in nature

<table>
<thead>
<tr>
<th>Year</th>
<th>Domestic Net Migration</th>
<th>International Net Migration</th>
<th>Net Births</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>+0.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>+0.8</td>
<td>+0.2</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>+0.8</td>
<td>+0.2</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>+1.1</td>
<td>+0.2</td>
<td>+0.8</td>
</tr>
<tr>
<td>2016</td>
<td>+1.1</td>
<td>+0.2</td>
<td>+0.9</td>
</tr>
<tr>
<td>2017</td>
<td>+0.8</td>
<td></td>
<td>+1.1</td>
</tr>
<tr>
<td>2018</td>
<td>-0.2</td>
<td></td>
<td>-0.2</td>
</tr>
<tr>
<td>2019</td>
<td>+0.9</td>
<td></td>
<td>+0.7</td>
</tr>
</tbody>
</table>

Source: Moody’s Analytics, Greater Baton Rouge Industrial Alliance, JC Scott, Stakeholder interviews

DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE.
Since 2013, housing supply increased 1-3% per year with vacancy rates beginning to increase in 2016

Calcasieu Parish

Housing stock and vacancy rate evolution

<table>
<thead>
<tr>
<th>Year</th>
<th>Vacancy Rate</th>
<th>Yearly Change in Housing Stock</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>9%</td>
<td>+0%</td>
</tr>
<tr>
<td>2014</td>
<td>14%</td>
<td>+2%</td>
</tr>
<tr>
<td>2015</td>
<td>11%</td>
<td>+1%</td>
</tr>
<tr>
<td>2016</td>
<td>12%</td>
<td>+1%</td>
</tr>
<tr>
<td>2017</td>
<td>13%</td>
<td>+3%</td>
</tr>
<tr>
<td>2018</td>
<td>15%</td>
<td>+2%</td>
</tr>
<tr>
<td>2019</td>
<td>17%</td>
<td>+1%</td>
</tr>
</tbody>
</table>

5pts above national average

Housing stock composition

- **Single units**: 60K (64%)
  - Difference vs 2012: +9K
- **Multi-family units**: 16K (17%)
  - Difference vs 2012: +3K
- **Mobile units**: 18K (19%)
  - Difference vs 2012: +3K

Source: US Census Bureau

Homeownership rate

- **77K occupied units**: 66%
- **Calcasieu Parish**: 3pts above national average
- **Homeownership rate**: 66%
  - 2pts above national average

Source: US Census Bureau

DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE.
Rent levels increased 2% per year and home value increased by 5% per year since 2013
Calcasieu Parish

Evolution of rent levels

<table>
<thead>
<tr>
<th>Median Rent ($)</th>
<th>2013</th>
<th>2019</th>
<th>CAGR: 2% p.a.</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,500 or more</td>
<td>751</td>
<td>868</td>
<td>+6pts</td>
</tr>
<tr>
<td>$1,000 to $1,499</td>
<td>13%</td>
<td>7%</td>
<td>+17pts</td>
</tr>
<tr>
<td>$500 to $999</td>
<td>69%</td>
<td>48%</td>
<td>-11pts</td>
</tr>
<tr>
<td>Less than $500</td>
<td>17%</td>
<td>15%</td>
<td>-2pts</td>
</tr>
</tbody>
</table>

Evolution of home value

<table>
<thead>
<tr>
<th>Median Value ($)</th>
<th>2013</th>
<th>2019</th>
<th>CAGR: 5% p.a.</th>
</tr>
</thead>
<tbody>
<tr>
<td>$300K+</td>
<td>8%</td>
<td>16%</td>
<td>+8pts</td>
</tr>
<tr>
<td>$200-299K</td>
<td>15%</td>
<td>22%</td>
<td>+7pts</td>
</tr>
<tr>
<td>$150-190K</td>
<td>15%</td>
<td>20%</td>
<td>+5pts</td>
</tr>
<tr>
<td>$100-149K</td>
<td>18%</td>
<td>16%</td>
<td>-2pts</td>
</tr>
<tr>
<td>$50-99K</td>
<td>26%</td>
<td>15%</td>
<td>-11pts</td>
</tr>
<tr>
<td>Less than $50K</td>
<td>18%</td>
<td>11%</td>
<td>-7pts</td>
</tr>
</tbody>
</table>

Source: US Census Bureau
With rents increasing over the same period, ~48% of households faced rent burden\(^1\) in 2019

Calcasieu Parish

### Comparison of monthly rents and maximum affordable monthly rents w/o burden (i.e., less than 30% of income)

*Preliminary estimates based on available income brackets*

<table>
<thead>
<tr>
<th>Rent Distribution, 2019</th>
<th>Renter Households Distribution by Maximum Affordable Rent w/o Burden, 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,500 or more</td>
<td>100%</td>
</tr>
<tr>
<td>$1,000 to $1,499</td>
<td>100%</td>
</tr>
<tr>
<td>$500 to $999</td>
<td>100%</td>
</tr>
<tr>
<td>Less than $500</td>
<td>100%</td>
</tr>
</tbody>
</table>

- Above $1500
  - 7%
  - 25%

- Max $1500
  - 30%
  - 13%

- Max $1000
  - 48%
  - 32%

- Max $500
  - 15%
  - 30%

Source: US Census Bureau, LA United Way

---

\(^1\) Spending more than 30% of their income on rent; ~93K housing units of which ~16K vacant and ~77K occupied; of the occupied ~51K owned and ~26K rented; of the rented data on rent as share of income for ~23K households

\(^2\) Asset Limited, Income Constrained, Employed – households that earn more than the Federal Poverty Level, but less than the basic cost of living for the parish (the ALICE Threshold, or AT as defined by LA United Way)

\(^3\) Corresponding to ~48% of ~23K households that rent; separately ~33% of households considered ALICE 3

~11K households in Calcasieu are considered rent burdened\(^1\)

~48% of ~23K households that rent\(^2\); separately ~33% of households considered ALICE \(^3\)
There are clear disparities between communities – women, the elderly and Black community are most likely to face rent burden in Calcasieu Parish.

Estimated median monthly affordable rent without burden by profile, 2019

<table>
<thead>
<tr>
<th>Profile</th>
<th>Median Rent</th>
<th>Share of Total Households</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married Couple</td>
<td>~$2,240</td>
<td>45%</td>
</tr>
<tr>
<td>Single father</td>
<td>~$1,270</td>
<td>5%</td>
</tr>
<tr>
<td>Single mother</td>
<td>~$715</td>
<td>19%</td>
</tr>
<tr>
<td>Male</td>
<td>~$830</td>
<td>14%</td>
</tr>
<tr>
<td>Female</td>
<td>~$505</td>
<td>17%</td>
</tr>
<tr>
<td>White</td>
<td>~$1,520</td>
<td>25%</td>
</tr>
<tr>
<td>Black</td>
<td>~$790</td>
<td>72%</td>
</tr>
</tbody>
</table>

Source: US Census Bureau

Note: Householder with Section 8 Voucher pays 30% of their income on rent.
Calcasieu also displays one of the highest levels of residential segregation between Black and White communities in the US.

Source: US Census Bureau, MGI

As of Oct 12th, 2020
Black communities are largely concentrated around Lake Charles, in areas experiencing some of the highest shares of rent burden in the Parish.
Within Calcasieu, the Lake Charles area holds the highest concentration of aging housing stock...

Calcasieu Parish

Cumulated share of housing stock by tenure, 2019

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>50+ years old (built before 1969)</td>
<td>29%</td>
</tr>
<tr>
<td>30-49 yrs old (built 1970-1989)</td>
<td>28%</td>
</tr>
<tr>
<td>10-29 yrs old (built 1990-2009)</td>
<td>29%</td>
</tr>
<tr>
<td>&lt;10 yrs old (built since 2009)</td>
<td>14%</td>
</tr>
<tr>
<td>Total</td>
<td>29%</td>
</tr>
</tbody>
</table>


Source: US Census Bureau, Brown University

DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE.
... And low income communities and Black communities tend to be disproportionately vulnerable to property damage given concentration in Lake Charles area
Calcasieu Parish

Source: City of Lake Charles

DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE.
Median income for Louisiana households without NFIP flood insurance is half that of households with flood insurance

Source: An Affordability Framework for the National Flood Insurance Program, Department of Homeland Security, April 2018
Contents

Briefing document

Full report

- Situation before COVID-19, Laura and Delta
- COVID-19 impact
- Hurricanes Laura and Delta impact
- Housing recovery framework
Selected statistics on impact from COVID-19 and Hurricanes Laura & Delta on housing situation in Calcasieu

- *~50%* jobs at risk in 2020 due to COVID-19
- *1.5 - 2x* increase in rent/mortgage delinquency observed in June across the state
- *~3yrs* estimated to return to pre-crisis GDP levels from COVID impact alone
- *>50%* Calcasieu housing stock damaged by Hurricanes Laura and Delta

Source: Census Bureau, FEMA, local NGOs, MGI
Southwest Louisiana is relatively highly exposed to COVID-19 on a per capita basis, with Allen Parish most affected.
Of all Louisiana parishes, Calcasieu & Cameron Parishes have the two highest share of jobs at risk due to COVID-19

<table>
<thead>
<tr>
<th>Share of jobs at risk, % all employees by parish</th>
<th>Jobs at risk, K</th>
<th>Share of jobs at risk, % all employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALLEN PARISH</td>
<td>2.0</td>
<td>25%</td>
</tr>
<tr>
<td>BEAUREGARD PARISH</td>
<td>3.0</td>
<td>33%</td>
</tr>
<tr>
<td>CALCASIEU PARISH</td>
<td>54.8</td>
<td>47%</td>
</tr>
<tr>
<td>CAMERON PARISH</td>
<td>7.4</td>
<td>54%</td>
</tr>
<tr>
<td>JEFF DAVIS PARISH</td>
<td>3.2</td>
<td>37%</td>
</tr>
</tbody>
</table>

Source: MGI

DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE.
Hospitality & Food, Construction and Retail industries are expected to account for more than 60% of total jobs at risk in Calcasieu, Calcasieu Parish

Share of jobs at risk, 2020

Source: MGI
Households report having more limited savings to pay rent, mortgage and bills, due to employment income loss linked to COVID

COVID Pulse survey, % adults in Louisiana

- **25%** (10th highest in the US)
  - Expected loss of employment income in the next 4 weeks

- **12%** (1st highest in the US)
  - Are not current on rent/mortgage payments, or have low confidence on on-time payment for next month

- **40%** (3rd highest in the US)
  - Found somewhat or very difficult to pay for usual household expenses during COVID

- **48%** (5th highest in the US)
  - Feel very or somewhat likely to face eviction or foreclosure in next 2 months

![Graph: Share of home mortgage ‘not current’ on payments](image)

Source: Household Pulse Survey US Census Bureau, May 2020

**Legend:**
- New Orleans metro
- Lafayette metro
- Baton Rouge metro

**Note:**
- x1.5 to 2 times pre-COVID rates during peak in May
- Lafayette metro and Baton Rouge metro have highest rates of mortgage payments not being current, with Lafayetted metro having the highest rate of mortgage payments not being current.
Latest economic scenarios suggest it may take more than 3 years for Calcasieu GDP to return to pre-crisis levels

**AS OF JUNE 2020**

**Total projected GDP for Calcasieu Parish, $B 2012 USD equivalent**

As of July 2020, the prevailing opinion on the shape of COVID-19 impact among global executives is a scenario of virus recurrence, with muted recovery.

**A3 scenario:** Rapid and effective control of virus spread

**A1 scenario:** Effective response, but (regional) virus resurgence

<table>
<thead>
<tr>
<th>Year</th>
<th>Q4 2019</th>
<th>Q1 2020</th>
<th>Q2 2020</th>
<th>Q3 2020</th>
<th>Q4 2020</th>
<th>Q1 2021</th>
<th>Q2 2021</th>
<th>Q3 2021</th>
<th>Q4 2021</th>
<th>Q1 2022</th>
<th>Q2 2022</th>
<th>Q3 2022</th>
<th>Q4 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>$B 2012 USD equivalent</td>
<td>12.0</td>
<td>13.5</td>
<td>14.0</td>
<td>14.5</td>
<td>15.0</td>
<td>15.5</td>
<td>16.0</td>
<td>16.5</td>
<td>17.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Peak GDP decrease % change vs Q4 19**

<table>
<thead>
<tr>
<th>Scenario</th>
<th>% Decrease</th>
<th>Estimated Return to Pre-crisis Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>A3</td>
<td>-8%</td>
<td>2021 Q1</td>
</tr>
<tr>
<td>A1</td>
<td>-13%</td>
<td>2023 Q1</td>
</tr>
</tbody>
</table>

Source: MGI; McKinsey surveys of global executives

Confidential and Proprietary
The projected shape of recovery is primarily driven by Manufacturing, which accounted for nearly half of GDP pre-crisis.
Contents

Briefing document

Full report

- Situation before COVID-19, Laura and Delta
- COVID-19 impact
- Hurricanes Laura and Delta impact
- Housing recovery framework
Almost all households in Calcasieu filed IA claims with FEMA for Hurricanes Laura & Delta, nearly half of which have been approved

Calcasieu Parish

Data Accessed Oct 26th, 2020

<table>
<thead>
<tr>
<th>Individual Assistance (IA)</th>
<th>Laura</th>
<th>Delta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total IA claims</td>
<td>94,020</td>
<td>6,318</td>
</tr>
<tr>
<td># IA claims approved</td>
<td>45,325</td>
<td>292</td>
</tr>
<tr>
<td>(Approval rate)</td>
<td>(48%)</td>
<td>(5%)</td>
</tr>
<tr>
<td>Total $ IHP approved^2</td>
<td>$118M</td>
<td>$1.4M</td>
</tr>
<tr>
<td>Repair/Replace $</td>
<td>$37M</td>
<td>$1.0M</td>
</tr>
<tr>
<td>Rental $</td>
<td>$38M</td>
<td>$0.3M</td>
</tr>
<tr>
<td>ONA $</td>
<td>$41M</td>
<td>$0.1M</td>
</tr>
<tr>
<td>Average $ per claim</td>
<td>$2,594</td>
<td>$4,734</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Public Assistance (PA)</th>
<th>Laura</th>
<th>Delta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total PA grant obligated^3</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

1. Count data from 2019 census; 2. Rounded to the closest million; 3. To date, there has been one PA grant to Louisiana with a value of $1.9M, which was applied state-wide and not for a particular parish.

Source: FEMA, US Census Bureau

DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE.
While extensive damage from Hurricanes Laura and Delta reduces overall “livable” supply and poses a temporary housing challenge in Calcasieu Parish.

Highly preliminary estimates as of Nov 6th, 2020

~44K housing units damaged in Calcasieu by Hurricane Laura and/or Delta, corresponding to nearly 50% of total housing stock, with damage to:

~55% of mobile home stock

~40% of single family home stock and apartment/condo stock

1. Estimates as 41K units damaged by Laura, and an extra 3K units damaged only by Delta. No visibility into # of units that were already damaged by Laura, and suffered additional damage from Delta
2. Destroyed – Non-Livable/total loss; Major - Non-Livable/Home with structural damage or other significant damage that requires extensive repairs; Minor – Livable/Home with repairable non-structural damage; Affected – Livable/Home considered affected if damage is mostly cosmetic
3. Assuming “single-family” correspond to “single-unit” in census data, and “apartment/condo” corresponds to “multi-family” in census data

Source: FEMA, local NGOs, US Census Bureau

DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE.
GDP impact from Hurricane Rita in 2005 provides a reference point for potential impact from Laura & Delta

Real GDP\(^1\), Calcasieu Parish, $B 2012-chained US dollars

- **FEMA declared disasters for which Calcasieu was a designated county for Individual and/or Public Assistance**

- **-18\%** drop in GDP between 2005-2006 following Hurricane Rita

- **2018 GDP still only ~60\% of pre-Rita level**—although other natural disasters and economic crises have hit the region in the following years

1. Definition of GDP by the IMF: "the monetary value of final goods and services . . . produced in a [region] in a given period of time," including both market (i.e. on sale) and nonmarket production (i.e. government services). Real GDP is GDP adjusted to take inflation into account.
2. Does not control for subsequent crises, i.e. 2008 economic recession.

Source: FRED, NCBI; FEMA; IMF

DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE.
## Summary of implications of COVID-19 and Hurricanes Laura & Delta on housing

<table>
<thead>
<tr>
<th>Key implications in Calcasieu Parish</th>
<th>Preliminary estimates COVID/Laura/Delta</th>
<th>Reference Katrina impact New Orleans</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Temporary housing crisis</strong></td>
<td>&gt;50% Calcasieu housing stock damaged – incl.</td>
<td>~70% New Orleans occupied housing stock damaged</td>
</tr>
<tr>
<td>1. Large displaced populations and limited congregate sheltering options due to COVID risk (e.g., &lt;150 people in Alexandria mega shelter, 5K+ LC residents still in hotels across LA and TX late Oct.)</td>
<td>&gt;12+% major/destroyed</td>
<td></td>
</tr>
<tr>
<td>2. Inspection and sourcing efforts slowed down (e.g., inspections following Laura interrupted by Delta, congregate options presenting higher health risks)</td>
<td>7200+ families displaced</td>
<td></td>
</tr>
<tr>
<td><strong>Increase in rent burden, instability, homelessness and sanitary concerns</strong></td>
<td>~50% jobs at risk in 2020</td>
<td>+78% in low-income rent burdened population</td>
</tr>
<tr>
<td>1. Housing affordability challenge expected to be magnified as job loss mounts, incomes tighten and available supply is limited due to hurricane damage – with minorities disproportionately impacted</td>
<td>~25% LA adults reporting income drop since COVID</td>
<td>3X increase in single-family home loan delinquency</td>
</tr>
<tr>
<td>2. Inability to meet monthly rent or mortgage payment may lead to eventual eviction, foreclosure and homelessness</td>
<td>1.5-2x increase in rent/mortgage delinquency from COVID alone in the region</td>
<td>4X increase in New Orleans point-in-time homeless count</td>
</tr>
<tr>
<td>3. Spike of “new homeless” already observed (i.e., people moving in with family members, couch-surfing or living in their car)</td>
<td>+2 homeless shelters under construction since COVID</td>
<td></td>
</tr>
<tr>
<td>4. Increase in share of population living in subpar sanitary and safety conditions (e.g., minor damage incl. water intrusion, mold)</td>
<td>“Once people lay roots somewhere else, the chances of them coming back are little or nothing”¹</td>
<td></td>
</tr>
<tr>
<td><strong>Risk of long term outmigration</strong></td>
<td>~25% net change in adult pop.; ~43% net change in children pop. from 2000-2010</td>
<td></td>
</tr>
<tr>
<td>1. Possible due to economic slowdown, delayed construction projects, reduction in local job prospects and emotional fatigue from back-to-back disasters</td>
<td>⁰</td>
<td></td>
</tr>
<tr>
<td>2. In addition risk of constraints in contractors capable of rebuilding and needed materials potentially delaying the recovery timeline further</td>
<td>⁰</td>
<td></td>
</tr>
<tr>
<td><strong>Likely reduction in housing construction &amp; home sales</strong></td>
<td>NA</td>
<td>-25% housing starts within 3 months</td>
</tr>
<tr>
<td>1. Housing starts may slow, including LITHC projects, as economy falls into recession, public health crisis continues and developers may focus on more attractive high end housing projects following hurricanes</td>
<td>⁰</td>
<td>-58% in single family home sales</td>
</tr>
<tr>
<td>2. Facing liquidity pressure, more owners may look to sell homes, although fewer homes likely to be sold</td>
<td>⁰</td>
<td></td>
</tr>
<tr>
<td><strong>Lengthy recovery</strong></td>
<td>~3yrs estimated to return to pre-crisis GDP levels – from COVID impact alone</td>
<td>~2yrs to get back to GDP levels pre-Hurricane</td>
</tr>
<tr>
<td>1. Risk of further COVID outbreaks as people focus on rebuilding vs COVID mitigation, coinciding with the start of flu season</td>
<td>⁰</td>
<td></td>
</tr>
</tbody>
</table>

¹. Lake Charles resident
Contents

Briefing document

Full report
- Situation before COVID-19, Laura and Delta
- COVID-19 impact
- Hurricanes Laura and Delta impact
- Housing recovery framework
Key potential considerations for housing recovery in Calcasieu Parish following Hurricanes Laura & Delta

**Time horizons**

**Short-term response**
- Get affected populations safe shelter and financial assistance to rebuild as quickly as possible

**Mid-to-long term recovery**
- Rebuild the community to ensure overall goals of resiliency, economic development, and equity are achieved

**Objectives**

1. Get financial assistance to vulnerable populations as soon as possible to fund repairs/temporary expenses given context of exceptional economic hardship with COVID-19
2. Drive speed in providing livable (temp) housing options for affected populations: minor vs major damage, options for renters vs homeowners
3. Integrate housing rebuild in broader economic development plan for the Parish to boost long-term competitiveness & sustainability
4. Evaluate optimal housing mix to address key affordability and community disparity challenges, based on damage assessment
5. Build stronger/more resilient housing to better withstand future impact of climate change
6. Leveraging the private sector to drive increased speed, innovation and funding
7. Building strong community buy-in and empowerment to rebuild a “home”

Leveraging and building on experience accumulated recovering from past disasters
Overview of resources available for each key consideration

Specific examples of actions for consideration based on Calcasieu situation assessment

(not exhaustive)

Accompanying case studies giving visibility into how other communities have implemented selected actions (for inspiration)
# Short-term response overview

<table>
<thead>
<tr>
<th>1</th>
<th>Get financial assistance to vulnerable populations as soon as possible to fund repairs/temporary expenses given exceptional economic hardship context</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Drive speed in providing temporary housing options to affected populations</td>
</tr>
<tr>
<td>Other key considerations</td>
<td>Provide householders assistance in working with insurance providers to get access to funds quickly in a cash-constrained context</td>
</tr>
<tr>
<td></td>
<td>Leverage alternative sources to complement financing to individuals without insurance or those who are not eligible for FEMA support</td>
</tr>
<tr>
<td></td>
<td>Major damage – Explore possibility to supplement FEMA efforts on sourcing temporary housing for displaced populations</td>
</tr>
<tr>
<td></td>
<td>Minor damage – Drive speed of repairs by facilitating access to repair materials, “quality” contractors, and education for community members to perform some repairs</td>
</tr>
<tr>
<td></td>
<td>Other homeless (no home before Hurricanes) – Rebuild emergency shelters and address “new homelessness” challenge</td>
</tr>
<tr>
<td></td>
<td>Prioritize rebuilding necessities that allow people to actually stay in the housing stock short-term (i.e., utilities, telecom, transit, groceries, hotels)</td>
</tr>
<tr>
<td></td>
<td>Stand up support mechanisms to deal with unique trauma from back-to-back disasters combined with anxiety from COVID-19</td>
</tr>
<tr>
<td></td>
<td>Establish swift and systematic dialogue/coordination between key stakeholders from the start</td>
</tr>
</tbody>
</table>
Get financial assistance to vulnerable populations as soon as possible to fund repairs and temporary expenses given exceptional economic hardship

**Rationale**
- Significant level of economic vulnerability due to job losses from COVID-19 (e.g., ~25% population reporting reduced income; ~40% struggling to pay housing expenses) and back-to-back hurricanes damage (i.e., 95+% of HH IA claims).
- Complexity from double claims for homes affected by Laura then Delta, coupled with lack of familiarity insurance coverage for certain groups (15yrs since hurricane cat 5 Rita; recent changes to deductible policy)

**Specific examples of actions**

- **Assistance in working with insurance providers**
  - **Centralize comprehensive and easy-to-navigate resources** for individuals (e.g., online platform)
  - **Build knowledge of community groups** and empower them to disseminate information in their neighborhood
  - **Provide case management support** for home owners

- **Alternative sources to complement financing to individuals without insurance and FEMA support**
  - **Explore opportunity to repurpose Disaster Recovery dollars left over from past disasters**, on top of advocating for Congress appropriation for current ones - $3M combined Calcasieu & Lake Charles Housing to assist most vulnerable uninsured populations (e.g., repairs, rent relief)
  - **Explore possibility of having private or public partner pre-pay insurance claims** to get financial assistance to households earlier

**Note:** Deprioritized consideration of revolving loans to individuals (often used as source of funding for housing recovery in emerging countries) due to risk and negative past experiences in the US (e.g., recipients of SBA loans opened to homeowners post Sandy to fund repairs sooner ended up being refused access to federal grants later in the process).
Case study: Insurance Assistance and literacy

Context

Houston - Hurricane Harvey 2017
32% of residents affected
60% of those outside 100-year flood plain and without flood insurance
City and state set to develop systems to help individuals navigate the claim process

Initiatives

2 interactive websites where users can enter the site to choose their current housing status or what they need help with
This choice will then provide appropriate Individual Assistance education and documents for reimbursement
- www.recovery.houstontx.gov
- http://www.tdi.texas.gov

Source: Organization websites
# Drive speed in providing livable temporary housing options for affected populations

## Rationale

Temporary housing crisis from extensive back-to-back damage and limited congregate sheltering options due to COVID-19 risk; ~2K non-congregate temp. homes still needed 8w post Laura; speed to find housing and conduct repairs critical to limit trauma; “new” homeless population also to be considered as part of temporary housing priorities (i.e., moving in with relatives after losing income due to COVID-19)

## Specific examples of actions

<table>
<thead>
<tr>
<th>Major damage (&gt;50% value)</th>
<th>Find temporary housing option ASAP for displaced populations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Look to extend portfolio of options available</strong> beyond traditional government-assisted housing to improve and shorten emergency sheltering for displaced populations (e.g., 8000+ LC residents in hotels)</td>
<td></td>
</tr>
<tr>
<td>▪ Coordinated sharing program – e.g., Citizen volunteer housing (leveraging existing home sharing services), safe vacant apartment sharing</td>
<td></td>
</tr>
<tr>
<td>▪ Private sector assisted housing – e.g., Vacant office space/apartments, w. possible tax incentives, workers housing</td>
<td></td>
</tr>
<tr>
<td>▪ Other temp options on the market sourced by local organizations/individuals – e.g., modular units, prefab, micro-units, trailers</td>
<td></td>
</tr>
<tr>
<td><strong>Consider prioritization approach among affected population</strong> – e.g., based on vulnerability (e.g., low income, renters), based on occupation (e.g., healthcare workers and teachers), based on family type (e.g., with children), based on racial equity</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Minor damage (&lt;50% value)</th>
<th>Drive speed of repairs beyond funding</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Facilitate access to repair materials and “quality” contractors</strong> given limited availability driven by COVID and Hurricanes (incl. supply chain/distribution disruptions, limited supply of local contractors)</td>
<td></td>
</tr>
<tr>
<td>▪ Materials - e.g., corporate partnerships to help raise awareness for level and type of demand to drive additional supply/forecasting accuracy, and/or discuss potential CSR program to support community</td>
<td></td>
</tr>
<tr>
<td>▪ Contractors – create conditions to get more contractor capacity into local market (e.g., accelerating licensing for out of state contractors, supporting with housing of construction workers)</td>
<td></td>
</tr>
<tr>
<td>▪ Educate community members to perform some repairs to alleviate pressure on contractors, drive quality and possibly give sense of purpose in community recovery – e.g., online resources, training ambassadors</td>
<td></td>
</tr>
<tr>
<td>▪ Partner with VOADs – e.g., helping with repairs, involving those being housed in the construction (e.g., Habit for Humanity)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Solutions for “economic homeless”</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prioritize rebuilding 5 emergency shelters damaged</strong> by hurricanes to host growing homeless population</td>
<td></td>
</tr>
<tr>
<td><strong>Consider approach to bring “new homeless” back into the community to avoid long term outmigration</strong> – incl. swift de-stigmatization campaign, specific programs (e.g., training program to provide construction jobs during recovery)</td>
<td></td>
</tr>
</tbody>
</table>
Possible temporary housing alternative options, on top of traditional congregate sheltering, hotels and FEMA trailers

<table>
<thead>
<tr>
<th>Housing type</th>
<th>Avg cost</th>
<th>Avg Time</th>
<th>Avg Size</th>
<th>Wind Resilience</th>
<th>Advantages</th>
<th>Disadvantages</th>
<th>Relevance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Free up other traditional building materials</td>
<td>Quickly depreciates because it is &quot;personal property&quot;</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mobility</td>
<td>Costly financing</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Frees up other traditional building materials</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shipping Container</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No skills or tools needed</td>
<td>Potential loss of structural integrity with reused</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Adjusts to uneven terrain</td>
<td>Harmful chemical potential</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Flat packable for shipping</td>
<td>Permit and codes challenges</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Well vented and insulated</td>
<td>In case of high winds, these containers can protect from the elements</td>
<td></td>
</tr>
<tr>
<td>Pre-Cut Panelized</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Low energy use</td>
<td>Cost prohibitive without emergency discount</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Small houses can be mobile</td>
<td>Limited economies of scale for production</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Easier Maintenance</td>
<td>Perfect for uneven terrain, limited tools, limited expertise and no time</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hurricane wind resistance</td>
<td>Long standing, hurricane resilient structures provide families both investment and protection</td>
<td></td>
</tr>
<tr>
<td>Tiny Homes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>30-60% faster move-ins than classical housing</td>
<td>Difficulty with zoning</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10-20% cost reduction</td>
<td>Less living space/storage</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Higher resale value</td>
<td>Prof. expertise needed for speedy installation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Longer resell process</td>
<td></td>
</tr>
<tr>
<td>Modular</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Higher down payment</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Requires space for workers, crane and semitruck installation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Stacking units reduce need for land to house more families</td>
<td></td>
</tr>
</tbody>
</table>

Source: Expert interviews, suppliers websites

Relative level:
- Low
- High

For consideration for sourcing by local NGOs or individuals

Illustrative

Stacking units reduce need for land to house more families

Confidential and Proprietary
Possible temporary housing alternative options – Detailed view

<table>
<thead>
<tr>
<th>Housing type</th>
<th>Avg cost</th>
<th>Avg Time</th>
<th>Avg Size (sq. ft)</th>
<th>Avg Cost/sq. ft</th>
<th>Best Avg Wind Resistance MPH</th>
<th>Illustrative suppliers</th>
<th>DIY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile</td>
<td>$23,000</td>
<td>30 minutes</td>
<td>950</td>
<td>$50</td>
<td>100</td>
<td>▪ FEMA ▪ Able Housing ▪ Saturday Night Foundation</td>
<td>✓</td>
</tr>
<tr>
<td>Shipping Container</td>
<td>$30,000</td>
<td>2 weeks</td>
<td>300</td>
<td>$100</td>
<td>175</td>
<td>▪ Flyaway homes ▪ Mobile Modular ▪ Atelier WS</td>
<td>✗</td>
</tr>
<tr>
<td>Pre-Cut Panelized</td>
<td>$45,000</td>
<td>2 hrs</td>
<td>900</td>
<td>$200</td>
<td>180</td>
<td>▪ Ablenook ▪ FactoryOS ▪ MADI Home ▪ Ten Fold</td>
<td>✓</td>
</tr>
<tr>
<td>Tiny Homes</td>
<td>$45,000</td>
<td>3 weeks</td>
<td>250</td>
<td>$150</td>
<td>180</td>
<td>▪ Cubicco ▪ Olson Kundig ▪ Deltec Homes ▪ Mighty Small Homes</td>
<td>✓</td>
</tr>
<tr>
<td>Modular</td>
<td>$180,000</td>
<td>3.5 months</td>
<td>1,500</td>
<td>$112</td>
<td>100</td>
<td>▪ NYC Garrison Architects ▪ Mobile Modular ▪ Katana</td>
<td>✗</td>
</tr>
</tbody>
</table>

Source: Expert interviews, suppliers websites

For consideration for sourcing by local NGOs or individuals

Illustrative

Document Intended to Provide Insight Based on Currently Available Information for Consideration and Not Specific Advice.
Past experiences to leverage:
Alternative Housing Pilot Programs

**Context**

Following Hurricanes Katrina/Rita, the U.S. Congress appropriated $400M to DHS to support alternative housing pilot programs (AHPP) in 2006 for Gulf states, a one-time exception to the Stafford Act that legally binds FEMA to a temporary housing mission.

Louisiana received $75M in grant funds to implement the Katrina Cottages program.

**Initiatives**

- **The Louisiana Recovery Authority** worked with two non-profits (Project Build A Future and Habitat for Humanity) and the City of Lake Charles to implement AHPP in and around Lake Charles.
- Non-profit partners helped with securing the land, purchasing properties, selecting occupants, and managing the cottages.

**Challenges**

- **461 cottages built in LA**
- **~80 around Lake Charles**
- **2.5 years** past the original grant deadline to finalize construction (Sept 09)

Potential drivers of delays/challenges to consider for future programs:

- Working with FEMA requirements
- Shifts in the lead organization
- Finalizing contract and auditing developer
- Environmental clearance process
- Production issues (i.e., incompatible flooring, higher wind resistance steel-framed units replaced by wood frames)

Source: FEMA, Department of Homeland Security Office of Inspector General, Louisiana Legislative Auditor
Case study: Partnering with home sharing services for emergency housing

**Context**

**Hurricane Sandy - 2012**
After the hurricane, NY Airbnb hosts offered their homes for free to help evacuees and displaced persons.

Airbnb then incorporated this idea of technological co-sharing into its app **Open Homes**.

**Open Homes**, an Airbnb branch, connects hosts with those in need, free of charge. These people include medical patients, relief workers, evacuees, and refugees.

**Initiatives**

**Matching services** are offered to evacuees and relief workers.
- **To book**, individuals can arrange housing on Open Homes directly or through a non-profit.
- **To host**, any individual meeting the hospitality standard can offer his or her home to those seeking temporary housing.

**Verification and Safety**
- **Documentation** such as proof of employment or address needed to apply for Open Homes.
- **Advanced screenings** are regularly run against those booking and hosting on Airbnb against terrorist, sanctions and other regulatory watch lists.
- **Reimbursements for damage** are provided to hosts up to $1 million for damage from guests.

“A glaring need, that is, a way to connect those in need with those willing to help” ~ David Paul, Chief Meteorologist

**Impact**

- **50K** Temporary homes found on Open Homes
- **5K** Estimated cost of an evacuation

**COVID-19 considerations:**
Health risk likely limiting people’s willingness to host individuals in their homes.

Source: Airbnb
# Case study: Partnering with VOADs

## Context

**Hurricane Harvey—2017**

Unprecedented severe flooding affected 13 million people and damaged or destroyed more than 200,000 homes.

Habitat for Humanity helped assess damage and formed *Habitat Hammers Back* to help families through more than 8,800 local volunteers. Part of several VOADs providing cleaning and housing support post disaster (e.g., All Hands)

## Initiatives

### Emergency Phase
- Cleaned out houses, helped in mold remediation
- Aided homeowners with insurance and FEMA processes

### Habitat Ready Program
- Provides homeowners with family preparedness plans, and resources to put together supply kits for common hazards in their community

### Sweat Equity
- Completion of a minimum of 300-500 hours of “sweat equity” required for habitat for humanity homebuyers to move into their new home

## Impact

<table>
<thead>
<tr>
<th>Impact</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disaster relief and recovery services delivered</td>
<td>7,460</td>
</tr>
<tr>
<td>Loans funded to fill insurance or FEMA coverage gaps</td>
<td>243</td>
</tr>
<tr>
<td>Home repairs completed</td>
<td>285</td>
</tr>
<tr>
<td>New homes built</td>
<td>8</td>
</tr>
</tbody>
</table>
Facilitate access to repair materials and “quality” contractors

**Rationale**

Sharp demand increase in construction materials, tools, and expertise due to extent of damage across the Parish.

Compounded effects of Hurricanes Laura and Delta, with COVID-19 led to limited availability and rise in costs from distribution disruptions and limited supply of local contractors.

**Specific examples of actions**

**Contractors**

- **Accelerate licensing process** for out of state contractors
- **Provide local housing** options for out of state construction workers
- **Waive fees** for applications and permits to rebuild damaged properties to attract contractors

**Materials**

- **Facilitate corporate partnerships** to:
  - Raise awareness on demand changes across volumes and items to drive more accurate local forecasting for supply
  - Set up potential CSR program or collaboration to support community recovery (e.g., merchandise donation/rebates, and financial support)

---

**Case studies Examples**

During COVID-19, several states lifted licensing requirements for out-of-state healthcare professionals.

**~1,300** homes built for which permit application and permit fees could be waved through NY Build it Back program following Hurricane Sandy.

Leverage example from Walmart using Katrina as an opportunity to help those in need while dramatically improving its own public image (incl. $34M total donations to local NGOs and Walmart Associates Fund; 100+ truckloads of donated merchandise) ~ See separate case study

---

Source: NY resilience plan, press search, expert interviews, CNN

DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE.
## Case study: Creating a partnership between companies and community

### Context

**Walmart during Hurricane Katrina**

Before Katrina, Walmart experienced public **criticism** across: employee treatment, foreign sweatshops, and expansion’s impact on small business owners.

After Katrina, Walmart was only going to donate $2M until presidential recognition led to a $15 M donation. **The national media coverage** changed Walmart’s plan.

### Initiatives

Walmart contributed ~$36.2 M USD of financial assistance. Walmart took one step further in helping with:

- **Truck dispatches (2,450)** in the Gulf States. Of these, trucks, Walmart filled 100 with donated merchandise. Other trucks helped relief supplies donated by outside community members and NGOs
- **Clothing Pallets (70)** donated to World Vision’s Gifts In-Kind to help evacuees
- **Loved one location services** provided through Photo Centers. Pictures of friends and loved ones could be posted to assist in locating missing persons
- **Internet ready computers (150)** donated to shelters to help families find each other
- **Prescription refills** given free of charge in hard hit areas with mobile pharmacy establishments
- **Vacant facility donation (25)** in impacted states for relief efforts such as shelters, supply depots and food pantries

### Impact

- **$17M**
  - Cash donations to aid emergency relief
- **$3M**
  - In-kind donations of merchandise to shelters and command centers
- **$7M**
  - Raised from public contributions at Walmart
- **$9.2M**
  - Cash assistance provided to impacted employees

“**The favorable publicity [Walmart] has received is certainly worth far more than the $25 million or so it has spent on cash contributions and in-kind donations.**”

~ Corporate Research Project
Case study: Educating community members to perform some repairs

<table>
<thead>
<tr>
<th>Context</th>
<th>Initiatives</th>
</tr>
</thead>
</table>

**India Earthquakes – 2001**

Gujarat province commonly experiences cyclones, flash floods and droughts every three years and earthquakes every 30.

This earthquake was 6.9-7.9 and affected 21 of 25 state districts.

- $3.5 B economic damage
- 20,000+ deaths
- 300,000 injuries
- 100,000 destroyed homes
- 300,000 substantially damaged homes

Despite limited number of engineers and masons, **communities were empowered to rebuild their own homes** with local materials to stimulate the economy through coordination of a network of local NGOs

**Demonstration houses**

- Accessible, to each community to teach disaster resilience techniques for retrofit and rebuilding
- Provided to most vulnerable population once built

**Expertise training network**

- 5 individuals from each community trained in disaster resilient masonry by total of 25 engineers
- These five masons trained the next 5 masons, rapidly creating a network of qualified workers

**Resilience awareness**

Education provided on disaster resilience safety designs to meet gov. certifications & reimbursement requirements

<table>
<thead>
<tr>
<th>Impact</th>
</tr>
</thead>
</table>

- **1,270** Model houses in 90 villages
- **-25%** Cost savings compared to relocated homes
- **8,000** Trained Masons
- **50%** Happier than families that relocated

COVID-19 considerations:
Meetings / demonstrations would have to be mainly virtual to limit risk of outbreaks

Source: RAND Center for Domestic and International Health Security

Confidential and Proprietary
Other short term potential considerations

Rationale
Other areas to address beyond direct housing needs – including rebuilding sufficient necessities to ensure people can safely stay in “livable” neighborhoods given damage to infrastructure from Hurricanes; emotional support to be provided to a community prone to exceptional emotional fatigue from back-to-back disaster combined with anxiety from COVID; need for coordination between key stakeholders to drive speed and coherence in short term response process

Specific examples of actions

- **Utilities** – prioritizing restoration of electricity, water, and gas to ensure livable conditions
- **Phone / Internet** – with consideration of remote education needs
- **Local groceries, transit and hotels**

- **Set up disaster support groups and mental health resources** to address emotional fatigue in community confronted with back-to-back disasters on top of humanitarian and economic crisis linked to COVID
- **Consider initiatives to remove constant visible reminders of damage** (e.g., designating priority landmark repairs, artistic initiatives)

- **Involve early on to provide transparency, coherence and direction for response efforts** – i.e., city/parish/Foundations/other relevant non-profit organizations and private sector stakeholders such as, developers, top employers
# Case study: Mental Health Resources in Disasters

<table>
<thead>
<tr>
<th>Context</th>
<th>Initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hurricane Katrina 2005-</strong>&lt;br&gt;After the storm 11 M people were in the directly affected area and <strong>14% were displaced</strong> from their homes.&lt;br&gt;<strong>Substantial mental health problems</strong> occurred across all age groups.&lt;br&gt;The disaster led to <strong>increased incidence of PTSD</strong>, depression and anxiety. Previous mental health disorders exacerbated.</td>
<td><strong>The California Disaster Mental Health Coalition provided <strong>access to 700 professional mental health professionals to Katrina survivors</strong>, pro bono.</strong>&lt;br&gt;Since then, this coalition has developed a mental health disaster planning project:&lt;br&gt;<strong>A Core Group was developed to coordinate mental health stakeholder</strong> organizations led by the Departments of Health Care Services, Public Health and Emergency Medical Services Authority&lt;br&gt;<strong>A framework for a statewide approach to mental health disaster</strong> was established – incl.&lt;br&gt;1. Local mental health department operations guide&lt;br&gt;2. Disaster Behavioral Health Toolkit of local jurisdictions&lt;br&gt;3. State Agency Operational Doc for disaster behavioral health</td>
</tr>
</tbody>
</table>

| **Scope** |  
| 31% | Mental health professionals volunteered  
**Katrina survivors had anxiety or mood disorders**  
700 |
| 54% | Displaced children required further mental health care |

**COVID-19 considerations:**<br>Leverage tele-medicine / virtual meetings with mental health professionals rather than in person
## Case study: Early Coordination of Key Stakeholders

### Context

**Black Saturday Bushfires, Australia – 2009**

Over 700 fires ignited across Victoria, affecting 33 communities across 25 municipalities:
- 173 deaths
- 2,133 properties destroyed
- 1,500 properties damaged
- 800+ non-farm businesses suffered direct physical damage

### Initiatives

The Victorian Bushfire Reconstruction and Recovery Authority (VBRRA) was formed 3 days after the bushfires as a dedicated coordinating authority for recovery and rebuilding, serving the role for 2 years with tasks such as:

- Facilitating *intra-gov’t decision-making* and serving as central *recovery information hub*
- Liaising between communities, NGOs, and donors to ensure donated goods match community needs
- Encouraging local governments and community representatives to establish *Community Recovery Committees (CRC)*
  - Key forum for recovery planning community engagement
  - Identified and prioritized, projects to address key local challenges, then submitted to VBRRA
- Assisting in planning and securing funding for CRC projects, and drafted *Rebuilding Together* recovery plan based on CRC priorities

### Impact

| 33 | Community Recovery Committees (CRCs) formed |
| ~1,100 | Projects identified, prioritized, and submitted by CRCs |

**COVID-19 considerations:**
Meetings / community engagement would have to be mainly virtual to limit risk of outbreaks

---

Source: Victoria State Government, Victorian Bushfire Reconstruction and Recovery Authority

DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE.
Case study: Early Coordination of Key Stakeholders

Context

Cedar Rapids – Iowa floods, 2008
Record floods affected communities throughout the Midwest
Cedar Rapids, Iowa severely devastated:
- 31.12 ft above flood level
- 10 sq. Mile of city, or 14% of city
- Impacted 5,390 houses
- Dislocated 18,000+ residents
- Damaged 310 City facilities
- 2,500+ jobs lost

Initiatives

Recovery and Reinvestment Coordinating Team (RRCT)
- Formed within a week of the river’s crest
- Met daily for two months, facilitating coordination between wide range of community stakeholders (see illustration)
- Created a centralized community website for disaster issues, with local companies helping develop and maintain the site

Replacement Housing Task Force
- Formed to review and make recs. to the RRCT about housing recovery – then put forth to the city council
- Including on safety / building code compliance, affordability, sustainability and neighborhood needs

The City coordinated with nonprofits to work with FEMA to offer temporary housing assistance

Source: Cedar Rapids, Cedar Rapids Metro Economic Alliance

COVID-19 considerations:
Meetings / demonstrations would have to be mainly virtual to limit risk of outbreaks

RRCT
City/County government
Chamber of Commerce
Non-profits
Arts & cultural interests
Downtown Business District
Schools
Workforce housing
Neighborhood association
Organized labor
Legislative interests
Landlords of Linn County
Small Business Recovery Task Force
Later additions
Integrate housing rebuild in broader economic development plan for the Parish to boost long-term competitiveness & sustainability

**Rationale**
Need to go beyond housing and adopt a broader economic development ambition which will anchor housing rebuild. This will help address significant economic recovery challenges brought by compounded effects of COVID-19 and Hurricanes Laura/Delta (e.g., 3+yrs estimated recovery timeline for Calcasieu GDP from COVID only; extra impact hurricanes to be estimated)

**Preliminary approach suggested**

- Conduct comprehensive performance diagnosis along 5 key economic dimensions
  - Current industry mix, employers & competitiveness
  - Talent & Human capital – incl. education
  - Infrastructure - incl. housing, transportation, utilities
  - Innovation – start-ups & scale-ups
  - Business climate - cost/ease of doing business

- Identify the clusters of target industries the region aims to cultivate to build long term competitiveness
  - TBD if current cluster around petrochemical industry constitutes target vs objective to build more resilience/less consolidation in industry mix

- Evaluate investments needed along key economic enablers to build target industry clusters
  - Detailed mapping of investment areas within each economic lever
  - Prioritized funding plan associated

*Key indicators can be assessed against a mix of comparable and best practice areas (e.g., other MSAs in Louisiana and Texas)*
Integrate housing rebuild in broader economic development plan for the Parish to boost long-term competitiveness & sustainability

Talent & Human capital
- **Demographics** – e.g., distribution across age, gender, race, socioeconomic profile
- **Education** – e.g., access and enrollment; retention and attainment; test performance
- **Workforce** – e.g., skill distribution and alignment / gaps with projected job demand; underemployment; and informal employment; wages

Business climate
- **Business climate** – e.g., corporate taxes; costs and time requirements for registrations and key approvals; investor incentives; regulations; governance
- **Institutional assets** – e.g., academic institutions; incubators/accelerators; research institutions; health institutions; etc.

Firms
- **Economic cluster development** – e.g., cluster-level GDP, employment, and output contributions; location quotient; cluster level productivity; shift-share; wages
- **Firmographics** – e.g., distribution of firm age; new registrations and closures; distribution of firm size
- **Firm expansion** – e.g., distribution of firm growth rates; exports; FDI

Innovation
- **Innovation** – e.g., patents; scientific publications; R&D investment
- **Entrepreneurship** – e.g., entrepreneur density; startup density; survival rates; seed stage investment and venture capital investment

Infrastructure
- **Physical infrastructure** – e.g., air, sea, and land transport and logistics; power; water
- **Virtual infrastructure** – e.g., broadband and mobile penetration; download speeds
- **Social infrastructure** – e.g., air quality; public transportation; traffic congestion; cost of living; green space; leisure and entertainment
Case study: Housing rebuild within broader economic plan

<table>
<thead>
<tr>
<th>Context</th>
<th>Initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Columbia Parc, LA –</strong></td>
<td><strong>Infrastructure and amenities</strong> built around the units to deliver high quality of life for renters, including:</td>
</tr>
<tr>
<td>St. Bernard housing complex</td>
<td>• Health clinics with a permanent onsite facility</td>
</tr>
<tr>
<td>25% vacant and facing high poverty levels in 2005</td>
<td>• Education pipelines including a high quality early childhood care center and on-site charter schools</td>
</tr>
<tr>
<td>Nearly all households evacuated following flooding from Katrina</td>
<td>• Recreational centers including a playground, gym, pool, golf course and football field</td>
</tr>
<tr>
<td>Post disaster recovery based on holistic approach to build a vibrant neighborhood around affordable housing (1/3 subsidized low-income, 1/3 tax credit affordable, and 1/3 market rate units)</td>
<td>• Shopping with on site grocery stores and other shops to provide centers for community investment</td>
</tr>
<tr>
<td></td>
<td>• Public transit and the ability to tie the neighborhoods streets into the city’s transportation systems</td>
</tr>
<tr>
<td></td>
<td><strong>Other key enablers</strong></td>
</tr>
<tr>
<td></td>
<td>• Job training provided including tools for banking and homeownership</td>
</tr>
<tr>
<td></td>
<td>• Crime reduction from resident background checks, peepholes, gated parking, and reduced rent for first responders</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Impact</th>
<th>30</th>
<th>685</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Design awards including LEED certifications</td>
<td>Mixed-income units &amp; 120 senior-housing units 100% leased</td>
</tr>
<tr>
<td></td>
<td>700</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Temporary jobs created</td>
<td>Permanent jobs created</td>
</tr>
<tr>
<td></td>
<td>99%</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Reduction in number of felonies over three years</td>
<td>Homicides in three years, down from 42 in five years</td>
</tr>
</tbody>
</table>

Source: Columbia University, Apolitical

DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE.
Evaluate optimal housing mix to address key affordability and community disparity challenges, based on damage assessment

**Illustration of preliminary approach**

- **Livable supply & demand post disaster**
  - Conduct damage & housing stock assessment (by area, home type, HH profile, materials, etc.)
  - Evaluate comprehensive demand for housing (by home type, rent/value level, etc.)

- **Aspirations & Targets**
  - Define income, equity and affordability thresholds
  - Set standard unit sizes along the housing ladder
  - Set targets for mix, volumes and gaps to bridge

- **Key Levers**
  - **Land**
    - Unlock land for affordable housing through measures such as transit-oriented development, idle-land policies, release of public land, and inclusionary zoning
  - **Development**
    - Improve capital productivity via lean construction, value engineering, procurement excellence, and industrial construction
  - **Operations and maintenance**
    - Improve energy efficiency, gain scale in maintenance, and set standards to avoid dilapidation
  - **Financing**
    - Reduce borrowing costs to buyers; assist in developer financing

- **Housing delivery platform**
  - **Community engagement**
    - Manage stakeholders and rigorously qualify beneficiaries
  - **Funding**
    - Create mechanisms to pursue all possible funding options
  - **Delivery model**
    - Choose combination of delivery models that fit local context
  - **Governance**
    - Build local governance with dedicated delivery units, streamlined processes, and performance management

---

**Preliminary**

**4**
Case study: Providing affordable housing for teachers

Context

Bay Area, CA
- Limited and expensive housing supply – Bay Area one-bedroom rent is more than double the state median one-bedroom rent
- Significant discrepancies exist in teacher salaries and rental housing cost, with the highest-paid teachers earning just enough to afford a one-bedroom apartment
- Teachers commute long hours or move to less-expensive states, likely exacerbating CA’s teacher shortage

Initiatives

School Districts started building affordable housing to attract and retain teachers
- Santa Clara Unified School District opened affordable housing dedicated to teachers in two phases by ’09 – providing 72 apartments and cutting rent by more than 50% for district teachers
- Los Angeles Unified built 3 below-market apartment complexes, but with federal tax credits which set income restrictions on tenants and disqualified teachers
- Funding sources include general obligation bonds, city subsidy, low-income housing tax credit, loans, and certificates of participation sales

Impact

$1,460 vs. $3,500
Santa Clara Unified affordable housing monthly rent
Comparable unit monthly rent in the region

Reduced attrition by 2/3 for teachers living in Santa Clara Unified affordable housing

“It’s better for everyone – folks trying to avoid traffic, kids getting an education, school districts trying to hire and retain the very best teachers for our schools, and of course our teachers themselves – when our teachers can live in or close to the communities where they teach.”

Joe Simitian - Santa Clara County Board of Supervisors Pdt

Source: Bloomberg CityLab, County of Santa Clara Supervisor Joe Simitian District 5, EdSource

DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE.
Case study: Affordable housing programs – Community Land Trusts

<table>
<thead>
<tr>
<th>Context</th>
<th>Initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Atlanta Affordable Housing crisis</strong></td>
<td><strong>The Atlanta Land Trust</strong> aims to reverse disparity with affordable housing for everyone and restoring the city’s black middle class.</td>
</tr>
<tr>
<td>In 2017, Atlanta was the 3rd fastest growing US metro area. Atlanta’s <strong>median rent increased 70%</strong> since 2000 but <strong>median income only increased 48%</strong>.</td>
<td><strong>The Process of Land Trusting</strong></td>
</tr>
<tr>
<td>In 2016 more than <strong>half Atlantans were rent burdened</strong>.</td>
<td>1. The trust acquires the land and maintains ownership permanently</td>
</tr>
<tr>
<td>The Atlanta Housing Authority has ~17K section 8 vouchers available, enough to <strong>serve only 10% of low income residents</strong>.</td>
<td>2. Homeowners lease long-term renewable land</td>
</tr>
<tr>
<td></td>
<td>3. The trust’s organizations supports residents in sustaining homeownership</td>
</tr>
<tr>
<td></td>
<td>4. The organizations create a community promoting public policy, engagement and fundraising.</td>
</tr>
<tr>
<td></td>
<td>5. The homeowner will sell the home at resale-restricted and affordable pricing to another LI homebuyer. Homeowner benefits include:</td>
</tr>
<tr>
<td></td>
<td>1. Home ownership</td>
</tr>
<tr>
<td></td>
<td>2. Wealth Accumulation</td>
</tr>
<tr>
<td></td>
<td>3. Preservation of public Investment</td>
</tr>
<tr>
<td></td>
<td>4. Allows long-term residents to remain in communities despite rising costs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>6x</strong> Less likely that families lose homes to foreclosure</td>
</tr>
<tr>
<td><strong>1.4%</strong> CLT homeowners behind on rent compared to 3.7-23.1% market rate homeowners</td>
</tr>
<tr>
<td><strong>277+</strong> US Community Land Trusts in 2009</td>
</tr>
<tr>
<td><strong>79%</strong> CLT residents are first time homebuyers</td>
</tr>
</tbody>
</table>

Source: Lincoln Institute of Land Policy, and Atlanta Land Trust
Historical and ongoing forces have created challenges for Black/LatinX households in affordably accessing housing

Inheritance

Black families lose land due to heirs' property law which gives each heir a partial stake in land when a landowner dies without a will.

Because heirs' land rights are shared, they lack a clear title. In a dispute, courts may order partition by sale which often leads to land loss through auctions and predatory purchasing.

- 98% Black landowners were dispossessed of 12M acres because of title issues
- 1/3 Southern Black land is heirs' property
- 76% Black Americans do not have a will

Access to mortgage

- 0.08%

higher interest rate and heavier refinance fees when compared with white borrowers for Black and LatinX applicants over 30 year period.

- 2.7x

More likely as an African-American to be denied conventional mortgage in major Metropolitan areas

Homeownership

- 30%

Homeownership gap persists over time between Black and White Americans.

- 23%

Less value given to similar quality homes in Black neighborhoods. On average, valued at $48,000 across the US

Source: Urban Institute, HousingWire, McKinsey Public and Social Sector
### Sample strategic interventions to address barriers to racial equity related to housing

<table>
<thead>
<tr>
<th>Value chain challenge</th>
<th>Sample strategic actions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pricing</strong></td>
<td>Innovative underwriting tools to capture non-traditional credit factors (e.g., rent payments)</td>
</tr>
<tr>
<td></td>
<td>Targeted credit-building / repair supports</td>
</tr>
<tr>
<td></td>
<td>Down-payment assistance grants or low-interest loans for first-time buyers</td>
</tr>
<tr>
<td><strong>Product</strong></td>
<td>Racial bias audit of existing lending programs</td>
</tr>
<tr>
<td></td>
<td>Developing consumer financial lab to identify the unique needs of communities of color</td>
</tr>
<tr>
<td></td>
<td>Low-cost down-payment savings solutions (e.g., affordable, high-interest savings accounts for aspiring homeowners)</td>
</tr>
<tr>
<td></td>
<td>Innovative origination / servicing models that lower costs and enable higher use of small dollar mortgages</td>
</tr>
<tr>
<td><strong>Marketing &amp; distribution</strong></td>
<td>Anti-bias training for underwriters, mortgage bankers, etc.</td>
</tr>
<tr>
<td></td>
<td>Greater presence in communities of color (e.g., mortgage officers, physical locations)</td>
</tr>
<tr>
<td></td>
<td>Strategic partnerships with Black-led organizations to build trust based relationships with consumers</td>
</tr>
<tr>
<td></td>
<td>Community-based educational programs that aim to sustainably increase homeowners</td>
</tr>
</tbody>
</table>
## Case study: Program aimed at closing the homebuying racial gap

### Context

**Minnesota**

In 2011, Minnesota ranked among the last states in the US in evaluations of homeownership equity. In 2013, White people in Minnesota had a 77% homeownership rate vs ~25% for Black people.

### Initiatives

**The Minnesota Housing Authority set out to address key challenges along the value chain**

<table>
<thead>
<tr>
<th>Pricing</th>
<th>Start Up program for first time homebuyers decreasing down payments and interest rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>Product adjustments enable an easier road to ownership for low income families</td>
</tr>
<tr>
<td>Marketing &amp; distribution</td>
<td>Propped up Black loan originators and realtors and helped show that homeownership was possible through advertising at Black-led events</td>
</tr>
</tbody>
</table>

**Homeownership Capacity Program connect families with community resources to help them determine if homeownership is right for them at this time, understand any barriers in their way (top barrier is credit), and develop strategies to move past barriers.**

### Impact on Black homeownership:

**+35%** in share of new mortgages awarded to people of color

**+5pts** in share of mortgage issuances to houses of color since 2011, from 11% to 16%—in line with share of people of color in Minnesota.

---

Source: Minnesota Housing Finance Agency
### Build stronger/more resilient housing to better withstand future impact of climate change

#### Rationale
Extensive damage with Laura and Delta four years after historical floods, 15 years after Rita; recent housing developments in southern parts are most vulnerable to flood risk – rebuilding post Laura & Delta offers an opportunity to build more resilient housing and infrastructure which can better withstand future natural disasters and drive sustainability.

#### Specific examples of actions

<table>
<thead>
<tr>
<th>Limit exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Limit population concentration in high exposure areas and foster growth in low exposure areas</strong> – e.g., through voluntary relocation programs and restrictions on new buildings in vulnerable zones</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reduce vulnerability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Building Techniques</strong> - Leverage top of the line innovations from architects, engineers and developers to increase building resiliency under local conditions – e.g., innovation challenge new techniques/ materials</td>
</tr>
<tr>
<td><strong>Policy &amp; Interventions</strong> - Embed home resilience across building policies (incl. resiliency design guidelines, updated building code for wind resiliency, specific parts regulations – e.g., roofs). Motivate resilient builds and retrofits with attractive incentives programs for individuals and developers</td>
</tr>
<tr>
<td><strong>Infrastructure Resilience</strong> - Limit city wide interruptions with investment better protecting infrastructure from natural disasters (e.g., utilities, transportation, pavement, and coastlines)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Build Climate Awareness</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Build awareness</strong> long term on effects of climate change</td>
</tr>
<tr>
<td><strong>Consider programs</strong> to limit contribution to environmental hazards (e.g., carbon footprint)</td>
</tr>
</tbody>
</table>
Case study: Resilience Planning to limit exposure

Context

Hurricane Sandy—2001
“Worst natural disaster ever to hit New York City” ~ Mayor Bloomberg
- 90,000 inundated buildings
- 43 deaths
- $19 Billion dollars in damage

In response, the city developed a plan for A Stronger, More Resilient New York

Initiatives

NY State offered a voluntary government buyout program for homes in repetitive flood zones known as the NY Rising Buyout and Acquisition Program:
- Mapped vulnerable areas using climate change projections
- Sped up buyout program; NY buyout took 1-2 years while past FEMA buyout programs often took 5 years or more
- Returned land to wetlands for coastline management

Limited new development in updated 100-year flood zones based on climate change projections

Impact

800 Homes bought out

77% Buy-Out Participant satisfaction

70% Participants reported money adequacy for buy out

Opportunities for improvement cited by participants
- Communicate throughout the process (Day 1 to relocation)
- Communicate in multiple languages
- Speed up timeline to prevent homeowners sinking dollars into home improvement
- Provide more assistance to find new comparable homes and access to mortgage as needed

Source: Columbia University, NY Build it back report

DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE.
Case study: Resilience Planning to limit vulnerability – Home building techniques

Initiatives

“NY Build it Back” program created a Hurricane Strong Home test site featuring hurricane resilient features

- **Concrete Roof Tiles** placed on a MAPEI poly-glass system with underlined ZIP roof decking and ICP seaming and spray foam
- **Insulating concrete form** replaces wood frame for a stronger structure between stacked foam blocks
- **Reinforced concrete stairway** with TREP decking material (95% recycled wood and plastic film)
- **Helix steel formation** weaves steel within concrete outer form to reducing total reinforcing steel
- **Lightening protection** such as strike termination devices, and grounding electrode systems
- **Fiber cement siding** is resilient made from cement and wood pulp
- **Dual function flood vent**- ensures home’s air flow under house allowing flood water to pass as needed
- **Reinforced concrete closed foundation and supporting fins** elevating home 15 feet above sea level and 3 more above projected flooding

Impact

20 K

Households assisted in repairs, resiliency upgrades, rent pymt. and reimbursements

$11

Made for every $1 spent on resilience

1. Estimated based on job creation and increased use of local construction materials usage (i.e., GDP generated by every $ spent)

Source: Columbia University, Wired Magazine, NY Build it back report

DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE.
Case study: Resilience Planning to limit vulnerability – Policy & Incentives

Initiatives

Home resilience embedded across building policies and incentives programs

Policy for Buildings

- Shared resiliency design guidelines with engineers and architects considering project life and climate change
- Updated building code for wind resiliency
- Required green roofs (tax abated) on all new construction for commercial and residential [not relevant for storm resiliency in Calcasieu]
- Updated flood maps, which consider climate change projections, changed flood insurance policy coverage requirements

Incentive programs

- Encouraged resiliency measures with financial incentives for those that reach targeted requirements
  - $1.2 billion program offered grants and loans to buildings for resiliency retrofitting costs with a cap of $2 million per building
  - Launched sales tax abatement program for resilience in industrial buildings

Source: Columbia University, Wired Magazine, NY Build it back report
Case study: Resilience Planning to limit vulnerability – Infrastructure

Initiatives

**Infrastructure resilience in parallel of housing**, spanning across coast lines, utilities and transportation

**Coastal Resilience** invested with initiatives like sand walls, tube dams, flood panels, and stackable barriers to building entrances

**Utility services protected against interruptions**
- ConEd utilities created perimeters for stations, shrink wrap for panels, high-capacity pumps, elevated controls, and individual shut down w. fiber optic wiring
- Developed real time monitoring of utilities in floods with valve control to prevent utility interruption

**City planning resilience**
- Planted 1 million trees, $82 M set aside for vulnerable neighborhoods
- Converted dark pavement to light pavement
- Implemented stormwater management systems like rain gardens and vegetated areas

Source: Columbia University, Wired Magazine

<table>
<thead>
<tr>
<th>Impact</th>
<th>Invested in Green Infrastructure by 2030</th>
<th>Invested in coastal protection since 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1.5 B</td>
<td>$3.7 B</td>
<td></td>
</tr>
</tbody>
</table>
# Leveraging the private sector to drive increased speed, innovation and funding

**Rationale**

Extent of damage, funding and reconstruction coordination needs coupled with the speed required for rebuild calls for mobilization of both public and private actors – with clear allocation of roles based on expertise and capacity.

## Specific examples of actions

<table>
<thead>
<tr>
<th>Rethink roles &amp; processes among all stakeholders to drive speed and innovation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rethink respective roles of key stakeholders</strong> – e.g.,</td>
</tr>
<tr>
<td>- Government bodies focused on funding or setting guidelines</td>
</tr>
<tr>
<td>- NGO and private sector experts leading on gaps which public agencies do not cover (e.g., managing large volume of building permit requests, helping with matching supply &amp; demand for housing)</td>
</tr>
<tr>
<td><strong>Advocate for expedited processes</strong> after disasters to ensure appropriate speed to recovery (incl. streamlining permit process)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Incentivize private sector to invest in affordable housing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Consider awarding large reconstruction projects based on design and innovation challenges</strong> between individuals or companies to spur creativity, speed and manage costs</td>
</tr>
<tr>
<td><strong>Leverage allocation of Low Income Housing Tax Credit</strong> dollars from the Louisiana Housing Corporation for SWLA to encourage building of mixed income high quality housing</td>
</tr>
<tr>
<td><strong>Negotiate affordable housing lending programs with banks</strong></td>
</tr>
<tr>
<td><strong>Consider potential “green” investors for carbon-neutral related funding</strong></td>
</tr>
</tbody>
</table>
Case study: Leveraging the private sector to drive speed and innovation

Context

Los Angeles—2016
Tens of thousands are homeless in Los Angeles
More than 1,000 people experiencing homelessness are expected to die during a given year
In November 2016, 80% of LA voters approved a $1.2 B investment towards housing development for individuals and families experiencing homelessness

Initiatives

The Proposition HHH Challenge set $120M towards innovative construction and financing for 1,000 new supportive housing units in just two years
Proposals from any private organization were considered based on level of innovation, achievability, scalability and costs – and required demonstration units

Six winning projects of the 1st edition were:
1. FlyawayHomes- shipping container units as shared housing, backed by private investment with an ROI
2. Daylight Community Development- shipping container units with private financing repaying city funds in 3 years
3. Restore Neighborhoods LA- units on small lots which did not require zoning changes
4. Adobe and Mercy- 360 units in 6 modular buildings with each module delivery paying off a $5 M revolving loan
5. Brilliant Corners- units built on 3 existing sites converting non-residential buildings to housing
6. Bridge Housing- for young adults, families, and teens

Impact

975 housing units developed in two years
$532K Average cost for new housing units

60% less costly for the city in the long run – avg unit cost equivalent to $26/night over 55 years1 compared to $60/night for a motel voucher

1. Length of time a property must stay affordable under Proposition HHH

Source: Los Angeles Times, Los Angeles Housing Development Bureau

DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE.
# Building strong community buy-in and empowerment to rebuild a “home”

## Rationale

The cornerstone of successful community recovery to drive widespread alignment on recommended solutions, while leveraging compounded reach from each stakeholder.

## Specific examples of actions

<table>
<thead>
<tr>
<th>Engage community throughout the recovery process</th>
<th>Drive community education</th>
<th>Drive community empowerment</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Involve diverse set of community representatives in structuring decisions affecting community, from emergency response until long term recovery.</td>
<td>- Launch consumer education campaign on flood insurance</td>
<td>- Involve those being housed in the construction (e.g., Common Habitat for Humanity across the US, “sweat equity” policy)</td>
</tr>
<tr>
<td>- Anticipate and address sources of resistance (e.g., stakeholder interviews or survey on cultural relevance of a build and pre-approval for certain areas and makes before implementation).</td>
<td>- Launch an engagement campaign targeting insurers (e.g., NY Sandy)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Educate on risks, climate change and resilience</td>
<td></td>
</tr>
</tbody>
</table>
Case study: Building community buy-in and empowerment

Context

NY Resilience

Hurricane Sandy was the “worst natural disaster ever to hit New York City” ~ Mayor Bloomberg
- 90,000 inundated buildings
- 43 deaths
- $19 Billion dollars in damage

In response the city developed a plan for A Stronger, More Resilient NY

Initiatives

Community buy-in prioritized through stakeholder briefings led by government authorities
- **Public Workshops** held to address city questions and see new ideas
- **Interviews** conducted with a sample of New Yorkers in-person

Community Empowerment

- **“Choose my own path”** - Developed “sweat equity” with individuals able to choose contractors and sometimes helping with rebuilding homes (e.g., Habitat for Humanity)
- **Community design centers** assisted property owners developing design solutions for reconstruction and retrofit

Impact

30+ Government agencies consulted
1000+ New Yorkers briefed in person

11 Public workshops to refine the RFP
19 Community boards addressed

320+ Businesses, environmental, faith and labor orgs.

COVID-19 considerations:
Meetings / community engagement would have to be mainly virtual to limit risk of outbreaks

Source: A Stronger, More Resilient NY report

DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE.
Case study: Importance of equitable decision making representation

Context

New Orleans- Hurricane Katrina 2006

Post disaster recovery plan by Bring New Orleans Back Commission aimed to reduce exposure to future flood risks, moving people to higher ground and out of repetitive loss areas

“Green dots” on the map indicated neighborhoods that were to become green spaces. However, the commission did not consider that most “Green dots” were primarily working-class Black neighborhoods

This plan alienated minority communities and was eventually rejected; the plan in-part led to subsequent resilience planning on a neighborhood by neighborhood basis

80%

New Orleans’s black population was asked to leave their communities

“The plan was perceived as a stealth move to rebuild a white city”

Jennifer Warburg

Source: SPUR

DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE.
Appendix
Rent, national vs. Calcasieu comparison

Evolution of rent levels, national

<table>
<thead>
<tr>
<th>Median Rent ($)</th>
<th>2013</th>
<th>2019</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,500 or more</td>
<td>15%</td>
<td>27%</td>
<td>+12pts</td>
</tr>
<tr>
<td>$1,000 to $1,499</td>
<td>26%</td>
<td>30%</td>
<td>+4pts</td>
</tr>
<tr>
<td>$500 to $999</td>
<td>46%</td>
<td>34%</td>
<td>-12pts</td>
</tr>
<tr>
<td>Less than $500</td>
<td>12%</td>
<td>9%</td>
<td>-3pts</td>
</tr>
</tbody>
</table>

CAGR: 3% p.a.

Evolution of rent levels, Calcasieu

<table>
<thead>
<tr>
<th>Median Rent ($)</th>
<th>2013</th>
<th>2019</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,500 or more</td>
<td>1%</td>
<td>7%</td>
<td>+6pts</td>
</tr>
<tr>
<td>$1,000 to $1,499</td>
<td>13%</td>
<td>30%</td>
<td>+17pts</td>
</tr>
<tr>
<td>$500 to $999</td>
<td>69%</td>
<td>48%</td>
<td>-11pts</td>
</tr>
<tr>
<td>Less than $500</td>
<td>17%</td>
<td>15%</td>
<td>-2pts</td>
</tr>
</tbody>
</table>

CAGR: 2% p.a.

Source: US Census Bureau
Home value, national vs. Calcasieu comparison

Evolution of home value, national

<table>
<thead>
<tr>
<th>Median Value ($)</th>
<th>2013</th>
<th>2019</th>
<th>CAGR: 6% p.a.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $50K</td>
<td>10%</td>
<td>6%</td>
<td>-4pts</td>
</tr>
<tr>
<td>$50-99K</td>
<td>16%</td>
<td>11%</td>
<td>-6pts</td>
</tr>
<tr>
<td>$100-149K</td>
<td>16%</td>
<td>13%</td>
<td>-2pts</td>
</tr>
<tr>
<td>$150-199K</td>
<td>15%</td>
<td>20%</td>
<td>+2pts</td>
</tr>
<tr>
<td>$200-299K</td>
<td>18%</td>
<td>38%</td>
<td>+12pts</td>
</tr>
<tr>
<td>$300K+</td>
<td>26%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Evolution of home value, Calcasieu

<table>
<thead>
<tr>
<th>Median Value ($)</th>
<th>2013</th>
<th>2019</th>
<th>CAGR: 6% p.a.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $50K</td>
<td>18%</td>
<td>11%</td>
<td>-7pts</td>
</tr>
<tr>
<td>$50-99K</td>
<td>16%</td>
<td>15%</td>
<td>-11pts</td>
</tr>
<tr>
<td>$100-149K</td>
<td>16%</td>
<td>26%</td>
<td>+2pts</td>
</tr>
<tr>
<td>$150-199K</td>
<td>15%</td>
<td>18%</td>
<td>+5pts</td>
</tr>
<tr>
<td>$200-299K</td>
<td>15%</td>
<td>22%</td>
<td>+7pts</td>
</tr>
<tr>
<td>$300K+</td>
<td>8%</td>
<td>16%</td>
<td>+8pts</td>
</tr>
</tbody>
</table>

Source: US Census Bureau
Hurricane Laura & Delta damage by level of damage and housing type – Lake Charles
# residential units in Lake Charles, based on zip code matching

Highly preliminary estimates As of Nov 6th, 2020

<table>
<thead>
<tr>
<th>Destroyed</th>
<th>32K</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major</td>
<td>6K (20%)</td>
</tr>
<tr>
<td>Minor</td>
<td>14K (43%)</td>
</tr>
<tr>
<td>Affected</td>
<td>10K (30%)</td>
</tr>
<tr>
<td>Total</td>
<td>4.9K 6.9K 20.7K</td>
</tr>
</tbody>
</table>

Apartment Condo
- Minor: 1.4K
- Affected: 1.1K

Mobile Home
- Major: 2.1K
- Minor: 1.8K
- Affected: 2.7K
- Total: 10.0K

Single Family
- Destroyed: 0.5K
- Major: 1.3K
- Minor: 1.8K
- Affected: 2.5K
- Total: 7.7K

1. Destroyed – Non-Livable/total loss; Major - Non-Livable/Home with structural damage or other significant damage that requires extensive repairs; Minor – Livable/Home with repairable non-structural damage; Affected – Livable/Home considered affected if damage is mostly cosmetic

Source: FEMA, local NGOs, USPS

CONFIDENTIAL AND PROPRIETARY
DOCUMENT INTENDED TO PROVIDE INSIGHT BASED ON CURRENTLY AVAILABLE INFORMATION FOR CONSIDERATION AND NOT SPECIFIC ADVICE.