Recovery and Resilience: Hurricane Harvey Update

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PRESENTED BY:
MARVIN ODUM
CHIEF RECOVERY OFFICER
Post Hurricane Harvey, Houston has a large and significant challenge...

**Hurricane Harvey is the worst rainfall disaster in US history**

- Harvey is a 1,000-year flood event unprecedented in scale
- Harvey is one of the costliest disasters in U.S. history, and most of the victims have no flood insurance

**Major flood damage vs. wind alone:**
- 2.6K miles of City of Houston roadways with standing water

**Community displacement:**
- >90K Houstonians reported not living in their homes

Source: HoustonRecovers.org, New York Times
Our mission and vision focus on recovery and resilience

The mission of the recovery effort is to secure and deploy disaster resources to **accelerate Houston’s recovery**, **strengthen Houston resilience**, and **enhance the quality of life and economic vitality** of Houston and its people.

“This is a defining moment for the city of Houston. **It's not enough for us just to rebuild** in the same way, in the same place. If we do that, then we will miss the mark and quite frankly we will miss the opportunity this storm has afforded us.”

-- Mayor Turner

Source: Recovery organization interviews
Houston’s Recovery Team

Federal, state, county stakeholders

City Council

Mayor of Houston
Mayor Sylvester Turner

City Controller

Assistant CRO

David Benson

Chief Recovery Officer

Marvin Odum

Chief of Staff

Niel Golightly

Recovery & Damage Assessment Lead

Carol Haddock

Resilience Lead

Steve Costello

NRP

Volunteer Program

Tom McCasland

Housing Lead

Finance Lead

Tantri Emo

Procurement Lead

Jerry Adams

Government Relations Lead

Bill Kelly

Comm. & Community Relations Lead

Compliance Lead

Performance & Innovation Lead

Strategic Planning Lead

Contractors & Consultants as needed (reimbursable costs)

1 Federal incl. legislative, HUD, FEMA, relevant agencies, etc; State including Governor Abbott, Texas Recovery lead J Sharpe, etc; County includes Commissioners, Judge Emmett, etc.

Source: Recovery organization interviews
Our efforts target housing, infrastructure, and small businesses

### Housing
- Unprecedented damage to single and multi-family homes

### Flood mitigation infrastructure
- Many cross-jurisdictional projects identified (e.g. bayous, reservoirs)

### City facilities and infrastructure
- Severely damaged facilities and infrastructure

### Small businesses
- Revitalizing small business across their value chain (e.g. structures, equipment, inventory, earnings loss)

Source: HoustonRecovers.org, New York Times
### Housing

**Approach**
- Standing-up program to cover **both single & multi-family homes**
- **Resources**: RFPs for (1) Damage Assessment, (2) Program Management, (3) Case Management and (4) Construction Management.
- **Key considerations at a granular level**: Damage Assessment & History, Flood Plain designation, Mitigation Options, and Repair/Alter/Replace Options

**Scale**
- To date: **~192K FEMA IA claims**; >40% represent Houstonians in damaged houses
- Reporting to date likely **underestimates damage to multi-family homes**.

**Funding sources**
- **FEMA funding** administered through City will come first (e.g., direct leasing options)
  - **Individual Assistance Programs** include Multifamily Lease and Repair, Manufactured Housing Options, Partial and Limited Repair
- **HUD Funding**: $7.4B in CDBG (all disasters) in October, additional $57.8M to Texas last week, anticipate another appropriation before year-end
- **CoH** is requesting **Direct Allocation from HUD**

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1 IA claims may represent an individual or a household/family

Source: IA Data, news searches
## City facilities and infrastructure

### Approach
- Damage Assessment is ongoing (TetraTech).... currently doing detailed inspections with FEMA
- **75% +/-** of repairs relatively **standard**
- **25% +/-** of repairs require deep investigation (Resiliency)

### Scale
- At least **$2.4B** in preliminary damage to city facilities and infrastructure
  - 11/39 waste water treatment plants were fully inundated with water
  - 5 public buildings incl. City Hall and HPD buildings
- **~2,600 miles** of CoH roads had Harvey-related standing water; equivalent of a roundtrip from Houston to Washington, D.C.
  - Latent damages could add up to billions more

### Funding sources
- We are in the **early stages of the FEMA process**;
  - **~$163M** of FEMA funding allocated through State (incl. debris removal)
- **~$50M** from State disaster relief fund
- HUD CDBG - DR and FHWA funding also possible for some projects
- A **10% match** is required for FEMA funds

Source: HoustonRecovers.org, FEMA requirements, news searches
Flood mitigation infrastructure required to make Houston more resilient

### Flood mitigation infrastructure

| Approach | | Scale | | Funding sources |
|----------|------------------|----------------------------------|-----------------|
| ▪ Collaborate with / advocate for **major infrastructure projects City does not control**  
  - Reservoir, bayou projects, Lake Conroe & SJRA, Coastal Spine, infrastructure consolidation  
| ▪ **No duplication of effort:**  
  Steve Costello is on the team and defines Houston’s projects  
| ▪ **Flood mitigation cost estimates** - $6B for major bayou projects; $500M in reservoirs,  
  ~$500M lake rehabilitation, ~$500M regional detention, $5B CoH unscheduled / unfunded projects  
| ▪ Next steps on projects include:  
  - Increase **storm-water management** into Lake Houston  
  - **Increase capacity of Buffalo Bayou** downstream of reservoirs  
  - **Protect critical water and sewer plant facilities**  
  - Develop **in-city watershed detention plan**  
  - Determine **non-riverine flood zones**  
  - Advance **green infrastructure program**  
| ▪ **FEMA Hazard Mitigation Grants, HUD CDBG – DR, US Army Corps of Engineers, City CIP**

Source: HoustonRecovers.org, Recovery Office interviews
The Neighborhood Restoration Program is the “face” of our Housing initiatives.

<table>
<thead>
<tr>
<th><strong>Our neighborhood approach is...</strong></th>
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<td><strong>Customized:</strong> neighborhood-centric; block by block, house-by-house recovery and resilience</td>
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<td><strong>Collaborative:</strong> strengthen non-profit impact and foster public-private partnership</td>
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<td><strong>Equitable and holistic:</strong> need-based delivery of services targeting economy, culture, and environment</td>
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<td><strong>Accountable:</strong> metric and data driven oversight for effective and targeted delivery</td>
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**NRP targets Houston neighborhoods**

Amy Moody, 10, amid her grandparents’ personal effects in Houston area. Amy’s grandparents, Martha and Roland Elder, have lived in the home for 48 years – *New York Times, August 30th 2017*

Source: Recovery Office interviews, New York Times
Create a “largest-ever” Volunteer Program that brands Recovery

- A goal of >10 million volunteer hours
- Organized by Neighborhood
- Efficient
- Leverage/assist non-profits
- ~6 month program

- **Millions of volunteer hours** targeted at high-need neighborhoods
- Ensures CoH’s FEMA “A” and “B” **10% match requirement fulfilled**
  - Recovery Office to request further FEMA match offset programming
- **Contributes to HUD Action Planning**

Source: Recovery Office interviews
Funding is complex and there are several key challenges

Funding is complex for 3 reasons

- **Scale & Choices**
  - Huge need for funding: homes, infrastructure and small business
  - There will not be enough money for everything

- **Sources**
  - FEMA, HUD, and US DOT largest sources
  - Many others to be pursued
  - CoH needs to ensure proper federal consideration & allocation (fair share)

- **Timing**
  - Matching funding inflows and outflows will be a challenge
  - Multiple funding requests are coming to you

Source: Recovery Office interviews
Recovery ‘funding’ requests to City Council will begin early December

1. Housing & Small Bus. damage assessment
2. Housing MPM
3. Housing casework & construction mgmt
4. City infra damage assessment
5. Tetra Tech increase
6. City infra construction mgmt (estimated)
7. ~40 PWE for City infra resiliency & consolidation

Anticipated Council consideration dates
- Dec 5, 12, 19
- Jan 9, 16, 23, 30

RFP scope
- <$2mln
- 10s of Mlns
- 100s of Mlns

Source: Recovery Office interviews

1 Not exclusive and subject to additional RFPs arising
What does success look like a year from now? A work in progress...

- Housing Program
- Resilient Infrastructure & Flood Mitigation
- NRP & Community Engagement
- “Houston Strong” Volunteer Program
- Funding (all sources)