

Presented to the GLO on Monday, May 21, 2018

**Fund Allocation Recommendations to Texas General
Land Office for Unmet Needs Associated With
Residential Housing (IA), Residential Buyout
Program, and Public Infrastructure (PA) Arising From
Hurricane Harvey**

University of Texas at Austin Team

Linda Golden, Marketing, McCombs School

Patrick Brockett, Risk Management, McCombs School

Rajiv Garg, Information Systems, McCombs School

Jim Nolen, Finance, McCombs School

Alisa Walch, Actuarial Science, Mathematics

Linda Golden, PhD, JD
Principal Investigator
Joseph H. Blades Professor of
Risk Management and Insurance
Department of Marketing
Department of Business, Society and Government
McCombs School of Business

General Statement of Goals



Make recommendations for allocation of HUD relief funds to Hurricane Harvey federally declared disaster counties (excluding City of Houston and Harris County) based on a model using unmet needs estimation and the Social Vulnerability Index (SoVI).

Allocation recommendations were provided for homeowners and renters, buyout acquisition and infrastructure using a weighted average (50-40-10) for 48 of the federally declared disaster counties.



Texas General Land Office

Community Development & Revitalization

STATE ACTION PLAN SUMMARY:

\$5.024 BILLION STATE ACTION PLAN – ROUND 1:

For details on the recommendations and method see:

<http://texasrebuilds.org/Documents/ACTION%20PLAN%20OVERVIEW.pdf>

Residential and Buyout Unmet Needs

- HUD
- FEMA
- TDEM
- US Census Bureau
- SoVI
- www.fixr.com/costs/build/apartment

Infrastructure (PA)

- FEMA
- SoVI
- US Census Bureau

*Precise references are available in the GLO Action Plan

Most Impacted Counties & Zip Codes



49 counties are Hurricane Harvey federally declared disaster areas.

The *Federal Register* requires 80% of HUD CDBG-DR Funds be used to address the unmet needs for the “most impacted and distressed counties and zip codes”

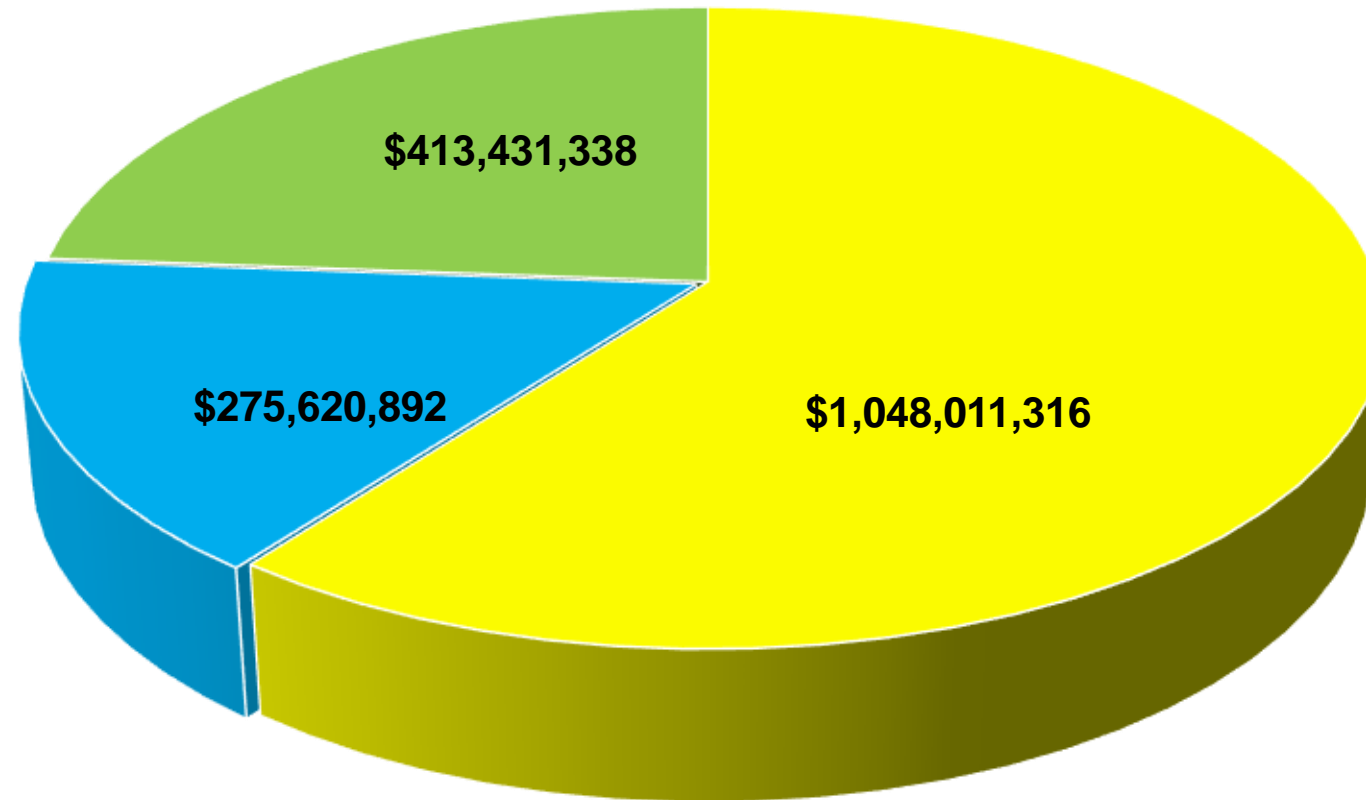
- Counties: Aransas, Brazoria, Chambers, Fort Bend, Galveston, Hardin, Jefferson, Liberty, Montgomery, Nueces, Orange, San Jacinto, San Patricio, Victoria, Harris and Wharton counties
- Designated Zip Codes: 75956, 75979, 77335, 77414, 77423, 77612, 77632, 77979, 78377, 78934 and 78945 were identified as “most impacted”

All other counties were “not most impacted” having a 20% allocation

HUD CDBG-DR Funds to be Allocated



Excluding City of Houston \$1,155,119,250 and Harris County \$1,115,386,830 Direct Funding



■ Residential Assistance Program (IA) ■ Buyout/Acquisition Program ■ Infrastructure (PA)

Allocation Model

Allocation of funds among counties used three factors:

- Unmet need in the county (including resiliency factor),
- Vulnerability of the county population for responding to catastrophes on their own (SoVI Index),
- Ability of the population to sustain and/or recover from the disaster by raising or utilizing funds (per capita unmet needs).

50-40-10 Weighted Allocation Model



- 50-40-10 algorithm used as a result of reviewing previous disaster action plans in Texas, Florida, New York, North Carolina and South Carolina
- First, unmet need plus resiliency, SoVI and per capita unmet need plus resiliency were each normalized by dividing the entry for each county by the sum over all counties of the entry to obtain a distribution proportion corresponding to what allocation would be given were that factor acting alone.
- 50-40-10 weighting process applied to Residential Homeowners/Renters (IA), Residential Buyout and Infrastructure (PA) for “most Impacted” and “not most impacted” groups separately
- A weighting factor of 50% was applied to the unmet need plus a 15% resiliency multiplier, 40% weighting of the SoVI score and a 10% weighting to the calculated unmet need plus resiliency divided by population of the geographical area being considered

Constraints to the 50-40-10 Model



Minimum Distribution Constraints – Different for Residential, Buyout and Infrastructure, Since it is costly to apply for funding and to create the policies, procedures, and personnel to implement the processing and distribution of the HUD funds the minimum allocations ensure those costs will be covered.

Maximum Distribution - If a county maximum distribution was limited to only its unmet need (50% weight), then in our 50-40-10 model, no weight would be given to social vulnerability (40% weight) or per capital unmet need (10% weight). Thus, to fully capture these other two factors, a maximum distribution was put at 200% of unmet need to account for the other 50% weighted factors.

Tranche Allocations: If the 50-40-10 allocation dollar amount was less than the minimum, then the minimum was allocated to that county. If the dollar amount was greater than 200% of the county's unmet need, then the maximum amount of 200% of unmet need was allocated to the county and any excess funds after imposing the constraints were put back into the pool to reallocate to the other counties in an additional tranche of funding.

**Alisa Walch, Department of Mathematics
Fellow, Casualty Actuarial Society
Assistant Director of Actuarial Science**

Social Vulnerability (SoVI Index)



Created by University of South Carolina Hazards & Vulnerability Research Institute to measure the social vulnerability of populations

Used in previous recovery dollar allocations to assure vulnerability was considered in allocation:

- TX 2016 Floods
- TX 2015 Floods
- SC 2015 Floods

Dr. Christopher Emrich – developer and SoVI expert

- Boardman Endowed Associate Professor of Environmental Science and Public Administration
- Member of the National Center for Integrated Coastal Research at the University of Central Florida
- Engaged to compute the SoVI scores for all of the 49 declared disaster counties

Social Vulnerability (SoVI Index)



27 Variables Utilized in Constructing Index

Ex: wealth, proportion of elderly residents, race, gender, type of employment, type of housing, etc.

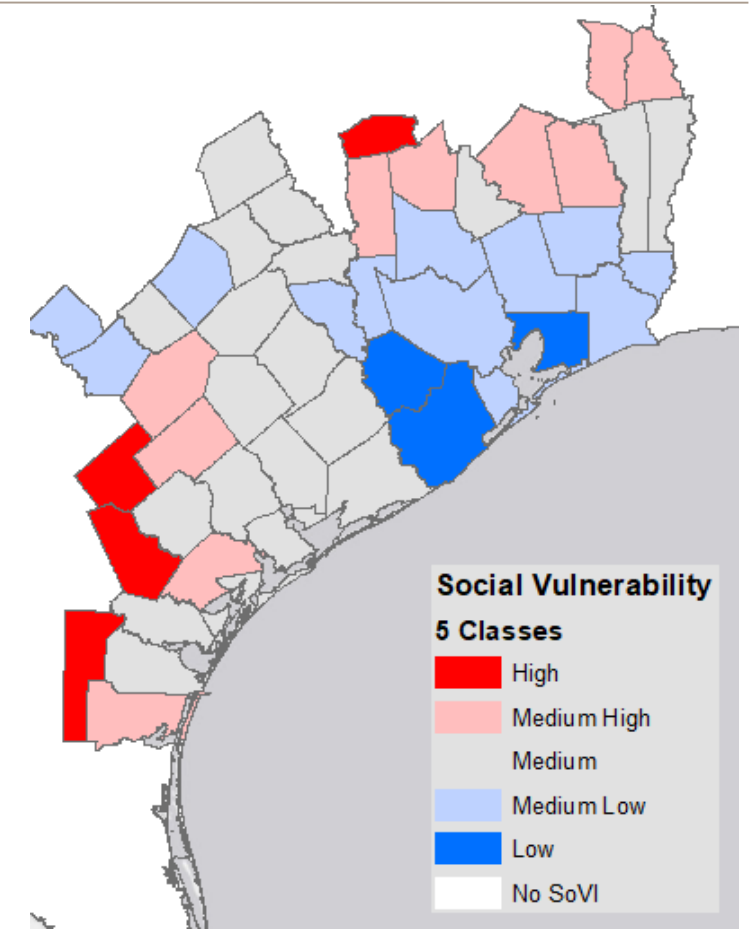


Social Vulnerability (SoVI Index)



Output – Index Scores

- Negative → less vulnerable
- Positive → more vulnerable
- Example: 4.22 – Bee County
-6.79 – Fort Bend County



SoVI raw scores were converted to a positive scale by subtracting the minimum raw SoVI score and adding 1.0.

Patrick L. Brockett, PhD
Director of Risk Management and Insurance, McCombs
Gus Wortham Chair in Risk Management,
Departments of Finance, Mathematics and
Information, Risk and Operations Management

Unmet need estimated using:

- HUD damage severity level categories and the FEMA loss count data by these severity level,
- Percentage of home damaged was estimated using HUD multipliers for damage severity categories,
- Median home value in county (or construction cost of apartment unit for renters).

Aggregate to county level:

- Multiply median home value (or construction cost of apartment unit for renters) by percent damage to get unmet need in a severity category.
- Multiply the unmet need value in a severity category by the severity category count to get total county unmet need for that category
- Sum the category totals to get county level unmet need.
- Do this for renters and homeowners separately and aggregate



Total HUD Residential Homeowner/Renter (IA) Funds to allocate is \$1,048,011,316

- Eighty percent was allocated to be split among the most impacted counties and zip codes: **\$838,409,052.80**
- Twenty percent was allocated to be split among the not-most impacted counties: **\$209,602,263.20**

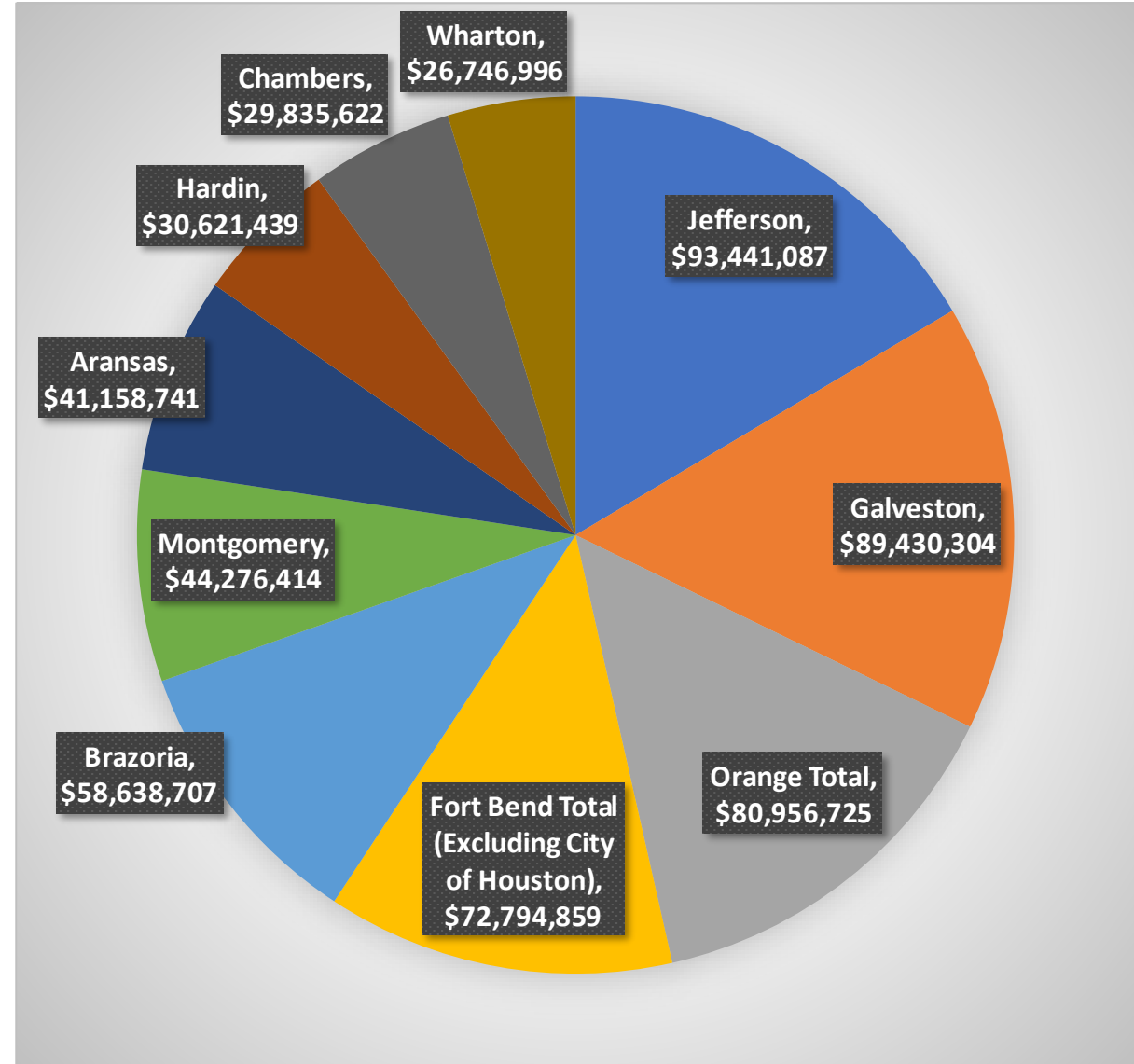
Minimum Allocation was \$2,000,000

Maximum Allocation was 200% of Unmet Need + Resiliency (15% for cost escalations, demand surge pricing, etc.).

Residential Unmet Need Allocation (Most Impacted Counties and Zip Codes)

County	Total Unmet Need	Total Allocation (2 tranches, 50-40-10)
Jefferson	\$934,973,817	\$93,441,087
Galveston	\$935,556,561	\$89,430,304
Orange Total	\$708,305,916	\$80,956,725
Fort Bend Total (Excluding City of Houston)	\$859,942,127	\$72,794,859
Brazoria	\$592,046,771	\$58,638,707
Montgomery	\$424,225,401	\$44,276,414
Aransas	\$164,355,402	\$41,158,741
Hardin	\$186,764,123	\$30,621,439
Chambers	\$176,135,256	\$29,835,622
Wharton	\$85,288,610	\$26,746,996
78945 Fayette	\$37,362,584	\$25,177,399
Liberty	\$108,840,767	\$24,105,801
Newton Allocation Due To Zips 75956, 77612 and 77632	\$15,988,824	\$23,085,927
San Patricio	\$43,916,137	\$22,170,104
Nueces	\$62,767,864	\$21,599,387
San Jacinto	\$27,273,334	\$20,056,849
78934 Colorado	\$9,262,256	\$18,763,813
Victoria	\$38,728,213	\$17,990,496
77414 Matagorda	\$7,611,060	\$17,505,439
Jasper Allocation Due To Zips 75956 and 77612	\$11,627,660	\$16,814,056
77423 Waller	\$15,518,690	\$16,484,772
77979 Calhoun	\$6,376,835	\$14,666,722
77335 Polk	\$5,784,840	\$13,305,132
78377 Refugio	\$4,192,544	\$9,642,851
75979 Tyler	\$3,973,657	\$9,139,411

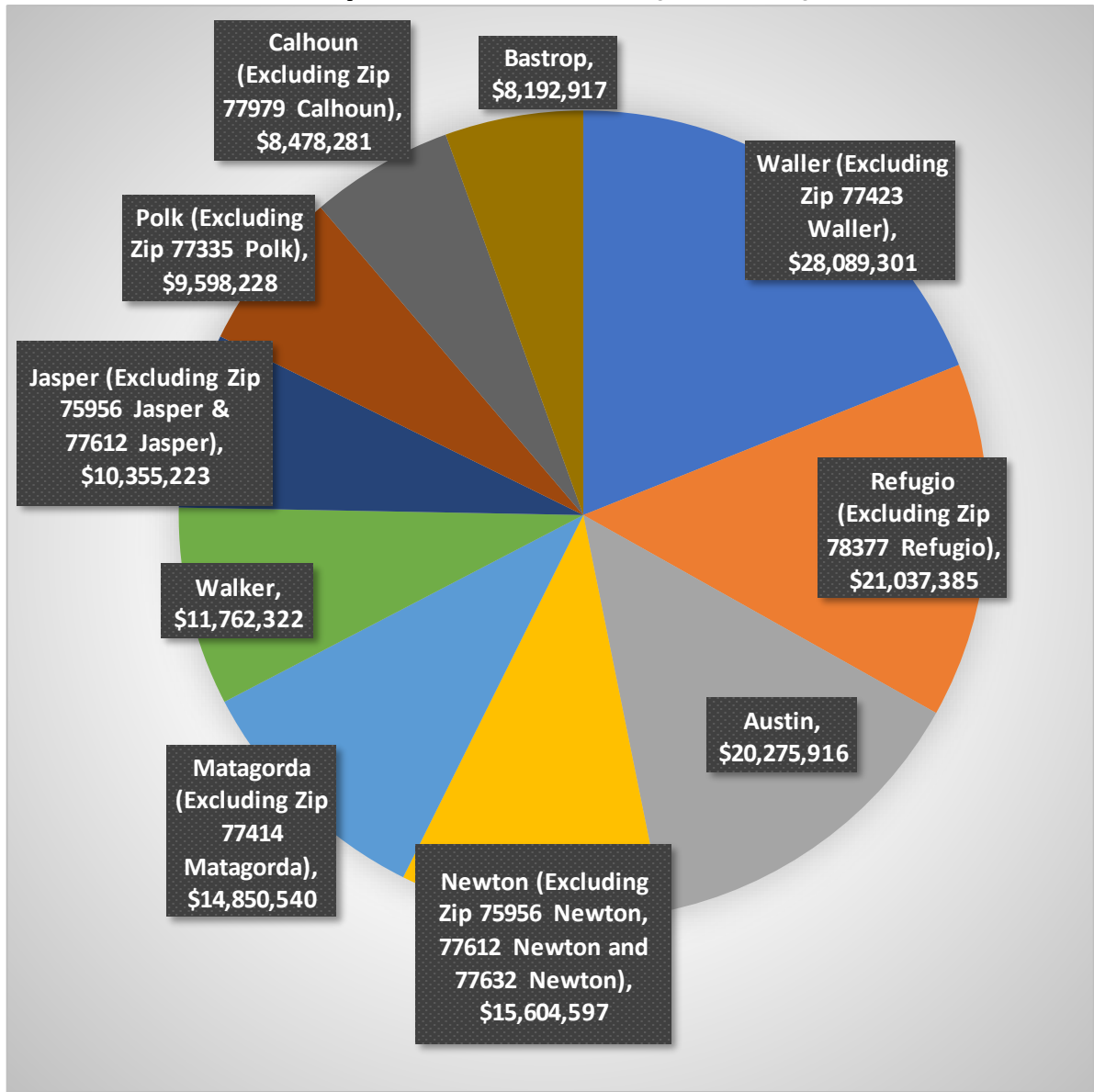
Top 10 County Allocations (67.73%)



Residential Unmet Need Allocation (Less Impacted Counties and Zip Codes)

County	Total Unmet Need (2 tranches, 50-40-10)	Total Allocation
Waller (Excluding Zip 77423 Waller)	\$16,998,954	\$28,089,301
Refugio (Excluding Zip 78377 Refugio)	\$9,146,689	\$21,037,385
Austin	\$11,463,034	\$20,275,916
Newton (Excluding Zip 75956 Newton, 77612 Newton and 77632 Newton)	\$6,985,746	\$15,604,597
Matagorda (Excluding Zip 77414 Matagorda)	\$6,626,879	\$14,850,540
Walker	\$5,180,452	\$11,762,322
Jasper (Excluding Zip 75956 Jasper & 77612 Jasper)	\$4,467,874	\$10,355,223
Polk (Excluding Zip 77335 Polk)	\$3,699,176	\$9,598,228
Calhoun (Excluding Zip 77979 Calhoun)	\$3,686,209	\$8,478,281
Bastrop	\$3,657,079	\$8,192,917
Tyler (Excluding Zip 75979 Tyler)	\$2,575,915	\$5,924,604
DeWitt	\$2,166,889	\$4,983,846
Grimes	\$2,043,438	\$4,699,908
Lee	\$1,842,603	\$4,237,988
Goliad	\$1,502,685	\$3,456,175
Colorado (Excluding Zip 78934 Colorado)	\$1,352,085	\$3,109,794
Caldwell	\$1,122,639	\$2,582,070
Gonzales	\$1,027,465	\$2,363,169
Bee	\$734,470	\$2,000,000
Fayette (Excluding Zip 78945 Fayette)	\$751,774	\$2,000,000
Jackson	\$722,305	\$2,000,000
Karnes	\$336,921	\$2,000,000
Kleberg	\$388,403	\$2,000,000
Lavaca	\$245,030	\$2,000,000
Sabine	\$197,570	\$2,000,000
Burleson*	NA	\$2,000,000
Comal*	NA	\$2,000,000
Guadalupe*	NA	\$2,000,000
Jim Wells*	NA	\$2,000,000
Madison*	NA	\$2,000,000
Milam*	NA	\$2,000,000
San Augustine*	NA	\$2,000,000
Washington*	NA	\$2,000,000

Top 10 allocations (70.73%)



Rajiv Garg, PhD

**Assistant Professor of Information Systems,
Department of Information, Risk and Operations Management**

HUD Buyout Dollar Allocation



Total HUD Buyout Dollars to Allocate: \$275,620,892.00

- Allocation of Funds for HUD Most Impacted Counties and Zip Codes (80%):
\$220,496,713.60
- Allocation of Funds For HUD Lesser Impacted Counties and Zip Codes (20%):
\$55,124,178.40

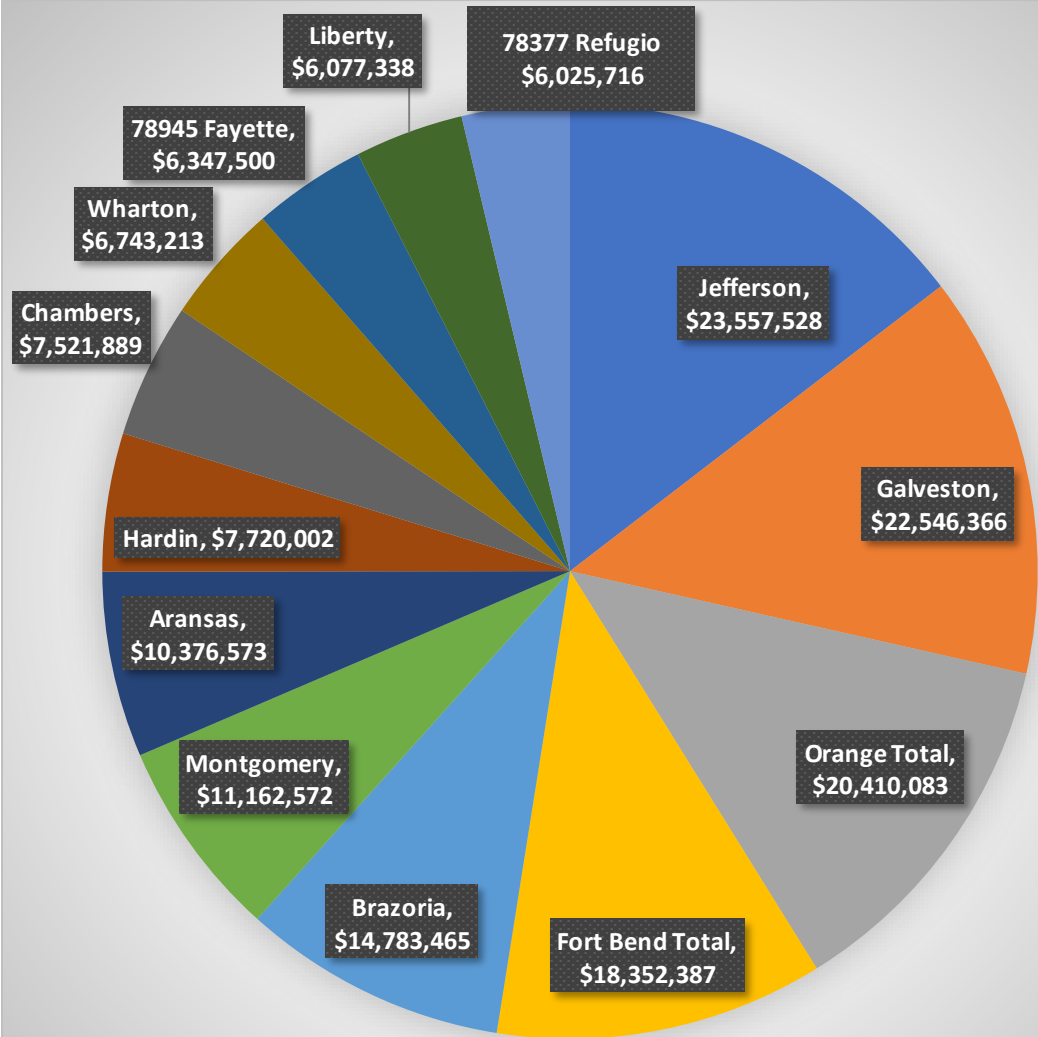
Minimum Allocation was \$2,000,000 for the “most impacted” counties and \$1,384,055 for the “not most impacted” counties

Maximum Allocation was 200% of Unmet Need + Resiliency (15% resiliency factor added for cost escalations, demand surge pricing, etc.).

Buyout Unmet Need Allocation (Most Impacted Counties and Zip Codes)

County/Zip code	Total Unmet Need (2 tranches, 50-40-10)	Total Allocation
Aransas	\$164,355,402	\$10,376,573
Brazoria	\$592,046,771	\$14,783,465
Chambers	\$176,135,256	\$7,521,889
Fort Bend Total	\$859,942,127	\$18,352,387
Galveston	\$935,556,561	\$22,546,366
Hardin	\$186,764,123	\$7,720,002
Jefferson	\$934,973,817	\$23,557,528
Liberty	\$108,840,767	\$6,077,338
Montgomery	\$424,225,401	\$11,162,572
Nueces	\$62,767,864	\$5,445,444
Orange Total	\$708,305,916	\$20,410,083
San Jacinto	\$27,273,334	\$5,056,553
San Patricio	\$43,916,137	\$5,589,328
Victoria	\$38,728,213	\$4,535,602
Wharton	\$85,288,610	\$6,743,213
Jasper Total Allocation Due To Zips 75956 and 77612	\$11,627,660	\$4,239,009
Newton Total Allocation Due To 75956, 77612 & 77632	\$15,988,824	\$5,820,217
75979 Tyler	\$3,973,657	\$4,900,328
77335 Polk	\$5,784,840	\$5,712,662
77414 Matagorda	\$7,611,060	\$4,615,407
77423 Waller	\$15,518,690	\$4,155,993
77979 Calhoun	\$6,376,835	\$4,070,974
78377 Refugio	\$4,192,544	\$6,025,716
78934 Colorado	\$9,262,256	\$4,730,564
78945 Fayette	\$37,362,584	\$6,347,500

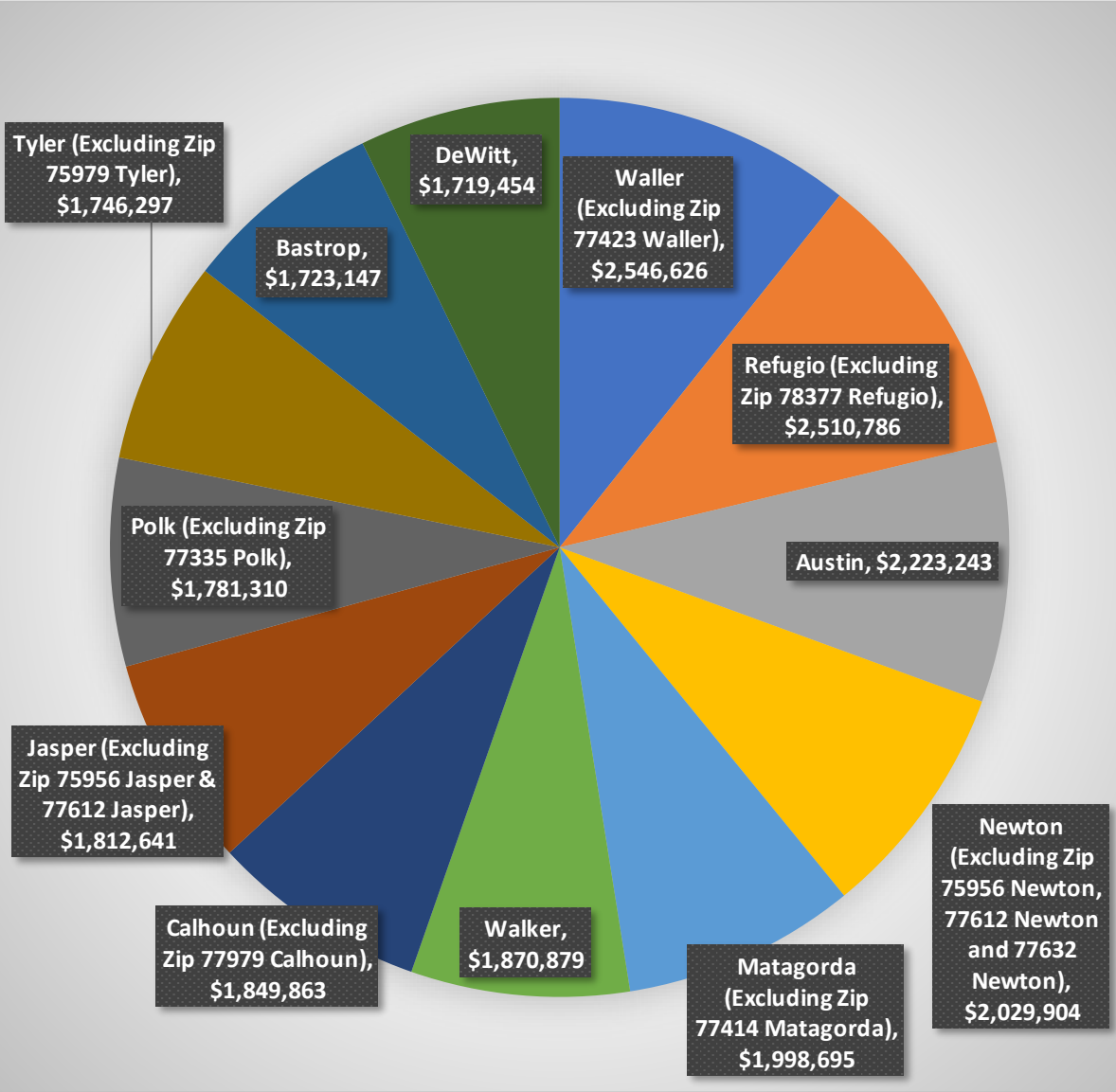
Top 12 allocations (70.1%)



Buyout Unmet Need Allocation (Less Impacted Counties and Zip Codes)

County/Zip code	Total Unmet Need	Total Allocation (2 traunch, 50-40-10)
Austin	\$11,463,034	\$2,223,243
Bastrop	\$3,657,079	\$1,723,147
Bee	\$734,470	\$1,659,739
Caldwell	\$1,122,639	\$1,615,281
Calhoun (Excluding Zip 77979 Calhoun)	\$3,686,209	\$1,849,863
Colorado (Excluding Zip 78934 Colorado)	\$1,352,085	\$1,624,795
DeWitt	\$2,166,889	\$1,719,454
Fayette (Excluding Zip 78945 Fayette)	\$751,774	\$1,589,743
Goliad	\$1,502,685	\$1,655,035
Gonzales	\$1,027,465	\$1,640,219
Grimes	\$2,043,438	\$1,688,613
Jackson	\$722,305	\$1,575,445
Jasper (Excluding Zip 75956 Jasper & 77612 Jasper)	\$4,467,874	\$1,812,641
Karnes	\$336,921	\$1,384,055
Kleberg	\$388,403	\$1,384,055
Lavaca	\$245,030	\$1,384,055
Lee	\$1,842,603	\$1,653,803
Matagorda (Excluding Zip 77414 Matagorda)	\$6,626,879	\$1,998,695
Newton (Excluding Zip 75956 Newton, 77612 Newton and 77632 Newton)	\$6,985,746	\$2,029,904
Polk (Excluding Zip 77335 Polk)	\$3,699,176	\$1,781,310
Refugio (Excluding Zip 78377 Refugio)	\$9,146,689	\$2,510,786
Sabine	\$197,570	\$1,384,055
Tyler (Excluding Zip 75979 Tyler)	\$2,575,915	\$1,746,297
Walker	\$5,180,452	\$1,870,879
Waller (Excluding Zip 77423 Waller)	\$16,998,954	\$2,546,626

Top 12 allocations (54.1%)



Jim Nolen, MBA
Distinguished Senior Lecturer Emeritus
Associate Director, Hicks Muse Tate & Furst
Center for Private Equity Finance
McCombs Department of Finance

Infrastructure Data Set



FEMA infrastructure project requests through February 1, 2018 listed in spreadsheet titled “DR4332 TX Project Cost 2.1.18.xlsx”

- 12,044 rows of requested projects from the 49 impacted counties categorized by the type of project, applicant, county, and approximate cost. Project types were labeled as:

A - Debris Removal

B - Emergency Protective Measures

C - Roads and Bridges

D - Water Control Facilities

E - Buildings and Equipment

F - Utilities

G - Parks, Recreational Facilities, and Other Items

Z - Direct Administrative Costs

Unmet Need for Local Infrastructure (PA):

- Total estimated costs for the infrastructure projects (excluding Harris County) for the remaining 48 counties was \$1,310,567,867 as of 2/1/18:
- Local counties match of 10% of the estimated project cost \$131,056,787
- 15% resiliency factor to account for the enhancements, improvements and other components integrated into a structure to increase its capacity to recover from a disaster more quickly. \$196,585,180
- Total unmet need of \$327,641,967

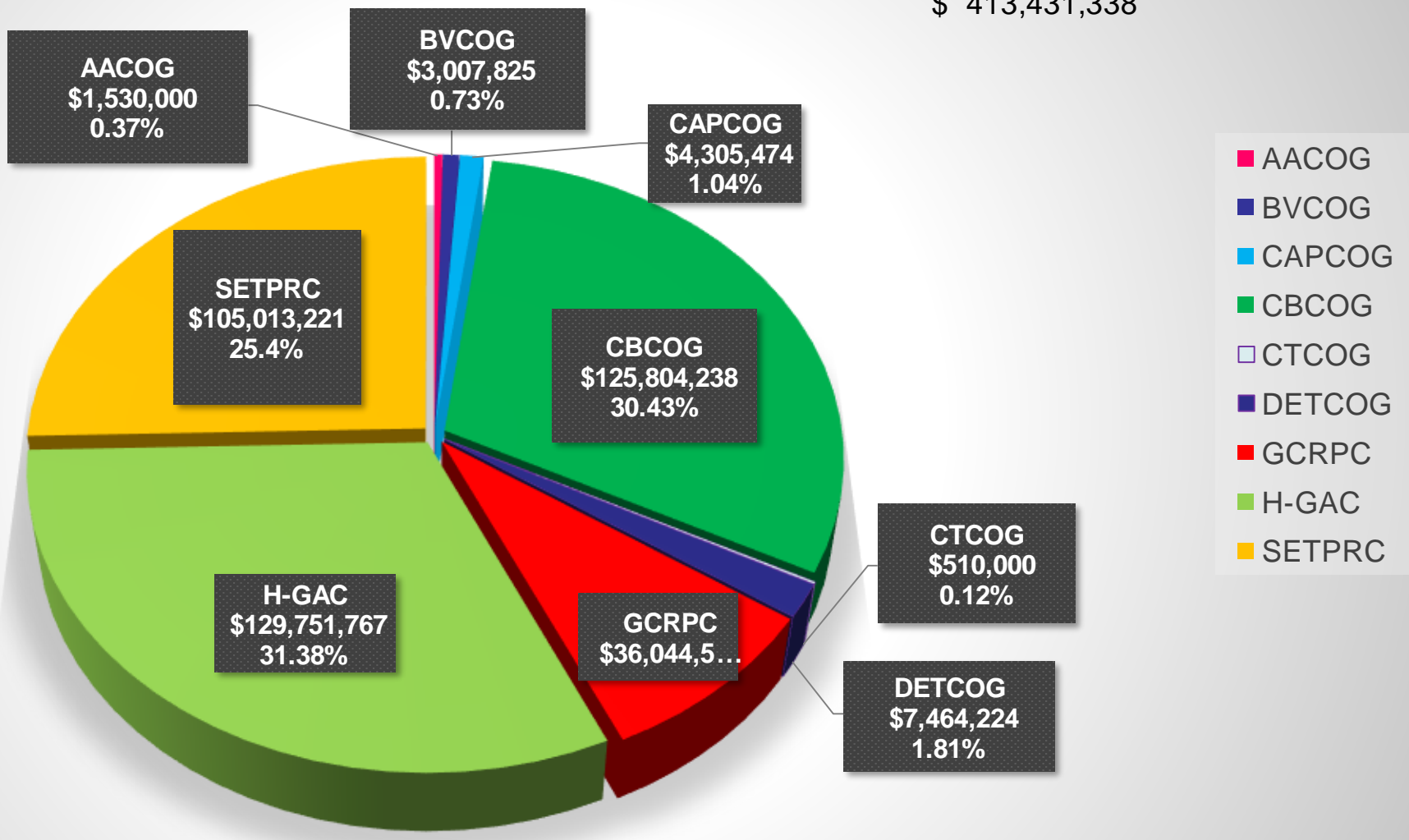
Total of \$413,431,338 allocated by HUD for local infrastructure

- 80% or \$330,745,070.40 was allocated to the most impacted counties and
- 20% or \$82,686,267.60 was allocated to the remaining non-most impacted counties and most impacted zip codes.
- **Minimum Distribution** - \$510,000 and applied to all allocation decisions for both groups of counties (most impacted and non-most impacted).
- **Maximum Distribution** - 200% of unmet need to account for the other 50% weighted factors (SoVI and per capita unmet need).

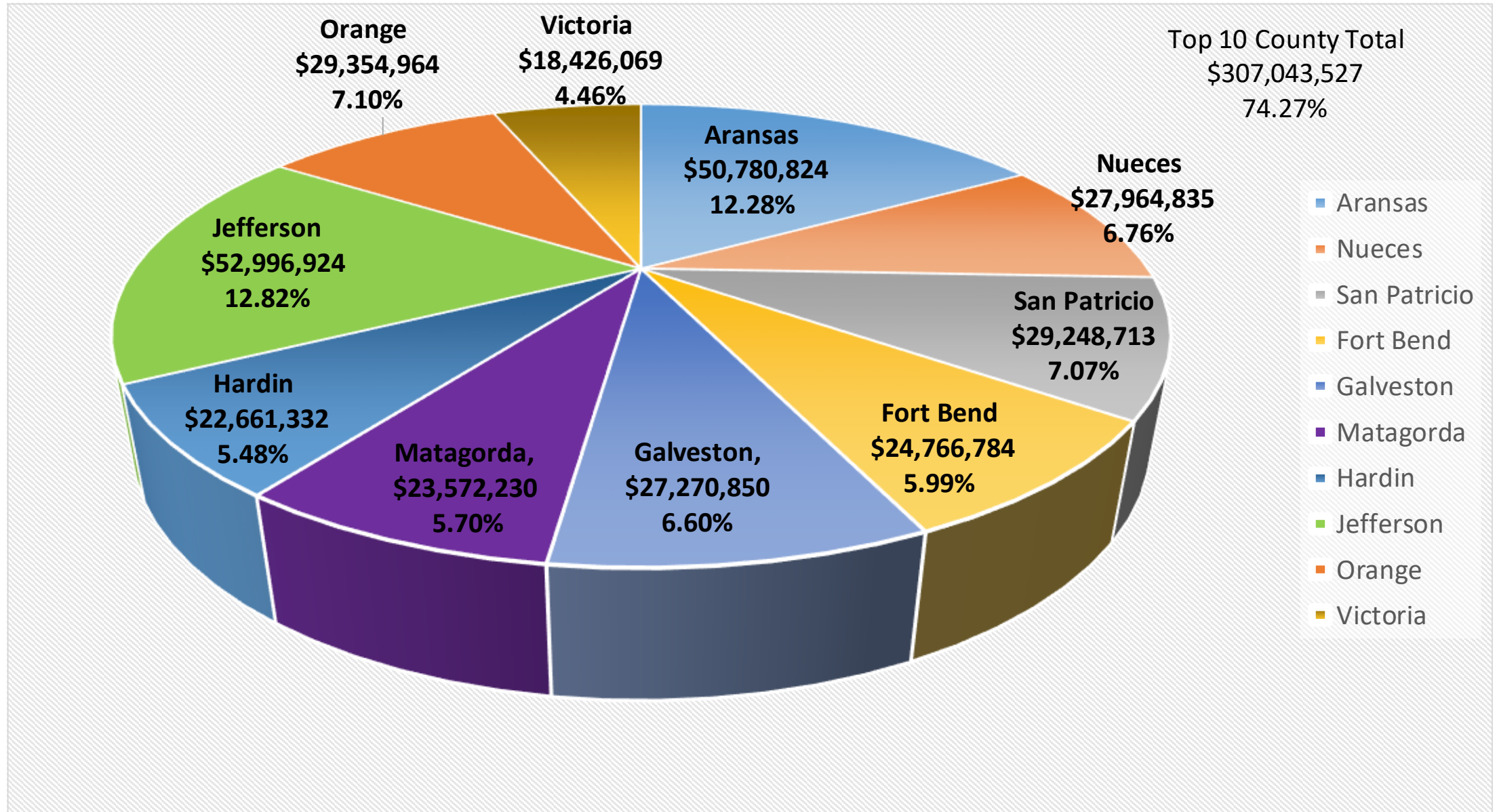
Infrastructure Allocation by COG



Total Funds Allocated
\$ 413,431,338



Top 10 County Allocation



Infrastructure Summary



H-GAC COG (excluding Harris Country) receives the largest distribution of \$129,751,767 (31.38%) followed by CBCOG with \$125,804,238 (30.43%) and SETRPC with \$105,015,221 (25.4%) of the total infrastructure funds.

H-GAC reported 34.19% of the total unmet need, CBCOG reported 25.5% and SETRPC reported 32.74% of the total infrastructure unmet needs.

CBCOG contains some of the most social vulnerable counties and includes Aransas County where the storm made landfall.

Please Refer to the Harvey Action Plan



Questions?



Appendix

Summary of Infrastructure Data Set



49 Disaster Declared Counties (including Harris County)		<u>County</u>	<u>Sum of Approx. Cost</u>		
<u>Project Type</u>	<u>Sum of Approx. Cost</u>			Lee County	\$ 243,585.20
A - Debris Removal	\$355,170,320.81	Aransas County	\$ 133,385,032.10	Liberty County	\$ 11,221,506.85
B - Emergency Protective Measures	\$646,628,623.72	Austin County	\$ 494,473.72	Madison County	\$ 533,375.00
C - Roads and Bridges	\$13,301,673,492.35	Bastrop County	\$ 4,627,189.28	Matagorda County	\$ 47,144,043.84
D - Water Control Facilities	\$121,782,240.72	Bee County	\$ 1,367,105.96	Milam County	\$ 6,000.00
E - Buildings and Equipment	\$1,191,075,704.14	Brazoria County	\$ 39,010,688.27	Montgomery County	\$ 53,156,077.08
F - Utilities	\$11,452,900,124.26	Burleson County	\$ 222,518.60	Newton County	\$ 1,668,100.00
G - Parks, Recreational Facilities, and Other Items	\$166,023,764.73	Caldwell County	\$ 328,680.30	Nueces County	\$ 91,055,227.44
Z - Direct Administrative Costs	\$7,278,872.61	Calhoun County	\$ 25,804,894.94	Orange County	\$ 107,260,179.15
<u>Z - Section 324 Management Costs</u>	<u>0</u>	Chambers County	\$ 16,660,440.90	Polk County	\$ 4,337,303.00
Grand Total	\$27,242,533,143.34	Colorado County	\$ 4,286,120.67	Refugio County	\$ 32,212,624.84
		Comal County	\$ 613,419.00	Sabine County	\$ 487,564.58
		DeWitt County	\$ 3,692,849.34	San Augustine County	\$ 104,799.00
		Fayette County	\$ 1,943,759.10	San Jacinto County	\$ 2,429,557.25
		Fort Bend County	\$ 143,269,552.73	San Patricio County	\$ 75,854,361.40
		Galveston County	\$ 116,045,221.01	Tyler County	\$ 1,042,595.69
		Goliad County	\$ 942,922.12	Victoria County	\$ 37,878,290.11
		Gonzales County	\$ 1,482,657.07	Walker County	\$ 6,642,549.02
		Grimes County	\$ 1,652,276.64	Waller County	\$ 4,217,145.55
		Guadalupe County	\$ 823,792.10	Washington County	\$ 2,323,373.72
		Hardin County	\$ 68,501,859.00	Wharton County	\$ 5,999,970.17
		Excluded → Harris County	\$ 25,931,965,276.43	Grand Total	\$ 27,242,533,143.34
		Jackson County	\$ 2,216,638.85	Grand Total w/o Harris	\$ 1,310,567,866.91
		Jasper County	\$ 3,410,891.32		
		Jefferson County	\$ 253,302,786.34		
		Jim Wells County	\$ 173,387.59		
		Karnes County	\$ 18,969.50		
		Kleberg County	\$ 92,000.00		
		Lavaca County	\$ 379,511.57		



Infrastructure COGs Distributions



County	COG	Approx. PA Cost	10% Local Match	15% Resiliency on Approx. Cost	Total Need (Local Match + Resiliency)	Percentage Allocation under 50-40-10 Model of 80% or 20% funds - Unconstrained	80% Group Vs. 20% Group	Actual Percentage Allocation under 50-40-10 Model with \$510,000 Min and 200% Max	Dollar Distribution with \$510,000 Min and 200% Max
Comal	AACOG	\$613,419.00	\$61,341.90	\$92,012.85	\$153,354.75	0.95%	20%	0.62%	\$ 510,000
Guadalupe	AACOG	\$823,792.10	\$82,379.21	\$123,568.82	\$205,948.03	1.02%	20%	0.62%	\$ 510,000
Karnes	AACOG	\$18,969.50	\$1,896.95	\$2,845.43	\$4,742.38	1.67%	20%	0.62%	\$ 510,000
Total AACOG		\$1,456,180.60	\$145,618.06	\$218,427.09	\$364,045.15	3.64%		1.85%	\$ 1,530,000
Burleson	BVCOG	\$222,518.60	\$22,251.86	\$33,377.79	\$55,629.65	1.15%	20%	0.62%	\$ 510,000
Grimes	BVCOG	\$1,652,276.64	\$165,227.66	\$247,841.50	\$413,069.16	1.91%	20%	1.00%	\$ 826,138
Madison	BVCOG	\$533,375.00	\$53,337.50	\$80,006.25	\$133,343.75	1.84%	20%	0.62%	\$ 510,000
Washington	BVCOG	\$2,323,373.72	\$232,337.37	\$348,506.06	\$580,843.43	1.78%	20%	1.40%	\$ 1,161,687
Total BVCOG		\$4,731,543.96	\$473,154.40	\$709,731.59	\$1,182,885.99	6.69%		3.64%	\$ 3,007,825
Bastrop	CAPCOG	\$4,627,189.28	\$462,718.93	\$694,078.39	\$1,156,797.32	2.46%	20%	2.80%	\$ 2,313,595
Caldwell	CAPCOG	\$328,680.30	\$32,868.03	\$49,302.05	\$82,170.08	1.33%	20%	0.62%	\$ 510,000
Fayette	CAPCOG	\$1,943,759.10	\$194,375.91	\$291,563.87	\$485,939.78	1.87%	20%	1.18%	\$ 971,880
Lee	CAPCOG	\$243,585.20	\$24,358.52	\$36,537.78	\$60,896.30	1.19%	20%	0.62%	\$ 510,000
Total CAPCOG		\$7,143,213.88	\$714,321.39	\$1,071,482.08	\$1,785,803.47	6.85%		5.21%	\$ 4,305,474
Aransas	CBCOG	\$133,385,032.10	\$13,338,503.21	\$20,007,754.82	\$33,346,258.03	13.95%	80%	15.35%	\$ 50,780,824
Bee	CBCOG	\$1,367,105.96	\$136,710.60	\$205,065.89	\$341,776.49	2.20%	20%	0.83%	\$ 683,553
Jim Wells	CBCOG	\$173,387.59	\$17,338.76	\$26,008.14	\$43,346.90	1.63%	20%	0.62%	\$ 510,000
Kleberg	CBCOG	\$92,000.00	\$9,200.00	\$13,800.00	\$23,000.00	1.46%	20%	0.62%	\$ 510,000
Nueces	CBCOG	\$91,055,227.44	\$9,105,522.74	\$13,658,284.12	\$22,763,806.86	7.68%	80%	8.46%	\$ 27,964,835
Refugio	CBCOG	\$32,212,624.84	\$3,221,262.48	\$4,831,893.73	\$8,053,156.21	17.01%	20%	19.48%	\$ 16,106,312
San Patricio	CBCOG	\$75,854,361.40	\$7,585,436.14	\$11,378,154.21	\$18,963,590.35	8.04%	80%	8.84%	\$ 29,248,713
Total CBCOG		\$334,139,739.33	\$33,413,973.93	\$50,120,960.90	\$83,534,934.83	51.98%		54.19%	\$ 125,804,238
Milam	CTCOG	\$6,000.00	\$600.00	\$900.00	\$1,500.00	1.18%	20%	0.62%	\$ 510,000
Total CTCOG		\$6,000.00	\$600.00	\$900.00	\$1,500.00	1.18%		0.62%	\$ 510,000
Jasper	DETCOG	\$3,410,891.32	\$341,089.13	\$511,633.70	\$852,722.83	2.24%	20%	2.06%	\$ 1,705,446
Newton	DETCOG	\$1,668,100.00	\$166,810.00	\$250,215.00	\$417,025.00	1.72%	20%	1.01%	\$ 834,050
Polk	DETCOG	\$4,337,303.00	\$433,730.30	\$650,595.45	\$1,084,325.75	2.78%	20%	2.62%	\$ 2,168,652
Sabine	DETCOG	\$487,564.58	\$48,756.46	\$73,134.69	\$121,891.15	1.65%	20%	0.62%	\$ 510,000
San Augustine	DETCOG	\$104,799.00	\$10,479.90	\$15,719.85	\$26,199.75	1.45%	20%	0.62%	\$ 510,000
San Jacinto	DETCOG	\$2,429,557.25	\$242,955.73	\$364,433.59	\$607,389.31	3.71%	80%	0.37%	\$ 1,214,779
Tyler	DETCOG	\$1,042,595.69	\$104,259.57	\$156,389.35	\$260,648.92	1.69%	20%	0.63%	\$ 521,298
Total DETCOG		\$13,480,810.84	\$1,348,081.08	\$2,022,121.63	\$3,370,202.71	15.23%		7.93%	\$ 7,464,224



Infrastructure COGs Allocation (continued)



County	COG	Approx. PA Cost	10% Local Match	15% Resiliency on Approx. Cost	Total Need (Local Match + Resiliency)	Percentage Allocation under 50-40-10 Model of 80% or 20% funds - Unconstrained	80% Group Vs. 20% Group	Actual Percentage Allocation under 50-40-10 Model with \$510,000 Min and 200% Max	Dollar Distribution with \$510,000 Min and 200% Max
Calhoun	GCRPC	\$25,804,894.94	\$2,580,489.49	\$3,870,734.24	\$6,451,223.74	10.72%	20%	15.60%	\$ 12,902,447
DeWitt	GCRPC	\$3,692,849.34	\$369,284.93	\$553,927.40	\$923,212.34	2.85%	20%	2.23%	\$ 1,846,425
Goliad	GCRPC	\$942,922.12	\$94,292.21	\$141,438.32	\$235,730.53	1.60%	20%	0.62%	\$ 510,000
Gonzales	GCRPC	\$1,482,657.07	\$148,265.71	\$222,398.56	\$370,664.27	1.97%	20%	0.90%	\$ 741,329
Jackson	GCRPC	\$2,216,638.85	\$221,663.89	\$332,495.83	\$554,159.71	1.95%	20%	1.34%	\$ 1,108,319
Lavaca	GCRPC	\$379,511.57	\$37,951.16	\$56,926.74	\$94,877.89	1.22%	20%	0.62%	\$ 510,000
Victoria	GCRPC	\$37,878,290.11	\$3,787,829.01	\$5,681,743.52	\$9,469,572.53	5.06%	80%	5.57%	\$ 18,426,069
Total GCRPC		\$72,397,764.00	\$7,239,776.40	\$10,859,664.60	\$18,099,441.00	25.37%		26.88%	\$ 36,044,589
Austin	H-GAC	\$494,473.72	\$49,447.37	\$74,171.06	\$123,618.43	1.07%	20%	0.62%	\$ 510,000
Brazoria	H-GAC	\$39,010,688.27	\$3,901,068.83	\$5,851,603.24	\$9,752,672.07	3.64%	80%	4.01%	\$ 13,262,089
Chambers	H-GAC	\$16,660,440.90	\$1,666,044.09	\$2,499,066.14	\$4,165,110.23	2.95%	80%	2.52%	\$ 8,330,220
Colorado	H-GAC	\$4,286,120.67	\$428,612.07	\$642,918.10	\$1,071,530.17	2.72%	20%	2.59%	\$ 2,143,060
Fort Bend	H-GAC	\$143,269,552.73	\$14,326,955.27	\$21,490,432.91	\$35,817,388.18	6.80%	80%	7.49%	\$ 24,766,784
Galveston	H-GAC	\$116,045,221.01	\$11,604,522.10	\$17,406,783.15	\$29,011,305.25	7.49%	80%	8.25%	\$ 27,270,850
Harris	H-GAC	\$0.00	\$0.00	\$0.00	\$0.00	0.00%	20%	0.00%	\$ -
Liberty	H-GAC	\$11,221,506.85	\$1,122,150.69	\$1,683,226.03	\$2,805,376.71	3.47%	80%	1.70%	\$ 5,610,753
Matagorda	H-GAC	\$47,144,043.84	\$4,714,404.38	\$7,071,606.58	\$11,786,010.96	17.83%	20%	28.51%	\$ 23,572,230
Montgomery	H-GAC	\$53,156,077.08	\$5,315,607.71	\$7,973,411.56	\$13,289,019.27	4.36%	80%	4.79%	\$ 15,855,947
Walker	H-GAC	\$6,642,549.02	\$664,254.90	\$996,382.35	\$1,660,637.26	3.56%	20%	4.02%	\$ 3,321,275
Waller	H-GAC	\$4,217,145.55	\$421,714.56	\$632,571.83	\$1,054,286.39	2.33%	20%	2.55%	\$ 2,108,573
Wharton	H-GAC	\$5,999,970.17	\$599,997.02	\$899,995.53	\$1,499,992.54	3.99%	80%	0.91%	\$ 2,999,985
Total H-GAC		\$448,147,789.81	\$44,814,778.98	\$67,222,168.47	\$112,036,947.45	60.22%		67.94%	\$ 129,751,767
Hardin	SETRPC	\$68,501,859.00	\$6,850,185.90	\$10,275,278.85	\$17,125,464.75	6.23%	80%	6.85%	\$ 22,661,332
Jefferson	SETRPC	\$253,302,786.34	\$25,330,278.63	\$37,995,417.95	\$63,325,696.59	14.56%	80%	16.02%	\$ 52,996,924
Orange	SETRPC	\$107,260,179.15	\$10,726,017.92	\$16,089,026.87	\$26,815,044.79	8.07%	80%	8.88%	\$ 29,354,964
Total SETRPC		\$429,064,824.49	\$42,906,482.45	\$64,359,723.67	\$107,266,206.12	28.85%		31.75%	\$ 105,013,221
GRAND TOTAL		\$1,310,567,866.91	\$131,056,786.69	\$196,585,180.04	\$327,641,966.73	100.00%		100.00%	\$ 413,431,338



Social Vulnerability Index Factors



Sign	Component					
	+	+	+	-	+	+
Name	Age (Old)	Class and Poverty	Primary Employment	Wealth	Ethnicity (Hispanic)	Unemployment
Factor	1	2	3	4	5	6
MEDAGE	0.864	-0.250	-0.317	0.112	-0.038	-0.033
QBLACK	-0.252	0.316	-0.424	-0.166	-0.617	0.119
QNATAM	0.093	0.117	0.030	0.038	-0.626	0.010
QASIAN	-0.493	0.018	-0.007	0.593	-0.069	-0.084
QHISP	-0.134	0.342	0.631	0.050	0.597	0.016
QAGEDEP	0.924	0.057	-0.076	-0.008	0.068	-0.206
QNRRES	0.510	-0.007	-0.359	-0.006	0.001	0.351
QFEMALE	0.067	-0.065	-0.049	0.049	-0.033	-0.932
QFHH	-0.355	0.775	0.212	-0.222	0.080	0.015
QUNOCCHU	0.768	0.097	0.229	-0.236	-0.141	0.082
QRENTER	-0.799	0.262	-0.109	-0.010	0.249	-0.021
PPUNIT	-0.340	0.114	0.747	-0.158	0.190	-0.130
PERCAP	0.014	-0.428	-0.289	0.810	0.064	-0.046
QESL	-0.297	0.278	0.665	-0.006	0.476	-0.063
QED12LES	0.045	0.478	0.670	-0.280	0.171	0.228
QEXTRCT	0.346	0.094	0.645	-0.152	-0.063	0.328
QSERV	0.030	0.346	0.010	-0.529	0.372	0.310
QNOAUTO	-0.015	0.878	0.141	-0.139	-0.095	0.096
qcvlun)	0.118	0.248	0.038	-0.431	-0.225	0.663
qpovty)	-0.113	0.698	0.174	-0.458	0.036	0.086
qmoho)	0.468	-0.219	0.016	-0.398	-0.501	0.094
qfemlbr)	-0.064	0.237	-0.755	0.009	0.164	0.022
qssben)	0.927	0.081	-0.030	-0.203	0.024	0.081
qfam)	-0.142	-0.815	0.245	0.123	0.084	-0.078
qrich200k)	-0.066	-0.199	0.041	0.919	0.054	-0.044
MDGRENT	-0.539	-0.423	-0.292	0.463	0.277	-0.128
MHSEVAL	-0.190	-0.371	-0.425	0.590	0.240	-0.232

