

# **Proposed FY2017 HANH HCC & TDC Cost Limitations for Mixed-Income Developments**

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Housing Authority of the City of New Haven (d/b/a Elm  
City Communities)

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# I. PURPOSE

This document presents the methodology used to update the HUD approved FY 2010 reasonable cost limitations for the Housing Authority of the City of New Haven's (d/b/a Elm City Communities') Authority's redevelopment activities.

The proposed Alternative TDC Limits set forth in this request in will replace the agency's HUD Approved 2010 Housing Construction Cost (HCC) and Total Development Cost (TDC) Limits ECC's rehabilitation and new construction projects.

The process that was used to update the 2010 Limits are outlined in detailed below. This process augments the process that was previously approved by HUD to determine the 2010 Limits.

## 2. 2010 TDC LIMITS METHODOLOGY

The initial step in developing the 2010 TDC Limits was to compare the size and costs of the of the units in the ECC Mixed Finance Development portfolio with size and costs of units within the following indices:

- HUD HCC/TDC Limits
- Comparable Market Rate Units in the New Haven area
- RS Means Construction Cost Data

Each development was then compared to the appropriate HUD or market rate benchmark based upon building type, number of bedrooms, unit cost, and square footage.

## 2. 2010 TDC LIMITS METHODOLOGY

- The following adjustments were made to the baseline RS Means cost build-up to produce the 2010 Alternative TDC Limits illustrated below:
  - Additional cost added due to localization factor (RS Means requires this factor to be applied to localize cost)
  - Additional cost added for five (5) percent contingency

# 2010 TDC LIMITS METHODOLOGY

- The 2010 RS Repair and Modeling Cost Data for low rise apartments per square foot unit cost of \$111 at the 75<sup>th</sup> percentile was adjusted to the 99<sup>th</sup> percentile, or \$148 PSF. The 99<sup>th</sup> percentile figure was used to compensate for the higher quality of material and equipment used in ECC's Mixed Finance Developments that are designed as housing of choice.
- The \$148 PSF was further adjusted by the local city cost index for New Haven of 109.2 percent to come up with a New Haven PSF of \$161.62 PSF. A five percent contingency was added to the \$161.62 PSF to arrive at a PSF cost of \$169.70 for a low-rise unit – that is assumed equate to a two-bedroom Walkup unit.

# 2010 TDC LIMITS METHODOLOGY

- To develop HCC and TDC cost limits for Row, Detached, and Semi-Detached housing types, the Walk-Up PSF cost was used as the baseline, then the same percentage difference between the Detached-Semi Detached and Row House building types as extrapolated from the the 2010 TDC Cost Limits spreadsheet issued by HUD via – PIH 2010-20.
- The market cost comparison for comparable new developments in the New Haven area showed a Hard Cost PSF of \$206.36 PSF for Highwood Square, which is in a new mixed-income development located in nearby Hamden, CT. The lack of new, comparable structures in the area made it difficult to obtain comparative PSF cost data for market rate units.
- For unit sizes, data obtained was obtained from a survey of comparable market rate and mixed-income developments in the New Haven area. For the Walkup unit type, which was used as the basis to derive the other non-elevator type TDC limits, 800 square feet, which was only only 14.3 percent above the HUD standard, was used used as the prototypical size for a one bedroom unit. For two-bedroom unit, 1083 square feet was used, which was 20.3 percent larger than HUD standard. For a three-bedroom unit, 1360 square feet, which was 13.3 percent larger than the HUD standard was used. And, four a bedroom unit, 1575 square feet, which was five percent larger than HUD standard, was used

# 2010 TDC LIMITS METHODOLOGY

- Using the Means data for elevator building cost and adding 5 percent for contingency the agency derived a fully loaded cost of \$209.45 PSF for an Elevator unit in the City of New Haven.
- The market rate unit size for comparable Elevator buildings was 700 square feet for a one bed room apartment and 1000 square feet for a two bedroom unit. The same methodology that was used to developed the ECC TDC limits for Elevator structures as was used to develop the TDC limits for the other building types. The agency conducted a market study of new elevator buildings in the New Haven market area and found 360 State Street in New Haven as the most comparable building to the proposed ECC Mixed Financed Elevator building -- William T. Rowe. The unit data and cost data for the 360 State Street building was included in the 2010 analysis. The Means cost index at the 75<sup>th</sup> percentile was \$137.00 and at the 99<sup>th</sup> percentile the PSF became \$182.67, which was adjusted by local factor of 1.092 to to become \$199.47 PSF for a prototypical Elevator unit.

# 2010 TDC LIMITS METHODOLOGY

- Based on the Means data for the cost elevator building cost, adding 5 percent for Contingency, the agency, as stated, derived a fully loaded cost of \$209.45 PSF for the City of New Haven. The market rate unit size for the comparable unit at 360 State Street was 700 square feet for a one bed room apartment and 1000 square feet for a two bedroom. The agency used 700 square feet as the basis for calculating its one bedroom Elevator TDC limit, which is the HUD limit, and 1000 square feet for calculating its two-bedroom TDC limit, which was only 11.1 percent higher than the HUD standard.

# 2010 TDC LIMITS METHODOLOGY

The analysis presented herein is based upon a sampling of recent HANH mixed-income developments, both closed and preparing to close in 2010. These projects were selected from the broader portfolio based upon the following criteria :

- Building Type
- Bedroom Mix
- Most Current Data

<b>HANH Development</b>	<b>Type</b>	<b>Units</b>	<b>Date Closed</b>
Eastview Terrace Phase 1	Row House (Mix)	12	3/11/08
QT Phase 2	Row House (Mix)	81	3/1/07
Brookside Phase 1 Rental	Row House (Mix)	101	8/15/10

# 2010 Square Foot Analysis I: HANH – HUD Comparison

HANH – HUD Unit Size per Square Foot Comparison												
	1			2			3			4		
	HANH	HUD	HANH % Larger	HANH	HUD	HANH % Larger	HANH	HUD	HANH % Larger	HANH	HUD	HANH % Larger
Row House	800	700	14.3%	1083	900	20.3%	1360	1200	13.3%	1575	1500	5%
Elevator	700	700	0	1000	900	11.1%						
Walk-Up	800	700	14.3%	1083	900	20.3%	1360	1200	13.3%	1575	1500	5%

This table presented the unit square foot comparison between HANH developments and those provided in 2010 by HUD by building type and bedroom size.

HANH Row House and Walkup units ranged from 5% to 20% larger than the comparable HUD standard, while the HANH Elevator units ranged from 0% to 11% larger than the comparable HUD benchmark.

# 2010 Square Foot Analysis II: HANH – Market Comparison

HANH – MARKET Unit Size per Square Foot Comparison								
	1		2		3		4	
	HANH	Market	HANH	Market	HANH	*Market	HANH	*Market
Row	800	779	1083	1208	1360	1208	1575	Unavailable
Walkup	800	779	1083	1208	1360	1208	1575	Unavailable
Elevator	700	636	1000	1007				

**This table presented the unit square foot comparison between HANH units and market benchmarks by building type and bedroom size. The table demonstrated the high comparability of HANH unit sizes with the market. Based on this estimation, HANH’s larger units also corresponded very closely to the market.**

# 2010 Unit Cost Analysis I:

## HANH – HUD HCC Comparison

HANH – HUD HOUSING CONSTRUCTION COST (HCC) COMPARISON												
	1			2			3			4		
	HANH	HUD	HANH % Higher Costs	HANH	HUD	HANH % Higher Costs	HANH	HUD	HANH % Higher Costs	HANH	HUD	HANH % Higher Costs
Detached	178,463	118,142	51	216,189	134,419	61	245,591	158,944	55	269,111	186,762	44
Row House	149,823	99,183	51	191,486	119,060	61	222,134	143,763	55	246,567	171,117	44
Walkup	135,760	89,871	51	183,785	114,269	61	230,792	148,363	55	267,278	185,486	44
Elevator	146,615	104,015	41	209,450	133,734	57						

**This table presented housing construction cost (HCC) comparisons between HANH costs and HUD HCC limitations by building type and bedroom size. The table showed that HANH housing construction unit costs ranged from 41% to 61% higher than the established HUD HCC limitations. The analysis indicated that the cost discrepancy was due not only to the larger size of the HANH units compared to HUD unit sizes, but more so due to market demand factors, including unit, building, and site construction materials and amenities.**

# 2010 UNIT COST ANALYSIS II: MARKET (HCC) - HUD HCC COMPARISON

Market HCC Equivalent – HUD HCC COMPARISON												
	1			2			3			4		
	Market	HUD	Market % Higher Costs	Market	HUD	Market % Higher Costs	Market	HUD	Market % Higher Costs	Market	HUD	Market % Higher Costs
Detached	217,091	118,142	84	262,911	134,419	96	298,653	158,944	88	347,375	186,762	86
Row House	182,092	99,183	84	232,852	119,060	96	270,129	143,763	88	299,874	171,117	75
Walkup	165,088	89,871	84	223,488	114,269	96	280,650	148,363	89	325,017	185,486	75
Elevator	226,600	104,015	118	352,450	133,734	164						

**This table presented housing construction cost comparisons between Market HCC equivalent and HUD HCC limitations by building type and bedroom size. As shown, Market Housing Construction Costs were substantially higher than HUD HCC benchmarks, by approximately 75 to 164 percent of the HUD HCC limitations, which indicated the total higher HANH construction costs per unit were driven significantly more by the additional market factors required for a successful mixed-income community as well as the higher costs based on larger unit square footage..**

# 2010 UNIT COST ANALYSIS III: HANH – MARKET (HCC EQUIVALENT) COMPARISON

HANH – MARKET HOUSING CONSTRUCTION COST (Equivalent) COMPARISON												
	1			2			3			4		
	HANH	Market	HANH Costs as a % of Market	HANH	Market	HANH Costs as a % of Market	HANH	Market	HANH Costs as a % of Market	HANH	Market	HANH Costs as a % of Market
Detached	178,463	217,091	82	216,189	262,911	82	245,591	298,653	82	269,111	347,375	77
Row House	149,823	182,092	82	191,486	232,852	82	222,134	270,129	82	246,567	299,874	82
Walkup	135,760	165,088	82	183,785	223,488	82	230,792	280,650	82	267,278	325,017	82
Elevator	146,615	226,600	65	209,450	352,450	59						

This table presented the HCC equivalent unit cost for HANH developments and comparable market units by building type and bedroom size. The market housing construction costs were determined by multiplying the localized RS Means cost data for PSF foot costs by the unit sizes determined from the market survey. As shown, the HANH Walkup unit costs were approximately 18-41% less than the Market Rate Walkup benchmark unit costs, while the HANH and Market Elevator unit housing construction costs are fairly close. All Market Costs are listed before buyer upgrades.

# 2010 TABLE OF HCC AND TDC FACTORS

	<i>Bedrooms</i>							
	1		2		3		4	
BUILDING TYPE	HCC	TDC	HCC	TDC	HCC	TDC	HCC	TDC
Semi-Detached	1.31	1.31	1.18	1.18	1.06	1.06	1.01	1.01
Row House	1.10	1.10	1.04	1.04	0.96	0.96	0.92	0.92
Walkup	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00
Elevator	1.00	1.00	1.00	1.00				

# FY2010 HUD APPROVED ALTERNATIVE COST LIMITS

<i>HANH Redevelopments</i>	<i>Bedrooms</i>							
	1		2		3		4	
BUILDING TYPE	HCC	TDC	HCC	TDC	HCC	TDC	HCC	TDC
Semi-Detached	178,463	294,462	216,189	356,714	245,591	405,226	269,111	444,034
Row House	149,823	247,207	191,486	315,956	222,134	366,522	246,567	406,836
Walkup	135,760	237,580	183,785	321,624	230,792	403,886	267,278	467,736
Elevator	146,615	234,584	209,450	335,120				

# 2017 TDC LIMITS METHODOLOGY

- The first step in updating the 2010 HUD approved Alternative TDC Limits was to use the 2010 HCC Limit for a two-bedroom Walkup Unit for the New Haven, CT area as the point of departure for establishing the 2017 proposed limits.
- **Step 1**
- The HUD approved 2010 TDC for a two-bedroom Walkup was adjusted by the percentage increase in the RS Means Housing Construction Historical Cost Index between 2010 and 2016 as outlined below. Note, the increase in the RS Mean Index is less than the increase in the HUD TDC Limit for a two-bedroom Walkup for the same period.

# 2017 TDC LIMITS METHODOLOGY

- **Step 2**

- The next step in determining the proposed 2017 TDC Limit was to apply the percent change in the RS Means Historical Cost Index of 12.9 percent to the 2010 HUD approved HCC and TDC Limits for a two-bedroom unit of \$183,785 and \$321,624, respectively to produce an 2017 adjusted HCC of \$207,493 and adjusted TDC of \$363,114.

- **Step 3**

- The HCC and TDC Limits for the other housing types were developed by applying the same percentage differences between the two-bedroom Walkup unit and the Detached-Semi Detached, Row House, and Elevator units that were extrapolated from from the HUD 2016 Unit Total Development Cost Limits spreadsheet. ( See the 2017 Table of HCC and TDC Factors below.)

# 2017 TDC LIMITS METHODOLOGY

## RS Means Construction Historical Cost Index 2010 - 2016 (1993=100)

- 2010 – 183.5
- 2011 - 191.2
- 2012 – 194.6
- 2013 - 201.2
- 2014 - 204.9
- 2015 - 206.2
- 2016 - 207.2\*

**12.9 percent increase in cost index between 2010 and 2016**

**\*2016 is an estimate**

# 2017 TDC LIMITS METHODOLOGY

## HUD HCC Limit Index 2010 – 2016 ( 2010 =100)

- 2010 - 100
- 2011 - 103.32
- 2012 - 108.26
- 2013 - 112.67
- 2015 - 114.63
- 2016 - 117.30

# 2017 HUD HCC AND TDC FACTORS

( EXTRAPOLATED FROM THE 2017 HUD UNIT TOTAL DEVELOPMENT COST LIMITS)

	<i>Bedrooms</i>							
	<b>1</b>		<b>2</b>		<b>3</b>		<b>4</b>	
<b>BUILDING TYPE</b>	<b>HCC</b>	<b>TDC</b>	<b>HCC</b>	<b>TDC</b>	<b>HCC</b>	<b>TDC</b>	<b>HCC</b>	<b>TDC</b>
<b>Semi-Detached</b>	<b>1.31</b>	<b>1.31</b>	<b>1.15</b>	<b>1.15</b>	<b>1.41</b>	<b>1.41</b>	<b>1.66</b>	<b>1.66</b>
<b>Row House</b>	<b>1.10</b>	<b>1.10</b>	<b>1.09</b>	<b>1.09</b>	<b>1.34</b>	<b>1.34</b>	<b>1.59</b>	<b>1.59</b>
<b>Walkup</b>	<b>-21.16</b>	<b>-21.16</b>	<b>1.00</b>	<b>1.00</b>	<b>1.306</b>	<b>1.306</b>	<b>1.62</b>	<b>1.62</b>
<b>Elevator</b>	<b>-9.56</b>	<b>-17.31</b>	<b>1.16</b>	<b>1.06</b>				

## 2017 PROPOSED ALTERNATIVE TOTAL DEVELOPMENT COST LIMITS

BEDROOMS										
BUILDING TYPE	1		2		3		4		5	
Semi-Detached	198,238.81	346,915.29	240,401.39	420,699.25	293,810.09	514,163.76	345,683.34	604,941.26	377,678.76	660,932.82
Row House	186,598.45	326,544.82	226,914.34	397,097.10	278,870.59	488,019.84	331,158.83	579,523.56	364,793.44	638,383.69
Walkup	163,587.48	286,275.92	207,493.00	363,110.00	270,985.86	474,221.66	337,591.11	590,779.97	380,085.68	665,144.90
Elevator	218,207.17	319,201.79	241,272.86	386,022.24						

# DATA SOURCES

The analysis utilizes data from the following sources:

- HUD 2010 Unit Total Development Cost (TDC) Limits
- HUD 2011 Unit Total Development Cost (TDC) Limits
- HUD 2012 Unit Total Development Cost (TDC) Limits
- HUD 2013 Unit Total Development Cost (TDC) Limits
- HUD 2015 Unit Total Development Cost (TDC) Limits
- HUD 2016 Unit Total Development Cost (TDC) Limits
- ***RS Means Cost Historical Construction Cost Data***