



## **FROM BLIGHT TO LIGHT**

### **ASSESSING BLIGHT IN THE CITY OF DALLAS FINAL REPORT 07/12/2013**

## ***ABRIDGED***

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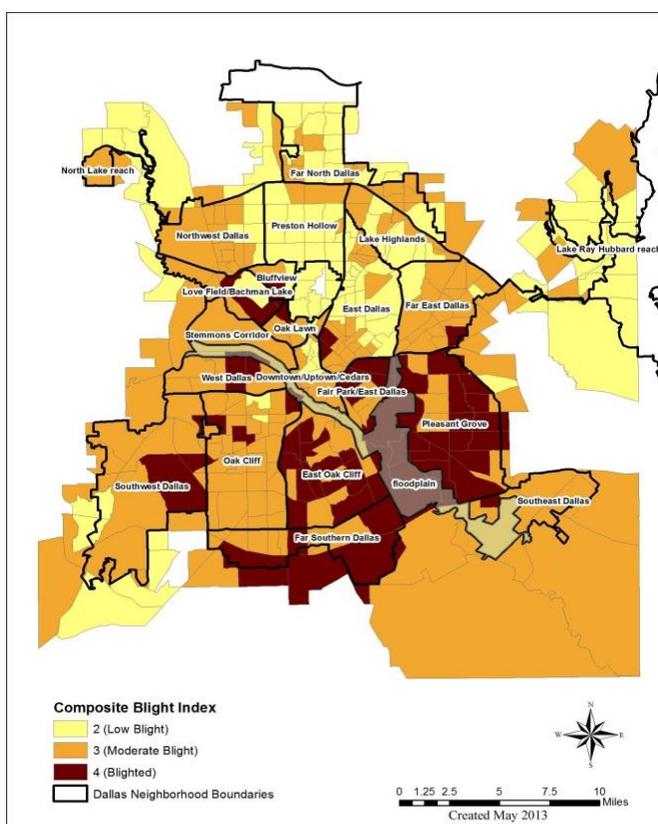


## From Blight to Light: Assessing Blight in the City of Dallas

### Executive Summary

In a study commissioned by Dallas Area Habitat for Humanity, University of North Texas researchers identified the most blighted areas of Dallas using a newly created composite blight index. The study found that high blight areas are a drain on the City's resources and budget dollars.

- Based on 14 equally weighted blight indicators, 48 of Dallas' 350 census tracts fall into the most blighted category. These 48 census tracts represent 16% of the area within the



City, but account for much of the burden created by blight.

- The median property value for homes in high blight areas is \$79,600, compared to \$236,050 in low blight areas.

- Between 1994 and 2010, the estimated amount of uncollected property taxes for the City of Dallas was approximately \$142,732,000, which is **1.9%** of the total property taxes levied within the same period.

- Properties which are property tax delinquent are mainly found in the blighted and moderate blight areas. About 41% of the delinquent properties were in the 48 high blight census tracts; 49% were in the 184 moderate blight census tracts. Only about 10% of the delinquent properties were in the 118 low blight areas.

- In 2011, over a third (35.9%) of vacant properties that reported fire incidents were also delinquent in their property taxes.
- Between 2007 and 2011, the City demolished 1,596 residential and commercial properties. Of these the demolition of 410 residential properties cost the City an estimated \$1.6 million. Almost half of that cost (47%) was attributable to the 48 high blight census tracts.
- The City often performs functions that should be done by the property owner in response to code violations (i.e., clean or mow property, secure a vacant building, or

demolish a dilapidated structure). When the City performs one of those functions, it bills the property owner and will then file a lien for each unpaid bill. From 2010 to 2012, the City filed \$10.2 million in non-tax liens. On average, 86% of those liens are unpaid, totaling \$8.79 million in unpaid liens for those three years alone.

- 55% of the non-tax liens were filed in the 48 high blight census tracts.
- Over 2,000 properties had non-tax liens filed in each of the three years (2010 through 2012) for which data was available. These properties should be a high priority for blight reduction efforts.
- The 48 high blight census tracts, representing 16% of the area within the City of Dallas, accounted for about 30% of the City's violent crime in 2011.
- Blight is an expensive drag on the City. The blight index created by the research team offers the City a new tool to target and monitor its efforts to improve the city's quality of life and economic viability.

### **About the Study**

The assessment of blight in Dallas, *From Blight to Light*, was commissioned by Dallas Area Habitat for Humanity. The purpose of the study was to support Dallas Habitat's advocacy for the city's forgotten neighborhoods and to better explain its neighborhood revitalization goals to donors and other funders. Ideally, the study will also serve Dallas city government by providing a way to track community blight over time and by creating a community understanding of the costs of blight creating community support to tackle the issue. In its Request for Proposal (RFP), Dallas Habitat provided a working definition of blight:

*Neighborhood blight consists of those conditions that threaten the health and safety of neighborhood residents, depress an area's quality of life, and jeopardize the social and economic viability of an area.*

### **The Research Team**



*From Blight to Light* was prepared by four faculty members from the Department of Public Administration at the University of North Texas (UNT). UNT's Master of Public Administration (MPA) program is ranked 8<sup>th</sup> in city management and urban policy in the nation. The faculty research team was made up of Professors Praveen Maghelal, Simon A. Andrew, Sudha Arlikatti, and Hee Soun Jang.

## **From Blight to Light: Assessing Blight in the City of Dallas**

### ***Abridged Report***

*The following is a shortened version of the “Blight to Light” report. The full report is available: [http://www.dallasareahabitat.org/c/document\\_library/get\\_file?p\\_l\\_id=33636&folderId=48594&name=DLFE-2238.pdf](http://www.dallasareahabitat.org/c/document_library/get_file?p_l_id=33636&folderId=48594&name=DLFE-2238.pdf)*

### **Evolving Concepts and Measures of Blight in Eight U.S. Cities**

Numerous studies have described “urban blight” as a multidimensional concept and agree that collectively these dimensions have an adverse effect on surrounding neighborhoods. Wilson and Kelling's (1982) notion of a “broken window syndrome” suggests that urban blight can be captured through the severity of untended properties and abandoned structures, reflecting the breakdown of physical, social, and economic conditions of a neighborhood. These conditions also signal lax code enforcement and control mechanisms that ensure proper maintenance by property owners. Blight has been defined in terms of support or lack of resource allocation (i.e., the willingness of local residents and public institutions to safeguard the general welfare of others), as well as a reflection of police power that a city commands to coerce property owners to repair and invest in the upkeep of physical structures through special building codes and municipal zoning codes (Gordon 2003).

The full report traces the ways in which blight has been conceptualized over the decades, as well as providing a glimpse into public sector responses. From the progressive era of the 1930s-1940s to the current concept of neighborhood disorder, research has moved from objective measures such as the structural aspects of condemned housing to a more process driven, subjective assessment of what leads to blight by examining neighborhood quality and socio-economic characteristics of neighborhood residents.

Reports from eight U.S. cities were examined to understand the types of indicators commonly used to measure blight. Work in the following cities was reviewed:

- City of New Orleans, LA
- City of Detroit, MI
- City of Pittsburgh, PA
- City of Oakland, CA
- City of Springfield, MA
- City of Cincinnati, OH
- City of Atlanta, GA
- City of Philadelphia, PA

The indicators used generally tend to be based on the presence of abandoned or vacant residential and commercial structures and vacant lots (Table 1).

**Table 1. Blight Indicators Used by Eight U.S. Cities**

<b>Indicators of Blight</b>	<b>New Orleans</b>	<b>Detroit</b>	<b>Pittsburg</b>	<b>Oakland</b>	<b>Springfld.</b>	<b>Cincinnati</b>	<b>Atlanta</b>	<b>Philad.</b>
Abandoned/ vacant buildings	x	x	x	x	x	x	x	x
Vacant land	x	x	x	x	x	x		x
Vacant commercial properties	x	x		x		x		x
Foreclosed properties	x	x						x
Demolition inspection	x							x
Structure complaints	x							x
Structure re-inspection	x							x
Structure sweeps	x							x
Lots cleaning	x							x
Lien foreclosures	x							x
Deferred property maintenance							x	
Deteriorated / unkempt		x						
Dilapidated buildings		x						
Unkempt sewage maintenance		x						x
Low median income			x					
Declining population			x					
Percent sub-prime loans			x					
Home purchasing %			x					
Percent vacant land			x					
Growth ratio			x					
Single mother families			x					
% change in renter occupied			x					
Lower bldg. permits							x	
Illegal dumping		x				x		
Vandalism and crime						x		
Fire hazards								x
Graffiti						x	x	
Overgrown weeds							x	
Litter							x	
Broken/ boarded up windows							x	
Junk cars dumping							x	
Unemployment rate							x	
Low high school attainment rate							x	

More recently a few studies have begun to examine the combined effects of these indicators as a signal of “depressed properties”, arguing that physical deterioration of properties have negative externalities on neighborhood conditions such as crime and depressed housing markets. Many cities also use socio-economic indicators as a mechanism to identify blight. Table 1 provides a list of major variables/ indicators identified in these studies across eight large US cities. This table of indicators served as a yardstick for indicators used to assess blight in the City of Dallas.

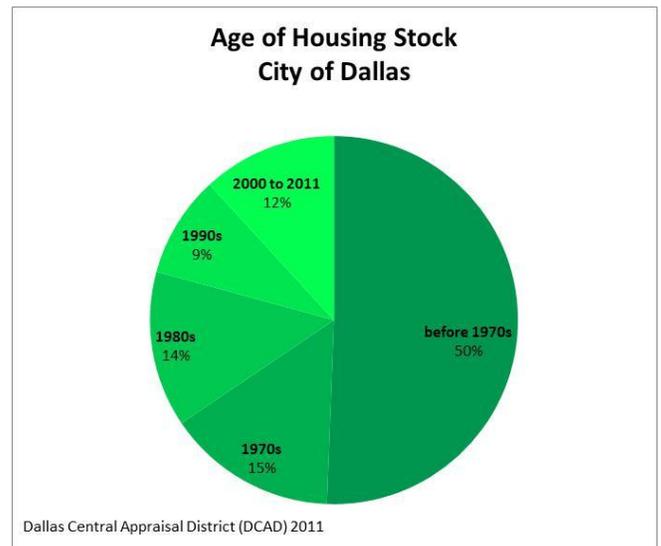
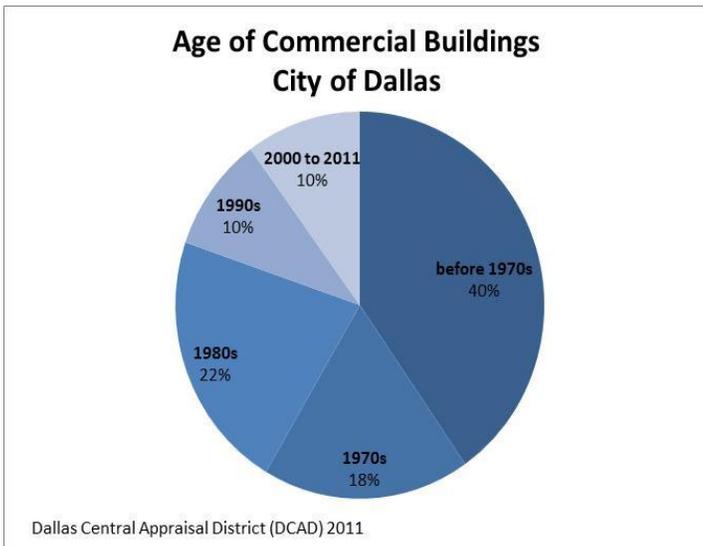
**Blight Index and the Patterns of Blight in the City of Dallas**

In developing a blight index for the City of Dallas, researchers were guided by the working definition provided by Dallas Area Habitat for Humanity.

*Neighborhood blight consists of those conditions that threaten the health and safety of neighborhood residents, depress an area’s quality of life and jeopardize the social and economic viability of the area.*

The index and blight assessment focuses on the 350 City census tracts that are also in Dallas County. The 33 census tracts that overlap the municipal boundaries but lie within neighboring counties were omitted.

The City of Dallas is characterized by an aging housing and commercial building stock. About 40% of known dated commercial properties and 54% of residential properties were built before the 1970s.



Dallas’ home ownership rate is at 45.2%, which is 19.3% less than the state average, with the median value at \$129,600 of owner occupied housing units in 2007-2011. The housing occupancy and housing tenure data available at the U.S. Census Bureau 2011 American Community Survey indicates that there are 515,515 housing units in the City of Dallas with

455,371 (88.3%) of them occupied and 60,144 (11.7%) vacant. Housing tenure data shows that of the 455,371 occupied housing units only 198,413 (43.6%) are owner-occupied and the remaining 256,958 (56.4%) are renter-occupied. The presence of a high percentage of vacant units and of rental units, compounded by an aging housing stock with limited reinvestment or revitalization efforts, have contributed to neighborhood decline, and blight producing factors.

### Physical and Socio-economic Indicators of Blight

*Physical Indicators:* Based on the literature review and the availability of data for the City of Dallas, a strategic selection of seven physical indicators characterizing blight was made. Although not meant to be comprehensive they are realistic given the nature of housing stock, changing demographics, migration, loss in economic base, and other challenges faced by the City of Dallas. The data for analyses were gathered from public sources, including publically available databases and news reports, as well as face-to-face conversations with key personnel from various City of Dallas departments, and most importantly, obtained through numerous Open Record requests. These were merged at the Census Block/Tract level along with the 2010 Census data. The physical indicators were aggregated for each census tract in the City of Dallas and mapped to create a “Physical Index” (see Fig.1).

The presence of a high percentage of vacant units and of rental units, compounded by an aging housing stock with limited reinvestment or revitalization efforts, have contributed to neighborhood decline and blight producing factors.

The seven physical indicators selected and mapped were:

1. Abandoned properties
2. Vacant residential properties
3. Vacant commercial properties
4. Mortgage foreclosed properties
5. Tax foreclosed properties
6. Tax delinquent properties
7. Demolished structures

Depending on the indicator being described, counts were either averaged or summed to generate the number of properties within each census tract. For instance, the USPS data lists the total abandoned properties in each census tract for every quarter. Hence, this information was averaged for the four quarters in 2011. On the other hand, the demolished properties were summed for each census tract to be used as an indicator of blight for this study. Authors utilized the Quartile Method to categorize the indicators into 4 groups: (1) No Blight, (2) Low Blight, (3) Moderate Blight and (4) Blighted. The tracts with measures of each variable were divided into four quartiles, resulting in each category having equal number of tracts ( $350/4 =$  about 87 cases each). This method is especially useful in this case because of the unavailability of thresholds to define what constitutes the point when a neighborhood becomes blighted and the specific factors contributing to this change.

*Socio-economic Indicators:* Rosenbaum, Friedman, Schill and Buddelmeyer (1999) suggest that one's opportunity to reside in "neighborhoods possessing high-quality resources is differentially distributed across such characteristics as race and immigration status..." (pg. 626). Studies on the locational attainment process have used Census derived tract characteristics such as the proportion of whites, median household income and quality of life indicators such as the risk of crime (Alba, Logan and Bellair 1994). These studies have demonstrated that there is a general pattern of access advantaged areas enjoyed by whites followed by Asians, Hispanics, and finally blacks. Others have looked at native and foreign born households living in New York City and have found that overall foreign-born households are more likely than native born households to live in poor quality neighborhoods. This is especially pertinent in the context of our study due to the presence of a high percentage of foreign born Hispanic (about 28% of total population) living in Dallas in 2011 (2011 American Community Survey).

According to the U.S. Census (2011), the racial composition of the City of Dallas is 44.8% Non-Hispanic Whites, 9.2% non-Hispanic Blacks, 3% Hispanic Blacks, 35.1% Hispanic Whites and 7.9% Asian and other races combined. Thus the total individuals of Hispanic or Latino origin are 38.1%, second only to the total non-Hispanic Whites, making them the largest minority population in Dallas. The per capita income in the City of Dallas from 2007-2011 was \$27,251 which is slightly greater than the Texas average of \$25,548. The median household income in Dallas from 2007-2011 was \$42,259 with the state average at \$50,920. The percentage of people living below the poverty line is 23% which is 6% higher than the state average.

Thus, based on the review of literature and socio-economic blight measures used by other US cities, a selection of seven relevant socio-economic indicators was made to capture household attainment levels. The socio-economic indicators were downloaded from the U.S. Census Bureau 2010 and mapped to create a "Socio-economic Index" (*see Fig.2*).

The seven socio-economic measures selected to reflect differential neighborhood attainment levels of the populace were:

1. Poverty
2. Unemployment
3. Ethnicity
4. Race
5. Renter household
6. Population
7. Single-Parent Household

**Fig. 1. Physical Blight Index**

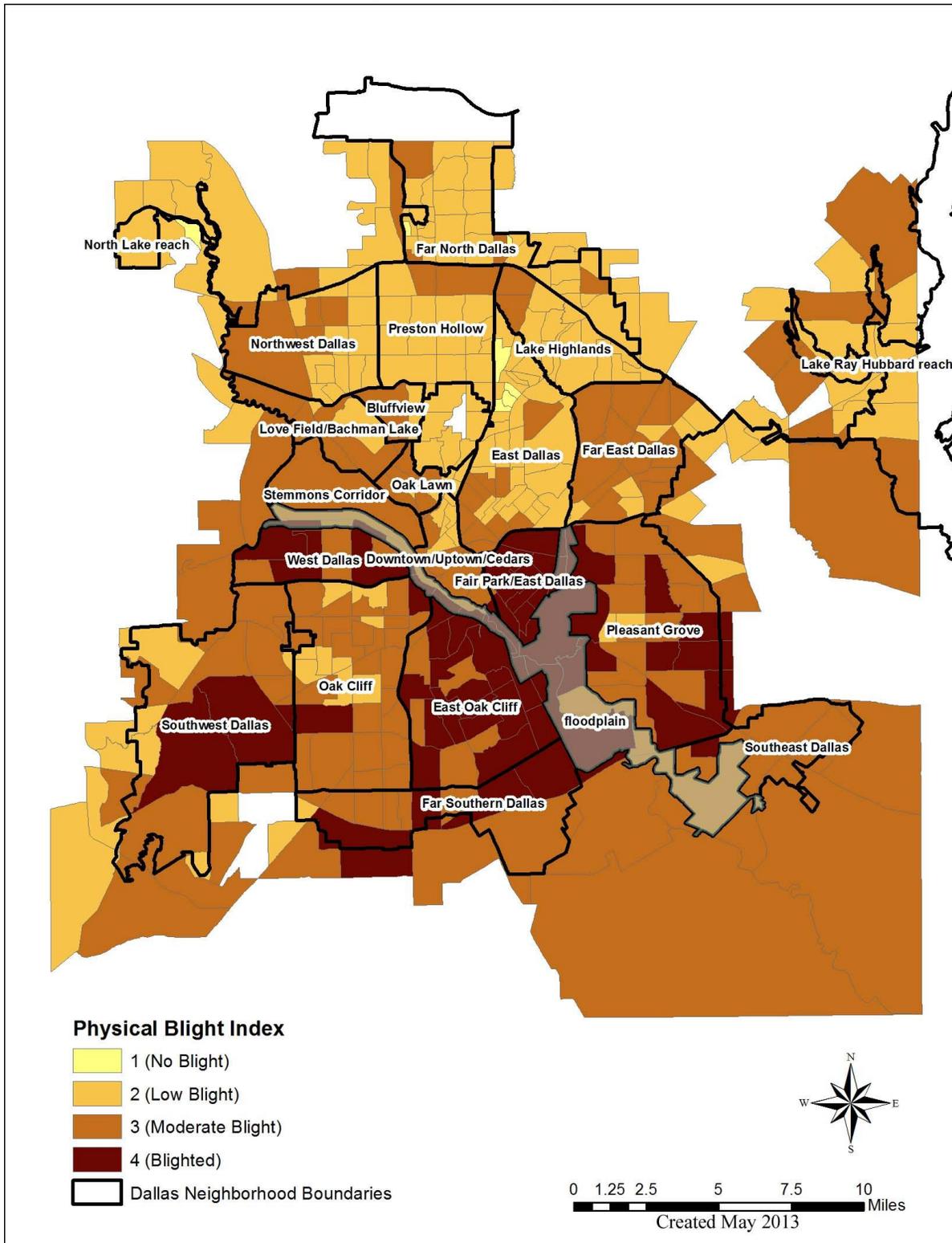
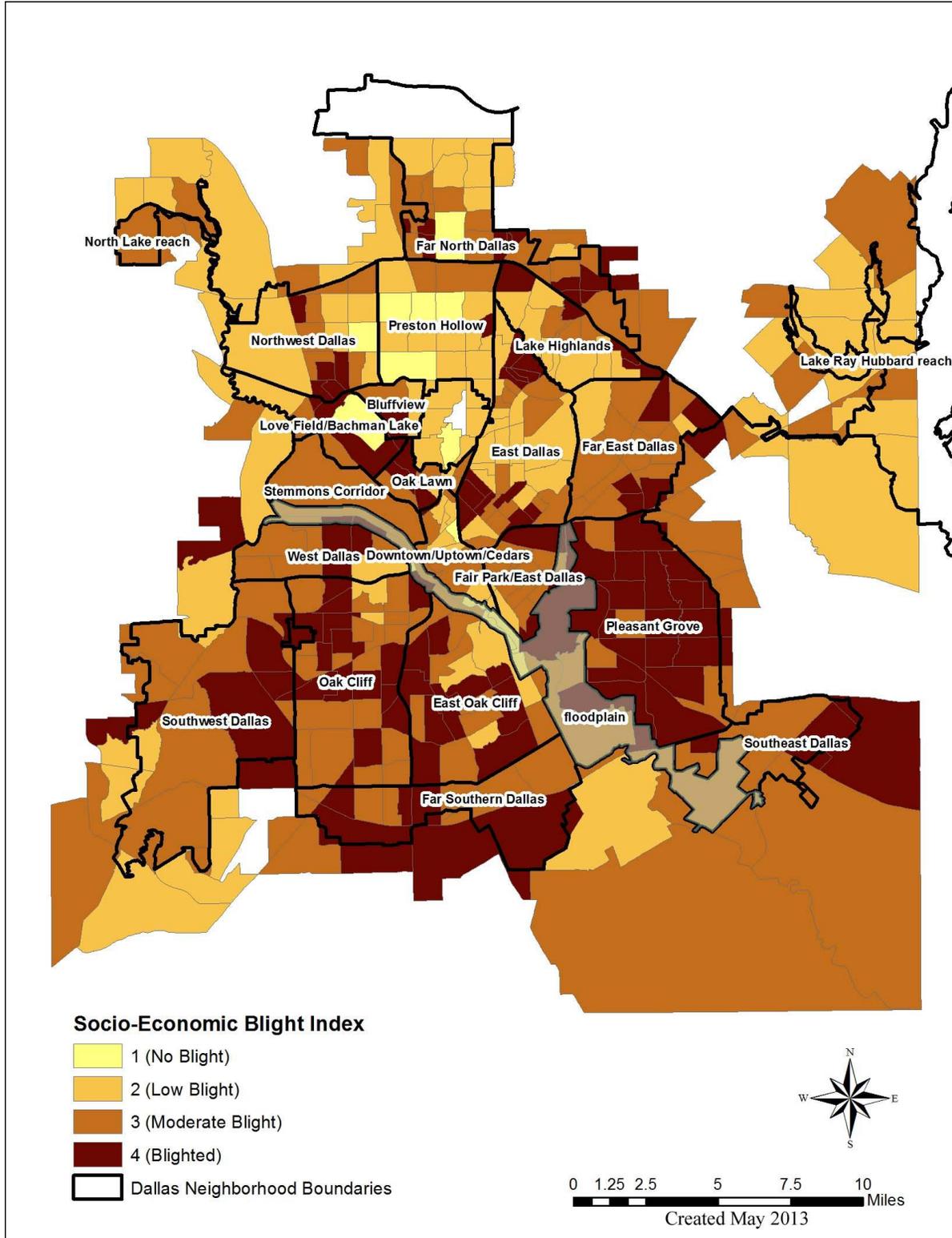


Fig. 2. Socio-Economic Blight Index



*Composite Blight Index:* To better illustrate this selection for classifying and comparing the conditions of blighted neighborhoods at the census tract level across the city, a Composite Blight Index Map was created using the seven selected physical indicators and seven selected socio-economic indicators. Finally, the decision to capture the overall measure of blight in neighborhoods was made by assigning all 14 measures equal “Weights,” so that the total added up to 100.

**Table 2: Number of Census Tracts in the Three Blight Categories**

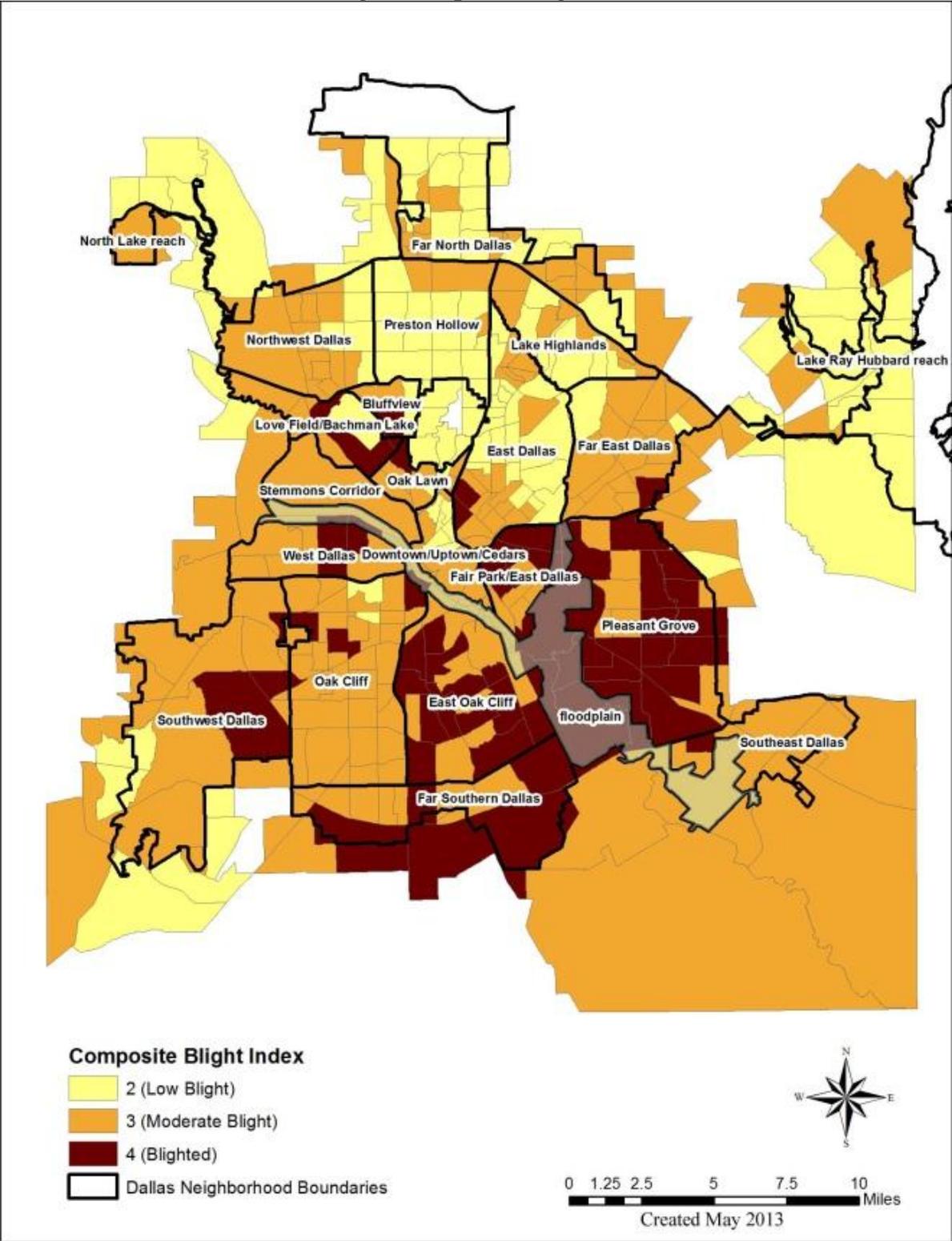
Categories	Physical Indicators		Socio-economic Indicators		Composite Index	
	# of census tracts	Sq. Miles	# of census tracts	Sq. Miles	# of census tracts	Sq. Miles
	1 No blight	7	11.02	9	1.86	0
2 Low blight	172	172.94	102	172.18	118	162.52
3 Moderate blight	127	299.47	134	355.81	184	359.11
4 Blighted	44	140.32	105	93.9	48	102.12
Total	350	623.75	350	623.75	350	623.75

*Note: The frequency table illustrates that none of the 350 Census tracts constituting the City of Dallas is free of all 14 measures of blight suggesting that urban blight is a matter of degree.*



The frequency distribution of the blight index by census tracts for physical indicators, socio-economic indicators, and the combined composite index is presented in Table 2, above. Based on the analysis, 48 census tracts in the City of Dallas are classified as “Blighted”, 184 as “Moderate blight”, 118 as “Low blight.” No census tracts fell into the “No blight” category. Figure 3 illustrates the composite blight index which is useful in focusing blight reduction strategies in selected neighborhoods and monitoring the positive changes over time.

Fig. 3 Composite Blight Index





### Estimated Cost of Blight to Dallas

The primary research on the potential cost of blight to the City of Dallas was through the analysis of property tax delinquencies, non-tax labor liens, and code compliance costs. Specifically, the cost of blight is operationalized by examining the amount of delinquent property taxes and non-tax liens based on the blight categories identified in the previous section. Non-tax liens are treated as a cost to the City because, when property owners fail

to maintain or keep up their property, the lien amount reflects the efforts made by the City to recoup the costs and expenses incurred for securing, maintaining, or demolishing the properties. Additionally, the study looks at the City’s demolition, code compliance, police, and fire expenditures related to blight, along with private costs arising from depressed property values.

### Delinquent Property Taxes

Based on data provided by Dallas County Tax Office IT department, between 1994 and 2011 the total number of properties with levy balance was 153,936 totaling \$32,128,445,576<sup>1</sup>, which include properties outside the Dallas City limits as well. This represents property taxes that may be due to all taxing authorities within Dallas County.

However, to compute uncollected property taxes for the city of Dallas, we referred to the City’s financial reports detailing the “Property Tax Revenues (unaudited) for 1994-2003” and “Property Tax Revenues (unaudited) for 2001-2010”. Between 1994 and 2010, the estimated amount of uncollected property taxes for the City of Dallas was approximately \$142,732,000, which is **1.9%** of the total property taxes levied within the same period. The uncollected property taxes amount represents revenue lost by the City of Dallas (see Table 3).

**Table 3. Delinquent Property Taxes Owed to the City of Dallas**

Total residential parcels (2011)	291,592
Overall assessed market value (2011)	\$47,011,212,920
Total property taxes levied (1994 - 2010)	\$7,513,648,000
Uncollected property taxes** (1994 - 2010)	\$142,732,000
% of uncollected property taxes (17 years average)	<b>1.9%</b>

*Notes: Evidence suggests that between 1994 and 2010, the rate of delinquency in property tax payments was about 3.17% a year (City of Dallas 2010); \*\*Taxes levied subtracted from total tax collected for a financial year.*

<sup>1</sup> Properties with levy balance data--capturing delinquent property tax--was obtained for the period 1964-2011. Because of issues with the data set, a portion of the analysis looked at 1994-2011, rather than the full data set.

*Property Tax Delinquency and Blight Categories:* The dataset received from the Dallas County Tax Office –IT department does not identify properties that have made payments, making it difficult to compare the repayment history against the entire property tax base. To perform meaningful analyzes a decision was made to select a list tax ID’s that were either delinquent in paying property taxes or had outstanding non-tax liens, or code violations. This list of addresses was merged with the DCAD on characteristics of properties in 2011, i.e., structural frame, whether properties are single or two-storied, size of living area, number of bed rooms, number of bathrooms etc.

However, not all addresses could be merged due to system errors, resulting in 58,545 addresses. Of these, only 52,491 addresses had a structure on them with an outstanding levy balance of \$10,215,512,246. Only 32,921 tax delinquent addresses could be merged with their assessed market values totaling \$3,604,472,390 (see Table 4), which represents about 7.67% of the overall assessed market value for residential parcels (\$47.01 billion) in the City.

**Table 4. Delinquent Property Taxes for Selected Residential Addresses\***

Delinquent property taxes **	\$10,205,735,690
Assessed market value of Delinquent Properties (2011)	\$3,604,472,390

*Notes: \*Only for 32,921 addresses for 2011; \*\*Property tax delinquency is captured using the “sum of levy balance” amount. However, we are uncertain about its distribution i.e. across special districts, schools etc. Future studies should ensure a better understanding of the nature of the sum of levy balance.*

The pattern of distribution for properties delinquent in paying taxes, by blight category, indicates that they are found mainly in the moderate blight and high blight areas, with 49.4% individual properties in moderate blight areas and 40.8% found in the 48 high blight census tracts. Only 9.8% of properties with delinquent property taxes between 1994 and 2011 are in the low blight areas (see Table 5). The magnitude of the problem related to delinquent property taxes due to the changing severity of blight in different parts of the city cannot be overstated. The table captures properties with the median delinquent property taxes due at the census tract level.

The magnitude of the problem related to delinquent property taxes due to the changing severity of blight in different parts of the city cannot be overstated.

**Table 5. Delinquent Property Taxes, Vacant Residential and Non-tax Liens by Blight Categories**

	Blight Categories		
	Low	Moderate	High
Properties with delinquent property taxes	9.8%	49.4%	40.8%
Vacant residential properties	3.6%	50.0%	46.5%
Non-Tax (labor) Liens (2011)	0.3%	44.6%	55.1%

There is an association between delinquent property taxes, vacant properties, and the incidence of fire. Based on the 58,545 addresses examined, we found that about 1,368 of these residential properties were reported as vacant in 2011. About half of these vacant properties were found in the moderate blight category, while about 46.5% fell in the high blight category. We found, between 1964 and 2011, about 52% of vacant residential properties were reported as being delinquent in paying property taxes. Although the reported cases for vacant properties may be underestimated, we found about 9.6 % of these properties reported to have one or more incidences of arson.

On a separate analysis we utilized addresses provided by the Dallas Fire Rescue Department and estimated costs related to fire incidents in vacant structures in 2011. To determine whether property tax delinquency is also related to vacancy rates and fire incidents, we merged the fire incident dataset from 2011 with the property tax payment history in 2012 and conducted a simple analysis. The information related to property taxes levied, payments due, previous amount due, and total amount due are based on the information we retrieved from the Dallas County Tax Office. The property tax payment data was valid as of 17 September 2012. However, of the 159 cases that were provided, only 131 cases could be identified and validated.

About 35.9 % of vacant structures with reported fire incidents were also delinquent on property tax payments. Based on that dataset, we can expect between 3 and 4 out of 10 vacant properties reporting fire incidents are also delinquent on their property tax payments. Based on the 131 addresses that report fire incidents in 2011, the total amount of delinquent property taxes due from vacant structures (burned by fire) was approximately \$368,127.01 or 15.8% of the total assessed market value of these properties. The data also show that the delinquent property taxes range from a minimum \$0.01 to a maximum of \$66,453.47.

### Non-tax Liens

The added cost of blight to the City of Dallas can also be determined by the amount of outstanding principal and penalties owed to the city through non-tax liens for each year (not reflecting the cumulative amount from previous years). Based on the data provided by the City of Dallas, the total outstanding amounts were \$2.53 million in 2010, \$3.08 million in 2011, and \$3.14 million in 2012. Within the same period, the ratio of the total outstanding non-tax lien to the total amount charged by the City ranges from 81% to 88% (see Table 6) suggesting that a high number of non-tax liens were not cleared by the owners. Taking the average ratio over the three year period (85.6%), we can anticipate the accumulated outstanding amount of non-tax lien between 2010 and 2012 to be about \$8,795,545.42.

There is an increase in the number of non-tax liens issued by the city in the past three years. Table 7 shows that, between 2010 and 2012, there has been a 60% increase of the number of demolition liens, secure closure liens, and weed/mow/clean liens. Of the 8,917 liens filed in 2010, only 13.7% were cleared. In 2012, only 7.1% of the 14,301 number of liens were cleared, while only 14.9% were cleared in 2011. The maximum value per property for non-tax lien in

2011 was about \$91,683.99 and the minimum value was \$.09 with a mean value of \$270.99. A similar pattern is observed for 2010 and 2012. Most outstanding non-tax liens can be found in the high blight (i.e., 55.1%) and moderate blight (i.e., 44.6%) areas.

**Table 6. Non-Tax Lien Payments**

	<b>Non-tax Liens (Principal &amp; Interest)</b>			
	<b>No. of Parcels</b>	<b>Original Amount</b>	<b>Outstanding Amount</b>	<b>% Outstanding</b>
2010	4,831	\$2,877,577.82	\$2,537,709.99	88%
2011	5,992	\$3,811,521.21	\$3,086,490.27	81%
2012	6,604	\$3,578,873.68	\$3,140,835.62	88%

**Table 7. Total Number of Properties with Three Types of Outstanding Non-Tax Liens (taking only principal amount)**

	<b>2010</b>		<b>2011</b>		<b>2012</b>	
	<b>Freq.</b>	<b>Percent</b>	<b>Freq.</b>	<b>Percent</b>	<b>Freq.</b>	<b>Percent</b>
Demolition Lien	86	0.01	67	0.01	2	0.00
Secure Closure Lien	590	0.07	986	0.08	982	0.07
Weed, Mow/Clean Lien	8,241	0.92	10,724	0.91	13,317	0.93
<b>Total</b>	<b>8,917</b>		<b>11,777</b>		<b>14,301</b>	

*Note: Based on the Principal Liens File*

Examining the distribution of non-tax lien by types suggests a large proportion of non-tax liens fall under the weed/mow/clean lien, followed by secure closure lien and demolition lien (see Table 7). For example, of 11,777 cases that were reported in 2011, about 91% of them were charged with weed/mow/clean liens. The nature of non-tax lien centers on the general maintenance of compound and structural aspects of properties. Only 8.2% of the total offenses were related to the secure closure lien; while only 1% of the total cases were related to demolition liens.

Similar patterns can be observed for 2010 and 2012 (see Table 8). While the numbers of non-tax liens also reflect the efforts made by the City to improve neighborhoods, the outstanding amount suggests both a loss of revenue to the City of Dallas and actual expenditures made by the City to provide these services. We also found that the most expensive type of non-tax lien to the City is the demolition lien. For example, in 2011, the average amount of demolition lien per property was about \$7,957. However, it appears that properties charged with demolition liens are less likely to make payments; and that, the total amount of demolition lien charged by the City per property can reach as high as \$91,684. The total amount paid, however, was significantly less.

**Table 8. Number of Properties With Three Types of Non-tax Liens Aggregated (paid and outstanding payments on principal)**

	2010		2011		2012	
	Freq.	Percent	Freq.	Percent	Freq.	Percent
Paid	1,225	13.7	1,751	14.9	1,012	7.1
Outstanding	7,692	86.3	10,026	85.1	13,289	92.9
<b>Total</b>	<b>8,917</b>		<b>11,777</b>		<b>14,301</b>	

Non-tax Lien and Repeat Violations

Based on the data provided by the City, we determined whether owners charged with non-tax liens repeated the violation more than once. Table 9 shows the total number of properties charged with non-tax liens between 2010 and 2012, with around 5,992 properties reported in 2011. About 50% of the properties in the dataset were charged with non-tax liens once; while about 25% were charged twice, 13% were charged three times, and so on. In other words, within a twelve month period, about half of the properties charged with non-tax liens were those addresses that repeated these violations. A similar pattern can be observed for 2010 and 2012, i.e., a little less than half of the properties charged with a non-tax lien are likely to be repeat violators.

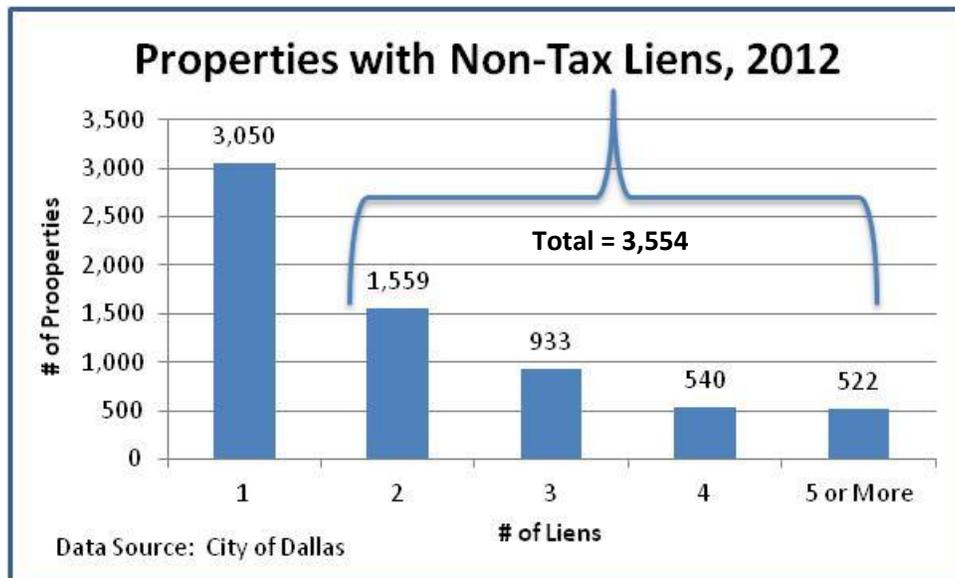


Table 9 shows the total number of properties with at least one non-tax lien charged by the City between 2010 and 2012. About 10,473 properties in the city of Dallas were issued citations and charged with non-tax liens between 2010 and 2012. About 44.7% of the properties charged with non-tax liens were also multiple year repeated violators. About 21.7% of them were charged with non-tax liens in all three years, i.e., 2010, 2011, and 2012. About 23% of the properties were issued citations in any two years between 2010 and 2012.

**Table 9. Properties with Multiple Liens (Principal)**

Number of Liens	2010		2011		2012	
	Freq.	Percent	Freq.	Percent	Freq.	Percent
1	2,603	53.90	3,014	50.30	3,050	46.20
2	1,175	24.30	1,497	24.98	1,559	23.60
3	600	12.40	777	12.97	933	14.10
4	276	5.70	412	6.88	540	8.20
5	117	2.40	161	2.69	269	4.10
6	50	1.00	83	1.39	138	2.10
7	9	0.20	27	0.45	67	1.00
8	1	0.00	10	0.17	29	0.40
9	-	-	7	0.12	13	0.20
10	-	-	2	0.03	4	0.10
12	-	-	2	0.03	2	0.00
<b>Total (Properties)</b>	<b>4,831</b>	<b>100.00</b>	<b>5,992</b>	<b>100.00</b>	<b>6,604</b>	<b>100.00</b>

**Table 10. Properties with Multiple Year Liens (2010-2012)**

	Freq.	Percent
One Year	5,794	55.3
Two Years	2,404	23.0
Three Years	2,275	21.7
Total	10,473	100

*Property with Non-tax Lien and Multiple Violations:* A further analysis was conducted using logistic regression to determine the association between vacancy, number of citations received by type of property, non-tax liens on the property, and repeat violations (see Table 11). The analyses were conducted using the dataset that was provided by the City of Dallas for 2011. The final results are included in Table 11 and suggest that a vacant property, on average, is **26 times** more likely to have an outstanding non-tax lien than a non-vacant/occupied property if we hold other variables constant. A vacant property is also likely to receive multiple citations either related to demolition, secure closure, or weed/mow/clean within a twelve month period. For example, on average, a vacant property is **4.8 times** more likely to receive multiple citations (more than one citation per year) than a non-vacant property.

Compared to properties in the high blight category, properties that are found in the low blight or moderate blight categories are less likely to have an outstanding non-tax lien. A property in the high blight category is 23% more likely to have an outstanding non-tax lien than a property that falls in the low blight category. The findings are not surprising as property owners in a high blight neighborhood lack the incentives to invest financial resources to maintain their properties. We found no evidence to suggest the likelihood that number of citations differs by the blight categories.

As anticipated, poorly maintained properties are more likely to have an outstanding non-tax lien compared to a well maintained property. For example, based on the DCAD rating, we found that “unsound” properties are **8.4 times** more likely to have an outstanding non-tax lien and **2 times** more likely to have multiple citations than properties that are rated as “excellent.” Similar conclusions can also be reached for properties rated as “very poor” and “average” when all else is kept constant. The age of the property may also explain the likelihood of outstanding non-tax lien. As the age of a residential property increases, the property is likely to get an outstanding non-tax lien but, on average, the marginal effect is rather low, i.e., about 1%. These findings suggest that the age of residential properties matter at least for 2011, and should be regarded as one of the contributing factors of outstanding non-tax lien payment.

**Table 11. Logistic Regressions: Property with Non-Tax Lien and Multiple Violations (Analysis for 2011 only)**

	Outstanding Non-Tax Lien			Multiple Violations		
	Exp(B)	S.E.	Sig.	Exp(B)	S.E.	Sig.
Vacant	26.81	0.066	0.000	4.89	0.104	0.000
Age of property	1.01	0.002	0.000	1.01	0.003	0.085
Blight Category (Ref: High)						
Low	0.236	0.192	0.000	0.654	0.484	0.379
Moderate	0.763	0.055	0.000	0.915	0.102	0.384
DCAD Rating (Ref: Excellent)						
Unsound	8.43	0.143	0.000	2.06	0.231	0.002
Very Poor	3.31	0.132	0.000	1.51	0.236	0.082
Average	1.75	0.113	0.000	1.45	0.218	0.086
Fair	1.26	0.087	0.008	1.13	0.175	0.492
Good	1.37	0.097	0.001	1.36	0.191	0.105
Very Good	1.00	0.153	0.998	0.70	0.329	0.272
Characteristics of Property		YES			YES	
Constant	0.02	0.420	0.000	1.24	0.793	0.790
No. of Obs.			47,524			1,998
Nagelkerke R Square			0.27			0.215
-2 Log likelihood			11,805.48			2,398.48
Chi-square			3,716.31			350.87

## Demolition Costs

One of the most expensive efforts related to eliminating poorly maintained structures (in relation to blight producing conditions) is the cost of demolition. While the cost may vary by type of structure, it is nevertheless important in understanding where these problem spots are in the city, and expenses incurred by the City of Dallas as a result. Through open source records, we obtained the itemized cost that the City pays a contractor to demolish an abandoned/vacant structure, by different building types (e.g., single-family residential/multi-family residential etc.), and cost per square footage. Moreover, our literature review has demonstrated that there are other costs related to demolition which include seal-in costs, asbestos abatement costs, landfill and hauling fees that quickly add up.

**Table 12. Itemized Cost for Demolition Services  
(Source: Dallas Code Compliance Department)**

<b>Demolition Services</b>	
Demolition	\$0.80 to \$3.50 per Sq.ft.
Wet Demolition	\$7.00 to \$47.00 per Cu Yd.
Site Clearance	\$7.00 to \$12.00 per Cu Yd.
Mobilization	\$100.00 to \$1,500.00 per site
Backfill	\$5.00 to \$15.00 per Cu Yd.
Leveling and Grading	\$1.00 to \$10.00 per Cu Yd.
Concrete/ Asphalt	\$0.35 to \$8.00 per Cu Yd.
<b>ABATEMENT SERVICES</b>	
Fire Proofing	\$1.00 to \$10.00 Sq.ft.
Wall Coverings	\$1.00 to \$2.70 Sq.ft.
Flooring	\$1.00 to \$3.00 Sq.ft.
Exterior siding	\$1.00 to \$2.70 Sq.ft.

The City uses three different contractors to conduct their abatements and demolitions, and three others who conduct their testing. All six charge different amounts when invoicing the City for the different services provided. The sliding range for the various items is included in the table above. The estimated demolition costs were calculated using the minimum (\$0.80/sq.ft) and the maximum demolition cost (\$3.50/ sq.ft) quoted by the consultants used by the City of Dallas as indicated in Table 12 above. Although this cost ranges from \$0.80 to \$3.50, the maximum cost was assumed for supplementary calculations as it was not possible to specifically include the cost incurred from other services required, such as site clearance, mobilization, leveling and grading, backfill, and other abatement services. A total of 1,596 residential and commercial properties were demolished from 2007-2011. Of these, only 1,143 properties could be geocoded and merged with the DCAD parcel data.



Two calculations were made using the estimated demolition cost of \$3.50/sq. ft., one using DCAD’s CDU rating for individual and commercial properties, and the other using our “Composite Blight Index.” This was done to calculate the cost of demolishing unsound and poor structures, directly borne by the City of Dallas. As indicated in Table 13 below, the total demolition costs for residential properties in the “low blight” category totals only \$4,326. The total cost of demolition in

the “moderate blight” category totals \$871,244.50, which is approximately 53% of the total cost. The total cost of demolition in the “high blight” category totals \$771,609.50, which is approximately 47% of the total demolition costs.

Table 13 also indicates that there are a few city initiated demolitions of properties in average, good, very good and excellent conditions as well. As the reasons for demolitions were not clearly identified in the data, we can infer these may be because the CDUs were wrong (e.g. due to structure fire) or demolitions were initiated for right of ways, revitalization efforts or other reasons that cannot be confirmed. However, we can confirm that demolition costs are unusually high in blighted areas and this is borne by the City of Dallas.

**Table 13. Maximum Demolition Costs (Estimated) Based on CDU Rating, for Composite Blight Index Categories**

CDU Classification	Low Blight	Moderate Blight	High Blight	Total
Excellent		\$12,173.00	\$5,810.00	\$17,983.00
Very Good		7,920.50	11,375.00	19,295.50
Good		11,802.00	18,966.50	30,768.50
Average		158,294.50	117,113.50	275,408.00
<b>Fair</b>	<b>4,326.00</b>	<b>181,870.50</b>	<b>135,404.50</b>	<b>321,601.00</b>
<b>Poor</b>		<b>159,572.00</b>	<b>100,502.50</b>	<b>260,074.50</b>
<b>Very Poor</b>		<b>116,396.00</b>	<b>104,842.50</b>	<b>221,238.50</b>
<b>Unsound</b>		<b>223,216.00</b>	<b>277,609.50</b>	<b>500,825.50</b>
Total (\$)	\$ 4,326.00	\$ 871,244.50	\$ 771,624.00	\$ 1,647,194.50

*Note: Number of residential properties = 410; Max. Cost used = \$3.50*

## Code Enforcement Costs

*Code Compliance Department Operating Budget:* The Dallas City Council FY 2012-13 Budget Amendments report provides a summary of services by departments in the City of Dallas and their operating costs. The total operating budget for Code Compliance Services for FY 2011-2012 was \$27,744,992 (see Table 14) of which \$15,515,364 (55.92%) was expended on Neighborhood Code Compliance Services. This amount was subsequently used in projecting the cost to the City of Dallas for levying a civil/criminal code citation on a property owner.

**Table 14: Summary of Code Compliance Services and Operating Budget for FY 2011-2012**

	FY 2011-2012 Operating Budget (Dollars)	Percentage Allotted for Each Service
Code Compliance Services		
Regulation and Enforcement of For Hire		
Transportation	819,863	2.95
Dallas Animal Services	6,310,947	22.75
Neighborhood Code Compliance Services	<b>15,515,364</b>	<b>55.92</b>
Neighborhood Nuisance Abatement	5,098,818	18.38
<b>Total Operating Budget for Code Compliance</b>	<b>27,744,992</b>	<b>100.00</b>

*Source: Dallas City Council FY 2012-13 Budget Amendments (Summary of Services by Departments)*

*Civil and Criminal Code Citations and Blight Categories:* The City of Dallas Code Compliance Division categorizes failure to comply with code into either “civil code citation” or “criminal code citation.” In order to be categorized as criminal, the City official must be able to identify the owner. The total number of civil code citations issued in 2011 were 6,072 (70.83%) while 2,501 (29.17%) were criminal code citations (see Table 15).

**Table 15. Total Number of Civil and Criminal Code Citations Reported in 2011**

Type of Citation	Freq.	Percentage
Civil	6,072	70.83
Criminal	2,501	29.17
Total	8,573	100

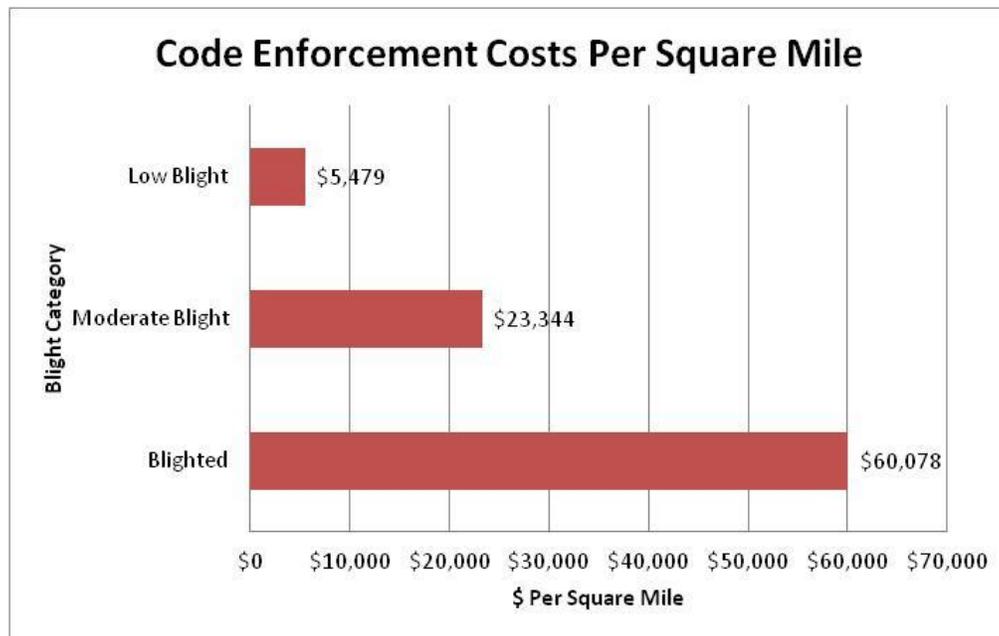
**Table 16. Total Number of Citations in Blight Categories**

Type of Citation	Low	Moderate	High
Civil	393	3,226	2,406
Criminal	99	1,406	984
Total	492	4,632	3,390

The operational cost of \$15,515,364 for providing Neighborhood Code Compliance services was used against the total number of citations (8,573) issued in 2011 to arrive at an **average cost of \$1,809.79 per code violation**. This was used to project the cost of code enforcement in each blight category (see Table 17). The total projected cost for code enforcement in moderate blight areas is approximately \$8.4 million and in blighted census tracts is \$6.1 million.

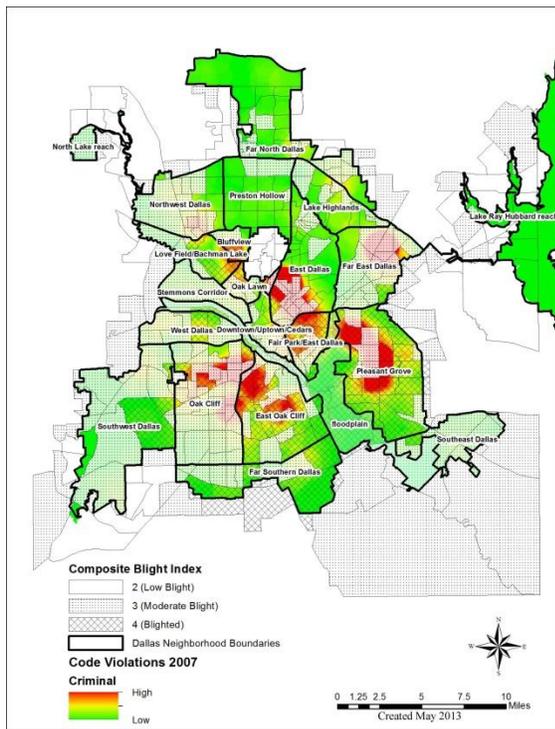
**Table 17. Projected Cost of Code Enforcement in Blight Categories**

Type of Citation	Low	Moderate	High
Civil	\$711,251.40	\$5,838,414.80	\$4,354,378.80
Criminal	\$179,170.20	\$2,544,578.80	\$1,780,843.20
Total	\$890,421.60	\$8,382,993.60	\$6,135,222.00

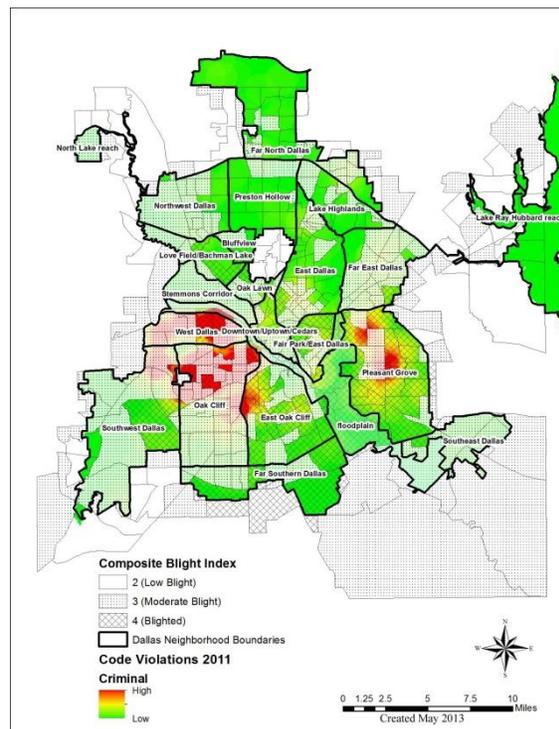


*Mapping Patterns of Code Violations in the City of Dallas:* Figures 4 a and b show patterns of all Civil Code and Criminal Code Violations for 2011 respectively. Geographically, the numbers of civil code violations are concentrated in the south central and far-east parts of Dallas, while there is a greater concentration of criminal code violations in the south-western parts of the city which are all high blight census tracts.

**Fig. 4a. Patterns of Civil Code Violations**



**Fig. 4b. Patterns of Criminal Code Violations**



**Cost of Police Services**

*Dallas Police Department Operating Budget:* The Dallas City Council FY 2012-13 Budget Amendments report also provides a summary of the operating budget for the Dallas Police Department and its services. The total operating budget for Police Services for FY 2011-2012 was \$399,406,436. Of the twelve services provided five that appeared to be directed towards crime prevention and management were totaled to arrive at a budget of \$297,026,247 towards “Crime Prevention and Management,” which is 74.37% of the DPD’s total operating budget (see Table 16). Services excluded were Juvenile Case Managers/First Offender Program, Police Academy and In-service Training, Police Administrative Support, Police Community Outreach, Police Operational Support, Police Recruiting and Personnel Service and Police Special Operations. This amount was subsequently used in projecting the cost to the Dallas Police Department for addressing each criminal violation.

**Table 15: Summary of Police Services and Operating Budget for FY 2011-2012**

<b>Police Services</b>	<b>FY 2011-2012 Operating Budget (\$)</b>	<b>Allotted for Each Service (%)</b>
Total Operating Budget for Police	399,406,436	100.00
Police Criminal Investigations	56,605,947	14.17
Police Field Patrol	218,101,955	54.61
Police Intelligence	7,906,689	1.98
Police Investigation of Vice Related Crimes	4,092,653	1.02
Police Investigations of Narcotics Related Crimes	10,319,003	2.58
<b>Total for Crime Prevention and Management</b>	<b>297,026,247</b>	<b>74.37</b>

*Source: Dallas City Council FY 2012-13 Budget Amendments (Summary of Services by Departments)*

*Criminal Violations:* The Dallas Police Department provided a list of addresses with the counts where different types of crimes had been reported in 2011 in the City of Dallas. These addresses were geocoded and then data segregated based on their characteristics as violent and non-violent crimes. A total of 8,356 (11.92%) violent crimes were reported including incidents of aggravated assault, murder, rape, or robbery of individuals or business. Non-violent crimes reported were 61,767 (88.08%) including incidents of burglary (both residences and businesses), and petty theft that did not endanger the victims of these crimes (see Table 16 for the counts).

**Table 16. Total Number of Crimes Reported for 2011 in Dallas**

<b>Type of Crime</b>	<b>Freq.</b>	<b>%</b>
Violent Crimes	8,356	11.92
Non-violent crimes	61,767	88.08
<b>Total</b>	<b>70,123</b>	<b>100</b>

*Criminal Violations By Type in Blight Categories:*

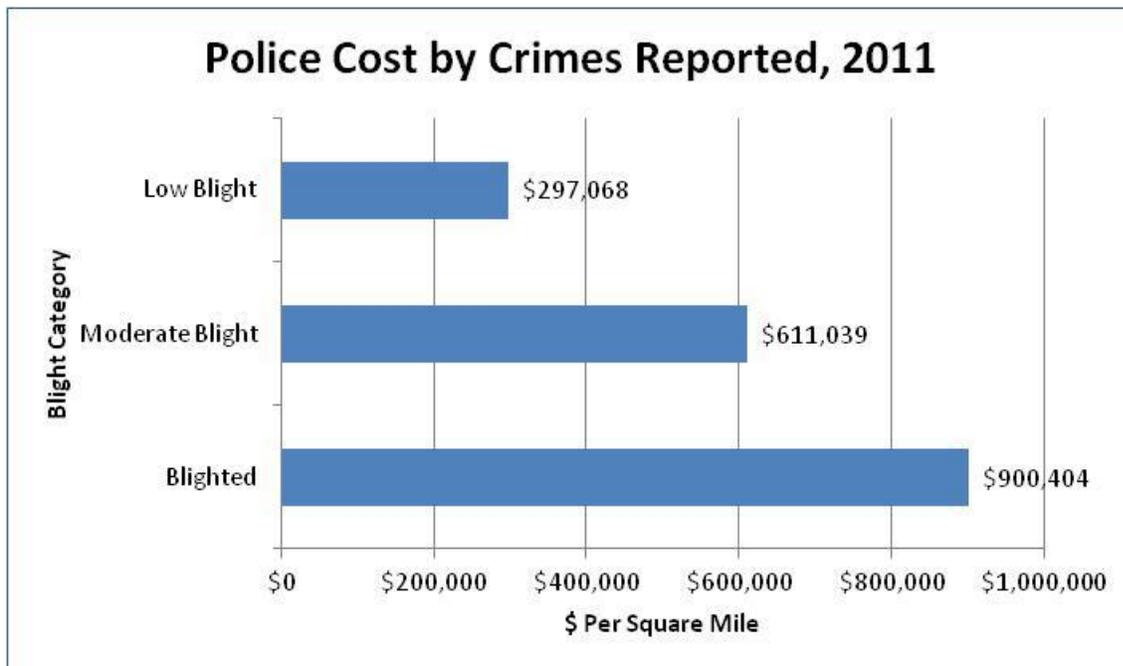
**Table 17. Total Number of Crimes in Blight Categories**

Type of Crime	Low	Moderate	High
Violent Crimes	735	4,943	2,472
Non-violent crimes	10,663	34,849	14,305
Total	11,398	39,792	16,777

The operational budget of **\$297,026,247** for providing “Crime Prevention and Management” (see Table 17 above) was used against the total number of violations (**70,123**) in 2011 to arrive at an average cost of **\$4,235.79** per criminal violation. This was used to project the cost of crime reduction in each blight category (see Table 18). The cost of combating non-violent crimes in the moderate blight category is approximately \$198 million, while it is \$81 million in the high blight category.

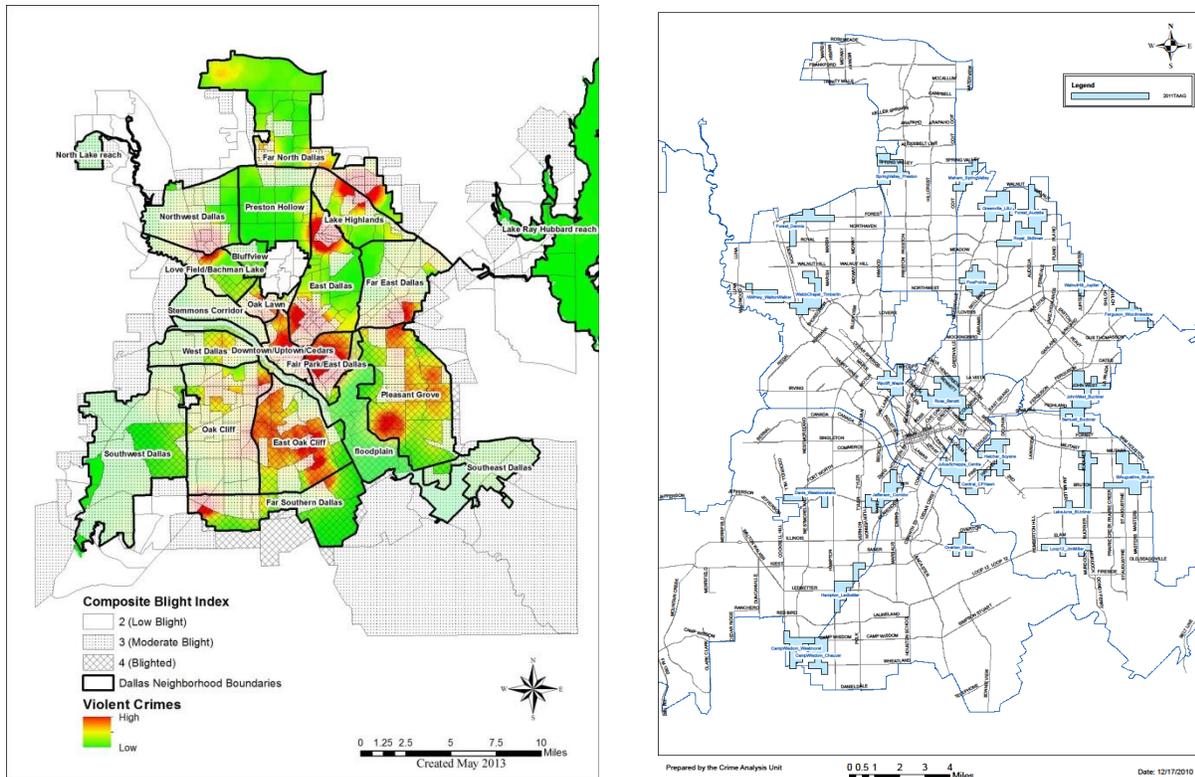
**Table 18. Total Cost of Crime Reduction in Blight Categories**

Type of Crime	Low	Moderate	High
Violent Crimes	\$3,113,304.92	\$20,937,505.03	\$10,470,870.41
Non-violent crimes	\$45,166,218.11	\$198,492,934.20	\$81,478,419.00
Total	\$48,279,523.02	\$219,430,439.23	\$91,949,289.41



*Mapping Patterns of Criminal Violations in the City of Dallas:* Although the spatial distribution of nonviolent crimes did not suggest any definitive pattern by location, the majority of violent crimes were reported to the northeast part of the City of Dallas (see Fig. 5) which could be explained by the fact that there is a big area of old multifamily development in the northeast of the city which is arguably the most dangerous part of town, followed by the inner city central areas of Dallas and few incidents being clustered in the northwest region of the city.

**Figure 5. Spatial Pattern of Violent Crimes**



Private Costs from Depressed Property Values

*Assessed Median Property Value by Blight Categories:* Studies on the effect of blighted properties on home sales have been conducted by numerous scholars. Most of these studies found that properties chronically vacant and uninhabitable have a negative spillover effect on the values of surrounding properties. Scholars have also argued that distressed properties signal owner reluctance to take actions to improve their properties leading to neglect, delinquency in making property tax payments, or foreclosures.

In Dallas, the effect of a distressed property on surrounding home values has been calculated by Leonard and Murdoch (2009). They employed a hedonic model to estimate the effect of foreclosures on home prices in and around Dallas County. Their data includes 23,218 single-family homes, their sales prices, property characteristics, and location information. They

utilized sale prices for 2006 and found that foreclosure within 250 feet of a home sale, on average, reduces the selling price of a single-family home by about \$1,666. They investigated the effect of sale prices from a foreclosed property by looking at distances of less than 250 feet, between 500 and 1,000 feet and between 1,000 and 1,500 feet of a sale and declared that the difference was most noticeable when the properties are located within 250 feet (\$1,666 reduction in prices).

The findings in Dallas County (Leonard and Murdoch 2009) are consistent with the work done elsewhere. For example, Immergluck and Smith (2006) examined the effects of mortgage foreclosed properties within 660 feet of a single-family home in Chicago in the late 1990s and reached a similar conclusion. They found that a negative effect of foreclosures were evident on home sales 1 to 2 years after they occurred; and that, the presence of mortgage foreclosure properties within a 660 feet radius lowered the home value of a single-family home by about 1%. In another study, Harding, Rosenblatt and Yao (2009) examined the impact of foreclosures on home sales in seven metropolitan areas and found that a foreclosure within a 300 feet radius decreases a home's value by about 1%.

Schuetz, Been, and Ellen (2008), used data from New York City from various years and found that foreclosures within 250 feet of a home, reduce the value of home by about 1 to 2%. They also found that, moving beyond the 250 foot ring, the effect of foreclosure on home's value increased in the magnitude, i.e., areas with three or more foreclosures within 250 and 500 feet would lower home values by 1 to 3%. Another study examining the impact of forced sales on home prices was conducted in Massachusetts (Campbell, Giglio and Pathak 2011). The study found that a foreclosure within a 264 feet radius negatively affects the value of a home by about 1% (Campbell et al. 2011).

Lin, Rosenblatt, and Yao (2009) utilize comparable properties in Chicago to determine whether foreclosure depresses the property values of homes over a short term period. They found that within a half mile of the distressed property, the property values are negatively affected by 8.7% in down markets and 5% in up markets. A study conducted by Hartley (2010), using census tracts with low vacancy rates, found that each foreclosed single-family home within 250 feet reduces a home's value by 1.6%. In census tracts that have high vacancy rates, the effect of foreclosure on home values is greater for multi-family homes than a single-family home by about 2%. Table 30 summarizes the general conclusions found in the literature.

**Table 30. Literature Review of Effect of Blighted Properties on Home Value**

<b>Author(s)</b>	<b>Distressed property</b>	<b>Type of Effects</b>	<b>Results</b>
Immergluck & Smith (2006)	mortgage foreclosure	660 feet	lowered its value by about 1%
Harding et al. (2009)	foreclosure	within 300 feet; Between 300 and 500 feet	affects home's value up to 1% lower home's value by one half of one percent.
Schuetz et al. (2008)	foreclosures	within 250 feet of a home; three or more from 250-500 feet; six or more from 500-1000 feet	reduce home's value by 1- 2 % lower home's value by 1 - 3 % lower home's value by about 3%
Cotterman (2001)	FHA loan default	1% increase in default rate	14 % reduction in home prices
Campbell et al. (2011)	bankruptcy, death & foreclosure	264 feet	lower home's value by about 1%
Lin et al. (2009)	foreclosures	within a half mile	affects sale price by 8.7 percent in down markets affects sale price by 5 percent in up markets
Hartley (2010)	foreclosures	within 250 feet	single-family home - reduced home value by 1.6% multi-family home - lowered home value by 2%
Leonard & Murdoch (2009)	foreclosures	250 feet	impacts selling price by approximately \$1,666

We adopted a different approach to understand the effects of distressed properties on home values. For example, Table 31 below presents the assessed median property value at the census tract level. Consistent with the argument that high blight areas tend to have lower assessed home values, our analysis shows that the median property value for high blight area is \$76,600. Median property values for low and moderate blight areas are about \$236,000 and \$105,000 respectively.

**Table 31. Assessed Median Property Value (Census Tract Level)**

	<u>Low</u>	<u>Moderate</u>	<u>High</u>
	Amount	Amount	Amount
Maximum	\$ 935,800.00	\$ 662,600.00	\$ 220,400.00
Mean	\$ 286,722.73	\$ 132,087.27	\$ 84,407.27
Median	\$ 236,050.00	\$ 105,000.00	\$ 79,600.00
Median Log Assessed Value	5.37	5.02	4.90

**Approaches to Eliminate Blight**

The full study includes a discussion of approaches to eliminate blight and describes the public sector efforts in Dallas. Six programs administered by the City of Dallas’ Housing Department are discussed in terms of program outputs and expenditures. The research team was not able to discuss the effectiveness of these programs due to lack of performance measurement reports.

**Implications and Conclusion**

The study seeks to inform the stakeholders of Dallas’ forgotten neighborhoods by creating a composite blight index for the City of Dallas that city officials, nonprofit agencies and policy makers can use to observe the patterns of blight and target intervention appropriately. Important implications of this work are discussed in the full report. The key areas discussed are as follows:

1. Cost of Unpaid Labor Liens —Unpaid labor liens are a serious problem and are likely to be in “high blight” areas. These under-maintained properties overgrown with weeds and noncompliant with city codes create unsafe conditions and negative externalities for the communities in which they are located. The findings for the City of Dallas suggest a need to identify properties to target for special intervention.
2. Cost to City of Tax-delinquent Properties – Tax-delinquent properties that are ultimately not redeemed from tax foreclosure by owners or mortgage holders and appear as a list of “surplus properties” that cannot be auctioned off, are the most costly to cities and require immediate attention. Numerous attempts were made to obtain this list of surplus properties. It is critical that this list be monitored to calculate the cost the City continues to pay to maintain them and to keep them code compliant.
3. Nativity Differences in Neighborhood Quality – Rosenbaum et al. (1999) studied locational attainment of immigrants by evaluating how immigrant households in New York City compared to native-born households with the quality of neighborhoods they live in. They found that foreign born households are more likely than native born households to live in neighborhoods with less access to medical care, higher rates of tuberculosis and higher concentrations of poverty. In the creation of our blight index, “Hispanic and Latino” descent was used as one of the indicators, along with other socio-economic indicators. The Composite Blight Index does suggest that a racial hierarchy exists in the locational attainment of households in the city of Dallas, with minority households living in blight. The issue of residential attainment – its extent and causes -- needs to be investigated through more longitudinal studies using data from different

points in time and possibly after certain events (e.g. in-migration after hurricane Katrina). The City of Dallas will do well to promote positive investments in minority communities through community based development initiatives.

4. **New Approaches in Neighborhood Revitalization Efforts** — The review of other cities' revitalization efforts indicate that blight projects are pursued by collaboration of many entities including private and community nonprofit organizations. Due to the multi-dimensional nature of blight, a mixture of prevention, redevelopment and preservation approaches have worked successfully. For example, Chicago uses an innovative redevelopment tool to allow neighbors to purchase vacant city-owned lots for less than market value. And New Orleans takes a proactive approach to exercise expropriation power to take blighted properties. This study identifies nonprofit preservation approaches to blight elimination and reports that nonprofit organizations are not only involved in homebuilding as certified CHDO organizations but are also actively pursuing their mission to preserve homeownership, serve special populations and empower community.
5. **Data Recommendations**
  - a. Non-tax liens: Despite countless efforts, the researchers were not able to gather all the non-tax lien data through open records from the City. A better system for monitoring non-tax liens is essential for understanding blight costs to the city.
  - b. Abandoned properties: Although abandoned properties have been regarded as a major condition of blight, many studies only measure abandoned properties at an aggregate level. This research uses USPS administrative records of vacancy at tract level to identify vacant properties. Since abandoned properties result in lower city tax revenues and increased costs to maintain the community, we recommend that the city maintain addresses of vacant and abandoned properties.
  - c. Cases Filed and Adjudicated: Information related to the number of cases filed and adjudicated under "The Code Compliance Section" Chapter 54 and Chapter 211 for environmental and zoning violations at commercial and residential properties is worth obtaining to estimate the cost of such litigation to the city per case, the minimum and maximum costs incurred by the City when it chooses to adjudicate a case through public hearing.
  - d. Identifying Properties Receiving Emergency Calls: We have not been successful in gathering information from the Police and Fire Departments on properties requiring emergency assistance. At this time, we are not sure whether these items should be regarded as an "added cost" to the City of Dallas or be treated as normal response costs that the fire and police department bear as part of each department's annual budget.
  - e. Data Management Recommendations: The spatial analysis of blight required data obtained from several city and county agencies to be reproduced, converted, reformatted and geocoded to spatial data. These posed several challenges and opportunities for future data management to efficiently create the composite blight index and analyze the economic impacts of blight in the City

of Dallas. Recommendations include improved consistency in City data collection and geo-coding, using DCAD parcel numbers, in addition to addresses in City databases.

6. Independent Evaluation of Housing Programs – Although the Housing/Community Services Department in Dallas City Hall currently administers numerous programs there is no way to measure their effectiveness. The City might consider having an independent evaluation done of its housing programs and its blight remediation programs as part of a comprehensive blight initiative.

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