Sandy:
Fair Housing Equity Assessment

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Background

- Sandy's minority share nearly tripled from 4.7 percent in 1990 to 14 percent in 2010.
- Hispanics are an increasing composition of the minority population, accounting for 45 percent of the minority growth from 1990 to 2010 and nearly 60 percent of the minority growth in the last decade.
- While the non-Hispanic white average household size declined from 3.84 in 1990 to 3.02 in 2010, the Hispanic average household size have remained at levels around 3.7.

Segregation

- While non-Hispanic white rental rates have increased slowly from 12 percent in 1990 to 19 percent in 2010, minority rental rates grew from 19 percent in 1990 to 35 percent in 2000.
- Over 70 percent of the minority rental units are concentrated in the northwestern census tracts in Sandy. This area has access to the TRAX line and includes most of the city's low-wage employment opportunities. However, many of the bus routes service areas near census tract boundaries, so residents in this northwestern region might still face slight difficulties in accessing public transportation to commute to nearby commercial centers.

RCAP/ECAP

- The overall poverty rate in Sandy in 2010 was about 6 percent, while a minority resident was more than three times as likely to be poor as a non-Hispanic white resident. Almost half of black residents and almost 40 percent of Native Americans were living in poverty.
- The city has no racially or ethnically concentrated areas of poverty. However, the northwestern corner of the city, west of Interstate 15 does have a significantly higher concentration of Hispanic and minority residents than the county, but not a minority-majority.

Disparities in Opportunity
- HUD provided an opportunity index that aggregated a variety of factors such as school proficiency, job access, poverty, and housing stability. Overall, Sandy received a score of 7 out of 10, which is 2.1 points above the county average.
- The public schools in Sandy tended to score well on the school opportunity index given that the highest-ranked public schools in the county are located in the city. However, the majority of the lower-ranked schools are on the west side.
- The home values in the city vary quite a bit, with the general trend showing housing prices increasing the further east in the city that properties are located.
- A majority of the protected classes are located on the lower-opportunity west side of Sandy, while more affluent non-Hispanic whites disproportionately live in the highest-opportunity areas on the east side.

FAIR HOUSING EQUITY ASSESSMENT ANALYSIS

The minority population share of Sandy has been steady growing in the past two decades. A disproportionate amount of this growth has been among the minority, and especially Hispanic rental population. Over 70 percent of the minority rental units are concentrated in the northwestern census tracts in Sandy. This area has access to the TRAX line and includes most of the city's low-wage employment opportunities. However, many of the bus routes onlyservice areas near census tract boundaries, so residents in this northwestern region might still face slight difficulties in accessing public transportation to commute to nearby commercial centers. Likewise, the concentration of rental units and few bus routes on the east side of the city could present an impediment to further minority growth in this area of Sandy.

Affordability also poses another impediment, since over 60 percent of the affordable single-family homes at or above the 80 percent AMI level in Sandy are located west of 1300 East. Generally, the further east the home is located in Sandy, the higher the home value. The tracts with a higher median value than the city average are all located in the southeast corner of the city and the small tract in the northeast. These homes drive up the city's median home value to $230,800 such that even a majority of the tracts east of 1300 East are below the city average. This illustrates the extreme differences in relative wealth between the poorer, minority populated west side and the affluent, non-Hispanic white east side. Thus, opportunities for prospective minority homebuyers could be limited on the east side of Sandy.

In addition to the neighborhood selection impediments, mortgage approval gaps have become increasingly apparent between non-Hispanic white and Hispanic applicants. Even when income levels are held constant, non-Hispanic white applicants had approval rates roughly at or above 70 percent for nearly all income levels. On the other hand, the approval rates for Hispanics were highly dependent on income. During the housing boom peak from 2006 to 2007, Hispanic applicants earning above $94,000 in annual income saw approval rates comparable to that of non-Hispanic whites. However, the approval rate gap between the two groups widened during the housing bust at all income levels.

All the census tracts east of 1300 East—which runs north and south through the center of the city—have minority shares below 15 percent. A few westernmost census tracts in Sandy have minority shares above 30 percent. Fair and equitable housing practices in Sandy need to be focused on bridging the affluence gap between the two sides of the city. This can be done by not only adding public transit options, but also increasing options for low-income, minority, and protected classes on the east side. One method is the creation of mixed-zoned, small micro-urban centers in the residential neighborhoods. With the addition of a few blocks of restaurants, shopping centers, a grocery store, and other small-scale commercial activity, along with affordable housing units, greater housing opportunity will be available to low-income and minority residents. Without needing to travel as far to the commercial hubs, residents with affordable housing can travel much shorter distances for employment, goods, and services without relying on public transit. Similarly, this would grant access to higher-opportunity areas for the protected classes who need it the most, by offering more housing stability in safer neighborhoods and providing access to higher-opportunity schools.

BACKGROUND

While Sandy is still demographically homogeneous, its fairly large rental market has increasingly attracted more minorities in the last two decades. Furthermore, the large decrease in the non-Hispanic white population in the last decade does suggest that Sandy is on a trajectory of shifting demographics in the coming decades.

Table 1 shows selected demographic trends in Sandy from 1990 to 2010. The share of the non-Hispanic white population has declined from 95 percent in 1990 to 86 percent in 2010. Most notably, the Hispanic/Latino population share nearly tripled from 2.5 percent in 1990 to 7.4 percent in 2010. The Asian population share doubled from 1.5 percent in 1990 to 3 percent in 2010.

The share of households with children under 18 has decreased dramatically from 67 percent in 1990 to 42 percent in 2010. At the same time, households with persons over 65 constituted a fifth of all households in Sandy in 2010, whereas this share was merely 8.7 percent in 1990. With the number of families with children decreasing and the number of those with seniors increasing, the city is experiencing an overall increase in the average age of residents. Single-parent households have remained at roughly 7 percent of total households from 1990 to 2010.

**Figure 1
Large Renter Households by City and Share of Salt Lake County Large Renter Households, 2010**
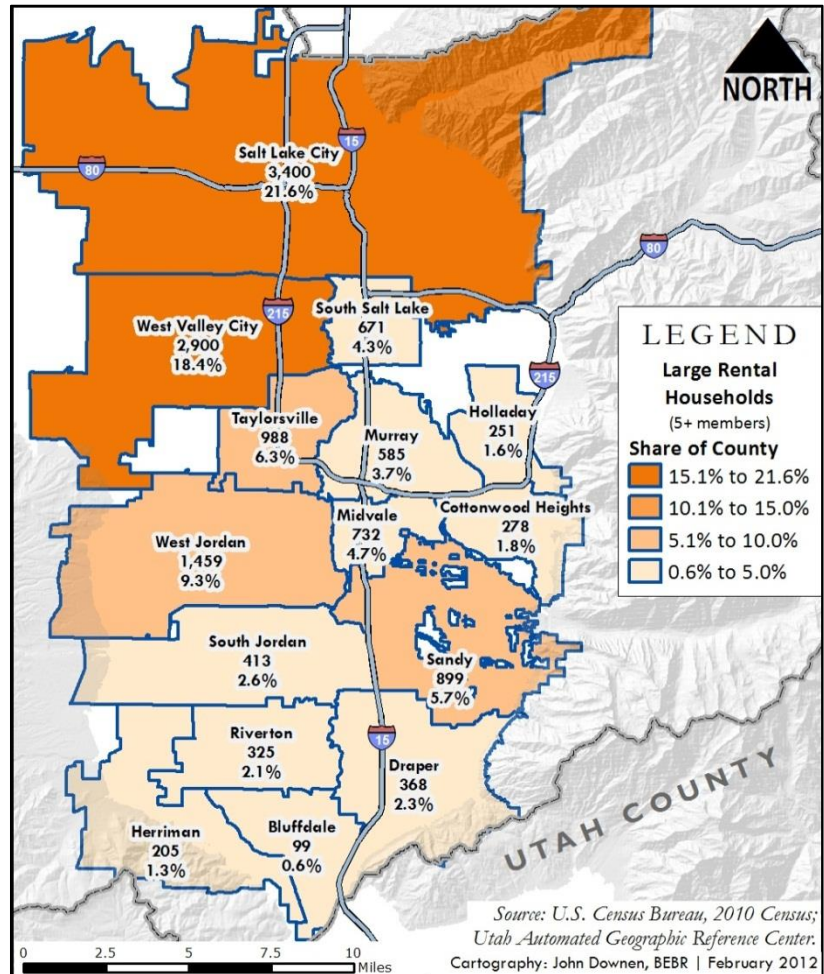
Figure 1 shows each city's share of Salt Lake County's large rental households, which are defined as having five or more persons. Over a fifth of the county's large rental households reside in Salt Lake City. The six entitlement cities—Salt Lake City, West Valley City, Taylorsville, West Jordan, Sandy, and South Jordan—constitute nearly 64 percent of the county's large rental households. Only 5.7 percent of large rental households reside in Sandy. The non-entitlement cities in the southern and eastern regions of the county each have very minimal shares. Although not pictured in Figure 1, the unincorporated areas are home to nearly 14 percent of the county's large rental households.

Table 1
Demographic Trends for Protected Classes
Sandy, 1990–2010

	1990		2000		2010	
	Count	Share	Count	Share	Count	Share
Total Population	75,058		88,418		87,461	
White (not Hispanic)	71,547	95.3%	80,523	91.1%	75,260	86.0%
Black (not Hispanic)	139	0.2%	404	0.5%	558	0.6%
Asian[1]	1,142	1.5%	1,894	2.1%	2,599	3.0%
Hispanic/Latino	1,906	2.5%	3,875	4.4%	6,447	7.4%
Minority (all except non-Hispanic white)	3,511	4.7%	7,895	8.9%	12,201	14.0%
Persons with disabilities[2]	—	—	9,603 ± 474	11.9% ± 0.6%	6,610 ± 621	8.1% ± 0.8%
Total Households	19,423		25,737		28,296	
Households with Children under 18 years	13,069	67.3%	13,955	54.2%	11,910	42.1%
Households with Persons 65 years or over	1,683	8.7%	3,079	12.0%	5,673	20.0%
Single Parent with Children under 18 years	1,410	7.3%	1,877	7.3%	1,987	7.0%
Large Families (5 or more persons)	6,355	32.7%	6,259	24.3%	5,214	18.4%
Owner-occupied Housing Units	16,964	87.3%	21,708	84.3%	22,559	79.7%
Renter-occupied Housing Units	2,459	12.7%	4,029	15.7%	5,737	20.3%

[1] The Asian population was tabulated by aggregating all the Asian races in the 1990 Census Summary Tape File 1A. This methodology was used into order to disaggregate the Asian and Pacific Islander populations, which were tabulated as one group in the 1990 Census. However, the individual Asian races were not disaggregated by Hispanic origin in the 1990 Census Summary Tape File 1A, so an overlap could exist between the 1990 tabulations for the Asian and Hispanic/Latino populations. This overlap is most likely very small given the relatively few Hispanic Asians in the total population. Note that the Asian category in the table above for 2000 and 2010 are non-Hispanic given the availability of disaggregation by Hispanic origin for the Asian population—separate from the Pacific Islander population—since Census 2000.

[2] The disability data account for only the population ages 5 and older, since Census 2000 did not gather disability data on the population under 5. The 2010 data was derived from the 2009-2011 American Community Survey 3-year estimates by aggregating only the age groups older than 5. The margins of error for the disability data are associated with 90% confidence intervals. The margin of error for the 2010 data was recalculated to account for only the population ages 5 and older. The margin of error for the 2000 data was calculated using the methodology described in the Census 2000 Summary File 3 Technical Documentation. Despite these adjustments to make the 2000 and 2010 data encompass the same age groups, these two data points are not comparable given changes in survey design and revisions in the definition of disability.

Source: U.S. Census Bureau

Table 2
Demographic Trends for Protected Classes
(Absolute Change), 1990–2010

	1990–2000	2000–2010
Total Population	13,360	-957
White (not Hispanic)	8,976	-5,263
Black (not Hispanic)	265	154
Asian (not Hispanic)	752	705
Hispanic/Latino	1,969	2,572
Minority	4,384	4,306
Total Households	6,314	2,559
Households with Children <18	886	-2,045
Households with Persons 65+	1,396	2,594
Single Parent with Children < 18	467	110
Large Families (5+ persons)	-96	-1,045
Owner-occupied Housing Units	4,744	851
Renter-occupied Housing Units	1,570	1,708

Source: U.S. Census Bureau

Table 3
Demographic Trends for Protected Classes
(Percent Change), 1990–2010

	1990–2000	2000–2010
Total Population	17.8%	-1.1%
White (not Hispanic)	12.5%	-6.5%
Black (not Hispanic)	190.6%	38.1%
Asian (not Hispanic)	65.8%	37.2%
Hispanic/Latino	103.3%	66.4%
Minority	124.9%	54.5%
Total Households	32.5%	9.9%
Households with Children <18	6.8%	-14.7%
Households with Persons 65+	82.9%	84.2%
Single Parent with Children < 18	33.1%	5.9%
Large Families (5+ persons)	-1.5%	-16.7%
Owner-occupied Housing Units	28.0%	3.9%
Renter-occupied Housing Units	63.8%	42.4%

Source: U.S. Census Bureau

Table 4 lists the average household sizes in Sandy by race and ethnicity. The citywide average household size steadily decreased from 3.84 in 1990 to 3.08 in 2010. This downward trend was mostly dictated by the non-Hispanic white households, which has constituted over 90 percent of all households in the past 20 years. Asians are the only minority group that mirrors this consistent downward trend in average household size during the past 20 years.

Both Hispanics/Latinos and Pacific Islanders experienced increases in average household size from 1990 to 2000 before slight declines in 2010. Nonetheless, these two racial and ethnic groups have the highest average household sizes in the city.

The higher average household sizes among minority groups could pose difficulties in finding affordable and suitable rental locations, as well as higher rent burdens. Thus, limited selection and affordability of rental units with three or more bedrooms could disproportionately affect minority groups, especially Hispanics/Latinos and Pacific Islanders. The impediments to rental opportunity are particularly relevant given the increasing rental rates among minorities in Sandy (Table 6).

Table 4
Average Household Size by Race/Ethnicity in Sandy, 1990–2010

Race/Ethnicity	1990[1]	2000	2010
White (not Hispanic)	3.84	3.40	3.02
Hispanic/Latino	3.68	3.84	3.71
American Indian (not Hispanic)	3.81	3.24	3.60
Asian/Pacific Islander (not Hispanic)	3.99	3.73	3.47
Asian[2]	3.96	3.57	3.24
Pacific Islander[2]	4.72[5]	5.16	4.97
Black (not Hispanic)	3.19	2.92	3.11
Other Race (not Hispanic)	2.00[5]	—[4]	3.30[5]
Two or More Races (not Hispanic)	—[3]	3.36	3.24
Total Population	3.84	3.42	3.08

[1] The average household size was not a metric available in the 1990 Census Summary Tape File 2B. Thus, the average household size was calculated by taking the average of the distribution of household sizes for each race/ethnicity. However, since the upper limit of the household size was capped at 9 or more persons, households in this group were assumed to have 9 members for the purposes of calculating the average. This methodology could lead to slight underestimations of the actual average household size. For 2000 and 2010, the average household size was available as a metric without further calculation.

[2] The 1990 Census Summary Tape File 2B does not further disaggregate Asian and Pacific Islander populations by Hispanic origin. However, this lack of detailed disaggregation in the census raw data only overcounts the total number of households in Salt Lake County by 91, given the relatively few Hispanic Asians and Hispanic Pacific Islanders in the total population. Note that the Asian and Pacific Islander categories for 2000 and 2010 are non-Hispanic given the availability of disaggregation by Hispanic origin for these two races in the last two censuses to avoid overlap with the Hispanic/Latino population.

[3] The 1990 Census did not include "Two or More Races" as an option for race.

[4] The 2000 and 2010 Census did not provide average household sizes for these groups due to low numbers of households.

[5] These groups have fewer than 30 households. Please refer to the exact number of households for these groups in Table 7.

Source: U.S. Census Bureau

Figure 2
Beneficiaries of Social Security Disability
by Zip Code in Salt Lake County, 2010
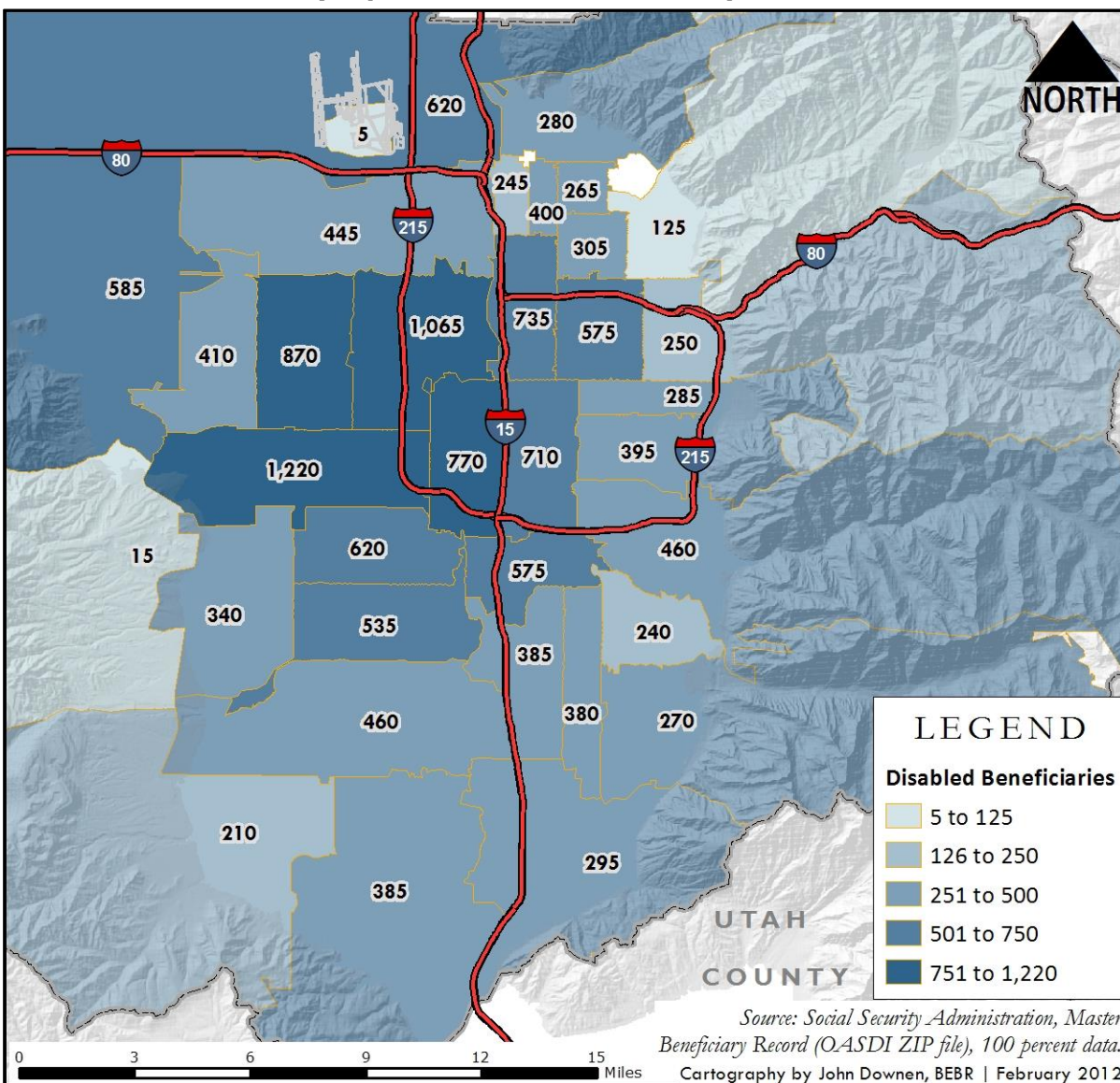
The number of disabled social security disability beneficiaries in Salt Lake County is shown in Figure 2 at the zip code level. The beneficiaries are heavily concentrated in West Valley City, Taylorsville, and Kearns as well as parts of South Salt Lake and Murray. Relative to the northern zip codes in the county, Sandy's are home to very few disabled beneficiaries, which is a consummate with the other southern cities zip codes.

SEGREGATION

Homeownership rates in Sandy have steadily decreased sine 1990 (Table 5). In 2010, one in five households in Sandy are rental units. Non-Hispanic white homeownership rates decreased from 88 percent in 1990 to 81 percent in 2010. On the other hand, minority homeownerships rates have decreased most drastically from 82 percent in 1990 to 65 percent in 2010. Asians were the only minority group with homeownerships rates in 2010 that were comparable to that of non-Hispanic whites. Hispanic/Latino and black households had rental tenure rates of 40 percent and 52 percent, respectively (Table 6).

Table 5
Homeownership Rate by Race/Ethnicity
Sandy, 1990–2010

Race and Ethnicity	1990	2000	2010
White (not Hispanic)	87.6%	85.3%	81.4%
Minority	81.5%	72.1%	65.2%
Hispanic/Latino	80.5%	68.4%	60.1%
Non-Hispanic Minority	82.7%	75.4%	70.7%
American Indian	—[2]	—[2]	—[2]
Asian or Pacific Islander	84.4%	82.0%	76.4%
Asian	—[1]	83.9%	80.0%
Pacific Islander	—[1]	—[2]	52.2%
Black	—[2]	63.4%	48.4%
Other Race	100.0%	92.3%	66.7%
Two or More Races	—[1]	—[2]	—[2]
Total	87.3%	84.3%	79.7%

Source: U.S. Census Bureau

Table 6
Rental Tenure Rate by Race/Ethnicity
Sandy, 1990–2010

Race and Ethnicity	1990	2000	2010
White (not Hispanic)	12.4%	14.7%	18.6%
Minority	18.5%	27.9%	34.8%
Hispanic/Latino	19.5%	31.6%	39.9%
Non-Hispanic Minority	17.3%	24.6%	29.3%
American Indian	—[2]	—[2]	—[2]
Asian or Pacific Islander	15.6%	18.0%	23.6%
Asian	—[1]	16.1%	20.0%
Pacific Islander	—[1]	—[2]	47.8%
Black	—[2]	36.6%	51.6%
Other Race	0.0%	7.7%	33.3%
Two or More Races	—[1]	—[2]	—[2]
Total	12.7%	15.7%	20.3%

Source: U.S. Census Bureau

[1] The 1990 Census did not further disaggregate Asian or Pacific Islander into separate groups for tenure data. In addition, the 1990 Census did not include multiple races as an option.
[2] All homeownership and rental tenure rates are not listed for any racial or ethnic group with fewer than 100 households.

Table 7 and Table 8 include the composition of total households and rental households, respectively, by race and ethnicity. Minorities have increasingly constituted a disproportionately high percentage of rental units in Sandy. While minorities accounted for 10 percent of households in 2010, they represent 17.5 percent of all rental households. Over 10 percent of rental units in 2010 are Hispanic/Latino households, which account for only 5 percent of total households in Sandy.

Table 7
Total Households by Race and Ethnicity
Sandy, 1990–2010

Race and Ethnicity	1990		2000		2010	
	Number of Households	% Share	Number of Households	% Share	Number of Households	% Share
White (not Hispanic)	18,595	95.7%	23,906	92.9%	25,414	89.8%
Minority	828	4.3%	1,831	7.1%	2,882	10.2%
Hispanic/Latino	447	2.3%	860	3.3%	1,491	5.3%
Non-Hispanic Minority	381	2.0%	971	3.8%	1,391	4.9%
American Indian	43	0.2%	72	0.3%	82	0.3%
Asian or Pacific Islander	294	1.5%	590	2.3%	884	3.1%
Asian	—	—	529	2.1%	769	2.7%
Pacific Islander	—	—	61	0.2%	115	0.4%
Black	42	0.2%	112	0.4%	157	0.6%
Other Race	2	0.0%	13	0.1%	27	0.1%
Two or More Races	—	—	184	0.7%	241	0.9%
Total	19,423	100.0%	25,737	100.0%	28,296	100.0%

Source: U.S. Census Bureau

Note: For the 1990 data, the number of households by race and ethnicity of householder is not further disaggregated to distinguish between Asian and Pacific Islander.

Table 8
Rental Households by Race and Ethnicity
Sandy, 1990–2010

Race and Ethnicity	1990		2000		2010	
	Number of Households	% Share	Number of Households	% Share	Number of Households	% Share
White (not Hispanic)	2,306	93.8%	3,518	87.3%	4,735	82.5%
Minority	153	6.2%	511	12.7%	1,002	17.5%
Hispanic/Latino	87	3.5%	272	6.8%	595	10.4%
Non-Hispanic Minority	66	2.7%	239	5.9%	407	7.1%
American Indian	15	0.6%	38	0.9%	34	0.6%
Asian or Pacific Islander	46	1.9%	106	2.6%	209	3.6%
Asian	—	—	85	2.1%	154	2.7%
Pacific Islander	—	—	21	0.5%	55	1.0%
Black	5	0.2%	41	1.0%	81	1.4%
Other Race	0	0.0%	1	0.0%	9	0.2%
Two or More Races	—	—	53	1.3%	74	1.3%
Total	2,459	100.0%	4,029	100.0%	5,737	100.0%

Source: U.S. Census Bureau

Note: For the 1990 data, the number of households by race and ethnicity of householder is not further disaggregated to distinguish between Asian and Pacific Islander.

Figure 3
Minority Population Concentrations
in Sandy, 2000 and 2010
Figure 4
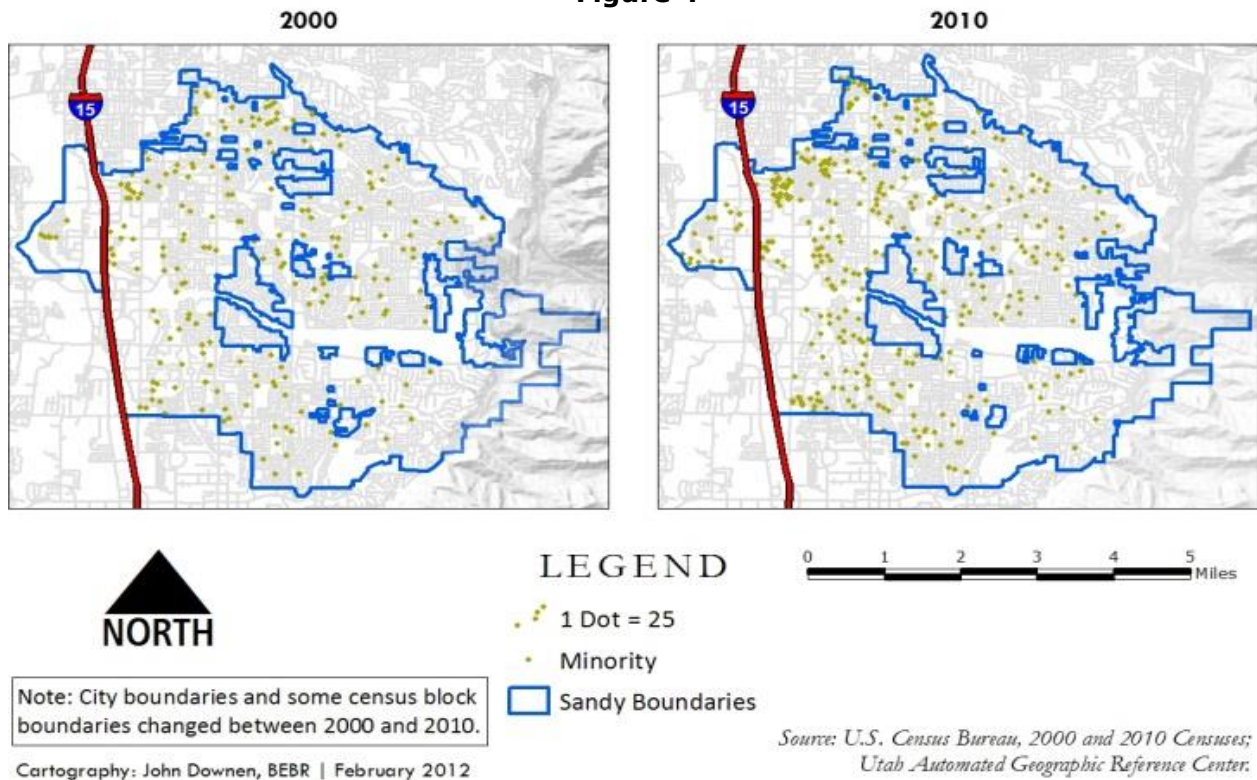
Percent of Minority Population by Tract
in Sandy, 2000 and 2010
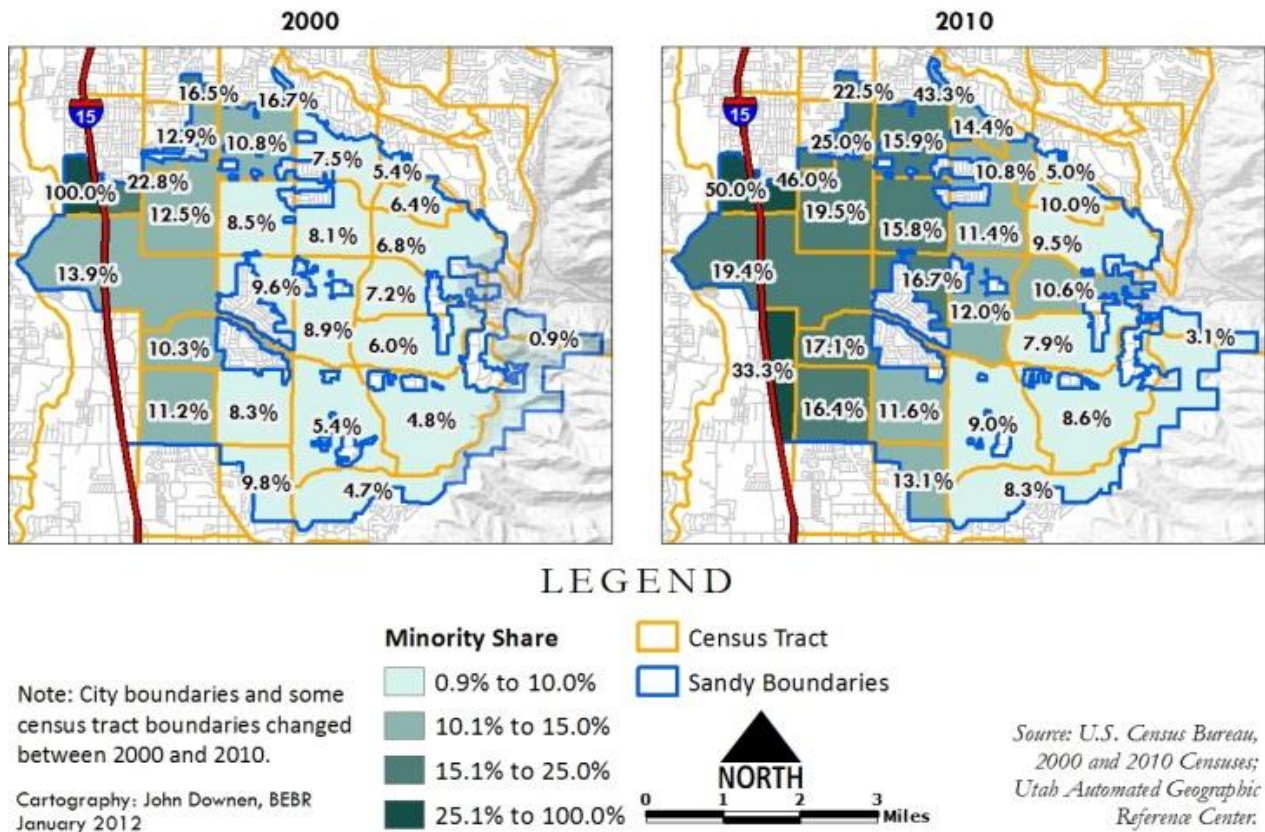
Figure 3 shows Sandy's minority concentrations in 2000 and 2010. The minority concentrations appear fairly uniform thoroughly the city in 2000. However, in 2010, the west side of Sandy had many more concentrated areas of minority populations than in the east side. The changes in minority concentrations are also shown in Figure 4, which depicts the west-side census tracts with higher minority shares than the east side. This geographic divide is subtle in the 2000 panel of Figure 4 but very apparent in the 2010 panel, where several census tracts have minority shares above 20 percent.

Figure 5
Minority Owner-Occupied Units in Sandy, 2010

Total minority owner-occupied housing units: 1,880
Share of total owner-occupied units in Sandy: 8.3%

Source: U.S. Census Bureau, 2010 Census;
Utah Automated Geographic Reference Center.
Cartography: John Downen, BEBR | November 2011
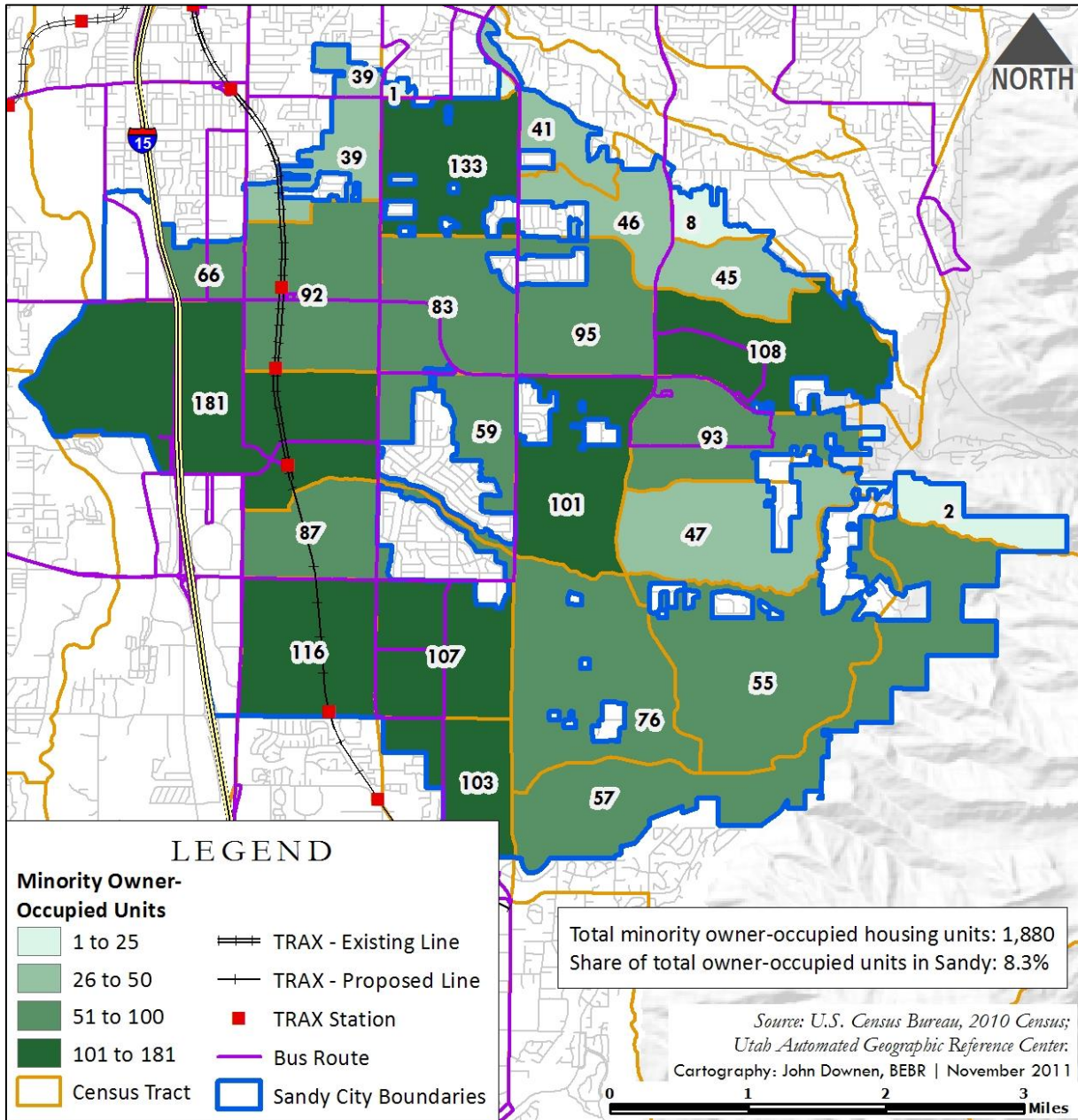
Figure 5 shows the number of minority occupied units by census tract in Sandy. Figure 6 provides the percent of owner-occupied units that are minority households. The absolute numbers of minority households in the city are fairly similar across census tracts, with pockets of minority household concentrations on the west side. The minority share of owner-occupied units is slightly higher in the westernmost census tracts in the city.

Figure 6
Share of Owner-Occupied Units in Sandy Occupied by Minority Household, 2010
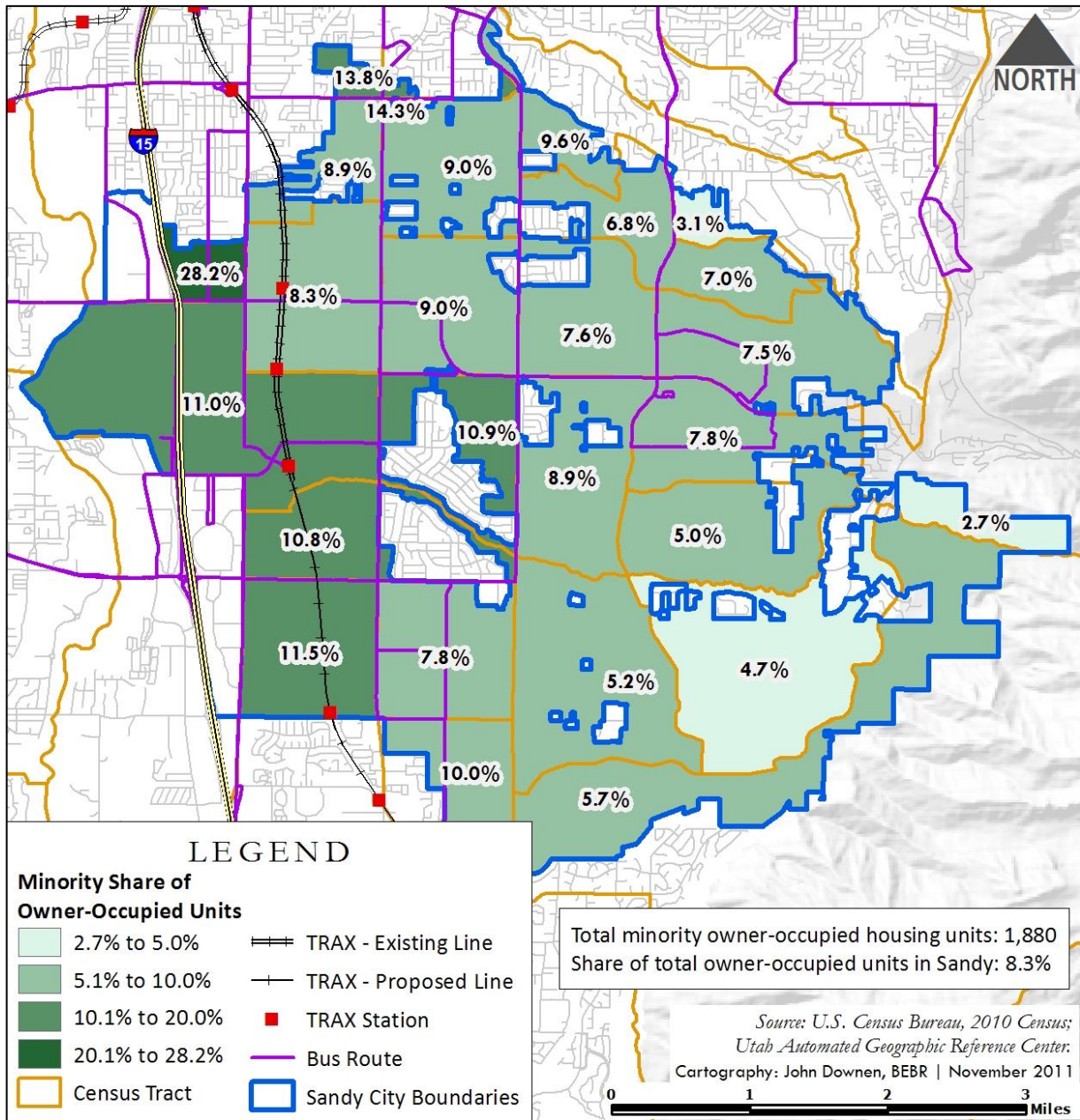
Figure 7
Minority Owner-Occupied Units and Proximity to Low-Wage Jobs
Sandy, 2010
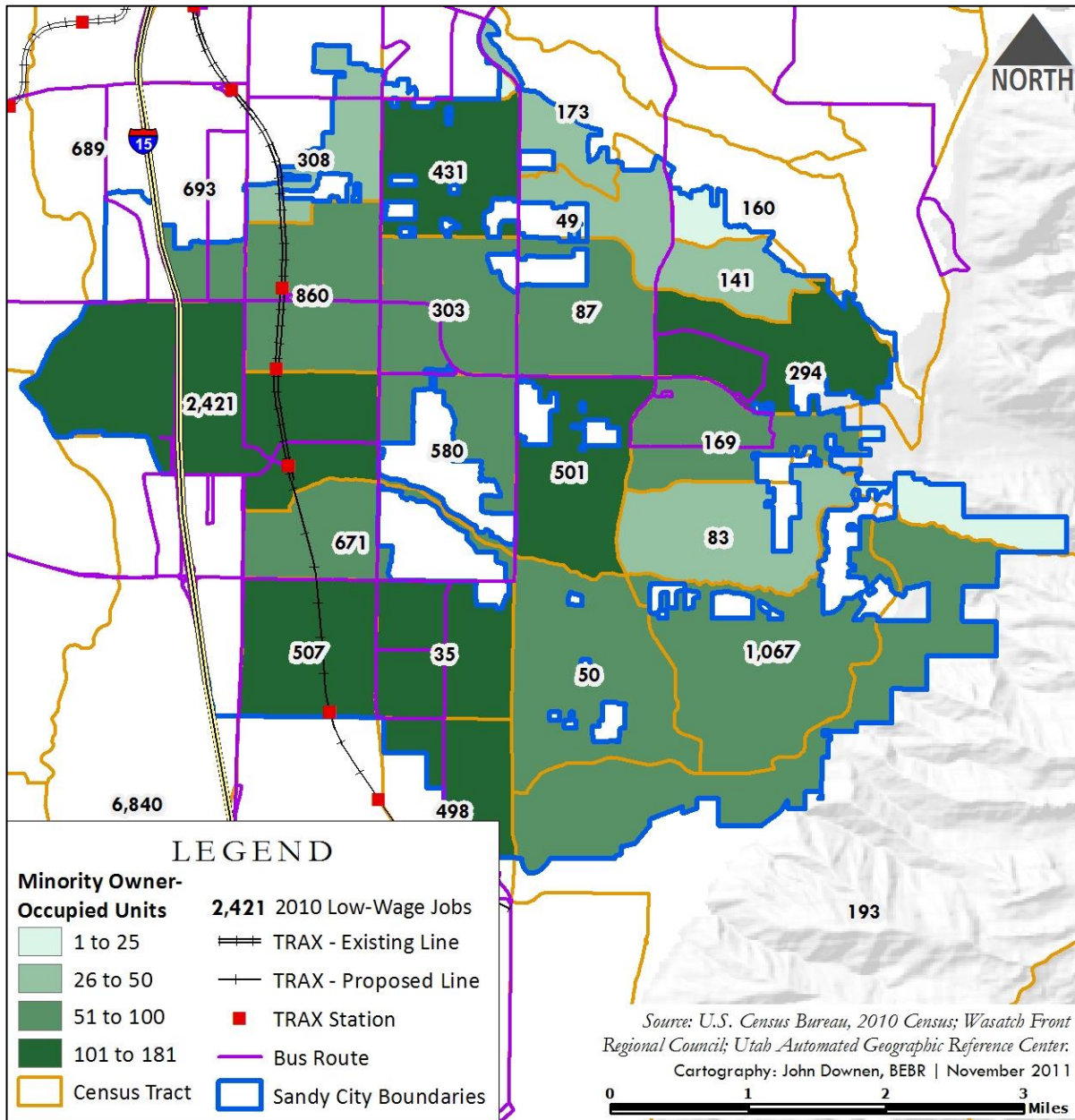
Figure 7 overlays the density of minority owner-occupied units (in shades of green) with the number of low-wage jobs in the respective census tracts. The TRAX line goes through the central business district located on the west side of the city. However, there are no TRAX stations or bus routes that reach the southeastern corner of the city where there are over 1,000 low-wage jobs. Furthermore, the dark green census tracts, representing high numbers of minority owner-occupied units, are dispersed throughout the city with only a few bus routes as public transportation.

Figure 8
Minority Renter-Occupied Units by Tract in Sandy, 2010

LEGEND

Minority Renter-Occupied Units

1 to 25	⊞⊞⊞ TRAX - Existing Line
26 to 50	─┼─ TRAX - Proposed Line
51 to 100	■ TRAX Station
101 to 178	── Bus Route
Census Tract	── Sandy City Boundaries

Total minority renter-occupied housing units: 1,002
Share of total renter-occupied units in Sandy: 17.5%

*Source: U.S. Census Bureau, 2010 Census;
Utah Automated Geographic Reference Center.*
Cartography: John Downen, BEBR | November 2011
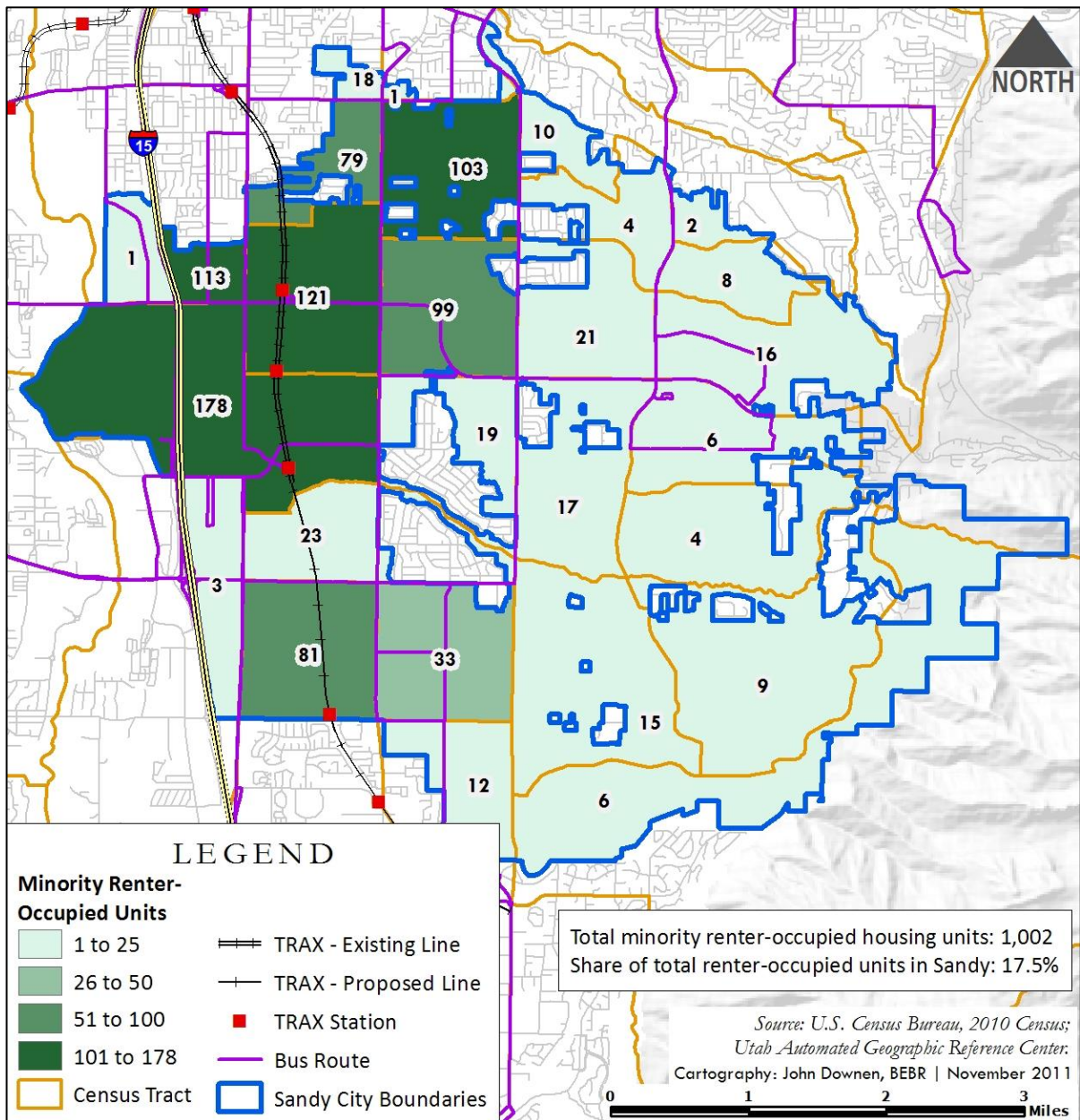
Figure 8 shows the number of minority renter-occupied units in Sandy. While the minority owner-occupied units are concentrated throughout the west side of the city and pockets on the east side (Figure 5), minority renter-occupied units are mostly situated in the northwestern corner of the city. In fact over 70 percent of the total minority-renter occupied units are located in the northwestern census tracts in Sandy. The racial and ethnic segregation among rental units is less subtle than among owner-occupied units.

Figure 9
Minority Share of Renter-Occupied Units by Tract in Sandy, 2010

LEGEND

Minority Share of Renter-Occupied Units

3.7% to 15.0%
15.1% to 30.0%
30.1% to 60.0%
60.1% to 100.0%
Census Tract

TRAX - Existing Line
TRAX - Proposed Line
TRAX Station
Bus Route
Sandy City Boundaries

Total minority renter-occupied housing units: 1,002
Share of total renter-occupied units in Sandy: 17.5%

Source: U.S. Census Bureau, 2010 Census;
Utah Automated Geographic Reference Center.
Cartography: John Downen, BEBR | November 2011

0   1   2   3 Miles

Figure 9 shows the minority share of renter-occupied units in Sandy. Nearly all northwestern census tracts have minority rental shares over 20 percent. Nearly all the census tracts on the east side of the city have minority rental shares below the overall citywide share of 17.5 percent.

Figure 10
Minority Renter-Occupied Units and Proximity to Low-Wage Jobs
Sandy, 2010

LEGEND

Minority Renter-Occupied Units
- 1 to 25
- 26 to 50
- 51 to 100
- 101 to 178
- Census Tract

2,421 2010 Low-Wage Jobs
- TRAX - Existing Line
- TRAX - Proposed Line
- TRAX Station
- Bus Route
- Sandy City Boundaries

Source: U.S. Census Bureau, 2010 Census; Wasatch Front Regional Council; Utah Automated Geographic Reference Center.
Cartography: John Downen, BEBR | November 2011
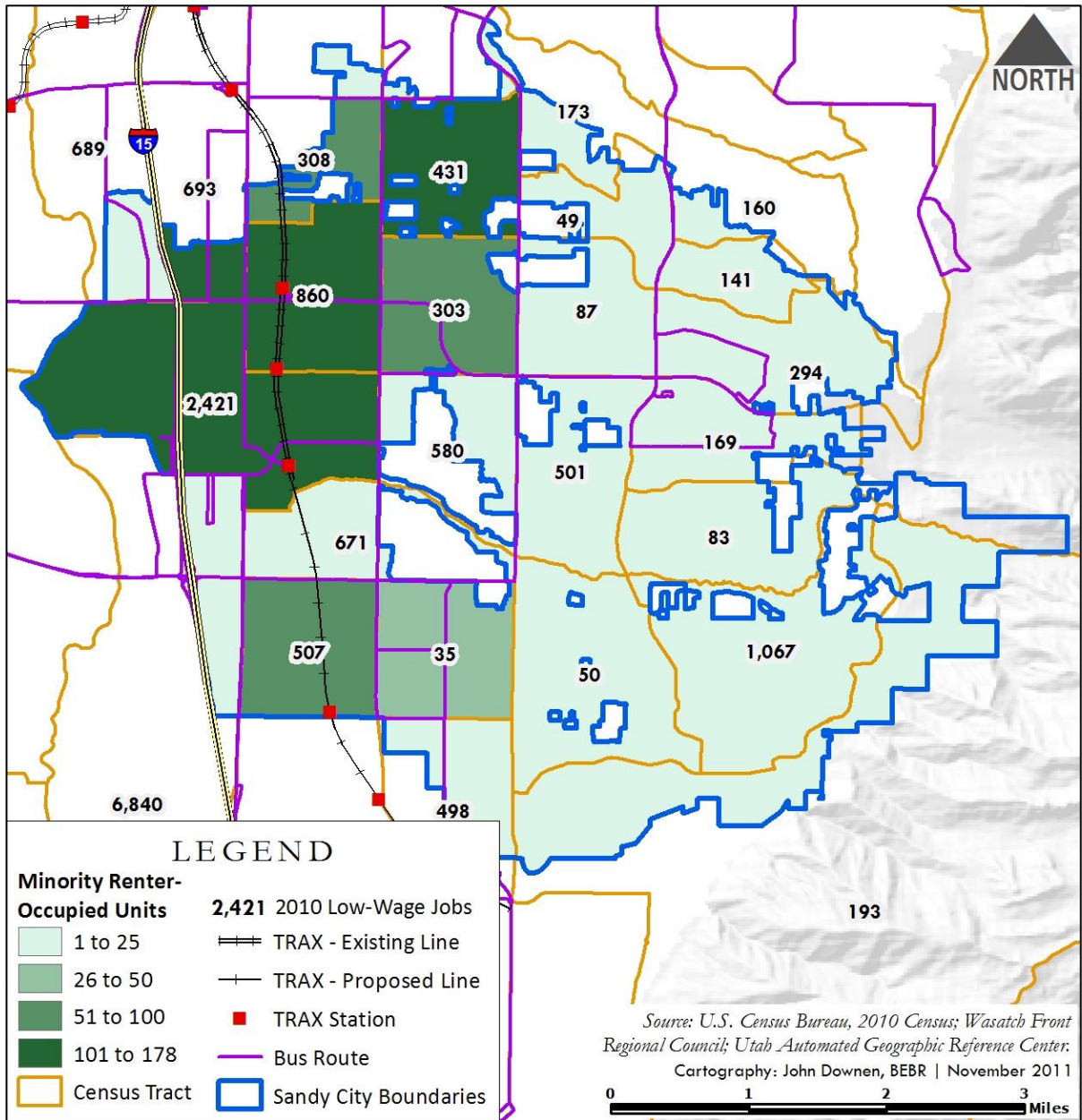
Figure 10 overlays the density of minority renter-occupied units with the number of low-wage jobs. The proximity to the commercial areas on the west side of the city could be a reason for the high concentration of minority rental households on the northwestern part of the city. However, even though the northwestern census tracts have the most bus routes in the city, most of them encircle the census tract boundaries. This could still pose difficulties in commuting to work via public transportation.

Table 9
Predicted Racial/Ethnic Composition Ratio
Sandy

	Percent of Households		Actual/ Predicted Ratio
	Actual	Predicted	
Minority	9.6%	13.0%	0.74
Asian	2.7%	2.1%	1.30
Black	0.8%	0.9%	0.87
Hispanic/Latino	4.9%	8.3%	0.58

Source: HUD Spreadsheet for Sustainable Communities Grantees

Actual/Predicted Ratio Scale

Value Ranges	Interpretation of Actual Share
0-0.5	Severely Below Predicted
0.5-0.7	Moderately Below Predicted
0.7-0.9	Mildly Below Predicted
0.9-1.1	Approximates Predicted
> 1.1	Above Predicted

Table 9 shows the ratio between predicted and actual racial/ethnic composition in Sandy. The predicted percent of minority households is the expected composition based on the income distribution in the metropolitan area by race and ethnicity. The actual composition is based on the 2005-2009 American Community Survey 5-year estimates.

Minorities are considered mildly below predicted values in Sandy. However, Asians are above the predicted value. While metro-area income distributions predict an 8.3-percent Hispanic population, Sandy's Hispanic share is less than 5 percent.

Table 10 compares the affordability of rental housing units in Sandy with the metro area for rental prices based on AMI. Affordability is based on the threshold that rent would not amount to more than 30 percent of total income.

Table 10
Fair Share Affordable Housing Index
Sandy

Income Level	A Total Housing Units	B Number of Affordable Rental Units	C % of Affordable Rental Units in City (B/A)	D % of Affordable Rental Units in Metro Area	E Fair Share Need (D × A)	F % of Fair Share Need (C/D)
<30% AMI	30,876	224	1%	6%	1,888	12%
30%-50% AMI	30,876	654	2%	12%	3,569	18%
50%-80% AMI	30,876	2,272	7%	19%	5,829	39%

Source: HUD Spreadsheet for Sustainable Communities Grantees

Note: The affordability for each income level is based on the threshold that gross rent will not amount to more than 30% of total income.

Sandy's housing stock is considered extremely unaffordable for all income levels below 80 percent AMI. Only 1 percent of Sandy's total housing units are deemed affordable below the 30 percent AMI level. The percent of fair share need below the 30 percent AMI level is 12 percent, meaning that the city's share of affordable rental

Percent of Fair Share Need Scale

Value Ranges	Interpretation of Actual Share
0-50%	Extremely Unaffordable
50-70%	Moderately Unaffordable
70%-90%	Mildly Unaffordable
90%-110%	Balanced Affordability
> 110%	Above Fair Share, Affordable

units at this income level is only 12 percent of the metro area's share.

Figure 11
Single-Family Homes Affordable at 80% AMI in
Sandy, 2011

Source: Salt Lake County Assessor, Utah Automated Geographic Reference Center.
Cartography: John Downen, BEBR | December 2012
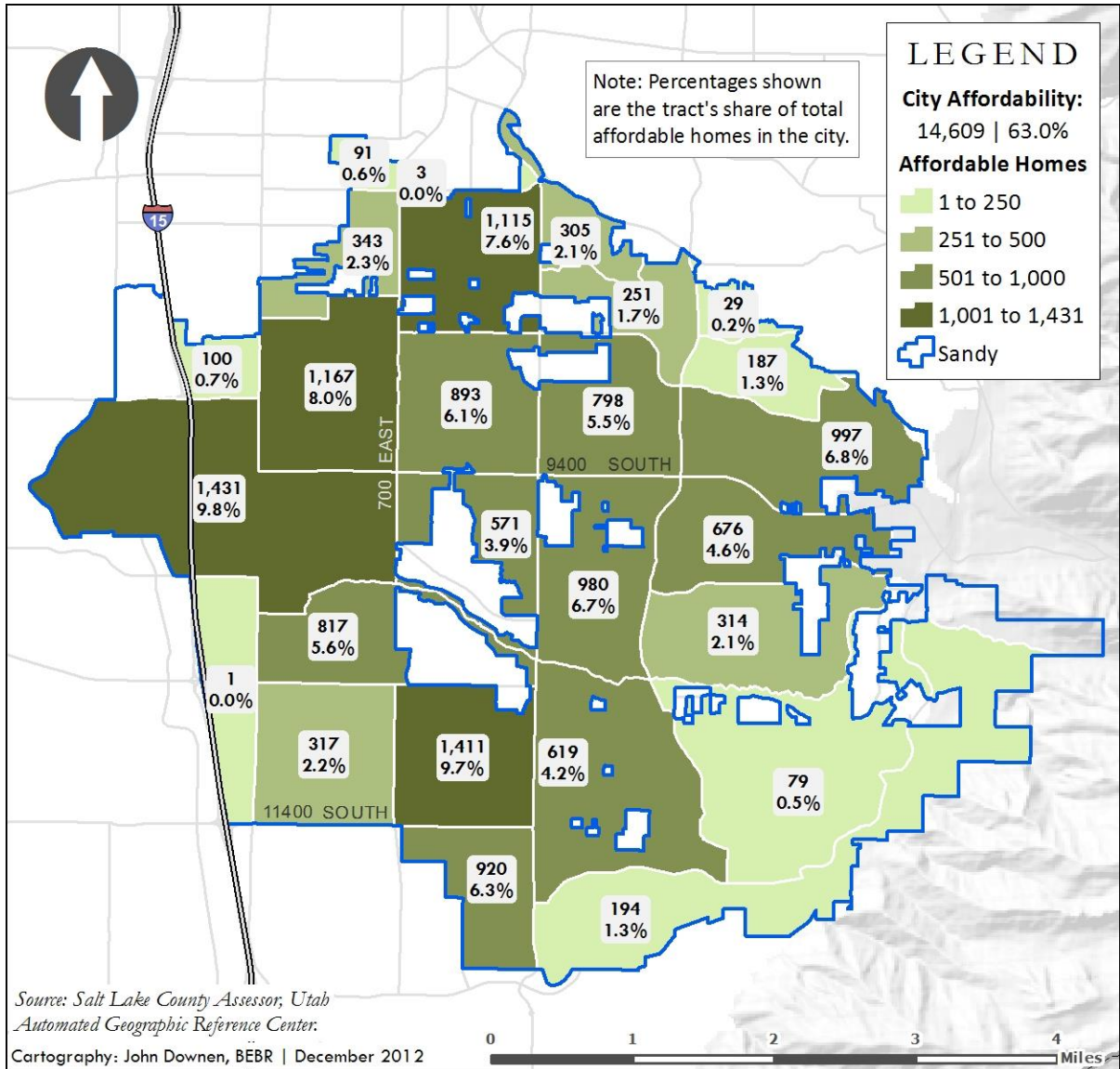
Figure 11 shows the number and share of single-family homes in Sandy census tracts that are affordable at 80 percent AMI in 2011. The percentages shown in Figure 11 are each census tract's share of the total affordable homes in the city. Affordability calculations are based on 30 percent of annual income, accounting for taxes, home insurance, and mortgage insurance. The maximum affordable single-family home price at 80 percent AMI is $255,897. Only the western part of the city has census tracts that have more than 7 percent of Sandy's total affordable units at 80 percent AMI.

Table 11 Dissimilarity Index			Dissimilarity Index Scale	
Group	Sandy	Salt Lake County	Value Ranges	Interpretation
Minority	0.33	0.43	≤ 0.40	Low Segregation
Hispanic/Latino	0.44	0.50	0.41-0.54	Moderate Segregation
Non-Hispanic Minority	0.38	0.41	≥ 0.55	High Segregation

Source: BEBR computations from 2010 Census

The dissimilarity index calculates the share of the minority group that would have to move to different census blocks in order to match the non-Hispanic white distribution in the respective geographic area. The Salt Lake County dissimilarity index was calculated using data from all incorporated cities and unincorporated areas.

The dissimilarity index is calculated as follows:

$$Dissimilarity\ (W, M)_j = \frac{1}{2} \sum_{i=1}^{N} \left| \frac{M_i}{M_j} - \frac{W_i}{W_j} \right|$$

where
W = non-Hispanic population
M = minority population
i = i^{th} census block group
j = geographic area (city or county)
N = number of census blocks in geographic area j

Another measure of segregation is the dissimilarity index shown in Table 11. The dissimilarity indices for Sandy are below the county levels. In order for the minority and non-Hispanic white geographic distributions in Sandy to match, one-third of minorities would have to move to other census blocks in the city. While the dissimilarity index itself does not provide any geospatial information about segregation, Figure 12 shows the difference between each census block's share of the minority and non-Hispanic white populations in order to depict the areas contributing to high dissimilarity indices.

Figure 12
Dissimilarity Index for Minorities in Salt Lake County, 2010
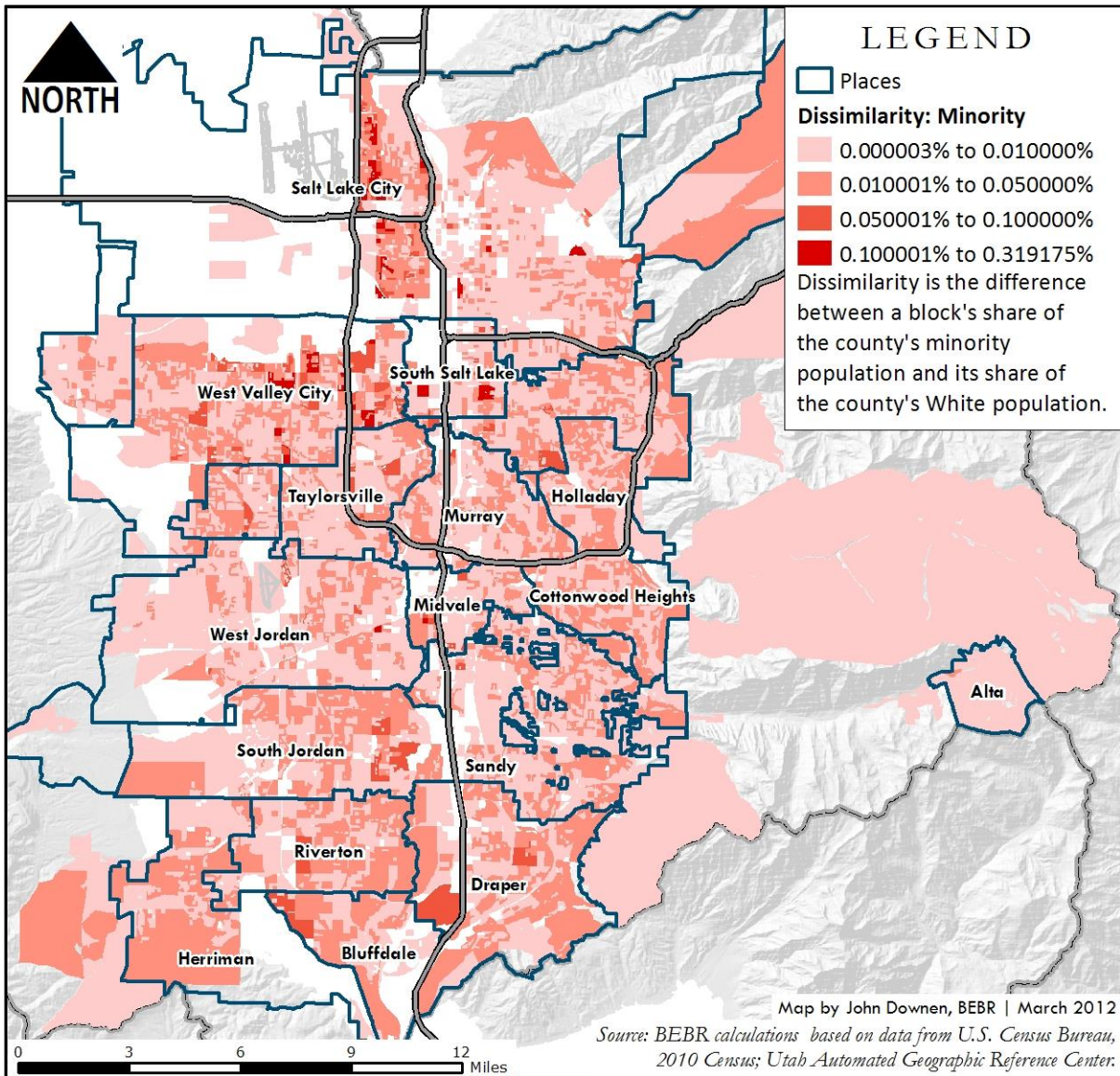
Figure 12 shows the absolute difference between each census block's county share of the minority and non-Hispanic white population. These absolute differences are used to calculate the minority dissimilarity index in Table 11 for the county. Noticeably large dissimilarities between the minority and non-Hispanic white county shares at the block level are concentrated on the west side of Salt Lake City in the neighborhoods of the River District. Some census blocks in West Valley City and South Salt Lake also have dissimilarities greater than 0.1 percent. Sandy has higher levels of dissimilarities on the east side of the city, since minorities are slightly more concentrated on the west side.

RCAP

In 2010, there were 93,831 individuals living in Sandy, 5.7 percent of which were considered poor (Table 12). Black residents of the city had the highest rates of poverty at 46.5 percent, approximately 10 times higher than that of non-Hispanic whites. Just fewer than 30 percent of both Native Americans and Pacific Islanders in the city were also considered poor. Of the 5,346 poor people living in Sandy, almost three-quarters of them were non-Hispanic whites (Table 13). Of the 1,494 poor minorities, 676 of them are Hispanic and 503 are black. Even though the poor populations of Sandy are predominantly non-Hispanic white, this is because the city is predominantly white. The prevalence of poverty in minorities is about three times higher than for non-Hispanic whites.

Table 12
Number and Share of Poor Persons by Race and Ethnicity in Sandy, 2010

		Poor	Total	% Poor
Sandy	Black	503	1081	46.5%
	Native Am.	219	561	39.0%
	Asian	31	3072	1.0%
	Pacific Island	65	228	28.5%
	Hispanic	676	5448	12.4%
	Total Minority	1494	10390	14.4%
	White	3852	83441	4.6%
	Total	5346	93831	5.7%

Source: HUD Spreadsheet for Sustainable Communities Grantees

Table 13
Poor in Sandy by Race and Ethnicity, 2010

	Race/ Ethnicity	Persons	Share
Sandy	Black	503	9.4%
	Native Am.	219	4.1%
	Asian	31	0.6%
	Pacific Island	65	1.2%
	Hispanic	676	12.6%
	Total Minority	1494	27.9%
	White	3852	72.1%
	Total Poor	5346	100.0%

Source: HUD Spreadsheet for Sustainable Communities Grantees

Figure 13 maps the spatial distribution of poor people in Sandy. There is a clear concentration of poor people living on the west side of Sandy, especially in the northwest and southwest corners near the TRAX line and I-15. More striking is the heavy concentration of poor blacks living in the northwest corner of Sandy along State Street, just below the city boundary of Midvale. The eastern and southern portions of the city, far from TRAX and I-15, with almost no bus routes, as shown in Figure 13 are sparsely populated with poor non-Hispanic whites as well as a few poor Pacific Islanders and Hispanics. As illustrated in Figure 14, there are no racially or ethnically concentrated areas of poverty in the city as defined by HUD. This is consistent with the other cities in the southern third of Salt Lake County, none of which have a high prevalence of poverty or minorities. As a result, none of the southern cities have or are at much risk of having RCAPs in the near future.

Figure 13
Poor by Census Tract in Sandy, 2010
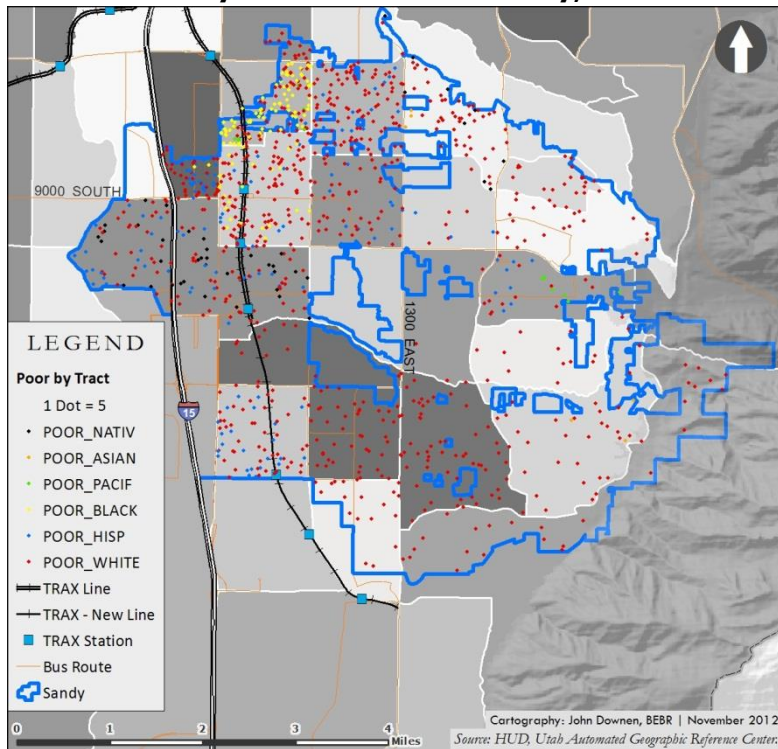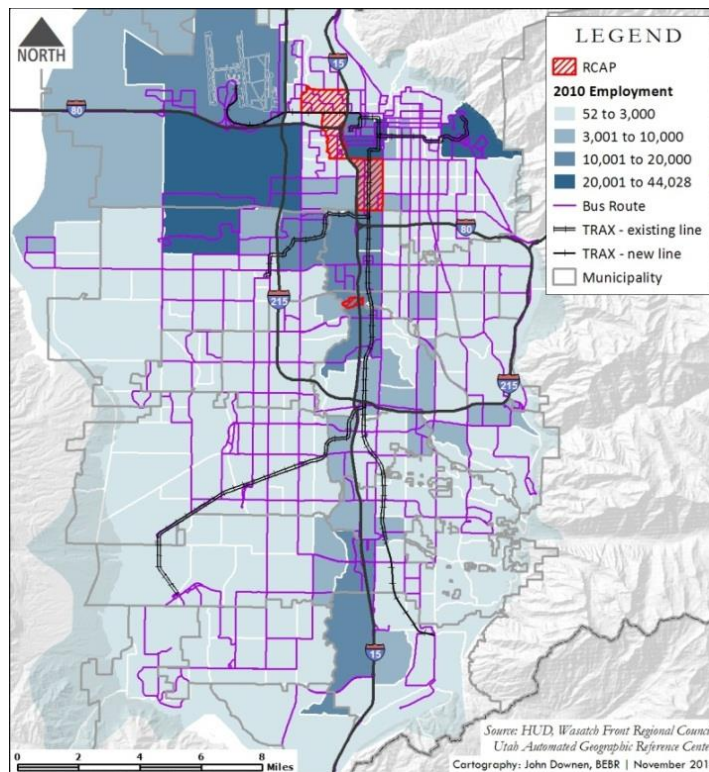

Figure 14
Racially/Ethnically Concentrated Areas of Poverty in Salt Lake County

HUD defines a racially/ethnically concentrated area of poverty as a census tract with a family poverty rate greater than or equal to 40%, or a family poverty rate greater than or equal to 300% of the metro tract average, and a majority non-white population, measured at greater than 50%.

The following three figures (Figure 15, Figure 16 and Figure 17) show concentrations of poverty in Salt Lake County, estimated from the 2007-2011 American Community Survey. Here, an area of poverty is considered concentrated when it has three times the countywide average share of the population living below the poverty line. The countywide average is approximately 11.6 percent, so an area is considered highly concentrated when it has 34.7 percent or more of the population living in poverty. Figure 15 overlays these areas of poverty with census tracts that have minority-majority populations, which are defined as having a minority share greater than 50 percent of the census tract population. Figure 16 overlays the concentrations of poverty with tracts that have a Hispanic population of 10 percentage points or more above the county's population of 17.1 percent. Figure 17, on the other hand, overlays the concentrated areas of poverty with a county map showing the census tracts where the minority population is 10 percentage points above the county average of 26 percent. In all cases, the concentrated areas of poverty are along Interstate 15 in Salt Lake City. None of the concentrations are in the city of Sandy. However, in the very northeast corner of the city, on the west side of I-15, bordering Midvale, there is a minority-majority tract. As a result, this area also has populations of Hispanics and minorities of higher than 10 percentage points above the county average. This is not surprising considering the higher prevalence of minority residents living in Midvale compared to those living south of Sandy in Draper. Similarly, it is also geographically consistent with the minority concentrations in Midvale, where the highest concentration is west of Interstate 15. The separation between minorities and non-Hispanic whites is even more concerning given that minority residents are disproportionally poorer than non-Hispanic white residents in the city.

Figure 15
Concentrations of Poverty and Minority Majority
by Tract in Salt Lake County, 2007–2011
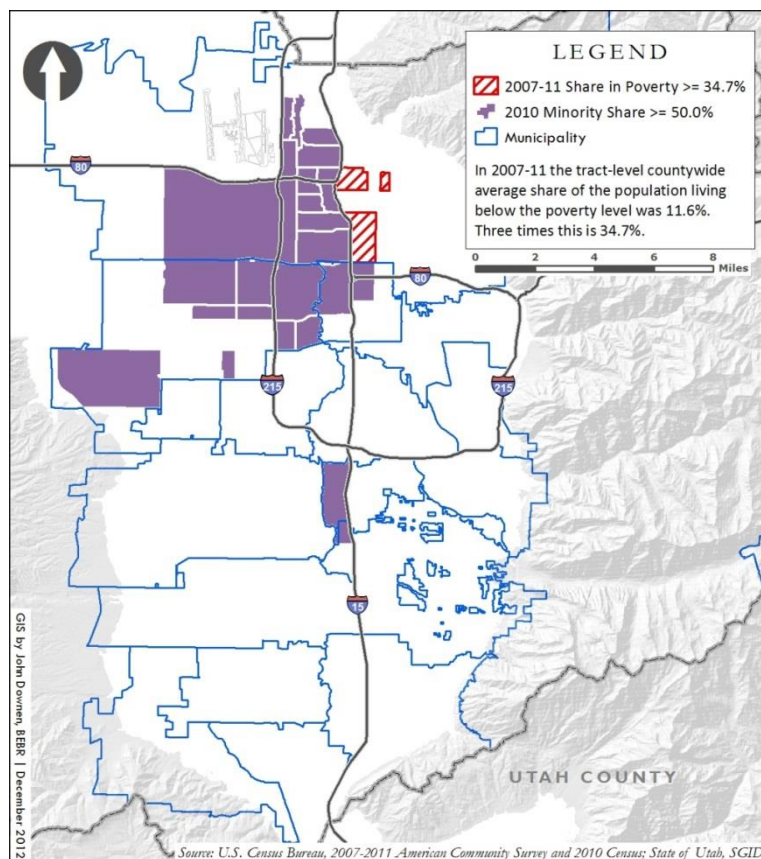
**Figure 16
Concentrations of Poverty and
Hispanics by Tract in Salt Lake
County, 2007–2011**
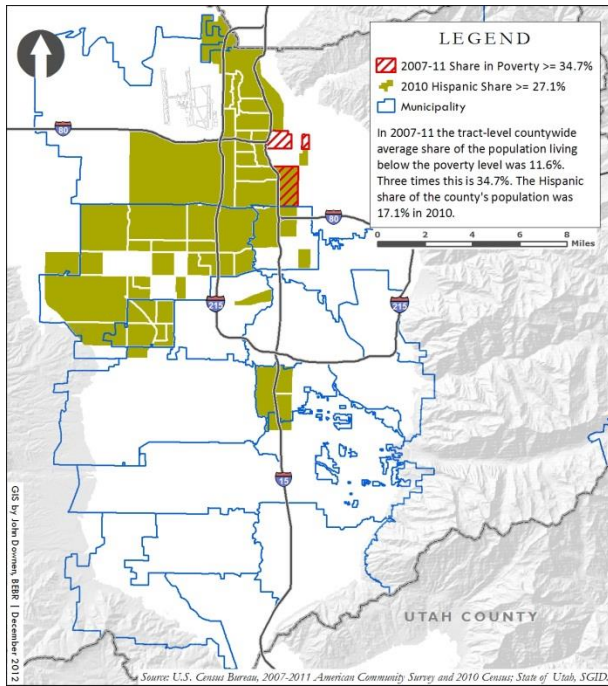
**Figure 17
Concentrations of Poverty and
Minorities by Tract in Salt Lake
County, 2007–2011**
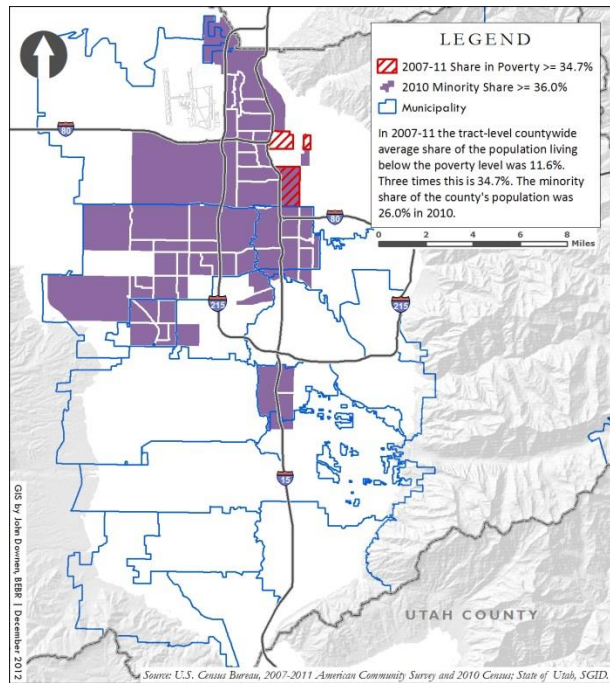
Figure 18
Subsidized Apartment Projects in Sandy, 2011
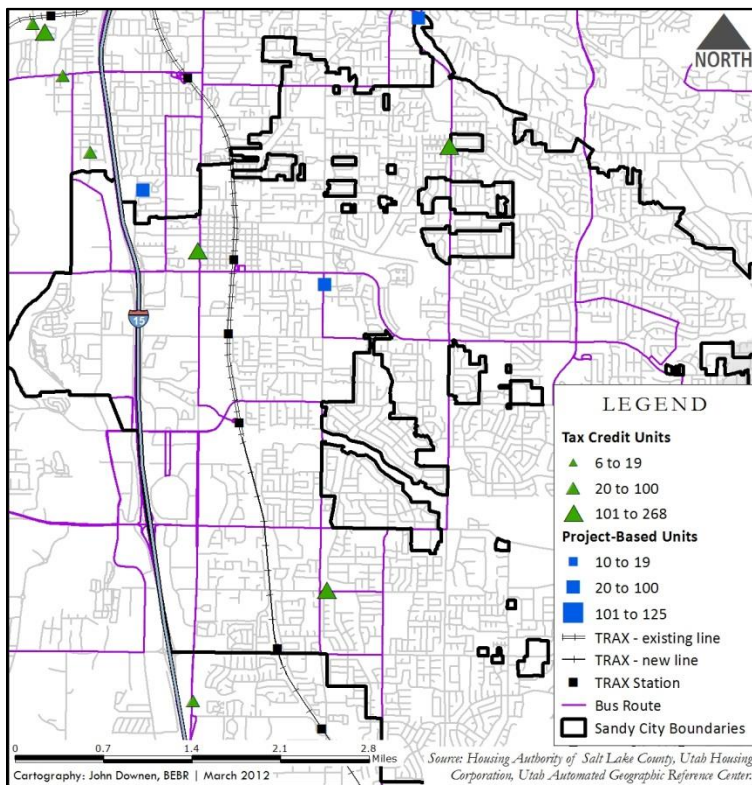
There are only four total subsidized apartment projects in Sandy, three of which are tax credit units and one project-based unit (Figure 18). Each of these subsidized apartment units is located on the western half of the city, no farther east than 1300 East. All four apartment projects are also located along bus routes that can help residents travel to and from employment centers and necessary services throughout the county. As shown in Figure 13, this is the area with the highest concentration of poor residents. However, there are still many poor residents of the city living on the eastern half of the city, where the home values are more expensive, as shown later in Figure 36 and Figure 37. As a result, it is difficult to conclude that the poorer households in the city are choosing to live in the western portion of the city, or that they are unable to afford adequate housing on the east side.

Figure 19 depicts the geographical location of Section 8 vouchers being used in Sandy. Not surprisingly, the heaviest concentration of Section 8 vouchers in the city is in the northwest corner of Sandy, along the Midvale border. This is the area of the city that is significantly more concentrated with minority households (Figure 16). There are also a few Salt Lake County HA and West Valley HA vouchers in use in the eastern and southern portions of the city, but they are few compared to the western half. Again, this indicates to some extent a desire for even those of lower incomes to live on the eastern half of Sandy, which as measured by HUD has much more access to capitalize on job, school, and housing opportunity in the city (Figure 25).

Figure 19
Section 8 Vouchers in Sandy, 2011
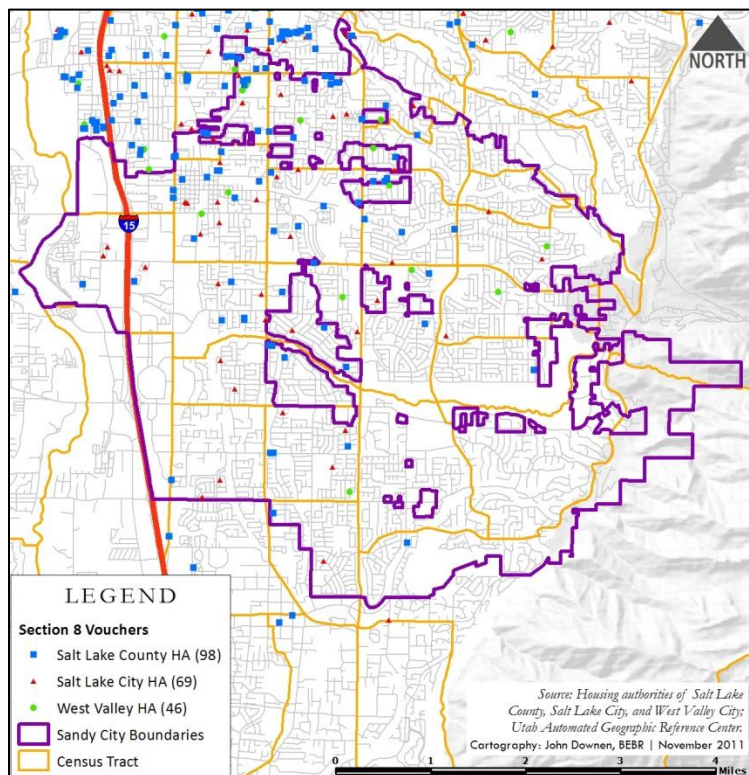
Table 4 displays the number of individuals receiving public assistance in Sandy disaggregated by city and zip code. Each count in 2007 and 2012 is a distinct individual living in that zip code receiving assistance from a state program such as food stamps, Temporary Assistance for Needy Families (TANF) or any other financial, medical or child care services from the Department of Workforce Services (DWS). DWS estimates its services capture at least 70 percent of all poor living in these areas; the other 30 percent may be living in poverty, but are not using any form of public assistance. Overall, the city of Sandy saw a 50 percent increase in individuals on public assistance from 2007 to 20112, almost exactly the same as the county aggregate. However, the greatest absolute gains were in the furthest west zip code, 84070, while each zip code further east saw few increases. The number of individuals receiving public assistance in 2012 is mapped in Figure 20 by zip code. It should be noted that the zip codes used in the map are based on the total population and use the U.S. Census Bureau's "zip code tabulation areas" (ZCTAs) which do not exactly correspond to the zip code boundaries used by DWS. Each zip code with fewer than ten recipients is suppressed in the data, and each zip code without any residences or missing data are also removed. While a few zip codes declined in the number of recipients, most increased by over 50 percent in all regions of the county. Though the zip codes vary from east to west in Sandy, they all tend to be on the low end of total number of recipients in 2012. The easternmost tracts have the lowest numbers of public assistance recipients in the county, with the exception of the low-populated zip code 84006 and some of the even smaller, less residential zip codes around the University of Utah in Salt Lake City.

Table 14
Distinct Individuals on Public Assistance, 2007–2012

City	Zip Code	2007 Individuals	2012 Individuals	Absolute Change	Percentage Change
Sandy	84070	3,626	5,348	1,722	47.5%
Sandy	84090	12	Less than 10	≤-3	≤-25.0%
Sandy	84091	40	28	-12	-30.0%
Sandy (and Little Cottonwood)	84092	1,201	2,067	866	72.1%
Sandy	84093	1,286	1,936	650	50.5%
Sandy	84094	2,772	4,035	1,263	45.6%
Sandy Totals		8,937	13,419†	4,482	50.2%
Salt Lake County		146,699	215,426	68,727	46.8%

† 2012 count for ZCTA 84090 is estimated to be 5 individuals.
Source: BEBR Calculations from Utah DWS Data

Figure 20
Individuals Receiving Public Assistance by Zip Code, 2012

LEGEND

Total Recipients

11 to 200
201 to 3,000
3,001 to 7,000
7,001 to 11,000
11,001 to 18,130
Municipality

84116
12,199

84103
2,340

84112
65

84111
4,173

84113
11

84101
4,630

84102
3,387

84104
9,989

84105
2,441

84108
1,789

84044
7,852

84115
10,924

84128
6,811

84120
15,097

84119
18,130

84106
6,491

84109
1,948

84124
2,512

84123
9,969

84107
8,157

84117
3,448

84118
13,057

84129
5,827

84121
4,328

84006
185

84084
7,493

84047
9,595

84081
5,621

84088
7,296

84093
1,936

84070
5,348

84094
4,035

84092
2,067

84095
4,451

84096
4,077

84065
4,312

84020
3,199

UTAH

COUNTY

Source: Utah Department of Workforce Services; State of Utah, SGID.

Cartography by John Downen, BEBR | January 2013

Table 15 uses the same DWS data on public assistance to calculate the number of large family households on public assistance in 2007 and 2012. A large family size is classified as a household with five or more individuals living together. In 2012, the number of families in Sandy receiving public assistance increased by 66 percent. Countywide, the number of large families receiving public assistance increased by about 61 percent over the five year period. Figure 21 displays the concentrations of these large families by zip code in Salt Lake County.

Table 15
Large Family Households on Public Assistance, 2007–2012

City	Zip Code	2007 Family Size ≥5	2012 Family Size ≥5	Absolute Change	Percentage Change
Sandy	84070	588	1,089	501	85.2%
Sandy	84090	0	—	—	—
Sandy	84091	0	0	0	0.0%
Sandy (and Little Cottonwood)	84092	300	596	296	98.7%
Sandy	84093	292	455	163	55.8%
Sandy	84094	776	1,114	338	43.6%
Sandy Totals		1956	3254	1298	66.4%
Salt Lake County		30,473	49,019	18,546	60.9%

Source: BEBR Calculations from Utah DWS Data

Figure 21
Number of Large Families by Zip Code Receiving Public Assistance, 2012

Table 16 shows the number of disabled individuals receiving public assistance in 2007 and 2012. To be considered disabled and on public assistance by DWS standards, each individual must be receiving financial assistance and have a verified condition by the Medical Review Board. Overall, Sandy's number of disabled recipients increased by about 17 percent, about 4 percentage points below the countywide percentage change. Figure 22 maps the number of disabled individuals on public assistance in 2012 by zip code in Salt Lake County. In 2010, the largest numbers of recipients were in the northern and central zip codes, while Sandy had some of the lowest numbers in the county.

Table 16
Disabled Individuals on Public Assistance, 2007–2012

City	Zip Code	2007 Disabled	2012 Disabled	Absolute Change	Percentage Change
Sandy	84070	680	757	77	11.3%
Sandy	84090	3	—	—	—
Sandy	84091	31	15	-16	-51.6%
Sandy (and Little Cottonwood)	84092	180	232	52	28.9%
Sandy	84093	215	264	49	22.8%
Sandy	84094	369	460	91	24.7%
Sandy Totals		1478	1728	253	17.1%
Salt Lake County		21,460	25,942	4,482	20.9%

Source: BEBR Calculations from Utah DWS Data

Figure 22
Disabled Recipients Receiving Public Assistance by
Zip Code, 2012
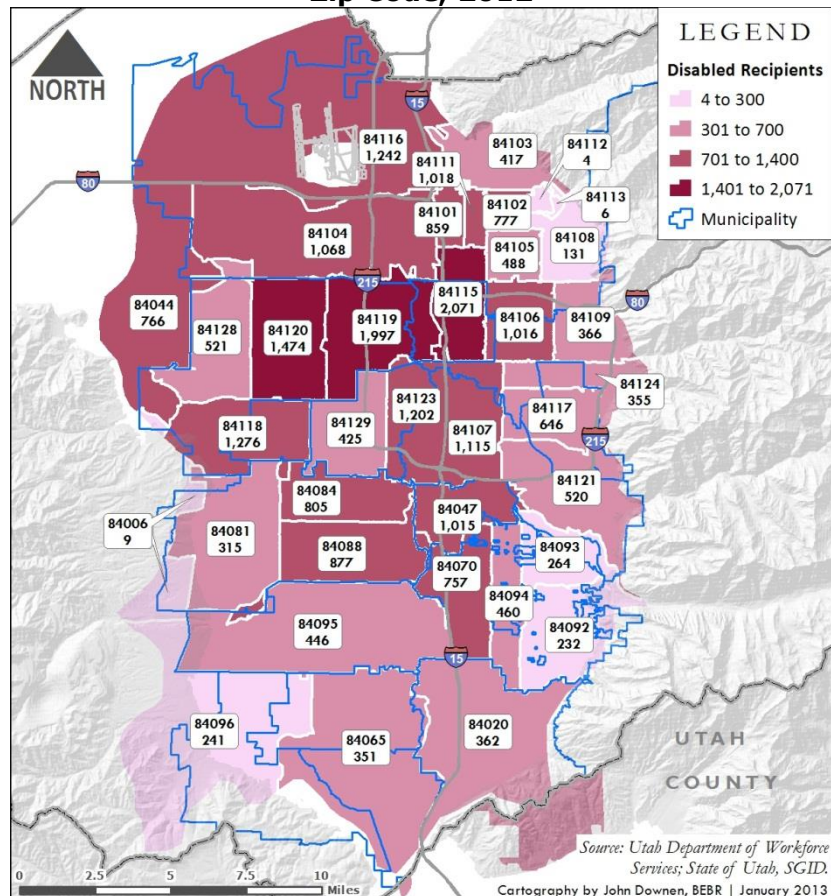
Table 17 uses the DWS data for the number of Hispanic individuals who received public assistance from the state in 2007 and 2012. Only in one zip code did the number of recipients decline, and overall, the number of Hispanic recipients in Sandy increased by almost 30 percent. Figure 23 maps the number of Hispanic recipients in 2012 by zip code in Salt Lake County. Sandy, much like the other southern and eastern zip codes, had some of the lowest number of Hispanic recipients in 2010.

Table 17
Hispanic Individuals on Public Assistance, 2007–2012

City	Zip Code	2007 Hispanic	2012 Hispanic	Absolute Change	Percentage Change
Sandy	84070	604	874	270	44.7%
Sandy	84090	0	—	—	—
Sandy	84091	2	0	-2	-100.0%
Sandy (and Big Cottonwood)	84092	91	104	13	14.3%
Sandy	84093	92	108	16	17.4%
Sandy	84094	312	333	21	6.7%
Sandy Totals		1101	1419	318	28.9%
Salt Lake County		37,911	46,019	8,108	21.4%

Source: BEBR Calculations from Utah DWS Data

Figure 23
Hispanic Recipients of Public Assistance by Zip Code, 2012
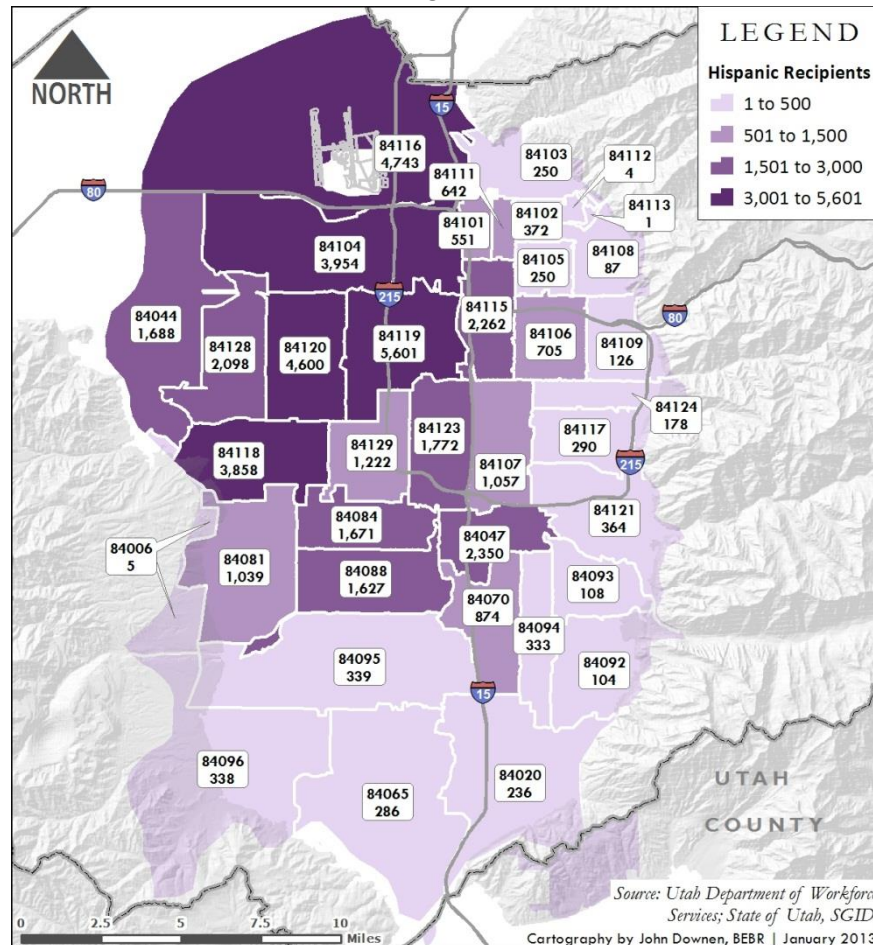
Figure 24 maps the percentage of individuals receiving public assistance in each zip code in Salt Lake County. Though the U.S. Census Bureau's ZCTAs which don't exactly correspond to the zip code boundaries used by DWS, the general trends of public assistance recipients as a share of a regions population can be seen. Again, there is a clear difference between the east and west sides of Interstate 15, and even more so the northwestern region and the southeastern region. Sandy, like most of the neighboring cities and zip codes, with the exception of Midvale, have some of the lowest proportions of residents receiving public assistance. Even within the city itself, the further southeast the zip code is located, the lower the percentage of residents receiving public assistance.

Figure 24
Percent of Individuals Residing in a Zip Code Receiving Public Assistance, 2010
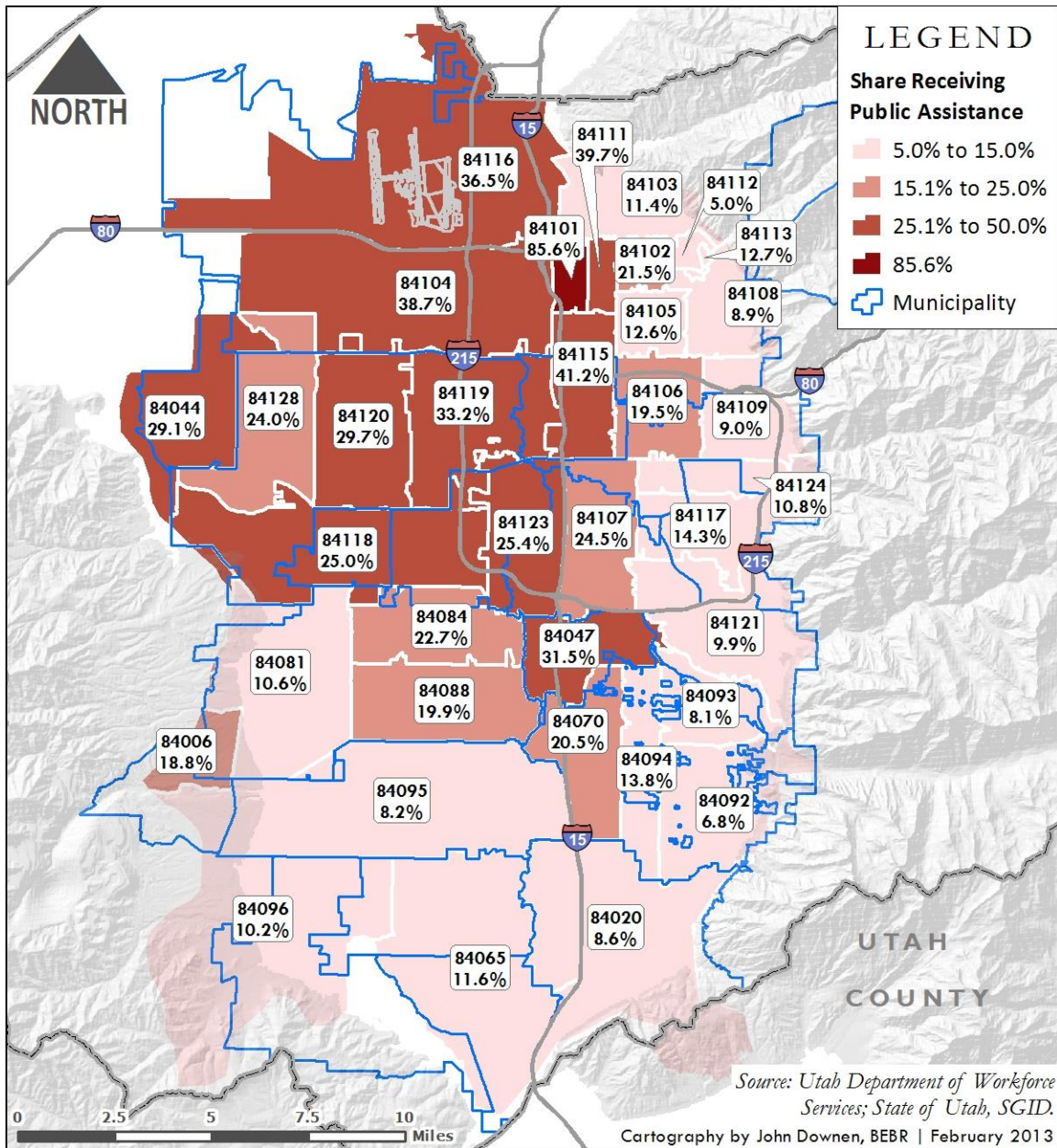
Disparities in Opportunity

HUD provided six measurements of opportunity for each census tract with which to quantify the number of important "stressors" and "assets" that influence the ability of an individual or family to access and capitalize on opportunity. These six measures were aggregated to the city level using the population of each census tract within the city boundaries of Sandy. Using the population of each tract within the city boundaries, it received an overall opportunity score of 7 out of 10, over 2 points above the county average (Table 18). The city scored above the county average on every index except for job access. This could be due to the suburban layout of much of the city, especially on the eastern half, as well as a lack of bus routes running throughout the city. However, housing stability was a full 2.1 points above county average, and school proficiency, labor market engagement and poverty also each scored above a 6.

Table 18
Weighted, Standardized Opportunity Index

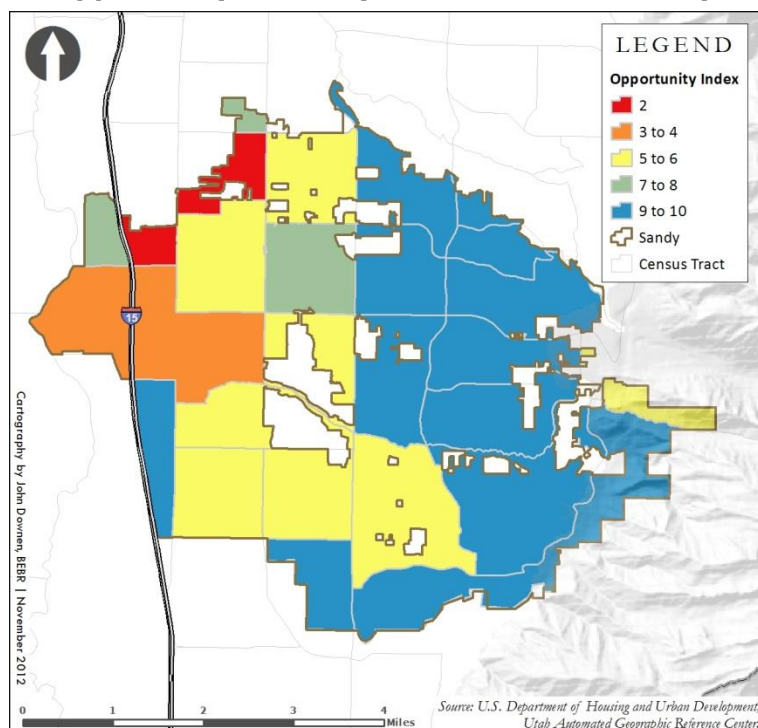|	School Proficiency	Job Access	Labor Market Engagement	Poverty	Housing Stability	Opportunity
Sandy	6.2	4.9	6.3	6.3	7.4	7.0
Salt Lake County	4.3	5.4	5.0	4.9	5.3	4.9

Source: HUD Spreadsheet for Sustainable Communities Grantees

Figure 25
Opportunity Index by Census Tract in Sandy

The opportunity scores provided by HUD are mapped for each census tract in Sandy in Figure 25. Only two tracts received a score of 2 or below, both of which are located in the very northwest portion of the city, in an area of high concentration of poor individuals (Figure 13) and minorities (Figure 17). Likewise the western-most tract along I-15, another location of highly concentrated area of poor individuals, scored in the 3–4. This is low compared to the east side of the city, which is almost entirely high-scoring with each tract scoring a 9 or 10. However, fewer minorities and even fewer low-income residents (Figure 19) live in these tracts. However, there is one tract along I-15 just below the third lowest-scoring tract that also received one of the highest scores. This little sliver between State Street and I-15 is primarily a business district that includes the South Towne Auto Mall, Rio Tinto Stadium and other low-wage and entry-level employment opportunities. It is likely that many individuals from the lower-opportunity tract just north travels south to this tract for employment.

Figure 26 maps the active childcare centers in Sandy by capacity with licensed families and residential certificates excluded. The larger the dot is on the map, the higher the maximum capacity of the center. Access to daycare can be considered an advantage in terms of fair and equitable housing as well as access to opportunity for many reasons. For one, if a household relies on low-wage jobs for stability, it is valuable to have affordable childcare so the adults are able to earn income for their families. Similarly, without access to childcare, more parents will be forced to stay at home with their children, thereby forgoing potential earned wages. Likewise, the further the distance to childcare, the higher the time commitment and less time available to work and earn income. This is especially important for Hispanics, who on average have larger household sizes than their non-Hispanic white counterparts (Table 4). As a result, a lack of adequate childcare can restrict a family's mobility and time they can invest in opportunities outside the home. This can present an impediment to housing choice for minorities, larger families, and low-income households. As it can be seen in Figure 26, despite Sandy's large size and large residential neighborhoods, there are not a lot of childcare centers in the city, and the few existing centers have small to medium sized capacities. Similarly, a large portion of the overall capacity in the city is in the higher-opportunity eastern tracts, with a few exceptions in the central west portion of the city (Figure 25). Only three small centers are located in the northwestern tract, where over 70 percent of minority rental units are located (Figure 8). Though the centers tend to be located along the few bus routes, in the city there are large areas of both commercial and residential portions of the city lacking easy access to childcare centers. A portion of this is covered by the licensed families and residential certificate childcare, but with a maximum capacity of eight children, it is unlikely they could alleviate the childcare needs for the city. Likewise, in the southwest portion of the city, which has the highest opportunity, there are no childcare facilities at all, nor are there bus routes. Combined these factors present a major impediment to families looking to move to this area for access to opportunity. Without adequate childcare, adults and members of a household may have to forgo opportunities such as education or income in order to support their families at home. As a result, access to childcare can restrict housing options and neighborhoods within the city, thereby unequally restricting access to further opportunities.

Figure 26
Childcare Centers in Sandy, 2010
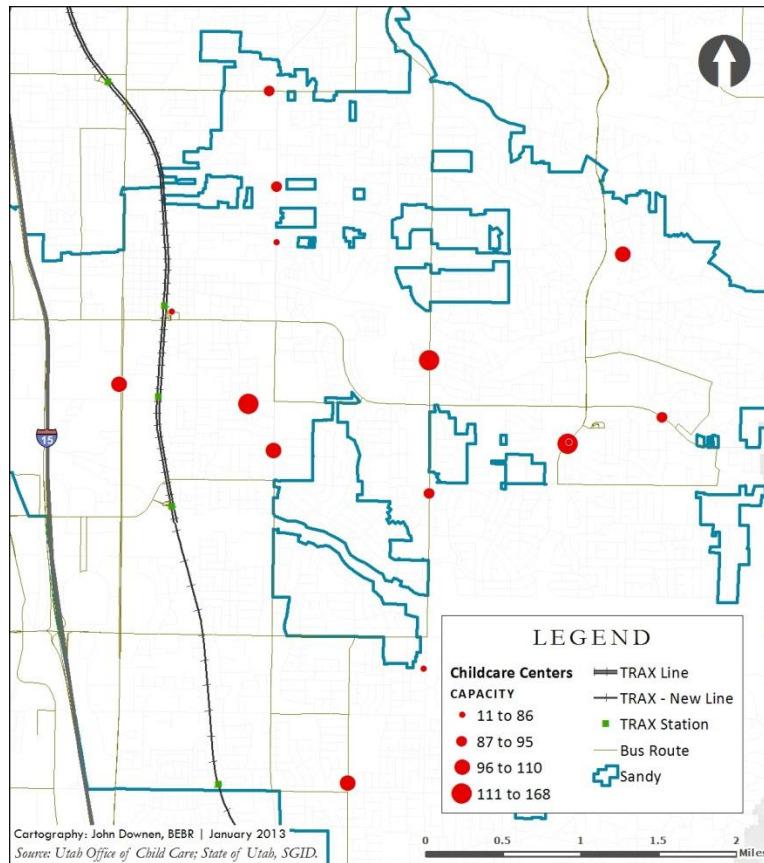
Each dot represents childcare centers only and does not include any licensed family or residential certificate providers. Those providers are protected under GRAMA and their location is not public information. However, each licensed provider in a private residence may have up to eight children in their care.

As a further assessment of opportunity in Sandy, an index is created as a representation of opportunity within K-12 public schools in Salt Lake County. This is done by summing two normalized, positive indicators: percent proficiency in language arts and science for elementary, middle and high schools. Subtracted from this indicator is the summation of four negative proxies for home environment and educational quality: free and reduced lunch percentage, percentage of minority students, percentage of students with limited English proficiency parents/guardians and average classroom size. Each school containing data on all of these indicators is then ranked based on their normalized index score by the county. From there, the ranking is split into decile ranks across the county, with a score of 10 representing the highest opportunity score. Overall, there are 204 schools with complete data on all the indicators, 25 of which are in Sandy (Table 19). Recalling that the school proficiency average from HUD's opportunity index is almost 2 points above the county average (Table 18), it is not surprising that the city's lowest school opportunity score in the index is 4. In fact four schools scored a 10, the highest possible result, and three quarters of the schools received scores above 6 points. Based on the entire county, Sandy's Granite School received the highest rank of all the schools in the county.

Table 19
Sandy School Opportunity

District	School	County Ranking	Opportunity Index
Canyons	Sandy School	128	4
Canyons	Jordan high	115	5
Canyons	Bell View School	109	5
Canyons	Union Middle	104	5
Canyons	Crescent School	87	6
Canyons	Edgemont School	76	7
Canyons	Silver Mesa School	74	7
Canyons	East Sandy School	72	7
Canyons	Altara School	70	7
Canyons	Alta High	58	8
Canyons	Indian Hills Middle	55	8
Canyons	Albion Middle	39	9
Canyons	Crescent View Middle	38	9
Canyons	Willow Canyon School	30	9
Canyons	Sprucewood School	29	9
Canyons	Brookwood School	22	9
Canyons	Lone Peak School	18	10
Canyons	Park Lane School	17	10
Canyons	Quail Hollow School	3	10
Canyons	Granite School	1	10
Canyons	Peruvian Park School	—	—
Canyons	Eastmont Middle	—	—
Canyons	Canyons Transition Academy	—	—
Canyons	Entrada	—	—
Canyons	Mount Jordan Middle	—	—

Source: BEBR computations from Utah State Office of Education data

The following six figures (Figure 27, Figure 28, Figure 29, Figure 30, Figure 31 and Figure 32) each depict most the elements of the school opportunity index, the exceptions being the addition of free and reduced lunch change from 2005-2011(Figure 28) and the exclusion of class size due to the small changes between schools. Overall, the range of opporunity in the schools varies quite differently throughout the city, with both Title I and non-Title I schools in the city. A general trend, along with many of the other indicators of opportunity in the city are that the schools with generally higher access to opportunity lie on the eastern side of the city, while school with greater barriers to opportunity for protected classes lie on the west side. Not surprisingly, this is also the general trend for the other indicators in the city including the location of poor residents (Figure 13), Section 8 vouchers (Figure 19), and homes values (Figure 36). This again highlights the disconnect in Sandy between the areas of highest opportunity and the classes of residents that are unable to gain access to these areas.

Figure 27
Free/Reduced Lunch Eligibility in Sandy, 2011
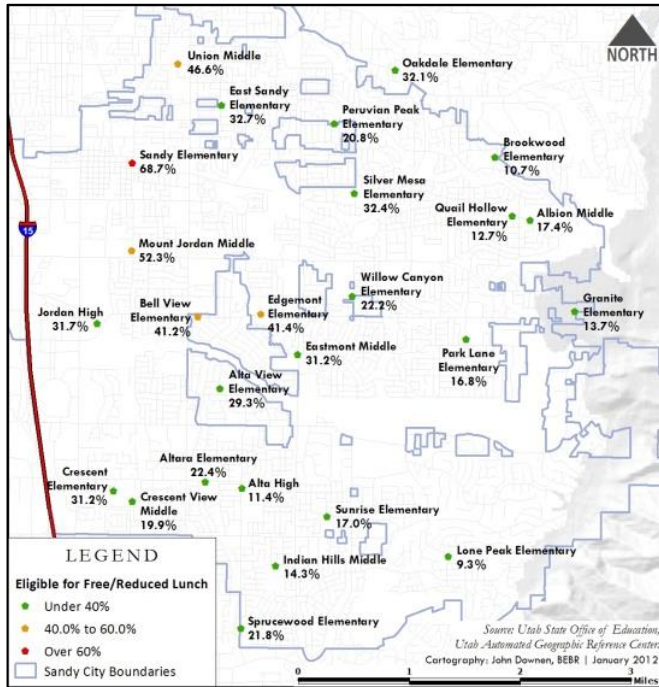
Figure 28
Free/Reduced Lunch Eligibility Change in Sandy, 2005–2011
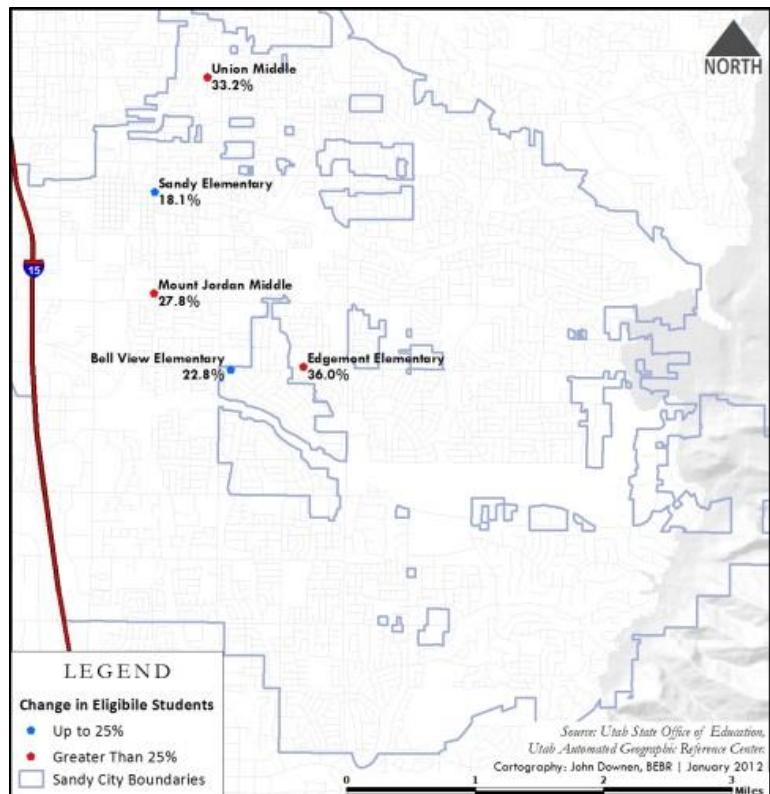
**Figure 29
Share of Students Proficient in
Language Arts in Sandy Public
Schools, 2011**
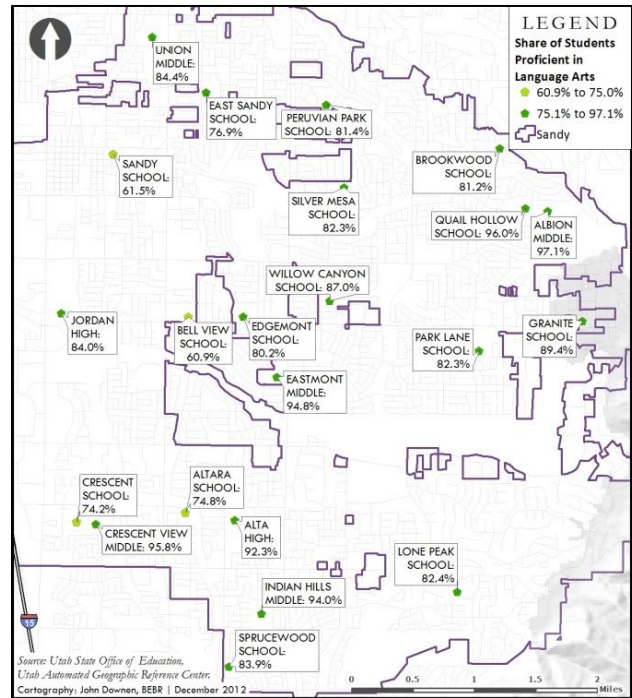
**Figure 30
Share of Students Proficient in Science in
Sandy Public Schools, 2011**
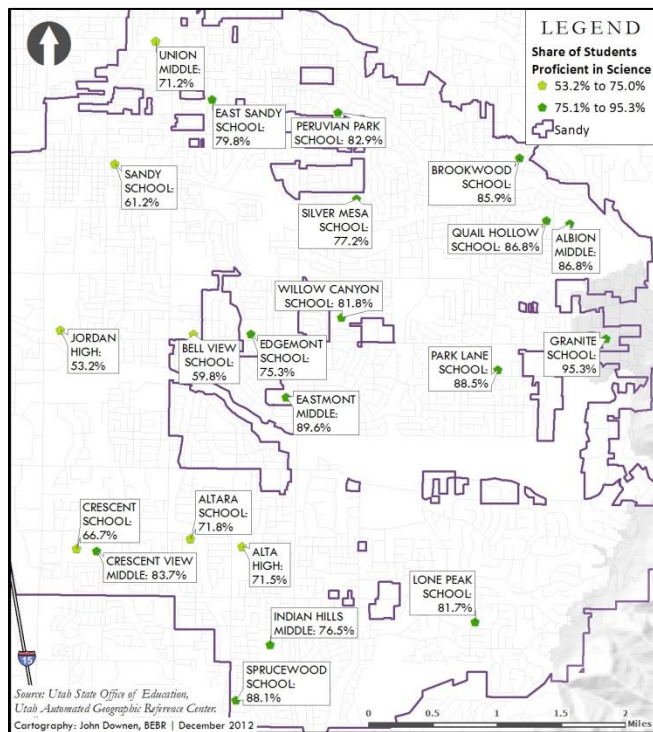
Figure 31
Minority Share of Enrollment in Public Schools in Sandy, 2011

Source: Utah State Office of Education,
Utah Automated Geographic Reference Center.
Cartography: John Downen, BEBR | December 2012
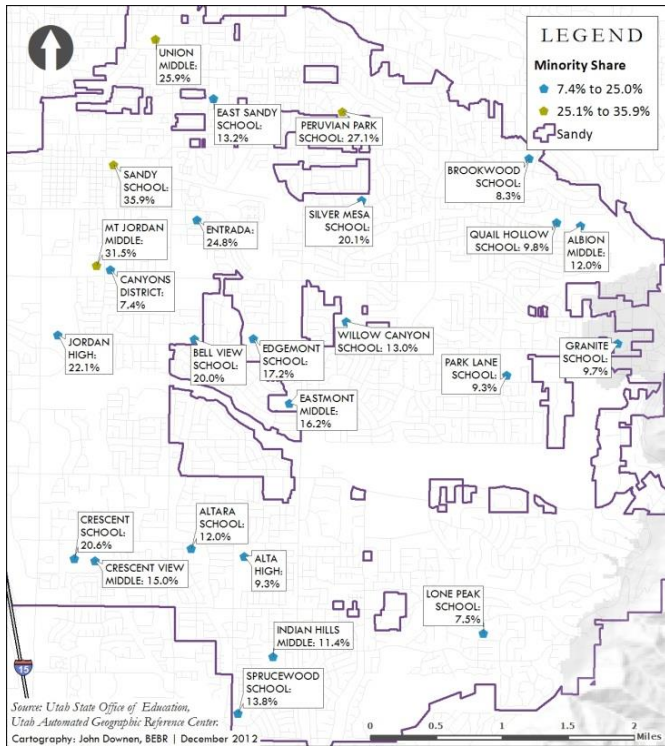
Figure 32
Share of Students with Parents of Limited English Proficiency in Sandy, 2010

Source: Utah State Office of Education,
Utah Automated Geographic Reference Center.
Cartography: John Downen, BEBR | December 2012
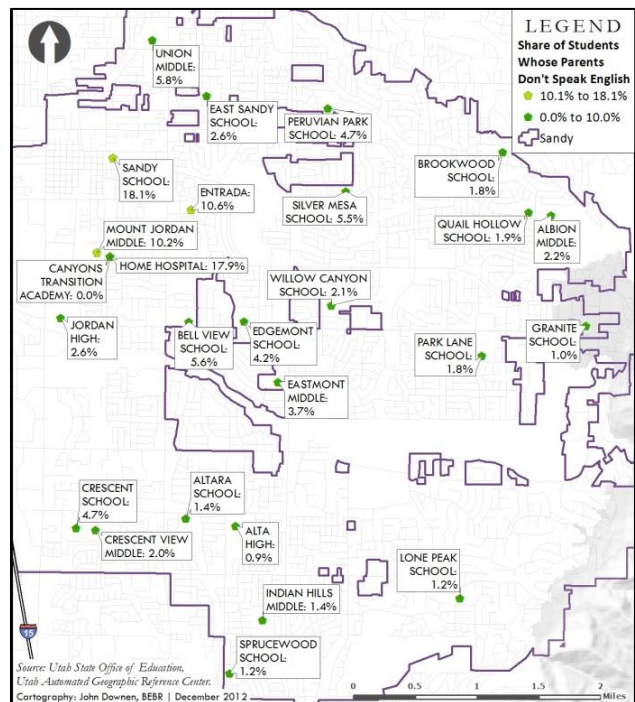
One way to measure the racial and ethnic diversity of an area is to use readily available public school enrollment data. Every year, the Utah System of Education collects data on the fall enrollments of each public school in the state. Included in this data collection is data on race and ethnicity of each student enrolled in a public school in grades K through 12. In one particular survey, it allows each student to choose only a single race/ethnicity category, using an option for multi-racial, thus creating a distinct count per student. Allowing each student to only be classified by one race/ethnic category eliminates the issue of double counting individual students who identify as more than one distinct race. This allows for a unique analysis of racial and ethnic makeup of public schools in Utah. Similarly, the number of minority students enrolled in public schools can be used as a proxy for estimating the diversity of families residing in each city. Table 20 shows the total number of students enrolled at each school in the three cities by race/ethnicity as well as the city's total.

Table 20
Enrollment Percentage by Race in Public Schools, 2011

School	Minority	African Am or Black	American Indian/ Alaskan Native	Asian	Hispanic/ Latino	Multi-Race	Pacific Islander
Canyons Transition Academy	7.4%	1.9%	0.0%	1.9%	3.7%	0.0%	0.0%
Lone Peak School	7.5%	0.8%	0.5%	1.9%	2.4%	1.2%	0.8%
Brookwood School	8.3%	1.4%	0.3%	2.9%	2.8%	0.7%	0.2%
Alta High	9.3%	0.8%	0.6%	1.7%	3.8%	1.5%	0.8%
Park Lane School	9.3%	1.5%	0.0%	1.7%	4.5%	0.9%	0.7%
Granite School	9.7%	1.5%	0.4%	2.4%	3.5%	0.9%	0.9%
Quail Hollow School	9.8%	1.1%	0.0%	0.9%	4.9%	2.1%	0.8%
Indian Hills Middle	11.4%	0.6%	0.3%	2.0%	4.5%	2.7%	1.3%
Altara School	12.0%	1.1%	0.5%	2.2%	5.8%	1.5%	0.8%
Willow Canyon School	13.0%	1.2%	0.8%	1.8%	7.5%	1.6%	0.2%
East Sandy School	13.2%	0.9%	0.6%	1.2%	7.1%	2.4%	0.9%
Sunrise School	13.5%	1.4%	0.4%	5.6%	4.1%	0.3%	1.7%
Sprucewood School	13.8%	0.6%	0.7%	2.4%	6.5%	2.3%	1.4%
Goldminer's Daughter	14.3%	0.0%	0.0%	0.0%	0.0%	14.3%	0.0%
Crescent View Middle	15.0%	0.6%	0.4%	2.0%	7.5%	4.0%	0.5%
Eastmont Middle	16.2%	0.9%	1.0%	2.0%	9.2%	2.9%	0.3%
Edgemont School	17.2%	0.9%	0.2%	2.8%	9.2%	2.8%	1.1%
Oakdale School	19.9%	2.4%	1.2%	3.0%	11.0%	1.0%	1.4%
Bell View School	20.0%	1.8%	0.6%	1.8%	10.4%	2.4%	3.1%
Silver Mesa School	20.1%	1.7%	1.0%	1.1%	11.9%	1.1%	3.3%
Crescent School	20.6%	1.8%	1.1%	3.0%	10.5%	2.4%	1.8%
Jordan High	22.1%	1.4%	1.3%	2.4%	12.4%	3.1%	1.6%
Alta View School	22.8%	1.3%	1.5%	4.6%	10.6%	4.0%	0.8%
Entrada	24.8%	1.8%	2.8%	0.9%	17.4%	0.0%	1.8%
Iunion Middle	25.9%	2.6%	1.0%	1.8%	16.4%	2.1%	1.8%
Peruvian Park School	27.1%	0.4%	0.2%	15.6%	7.8%	3.0%	0.0%
Mount Jordan Middle	31.5%	1.3%	2.2%	2.5%	19.8%	2.7%	3.0%
Sandy School	35.9%	1.4%	1.2%	1.2%	26.9%	3.0%	2.2%
Sandy + Alta Totals	16.4%	1.2%	0.7%	2.5%	8.5%	2.2%	1.2%

Source: BEBR Computations from Utah State Office of Education Data

The enrollment data from the Utah State Office of Education from the years 2006-2007 and 2010-2011 information on ethnicity enrollments in Salt Lake County public schools. The data comes from the Superintendent's Annual Report for each respective year, and are matched based on school name, district and location. From there, the data is separated by city, and in some cases, by township. If a school is not located inside an incorporated city, or one of the two townships, Kearns or Magna, then they are included in the analysis for the closest city to their physical location. While the datasets from each year are not organized or collected in the exact same manner, they are still comparable. For example, in 2007, there is a category for "unknown" ethnic/racial identity, whereas in 2011 there is no "unknown" category but there is a "multi-race" category. These two classifications cannot be assumed to be the same, as someone who claims to be "unknown" is not necessarily a multi-race individual. However, both of these categories were used in the calculation for total enrollments and total minority enrollments in each respective year.

Sandy is home to 25 public schools that were included in both the 2007 and 2011 Superintendent's Annual Report, and three schools that were established after 2007—Goldminer's Daughter in Alta, as well as two alternative schools, the Canyons Transition Academy and Entrada. Sandy greatly increased its ethnic minority enrollments, adding 1,186 more ethnic students from 2007 to 2011. The only ethnic group to decrease in enrollments is the non-Hispanic white population with a decrease of 899 enrollments. Citywide, every ethnic minority actually increased in size leading to an aggregate increase of all enrollments of just shy of 200. Only two schools, East Sandy School and Sandy School, had declining enrollments, both of which have less than 10 fewer enrollments in 2011. By far, the larger increase is in the Hispanic/Latino community with an aggregate of 573 more enrollments. The changing demographics of Sandy public schools are even more apparent when the change in each ethnic group is disaggregated (Figure 33). There is a decline in overall enrollment of non-Hispanic white students in the city's elementary, middle and high schools; however, many other ethnicities are actually growing in absolute numbers. Only high schools in Sandy actually experienced an overall decline in the number of total students. The largest growing demographic in all three levels is, by far, the Hispanic population with over 200 additional Hispanic/Latino enrollments in elementary and middle schools. Asian students and black student enrollments also grew in Sandy elementary schools, but in much smaller numbers. For almost every other ethnicity in Sandy middle and high schools, the numbers area all quite small in comparison, not changing by more than more roughly 50 students.

Figure 33
Total Minority Enrollment Changes, 2007–2011

Legend:
- Change in White/ Caucasian
- Change in Pacific Islander
- Change in American Indian
- Change in Hispanic
- Change in Black
- Change in Asian
- Change in Total Ethnic Minority
- Change in Total Students
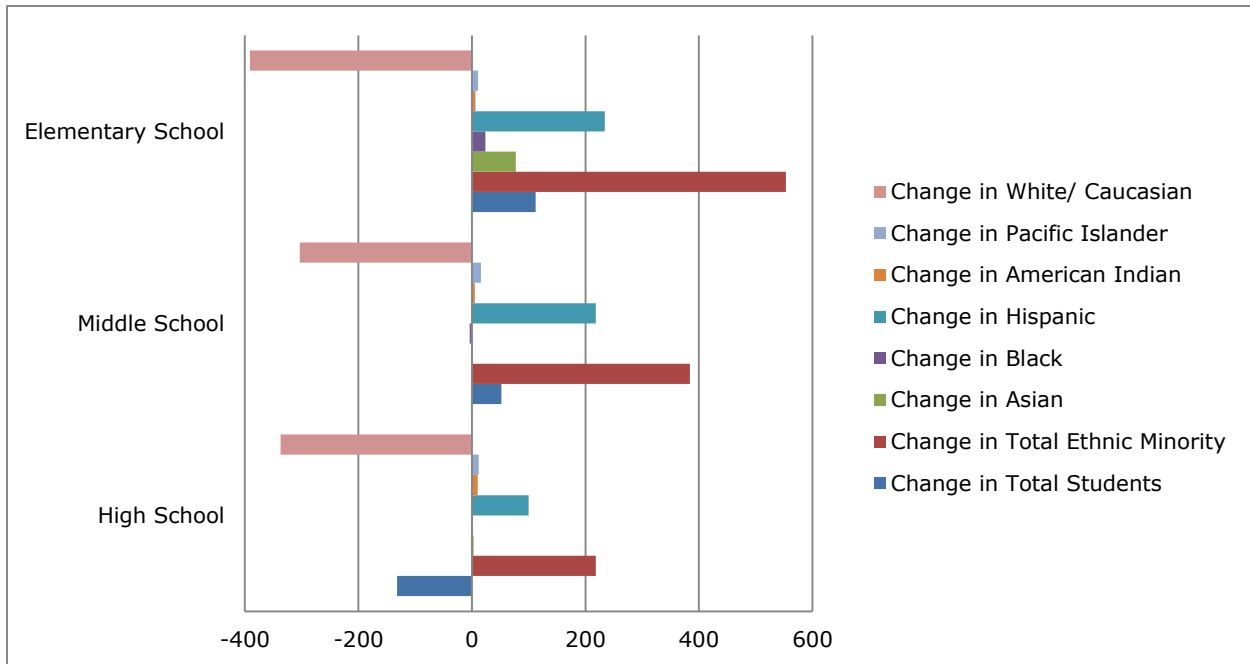
Figure 34 shows the percentage change in enrollments for each ethnicity between 2007 and 2011 in Sandy elementary, middle and high schools. First, the hundreds of white, non-minority enrollments lost from 2007 to 2011 only equate to less than a 20 percent loss of all white, non-minority students in the city, more than a third of which are in the high schools. Except for a 7 percent loss in middle school black students, every other ethnic group increased in enrollments from 2007 to 2011. The largest minority enrollment increase in in Sandy's middle schools led by the largest increases in Hispanic and Pacific Islanders. Though Asian student enrollments increased by 33 percent, their enrollment increases were less significant in middle and high schools. Overall it is clear that in all levels of public school in Sandy, minority enrollments are up, as white, non-minority enrollments are continually decreasing.

Figure 34
Minority Enrollment Percentage Change, 2007–2011
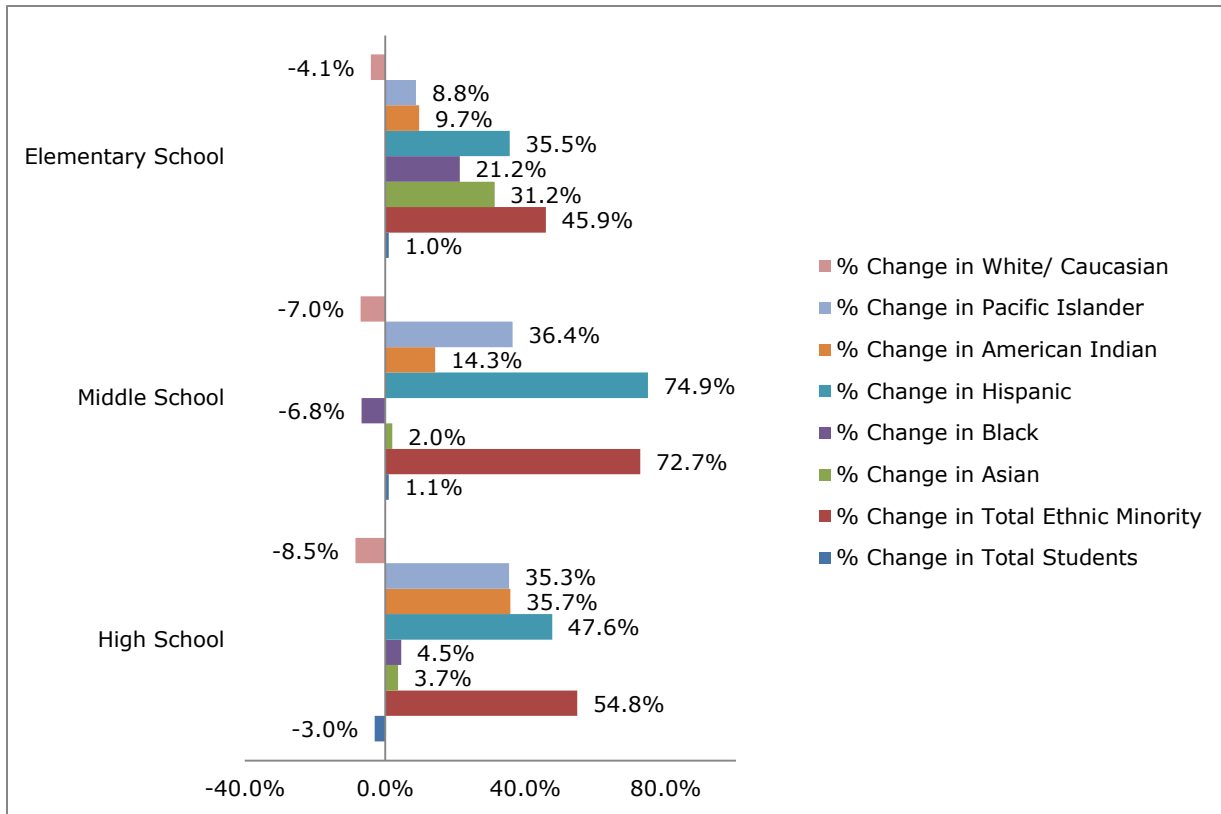
In accordance with Title VI of the Civil Rights Act of 1964, HUD recognizes persons who, as a result of national origin, do not speak English as their primary language and have a limited ability to read, write, or understand the language. As the major metropolitan center of the state, Salt Lake County must account for the percentage of Limited English Proficiency, or LEP, persons living in the county. According to data from the county's public schools, there are concentrated areas of both high and low numbers of LEP families. The highest reported percentage of students with LEP parents is at Sandy Elementary School, as compared to the lowest of 1.4 percent at Alta High School. Sandy has the biggest range of LEP parents of the southern cities in Salt Lake. The range of reported students with LEP parents at each school in Sandy City can be seen in Figure 35. However, not a single school in the city is above the county average percentage of students with LEP parents. The closest to the 21.5 percent county average is Sandy Elementary School at a rate of 18.6 percent of its student body with non-English speaking parents.

Figure 35
Percent of Students with LEP Parents, 2010

■ Students with LEP Parents

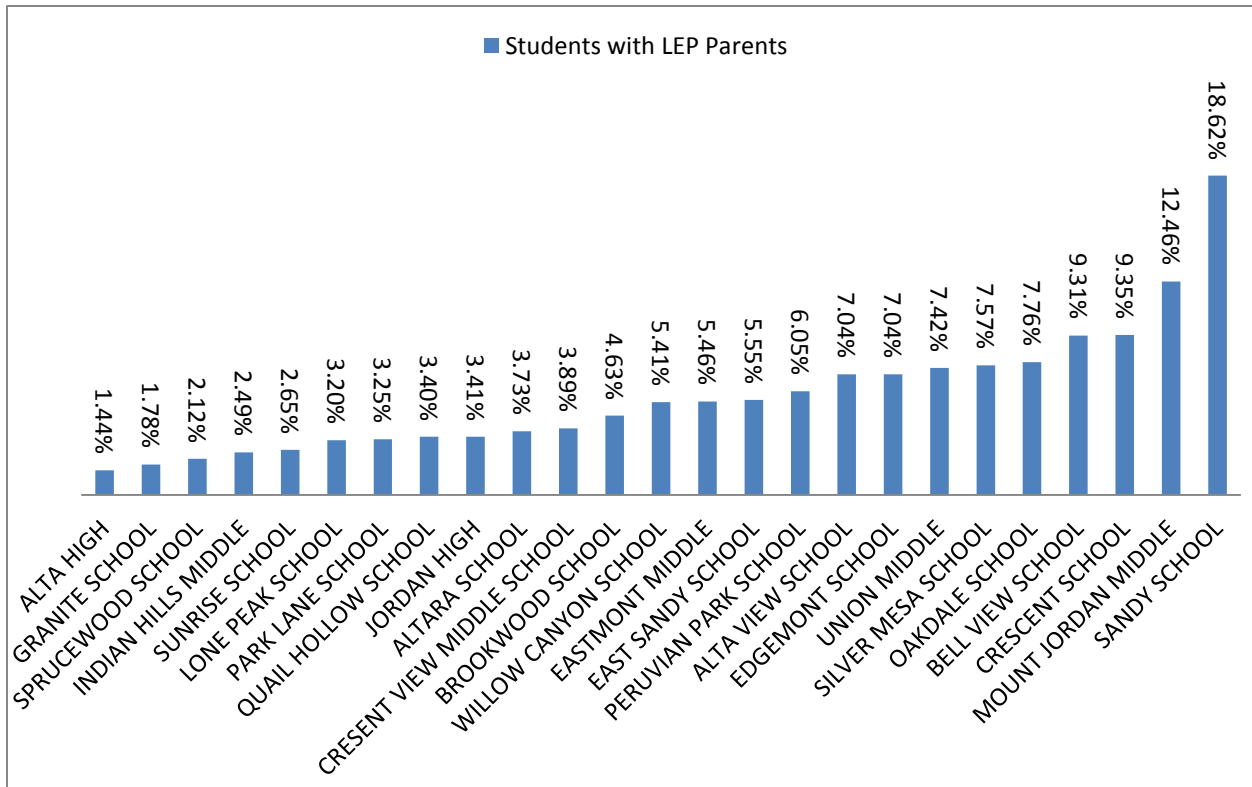| School	Percent
ALTA HIGH	1.44%
GRANITE SCHOOL	1.78%
SPRUCEWOOD SCHOOL	2.12%
INDIAN HILLS MIDDLE	2.49%
SUNRISE SCHOOL	2.65%
LONE PEAK SCHOOL	3.20%
PARK LANE SCHOOL	3.25%
QUAIL HOLLOW SCHOOL	3.40%
JORDAN HIGH	3.41%
ALTARA SCHOOL	3.73%
CRESENT VIEW MIDDLE SCHOOL	3.89%
BROOKWOOD SCHOOL	4.63%
WILLOW CANYON SCHOOL	5.41%
EASTMONT MIDDLE	5.46%
EAST SANDY SCHOOL	5.55%
PERUVIAN PARK SCHOOL	6.05%
ALTA VIEW SCHOOL	7.04%
EDGEMONT SCHOOL	7.04%
UNION MIDDLE	7.42%
SILVER MESA SCHOOL	7.57%
OAKDALE SCHOOL	7.76%
BELL VIEW SCHOOL	9.31%
CRESCENT SCHOOL	9.35%
MOUNT JORDAN MIDDLE	12.46%
SANDY SCHOOL	18.62%

Figure 36 maps the median home value by census tract in Sandy, while Figure 37 shows the assessed value of detached single family homes in the city. Between both maps, a general trend is shown in the city, where the further east, and especially the south-east, the higher the value of homes in the area. Overall, the homes in the city range from under $200,000 to well over $400,000, depending on where it is located in the city. The absolute lowest home values are on the far west side closest to State Street and Interstate 15. As a result, the city of Sandy is almost divided into two cities of very different de-mographic and economic composition. On the west side, the home values are low, the number of poor (Figure 13) and minority (Figure 17) households is higher, the schools are ranked lower (Table 19), and more residents rely on subsidized housing (Figure 18 and Figure 19). However, the higher opportunity areas, and higher home values are all on the east side, indicating a clear disparity between fair housing and access to opportunity within the city of Sandy.

Figure 36
Median Home Value by Tract in Sandy, 2011
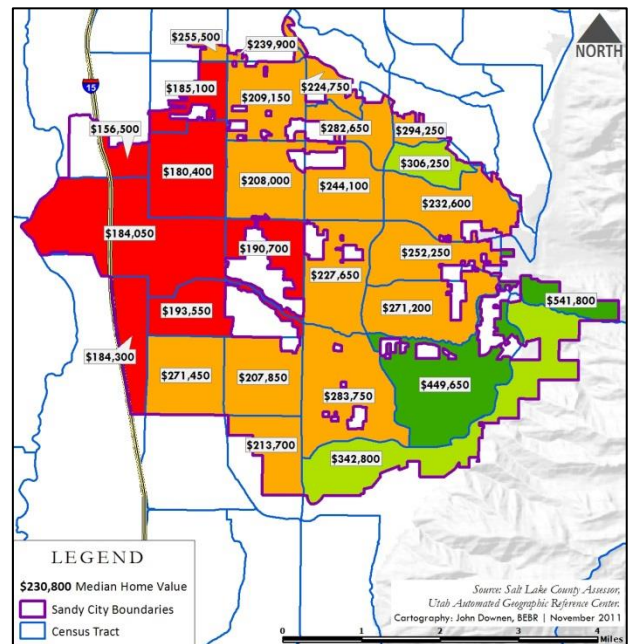
Red and orange tracts median value less than city

Figure 37
Assessed Value of Detached Single Family Homes in Sandy, 2011

2011 Assessed Value	Number	Share
Under $150,000	827	3.3%
$150,000–$200,000	6,050	23.9%
$200,001–$250,000	8,421	33.3%
$250,001–$300,000	3,918	15.5%
$300,001–$400,000	3,432	13.6%
Over $400,000	2,664	10.5%
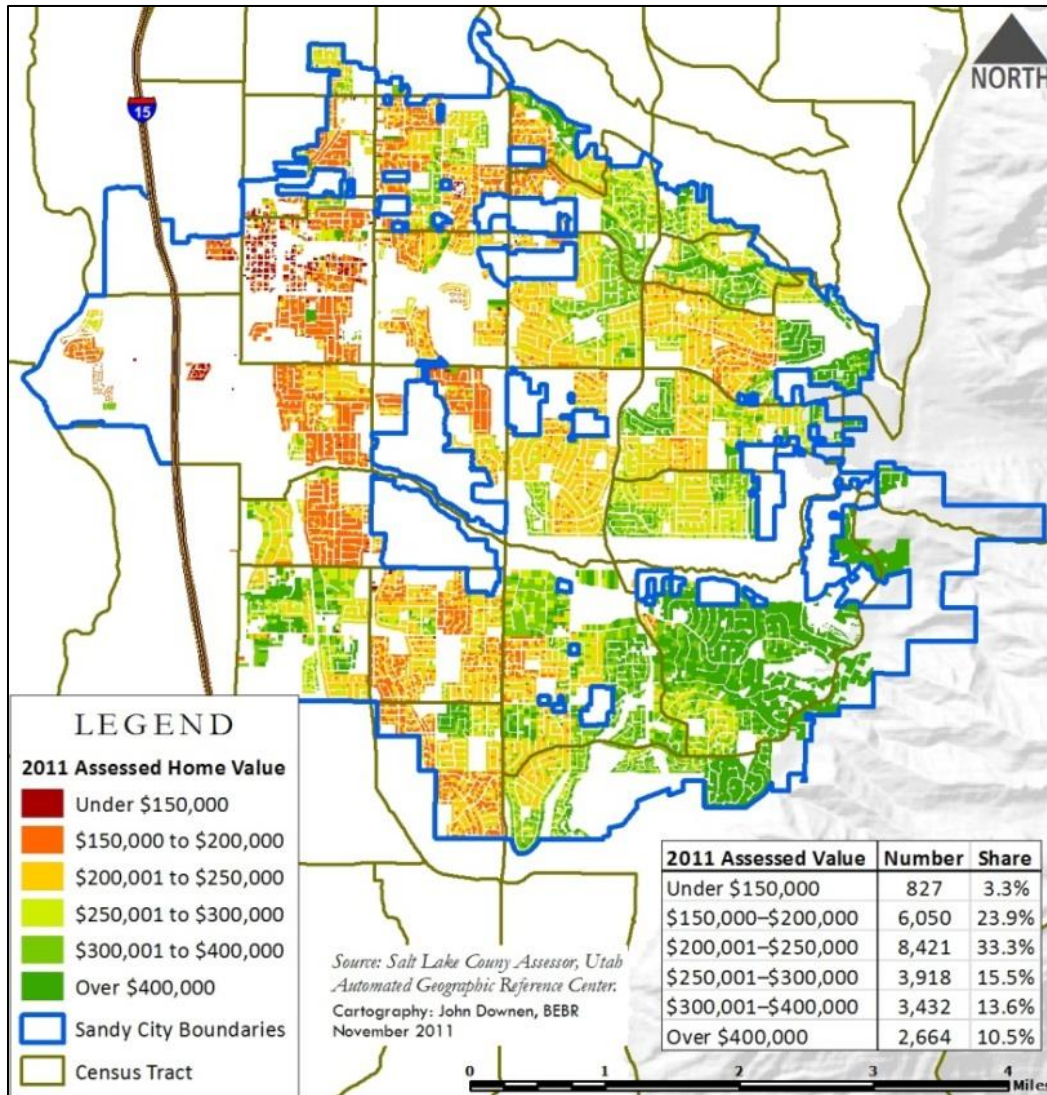
Foreclosed homes not only have a negative effect on residents who lost their homes, but can also negatively affect neighboring housing and real estate values in the area. Table 21 estimates the percentage of the owned housing stock that was foreclosed in the last few years for Salt Lake County. The calculations use total foreclosures between 2008 and 2012 from the Wasatch Regional Front Multiple Listing Service, and the total owned homes from the 2010 U.S. Census as the best approximation of the total housing stock in a zip code. An aggragate approximation of all the zip codes in the city of Sandy yields a percentage share of homes in foreclosure at about 1.5 percent. This is almost a full percentage point below the county aggregate. Overall, not a single zip code in Sandy is above the county aggregate share of housing stock in foreclosure.

Table 21
**Foreclosed Homes in Salt Lake County, 2008–2012**

City	Zip Code Tabulation Area	Total Owned Units	Total Foreclosures for 2010 ZCTA (2008-2012)	Share of Foreclosed Homes
Bluffdale/Riverton	84065	8534	296	3.47%
Cottonwood Heights (and Big Cottonwood)	84121	11692	168	1.44%
Draper	84020	8852	374	4.23%
Herriman	84096	7597	288	3.79%
Holladay	84117	6588	64	0.97%
Magna Township	84044	6194	254	4.10%
Midvale	84047	5739	126	2.20%
Millcreek/Parley's Canyon	84109	6773	57	0.84%
Murray	84107	6925	137	1.98%
Salt Lake City Total		39134	670	1.71%
Salt Lake City	84101	657	20	3.04%
Salt Lake City	84102	2401	39	1.62%
Salt Lake City	84103	4968	62	1.25%
Salt Lake City	84104	3926	137	3.49%
Salt Lake City	84105	5761	71	1.23%
Salt Lake City	84111	1302	28	2.15%
Salt Lake City	84112	1	0	0.00%
Salt Lake City	84113	0	0	—
Salt Lake City	84116	5944	163	2.74%
Salt Lake City (and Emigration)	84108	5648	32	0.57%
Salt Lake City (and Millcreek)	84106	8526	118	1.38%
Sandy Total		28234	436	1.54%
Sandy	84070	5922	122	2.06%
Sandy (and Little Cottonwood)	84092	8318	138	1.66%
Sandy	84093	6738	74	1.10%
Sandy	84094	7256	102	1.41%
South Jordan	84095	12490	299	2.39%
South Salt Lake	84115	4173	114	2.73%
Taylorsville Total		24345	597	2.45%
Taylorsville	84123	8509	97	1.14%
Taylorsville (and Kearns)	84118	15836	500	3.16%
Unincorporated (Brigham Canyon)	84006	228	2	0.88%
Unincorporated (Millcreek/Mt. Olympus)	84124	6034	64	1.06%
West Jordan Total		26114	691	2.65%
West Jordan	84081	9353	81	0.87%
West Jordan	84084	8868	347	3.91%
West Jordan	84088	7893	263	3.33%
West Valley City Total		26302	791	3.01%
West Valley City	84119	9704	265	2.73%
West Valley City	84120	10246	281	2.74%
West Valley City	84128	6352	245	3.86%
Salt Lake County		235948	5428	2.30%

Zip Code 84129 had a total of 25 foreclosed homes since its incorporation in 2011. However, this table uses the 2010 Zip Code Tabulation Areas (ZCTAs) from the 2010 Census, and therefore does not include 84129. However, this zip code was formed from parts of zip codes 84118, 84119 and 84084. There are 10,324 single-family parcels in 84129. Of these, 2,090 are in ZCTA 84084, 7,147 are in 84118, and 1,087 are in 84119. Assuming the 25 foreclosures in 84129 since July 2011 were evenly distributed across the area, these numbers are used to weight these foreclosures to the other/older zip codes. Thus the County totals should still equal the accurate total number of foreclosures, and ZCTA's 84118, 84119 and 84084 have 17, 3 and 5 additional foreclosures, respectively, added that are currently in the 84129 zip code.

Source: BEBR Calculations From Wasatch Front Regional Multiple listing Service and U.S. Census Bureau, 2010 Census

Figure 38 maps the share of the foreclosed homes in each zip code in Salt Lake County, based on the 2010 owned housing stock and Zip Code Tabulation Areas (ZCTAs) from the 2010 U.S. Census. Not surprisingly, the share of housing stock in foreclosure in the Sandy zip codes are fairly low compared to the other zip codes, especially to those to the south and northwest. This is akin to the other eastern zip codes in the county, all of which, except Draper's 84020 zip code, are some of the lowest in the entire county. This has a positive effect on housing values in these areas, many of which are also high opportunity. However, these eastern zip codes, including those in Sandy have low numbers of minority (Figure 17), low-income (Figure 13), and other protected class residents. This indicates a clear segregation of the protected classes in the county.

Figure 38
Share of Foreclosed Owned Housing Units, 2008-2012
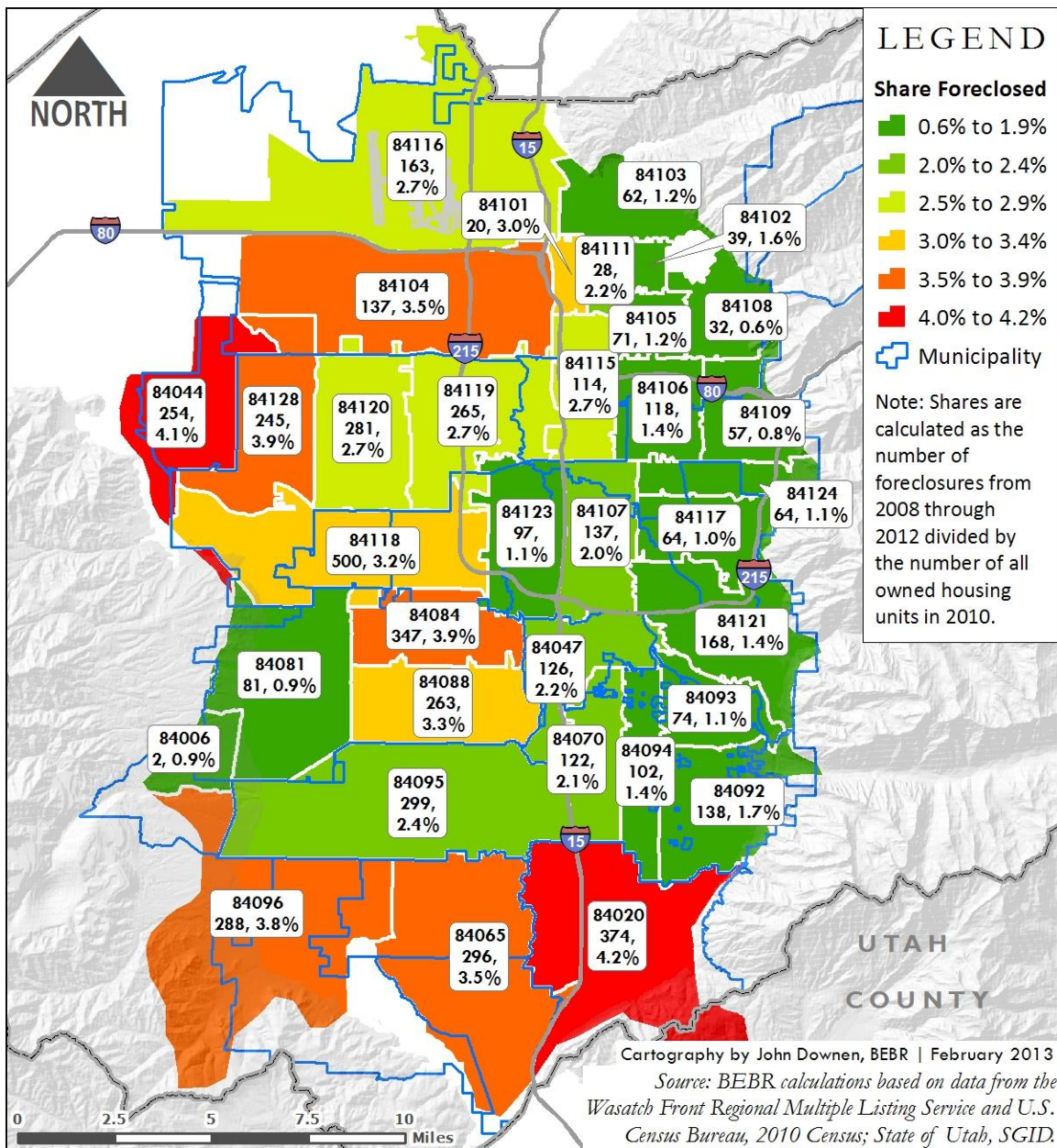
HMDA Summary Findings
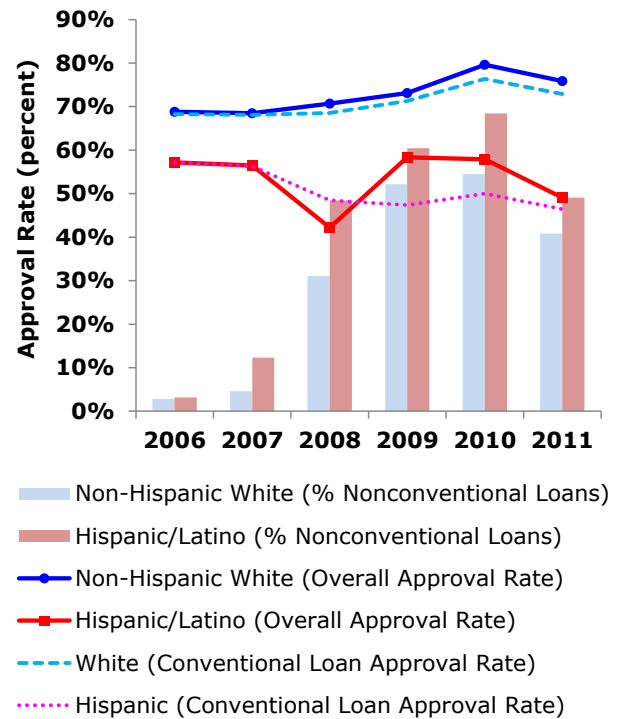
Approval/ Denial Rates
(Figure 39)

- The overall mortgage approval rates for white applicants steadily increased from 69 percent in 2006 to 80 percent in 2010 before slightly declining to 76 percent. Approval rates for Hispanic applicants have been below 60 percent during this 6-year period.
- Nonconventional loans exploded in volume after 2007 but decreased significantly in 2011 below the peak in 2009 and 2010.
- The conventional loan approval rates for white applicants are slightly lower but mirror the overall loan approval trend. For Hispanic applicants, the conventional approval rates steadily decreased from 57 percent in 2006 to 46 in 2010.

High-Interest Loans
(Figure 40)

- The overall percentage of high-interest loans given to Hispanic approved applicants from 2006 to 2011 was 24 percent—double the rate for whites.
- The gap between the two groups is the widest from the 21st to 40th countywide applicant income percentiles ($43K to $57K).

Neighborhood Selection
(Figure 44)

- From 2006 to 2011, over 40 percent of white applicants selected Sandy's east-side neighborhoods, which have minority shares below 15 percent (Figure 4).
- The share of Hispanic applicants applying to the east side of Sandy increased from 25 percent in 2006 to 31 percent in 2009 before declining to only 20 percent in 2010 and 2011.

Applicant Income & Loan Amount
(Figure 42)

- While the Hispanic median loan amount had trailed slightly behind that of white applicants from 2006 to 2009, the gap widened in the last two years.
- However, the median income gap between the two groups in fact decreased from $23K in 2006 to $12K in 2011.

**Figure 39
Approval Rates by Race/Ethnicity with Loan Type Composition in Sandy, 2006–2011**

Non-Hispanic White (% Nonconventional Loans)
Hispanic/Latino (% Nonconventional Loans)
Non-Hispanic White (Overall Approval Rate)
Hispanic/Latino (Overall Approval Rate)
White (Conventional Loan Approval Rate)
Hispanic (Conventional Loan Approval Rate)

Source: HMDA LAR Raw Data by MSA (2006-2011)

**Figure 40
Percent of High-Interest Loans by Income Level in Sandy, 2006–2011**

Non-Hispanic White   Hispanic/Latino
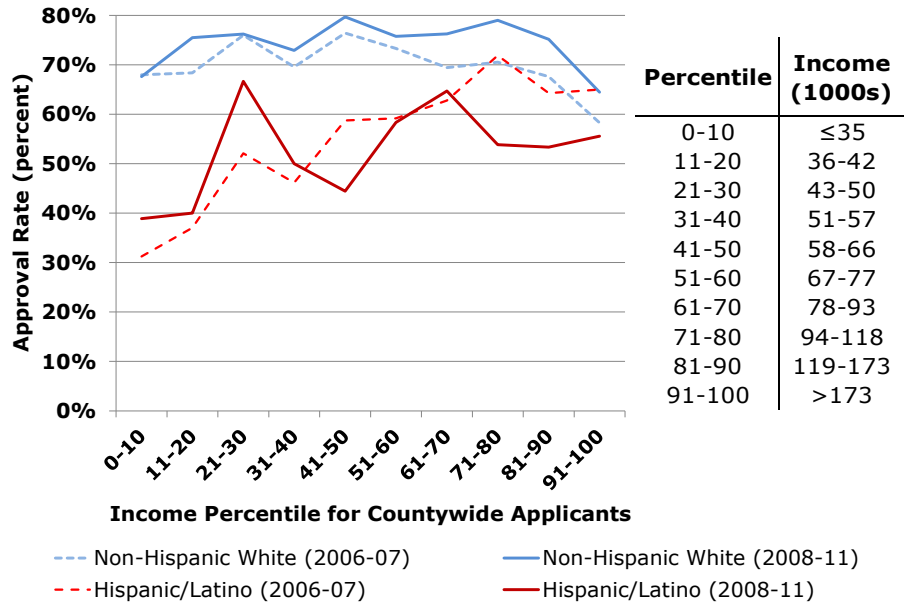Overall % (White)   Overall % (Hispanic)
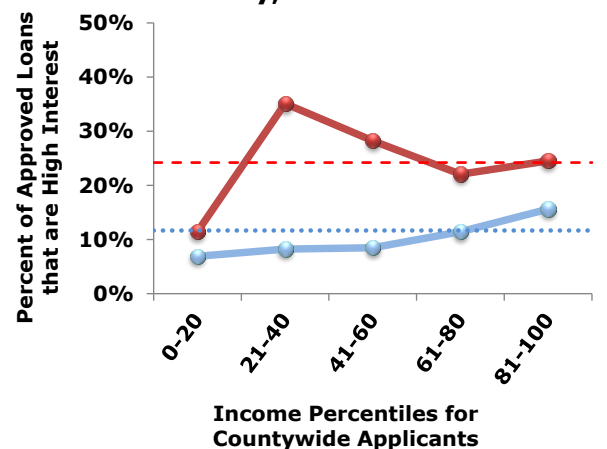
Source: HMDA LAR Raw Data by MSA (2006-2011)

High-interest loans are defined as any loan with a reported rate spread that exceeds 3 percentage points for first liens and 5 percentage points for subordinate liens. The rate spread is the difference between the loan APR and the yield of comparable Treasury securities.
Please refer to Figure 41 on page 51 for the corresponding income levels in nominal amounts.

The disparities in approval rates between non-Hispanic white and Hispanic/Latino applicants cannot be explained by differences in income distributions. Figure 41 shows the approval rates by income level. The percentiles shown on the horizontal axis represent nominal dollars that are constant across both groups, since these percentiles were determined from the entire Salt Lake County HMDA 2006–2011 dataset. The corresponding income levels for each income decile can be found on the table in Figure 41.
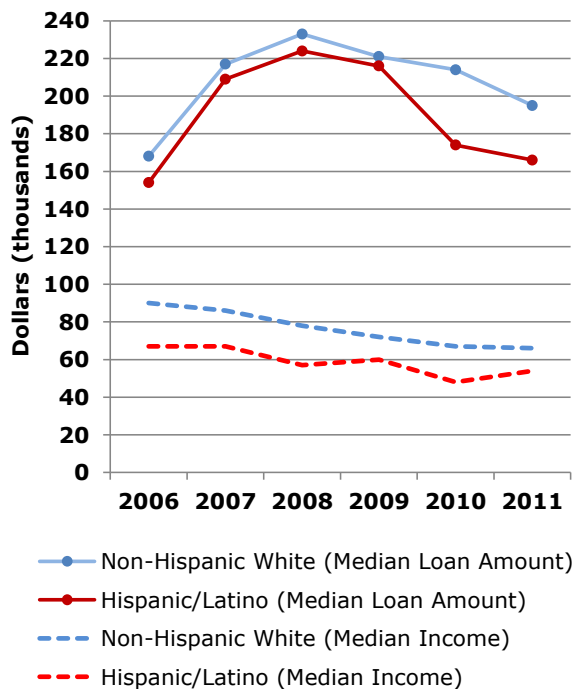
Figure 41
Approval Rates by Income Level and Race/Ethnicity in Sandy, 2006–2011

Percentile	Income (1000s)
0-10	≤35
11-20	36-42
21-30	43-50
31-40	51-57
41-50	58-66
51-60	67-77
61-70	78-93
71-80	94-118
81-90	119-173
91-100	>173

Legend:
- - - Non-Hispanic White (2006-07)   —— Non-Hispanic White (2008-11)
- - - Hispanic/Latino (2006-07)   —— Hispanic/Latino (2008-11)

Source: HMDA LAR Raw Data by MSA (2006-2011)

Note: The percentiles are determined from the reported incomes of all applicants in the entire Salt Lake County HMDA dataset from 2006 to 2011. The table above shows the correspondence between the percentiles and the income in nominal dollars.

Figure 42
Median Loan Amount and Income of Approved Applicants in Sandy, 2006–2011

Legend:
- ——● Non-Hispanic White (Median Loan Amount)
- ——● Hispanic/Latino (Median Loan Amount)
- - - - Non-Hispanic White (Median Income)
- - - - Hispanic/Latino (Median Income)
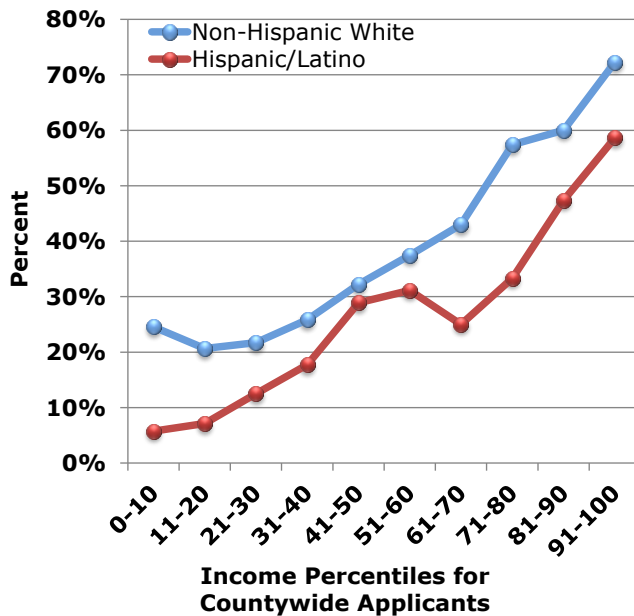
Source: HMDA LAR Raw Data by MSA (2006-2011)

The dotted lines represent the approval rates during the peak of the housing boom from 2006 to 2007. The approval rate between the two groups did not close until after the 70th income percentile (greater than $93,000). On the other hand, the approval rates from 2008 to 2011 (solid lines in Figure 41) maintained a large gap between the two groups even at the highest income levels. While non-Hispanic white applicants saw increases in mortgage approval rates consistently across all income levels, Hispanic applicants experienced decreases in approval rates for all income levels greater than the 40th percentile (greater than $57,000). Thus, even when income levels are held constant, the mortgage approval rate gap persists between the two groups.

As shown in Figure 42, the median reported applicant income gap between the two groups has steadily narrowed from $23,000 in 2006 to $12,000 in 2011. Despite this increasing comparability of income between the two groups, the Hispanic median loan amount plummeted by 23 percent from 2009 to 2011, while the white me-

dian loan amount only decreased by 12 percent during this time period. Prior to 2010, the median loan amounts between the two groups trended very similarly. The dramatic decrease in the median loan amount among Hispanic applicants in 2010 and 2011 could have partly resulted from the selection of more affordable properties, especially among lower-income Hispanics. This could potentially explain the uptick in approval rates among Hispanic applicants earning below $50,000 (Figure 41).

Figure 43
**Percent of Applications for Properties East of 1300 E. in Sandy, 2006–2011**

Source: HMDA LAR Raw Data by MSA (2006-2011)

In fact, Figure 43 suggests that the income represents a major factor in neighborhood selection in Sandy. The neighborhoods in Sandy are defined by 1300 East, which is a north-south street that runs right through the center of the city. The selection of 1300 East was based on census tract demographics and housing affordability. All the census tracts east of 1300 East have minority shares below 15 percent (Figure 4). Furthermore, over 60 percent of the single-family homes affordable at the 80 percent AMI level are in census tracts west of 1300 East (Figure 11).

Most strikingly, less than 6 percent of Hispanic applicants at the lowest income decile (earning less than $35,000/year) selected east-side neighborhoods, compared to nearly 60 percent of Hispanic applicants at the highest income levels (earning more than $173,00/year). While the trend is similar for both groups, non-Hispanic white applicants selected east-side neighborhoods at higher rates than their Hispanic counterparts at every income level.

Figure 44 shows the neighborhood selection effect from 2006 to 2011 for both groups by total applications and approved applications. Notably, the Hispanic/Latino application rate for east-side properties climbed from 25 percent in 2006 to 31 percent in 2009. However, this trend reversed in 2010 and 2011, during which only a fifth of Hispanic applicants selected east-side properties. This reversal in neighborhood selection trends could be closely related to the sudden decrease in the Hispanic median loan amount in

Figure 44
**Percent of Applications for Properties East of 1300 E. in Sandy, 2006–2011**
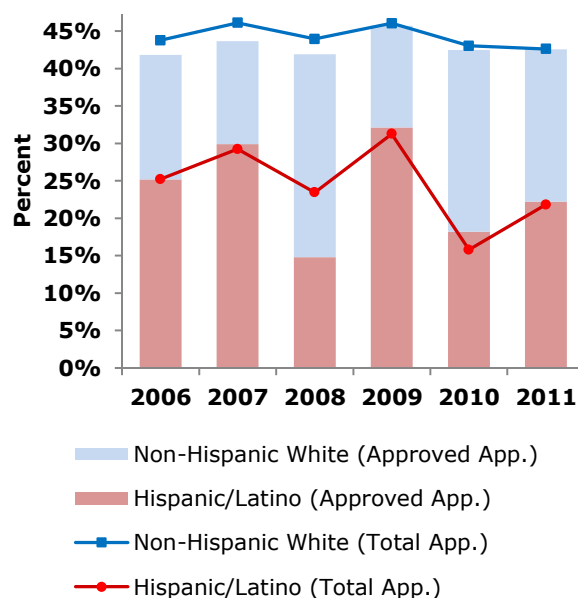
Source: HMDA LAR Raw Data by MSA (2006-2011)

2010 and 2011 (Figure 42). In most years, the neighborhood selection effect did not differ greatly between the total applicant pool and the approved subset. However, in 2008, while 23 percent of Hispanic applicants selected east-side properties, only 15 percent of Hispanic approved loans were for properties on the east side. This means that the approval process further widened the neighborhood selection effect that already existed from the outset.

This disproportionately lower Hispanic share of approvals for east-side properties in 2008 (Figure 44) is also reflected in the application outcomes across neighborhoods by race/ethnicity as shown in Figure 45. The left-hand panel shows the overall application outcomes during the housing boom from 2006 to 2007. The right-hand panel shows the application outcomes during the housing bust from 2008 to 2011. While the application outcomes for Hispanic applicants were very similar across neighborhoods from 2006 to 2007, the denial rates have noticeably increased from 26 percent during the 2006-2007 housing boom to 31 percent during the 2008-2011 housing bust for Hispanic applicants who selected east-side neighborhoods. In fact, the approval rate gap between the two groups for east-side Sandy properties increased from 8 percentage points during the housing boom peak (2006–2007) to over 25 percentage points in the housing bust (2008–2011). The application

Figure 45
Mortgage Application Outcomes by Race/Ethnicity and Neighborhood, and Housing Period
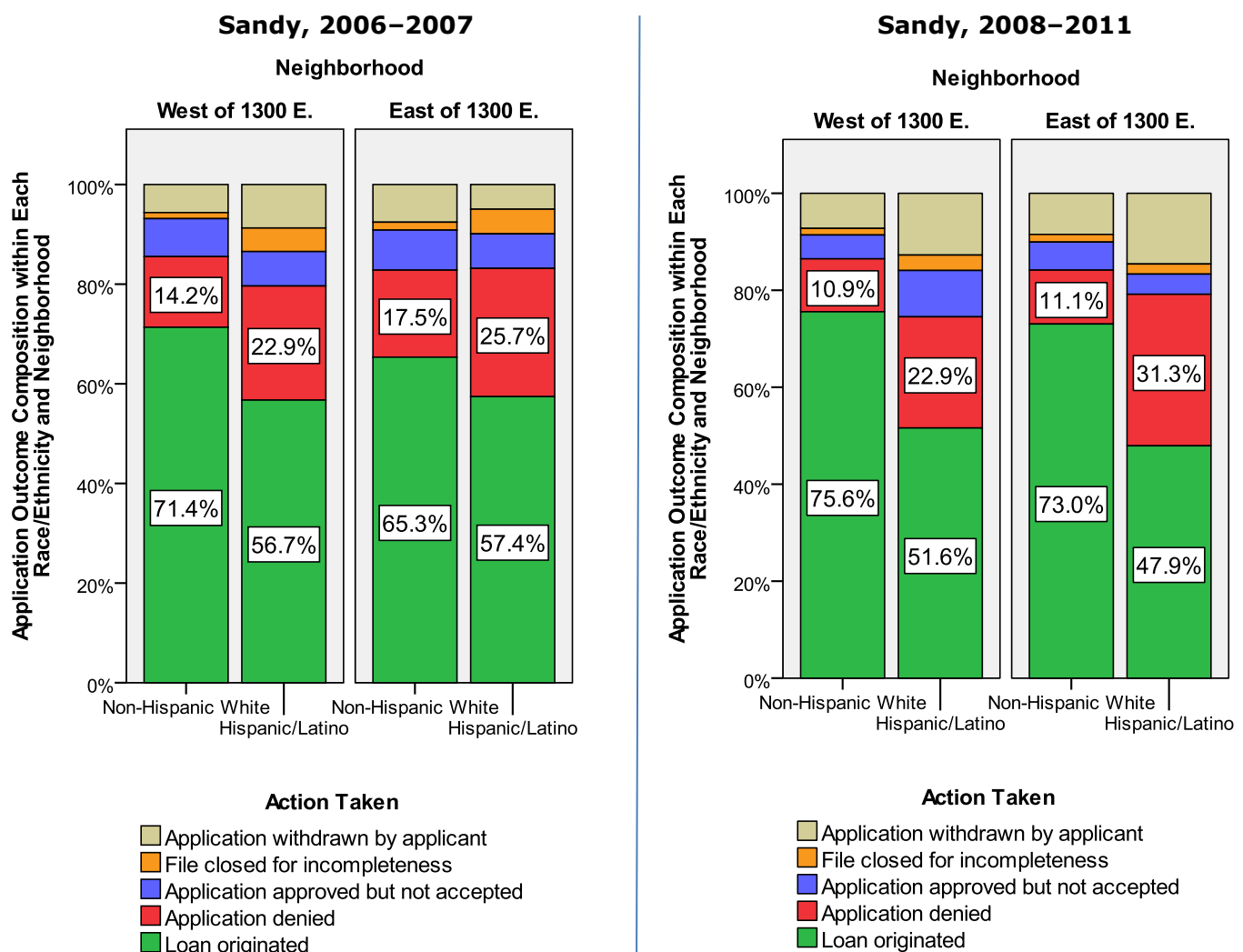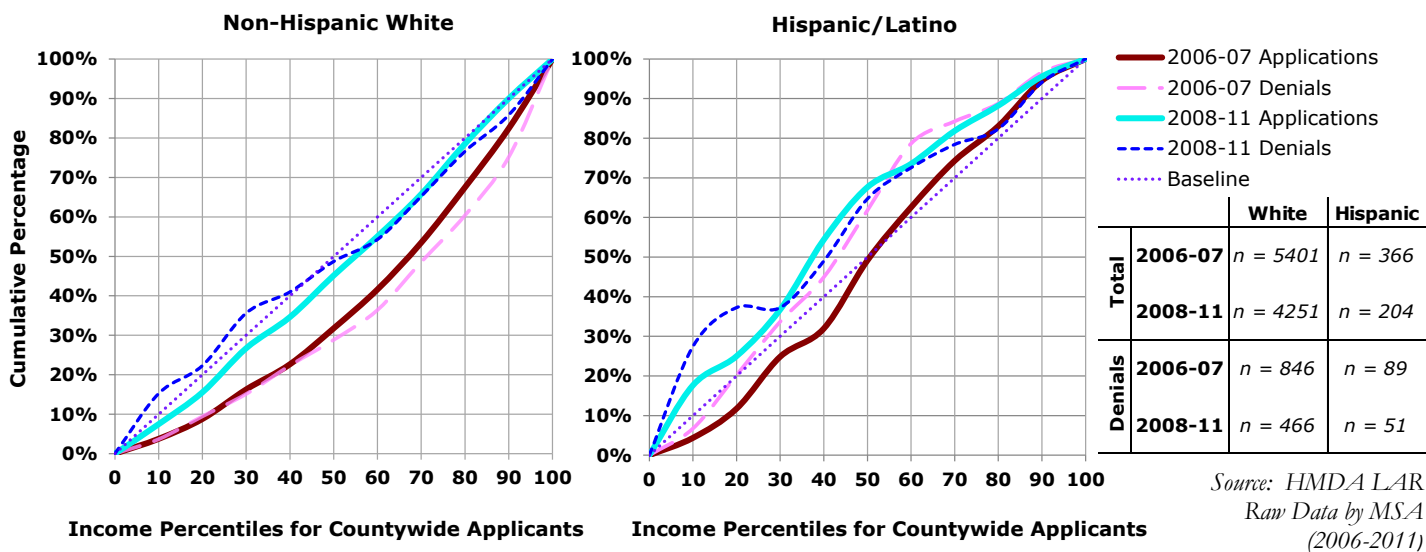

Source: HMDA LAR Raw Data by MSA (2006-07)

Source: HMDA LAR Raw Data by MSA (2008-11)

outcomes for both groups did not alter as much on the west side, but the approval rate gap between the two groups nonetheless increased from 14.7 percentage points during the housing boom peak to 24 percentage points during the housing bust. The widening approval rate on both sides of Sandy is mostly due to the tremendous plummet in the Hispanic mortgage approval rate in 2008, which later rebounded to levels comparable to those during the housing boom peak (see Figure 39 on page 50).

Figure 46
Cumulative Distrtibution of Applications and Denials across Income Levels by Race/Ethnicity in Sandy, 2006–2011

		White	Hispanic
Total	2006-07	n = 5401	n = 366
Total	2008-11	n = 4251	n = 204
Denials	2006-07	n = 846	n = 89
Denials	2008-11	n = 466	n = 51

Source: HMDA LAR Raw Data by MSA (2006-2011)

The income percentiles were determined from the all applicants with reported incomes in the Salt Lake County HMDA dataset from 2006-2011. Thus, the income percentiles represent constant income levels for both groups. Please refer to Figure 41 on page 51 for the corresponding income levels in nominal dollar amounts.

Figure 46 shows the cumulative percentage of total applications and denials across income levels by race/ethnicity and housing periods. The purple dotted line is the baseline, meaning that curves that approach the shape of this baseline have distributions similar to the overall reported income distribution of all applications in Salt Lake County in the HMDA dataset from 2006 to 2011. Cumulative application distributions for a subpopulation above the baseline suggest that this group has more applicants in the lower income deciles compared to the entire 2006 to 2011 Salt Lake County HMDA dataset. Likewise, cumulative application distributions below the baseline mean that the group has more applicants in higher income deciles.

The two panels in Figure 46 each overlay the cumulative application distributions (solid lines) with the corresponding cumulative denial distributions for the two housing periods. For both non-Hispanic white and Hispanic/Latino applications, the distributions have skewed more to the lower income levels after the housing boom. During the housing boom peak from 2006 to 2007, the white applicants in the middle-income levels had disproportionately low shares of denials. White applicants at the highest income level (greater than $173,000/year), who represented 18 percent of the total white applicant pool, took on nearly a quarter of all denials given to white applicants. However, during the housing bust from 2008 to 2011, white applicants below the 30th income percentile (earning below $50,000/year) received nearly 36 percent of the denials while representing on-

ly 27 percent of the white applicant pool. Thus, the burden of denials during the two housing periods shifted from the high-income white applicants to those at the lowest income levels.

On the other hand, the burden of denials among Hispanic applicants has consistently been among those with the lowest reported incomes. For instance, during the housing boom peak, 12 percent of the Hispanic applicants reported incomes below the 20th income percentile (below $42,000/year) but represented over 20 percent of all denials among the Hispanic applicant pool. During the housing bust, a quarter of Hispanic applicants had annual incomes below $42,000 but represented disproportionately 37 percent of denials. Note that the denial cumulative distributions deviate more from the total cumulative distributions for Hispanic applicants given the smaller applicant pool. Nevertheless, since the income percentiles represent constant income levels for both groups, the dense concentration of denials among low-income Hispanic applicants—to a larger extent than low-income white applicants—signals that than inherent income distribution differences between the two groups cannot explain the differences in denials across racial and ethnic groups.

The HMDA dataset includes reasons for denied mortgage applications in addition reported income information. Figure 47 shows the percent of denied applications by race/ethnicity attributed to each denial reason. The denial reasons are ordered from the most to least common denial reason among Hispanic/Latino applicants with the exception of categorizing all denied applications with unreported reasons at the end. The line graphs in Figure 47 show the cumulative percentage aggregated in the order of the denial reasons that are listed on the horizontal axis. Roughly 43 percent of the denials for white applicants are due to poor credit history, high debt-to-income ratios, and incomplete credit applications, while 56 percent of Hispanic denials are due to these reasons. Unfortunately, 15 percent and 19 percent of the denied applications for whites and Hispanics, respectively, do not have reported reasons, making it difficult to develop conclusive analysis on the denial reasons across racial and ethnic groups.

Figure 47
**Primary Denial Reason by Race/Ethnicity in Sandy, 2006–2011**
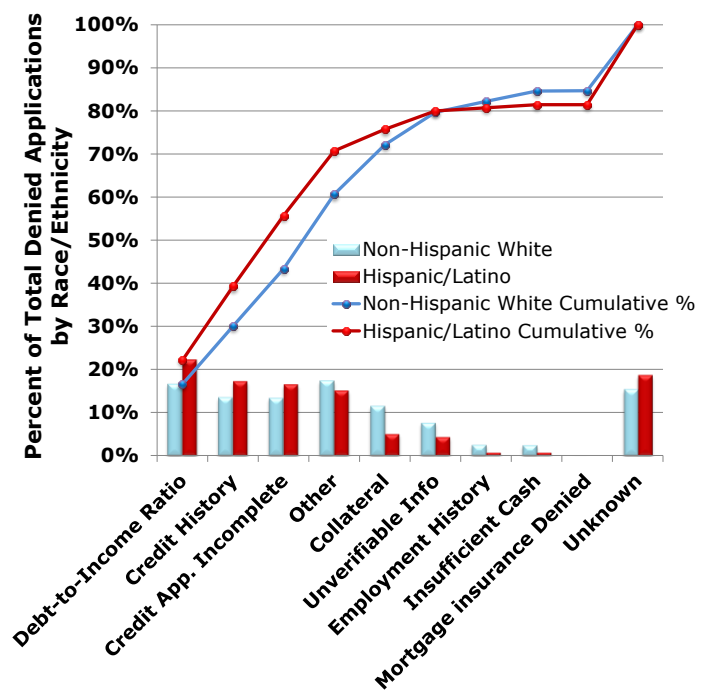
Source: HMDA LAR Raw Data by MSA (2006-2011)

Note that the cumulative income distributions among approved and total applications for both groups are fairly comparable for white applicants as shown in the left panel of Figure 48. This means that approvals are not disproportionately concentrated among applicants in the higher income brackets. This similarity in both distributions is also reflected in the indices of dissimilarity between total applications and the approved subset, which have been below 0.05 for both housing periods for white applicants (Table 22). On the other hand, the approval cumulative distributions for Hispanic applicants (dotted lines on the right panel of Figure 48) have been slightly below the

total cumulative income distribution (dashed lines) for both housing periods. This means that approvals are disproportionately lower among low-income Hispanic applicants compared to their composition in the applicant pool.

The index of dissimilarity (Table 22) measures the extent to which the income distributions of ap-

Figure 48
Cumulative Districtuion of Applications and Approvals by Income and Race/Ethnicity in Sandy, 2006–2011
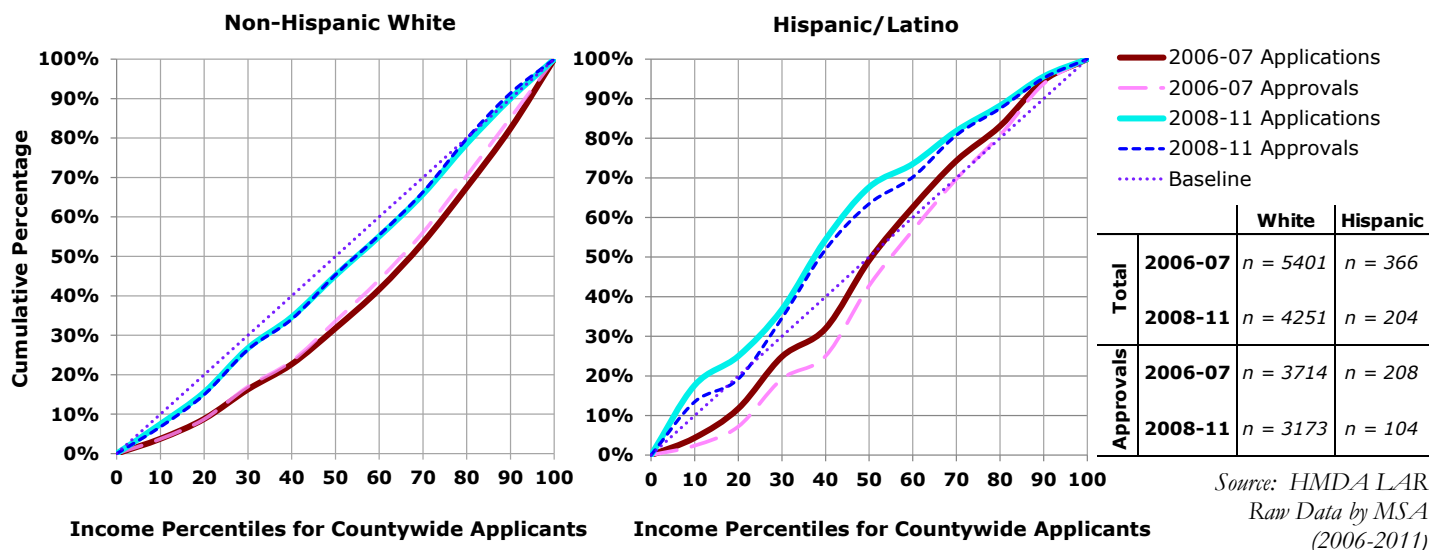
The income percentiles were determined from the all applicants with reported incomes in the Salt Lake County HMDA dataset from 2006-2011. Thus, the income percentiles represent constant income levels for both groups. Please refer to Figure 41 on page 51 for the corresponding income levels in nominal dollar amounts.

proved and denied applicants differed from the income distribution of total applicants. The indices are interpreted as the proportion of applicants that must move to another income decile in order to make the overall distribution and the approval/denial distributions identical. The Index of Dissimilarity section on page 58 has a detailed explanation of this metric.

For both groups, the index of dissimilarity between denials and total applicants increased from the housing boom to housing bust period given the emergence of disproportionately high percentage of denials attributed to applicants at the lowest income

Table 22
Indices of Dissimilarity for Denials & Approvals by Race/Ethnicity in Sandy, 2006–2011

	Denials		Approvals	
	Boom	*Bust*	*Boom*	*Bust*
Non-Hispanic White	0.09	0.14	0.03	0.02
Hispanic/Latino	0.16	0.23	0.07	0.08

Source: HMDA LAR Raw Data by MSA (2006-2011)

as graphically represented in Figure 46. This shift in the denial income distribution is apparent for both groups but is much more prominent for Hispanic applicants.

The indices and the graphical representations of the income distributions collectively suggest that the low approval rates among Hispanic/Latino applicants are due to a disproportionately concentrated share of denials among low-income Hispanic applicants to a much larger extent than among low-income white applicants.

FAIR HOUSING INFRASTRUCTURE

The city of Sandy does not currently have a formal complaint process for residents who feel discriminated against as a protected class. As it stands now, if a call were to come into the city regarding a fair housing complaint by a resident, it would be filtered down to the Community Development Block Grant Program Manager (CDBG). Since there is no complaint process currently in place in Sandy, the CDBG Manager would most likely refer to Salt Lake County and the Utah Antidiscrimination and Labor Commission on how to proceed. Both of these organizations are staffed and have a system in place to address these complaints. Most likely due to a lack of a process, the city is unaware of any complaints that have been brought to the city. Though there currently is no formal process, Sandy recently adopted general plan in January 2013 that does include a housing element. This plan includes a goal to provide a range of housing opportunities for all residents, including those with special needs, and to eliminate discrimination in housing availability. Specifically, Goal 5.2.2 is to establish a system to handle any complaints from residents regarding violations of fair housing or provide for special needs populations. In the near future, it is the desire of the city's CDBG Program Manager to have a formal complaint system in place with online, phone or in-person options available both in English and Spanish. Options for other languages would be made available upon request. Overall, the current lack of a fair housing discrimination complaint system is noted as a weaker area of the city of Sandy, and is a critical goal to be addressed.

APPENDIX

Explanation of Opportunity Indices

Index of Dissimilarity for Mortgage Denials and Approvals

The degree of difference between two distribution curves can be calculated using the index of dissimilarity. The formula[1] for the index of dissimilarity Δ shown below is tailored specifically to describe the difference between the income distribution of mortgage applications and that of denied mortgage applications:

$$\Delta = \frac{1}{2}\sum_{i=1}^{k}\left|\frac{a_i}{A} - \frac{r_i}{R}\right|$$

where

a_i = the number of mortgage applications with reported incomes in the ith income decile
A = the total number of mortgage applications
r_i = the number of denied applications with reported incomes in the ith income decile
R = the total number of denied applications

The index of dissimilarity is interpreted as the percentage of one group that must move to other income deciles in order to create a distribution equal to that of the other group. For instance, in comparing the application volume and denial distributions across the countywide deciles, an index of dissimilarity of 0.03 means that 3 percent of the denied applicants would have to move to another income decile in order to match the overall application distribution. This index in itself cannot specify if approvals and denials are occurring disproportionately at certain income levels. Cumulative distribution curves of total applications and approved/denied applications can provide this information graphically.

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[1] Shryock, Henry S., Jacob S. Siegel and Associates. *The Methods and Materials of Demography*, ed. Edward G. Stockwell. Condensed Edition. San Diego: Academic Press, 1976.