Constrained Choices:
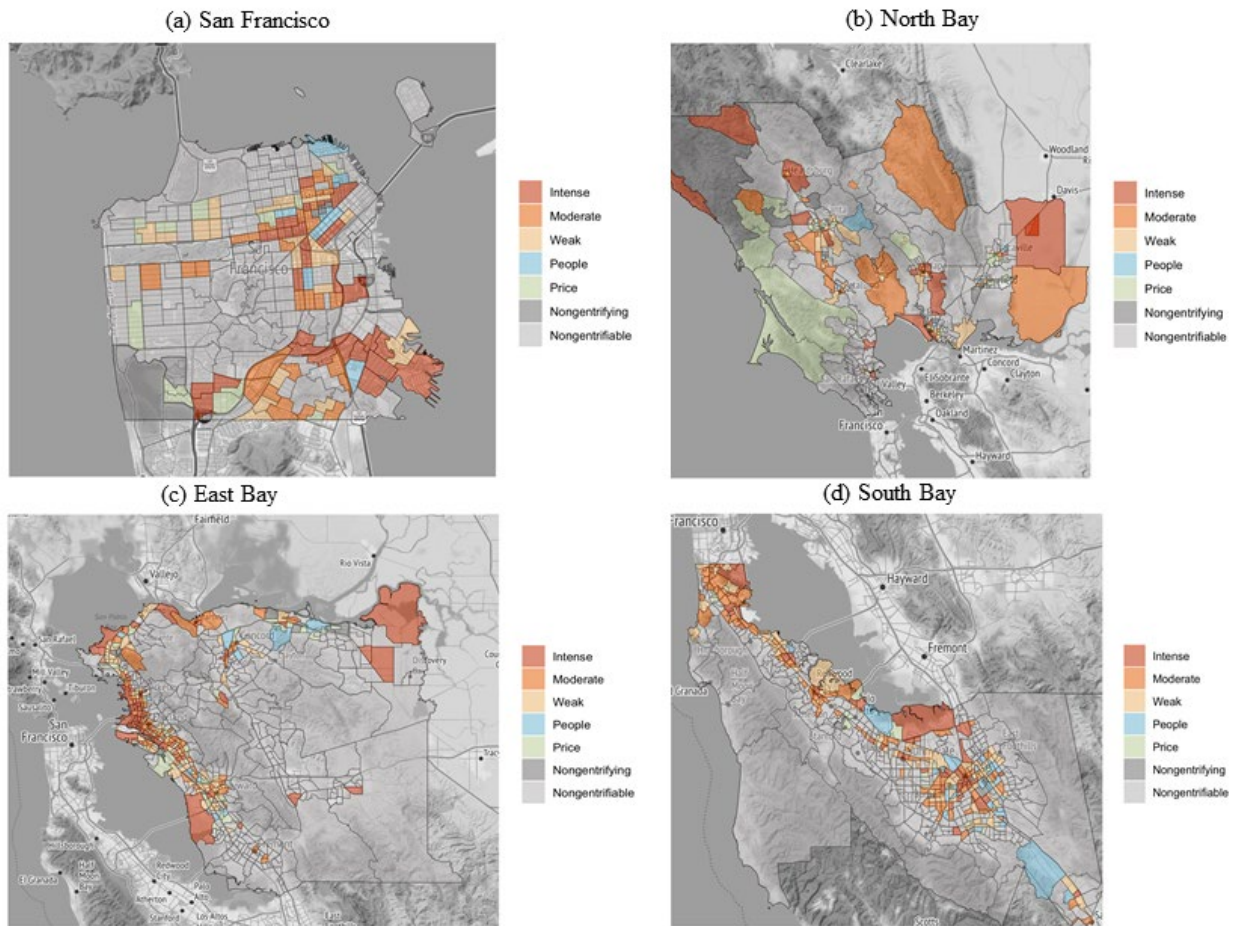## Gentrification, Housing Affordability, and Residential Instability in the San Francisco Bay Area

SUPPLEMENTAL APPENDIX

Figure SA1. Maps of gentrification in (a) San Francisco, (b) North Bay, (c) East Bay, and (d) South Bay from 2000 to 2016 (detailed)
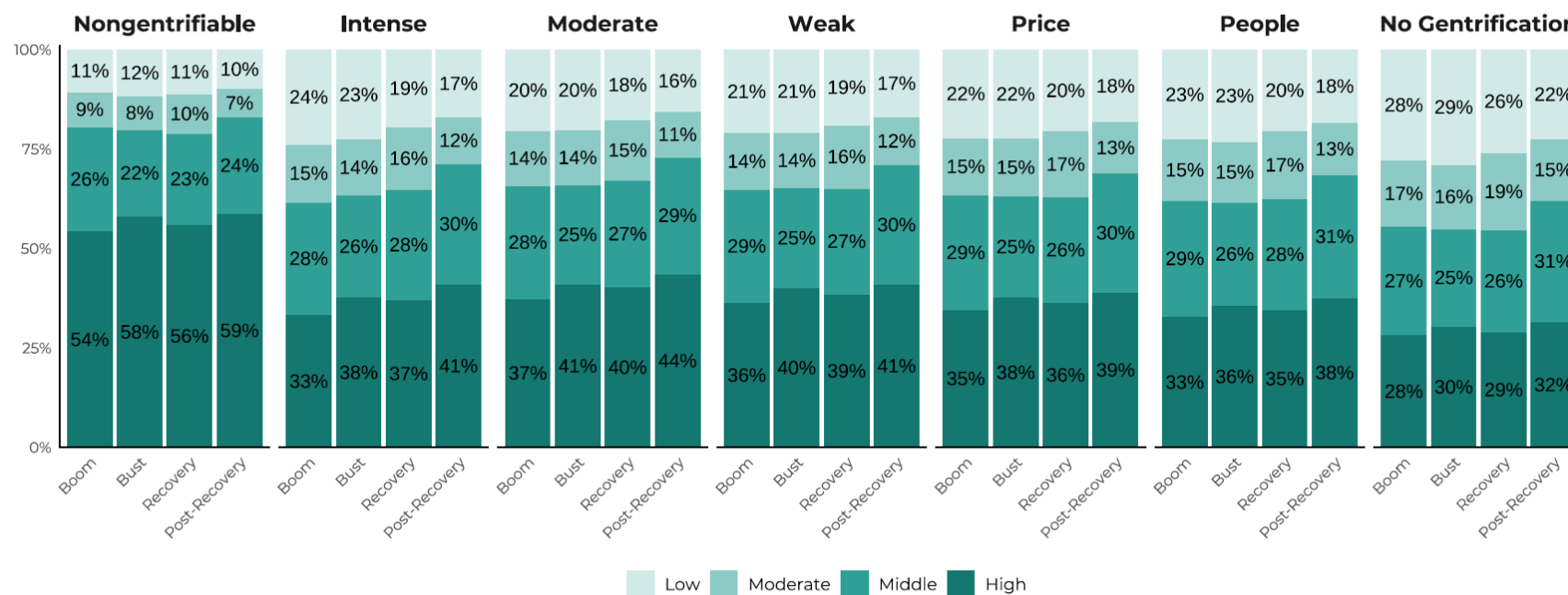

Source: 2000 Census and 2012-2016 American Community Survey 5-year Estimates.

Table SA1. Neighborhood characteristics by gentrification category (detailed)

	Non-gentrifiable		Gentrifying Intense		Moderate		Weak		Early Gentrification Price		People		Nongentrifying	
	2000	2000-2016	2000	2000-2016	2000	2000-2016	2000	2000-2016	2000	2000-2016	2000	2000-2016	2000	2000-2016
Population	4,403	10.9%	3,685	22.5%	4,323	8.1%	4,634	6.6%	4,572	3.0%	4,304	8.1%	4,531	3.2%
% non-Hispanic white	61.84	-10.81	35.29	-0.75	42.14	-6.54	42.66	-8.48	43.10	-9.19	36.38	-7.49	40.19	-10.73
% black	4.13	-0.60	19.30	-7.16	10.50	-3.11	9.75	-2.42	14.04	-3.59	7.40	-1.26	13.18	-2.32
% Hispanic	11.07	3.48	25.49	1.12	25.64	4.18	26.16	6.08	21.55	9.41	30.46	4.46	28.06	10.99
% Asian	21.43	4.88	18.10	3.99	19.87	3.07	19.52	2.37	19.48	0.54	23.89	2.38	16.44	-0.57
% foreign-born	22.88	3.94	30.17	0.37	30.79	2.03	30.43	2.21	27.68	2.92	34.90	2.13	29.72	3.38
Median household income	123,677	-3.4%	61,641	14.5%	72,309	0.9%	73,461	-6.9%	71,183	-14.4%	71,528	-17.3%	62,907	-29.0%
% below poverty	4.75	1.36	16.08	0.06	11.37	1.79	11.33	2.59	12.35	3.68	13.33	3.57	14.86	9.05
% bachelor's degree	47.11	7.60	25.96	14.39	28.09	10.12	27.75	7.05	30.29	0.48	21.51	7.81	22.01	-1.83
% homeownership	72.55	-2.62	41.74	0.10	46.73	-2.32	46.33	-3.40	47.81	-3.70	47.72	-4.42	42.57	-7.59
Median home value	667,129	28.5%	363,070	52.6%	431,465	34.1%	416,546	26.7%	371,089	35.6%	396,200	4.8%	356,178	-3.8%
Median rent	1,731	10.3%	1,064	31.0%	1,233	15.0%	1,241	10.9%	1,202	11.4%	1,288	-1.8%	1,137	-4.3%
% vacancies	2.78	2.00	5.33	1.40	3.58	2.00	2.93	2.37	4.05	2.86	3.58	1.65	5.14	2.21
% buildings < 20 years old	28.86	-10.73	19.53	6.77	16.25	-2.68	18.27	-3.31	19.46	-6.81	23.75	-5.98	27.21	-10.02
N	756		164		212		196		104		67		42	

Notes: 2000 estimates for median household income, rent, and home value adjusted for inflation to 2016 dollars. Neighborhoods with <500 residents (n=39) or <100 housing units (n=9) were excluded. Source: 2000 Census and 2012-2016 American Community Survey 5-year Estimates.
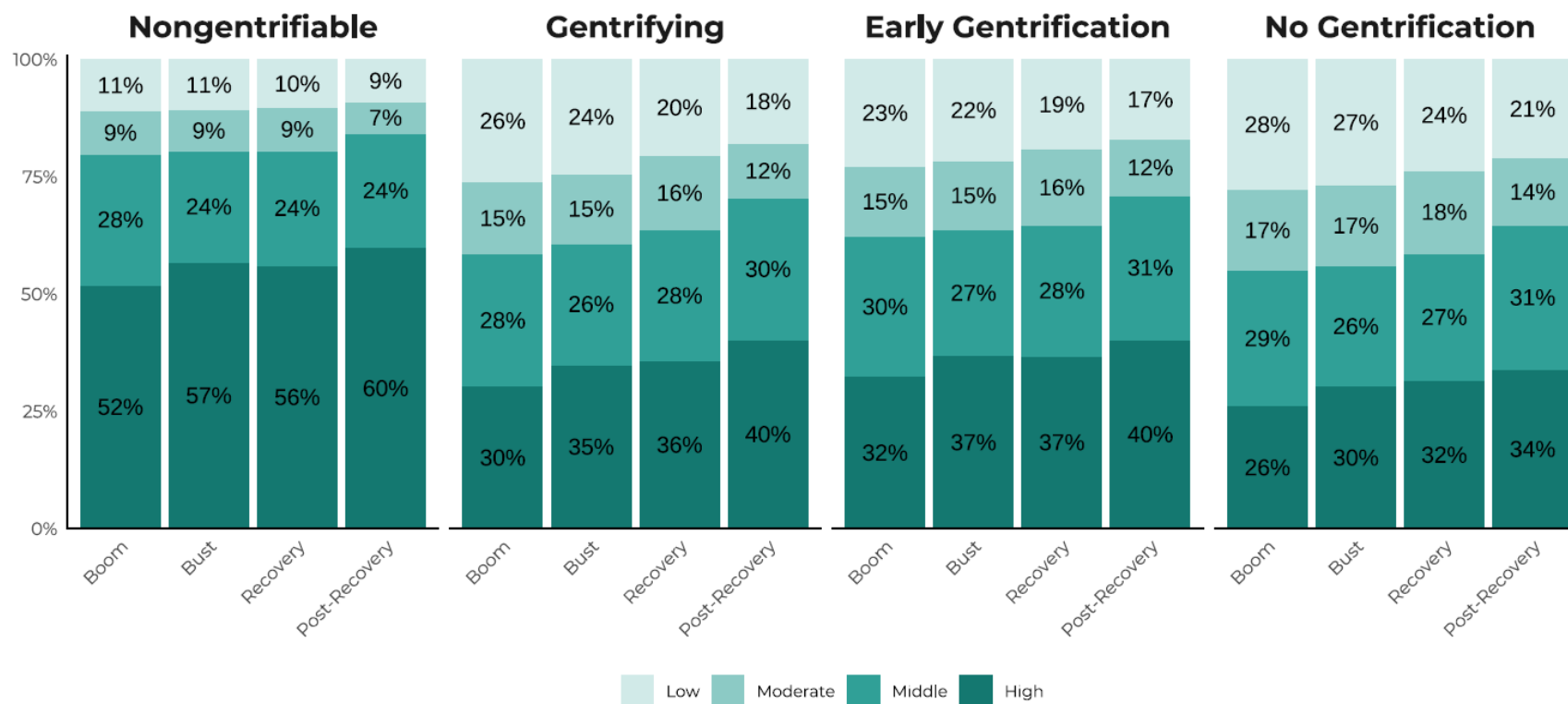
Figure SA2. SES composition of residents by gentrification category (detailed) over four housing periods

Legend: Low | Moderate | Middle | High

SES Ranges by Equifax Risk Scores: Low = missing or <580, Moderate = 580-649, Middle = 650-749, High = 750+

Source: FRBNY Consumer Credit Panel/Equifax Data, 2000 Census, and 2012-2016 American Community Survey 5-year Estimates.
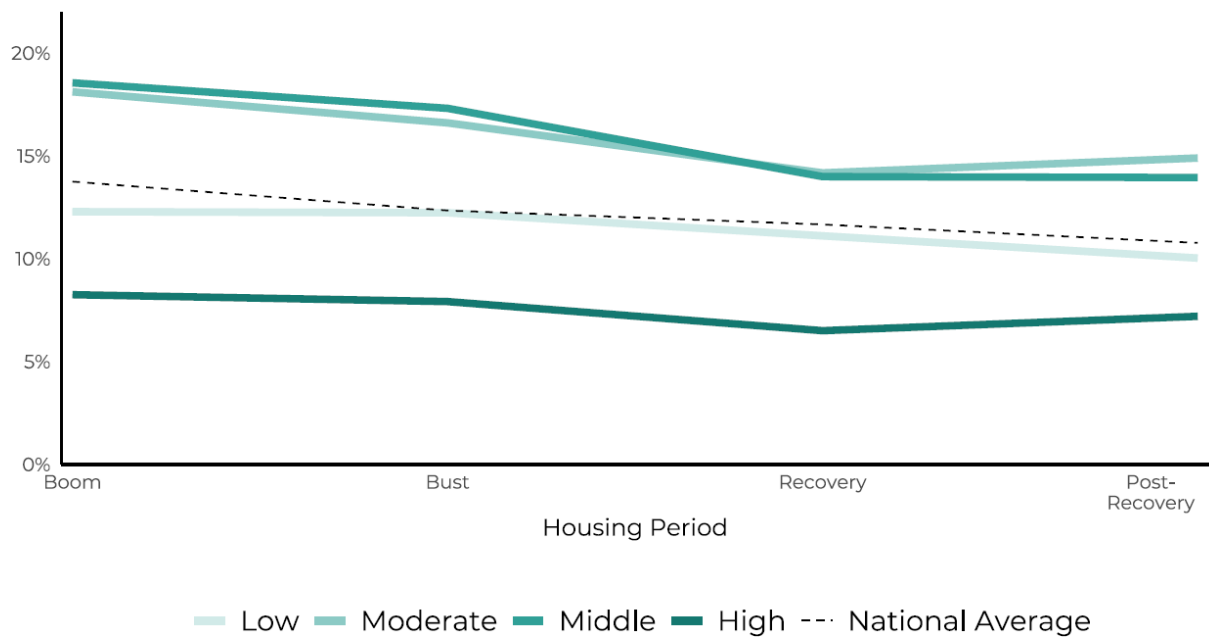
Figure SA3. SES composition of residents by gentrification category in major cities over four housing periods

SES Ranges by Equifax Risk Scores: Low = missing or <580, Moderate = 580-649, Middle = 650-749, High = 750+

Source: FRBNY Consumer Credit Panel/Equifax Data, 2000 Census, and 2012-2016 American Community Survey 5-year Estimates.
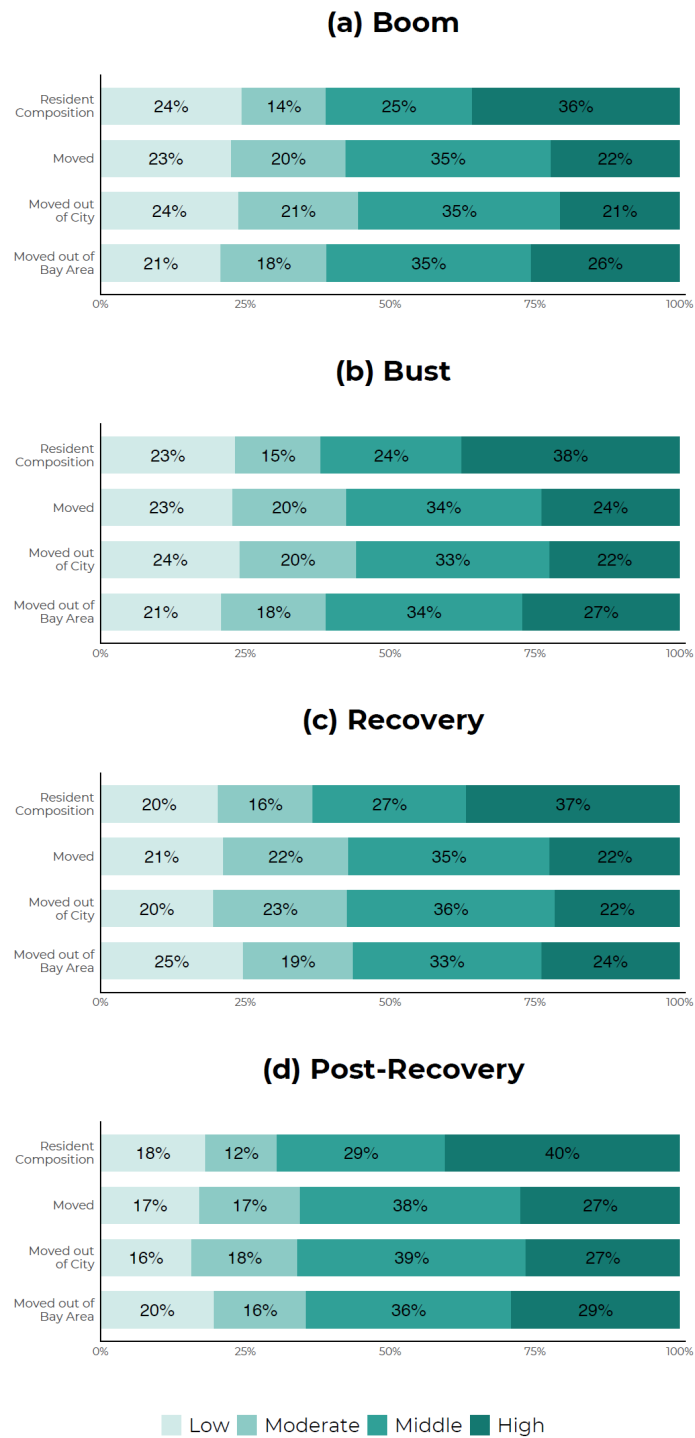
Figure SA4. Percent of residents without mortgages moving by SES over four housing periods

SES Ranges by Equifax Risk Scores: Low = missing or <580, Moderate = 580-649, Middle = 650-749, High = 750+
Housing Period Ranges: Boom = 2002-2006, Bust = 2007-2009, Recovery = 2010-2014, Post-Recovery = 2015-2017

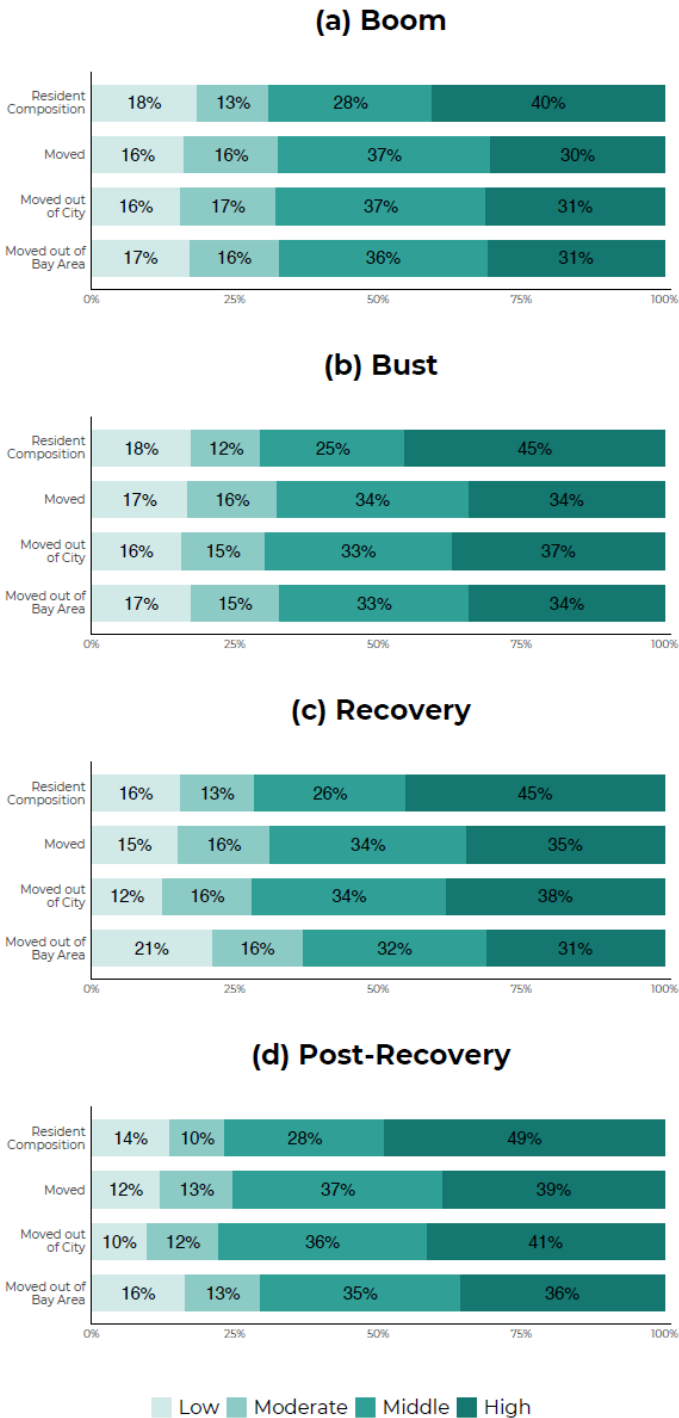Source: FRBNY Consumer Credit Panel/Equifax Data.

Figure SA5. SES composition of residents without mortgages, movers without mortgages, movers without mortgages who move to different cities/towns within the Bay Area, and movers without mortgages out of the Bay Area over four housing periods

(a) Boom

	Low	Moderate	Middle	High
Resident Composition	24%	14%	25%	36%
Moved	23%	20%	35%	22%
Moved out of City	24%	21%	35%	21%
Moved out of Bay Area	21%	18%	35%	26%

(b) Bust

	Low	Moderate	Middle	High
Resident Composition	23%	15%	24%	38%
Moved	23%	20%	34%	24%
Moved out of City	24%	20%	33%	22%
Moved out of Bay Area	21%	18%	34%	27%

(c) Recovery

	Low	Moderate	Middle	High
Resident Composition	20%	16%	27%	37%
Moved	21%	22%	35%	22%
Moved out of City	20%	23%	36%	22%
Moved out of Bay Area	25%	19%	33%	24%

(d) Post-Recovery

	Low	Moderate	Middle	High
Resident Composition	18%	12%	29%	40%
Moved	17%	17%	38%	27%
Moved out of City	16%	18%	39%	27%
Moved out of Bay Area	20%	16%	36%	29%

Low ■ Moderate ■ Middle ■ High

SES Ranges by Equifax Risk Scores: Low = missing or <580, Moderate = 580-649, Middle = 650-749, High = 750+
Housing Period Ranges: Boom = 2002-2006, Bust = 2007-2009, Recovery = 2010-2014, Post-Recovery = 2015-2017
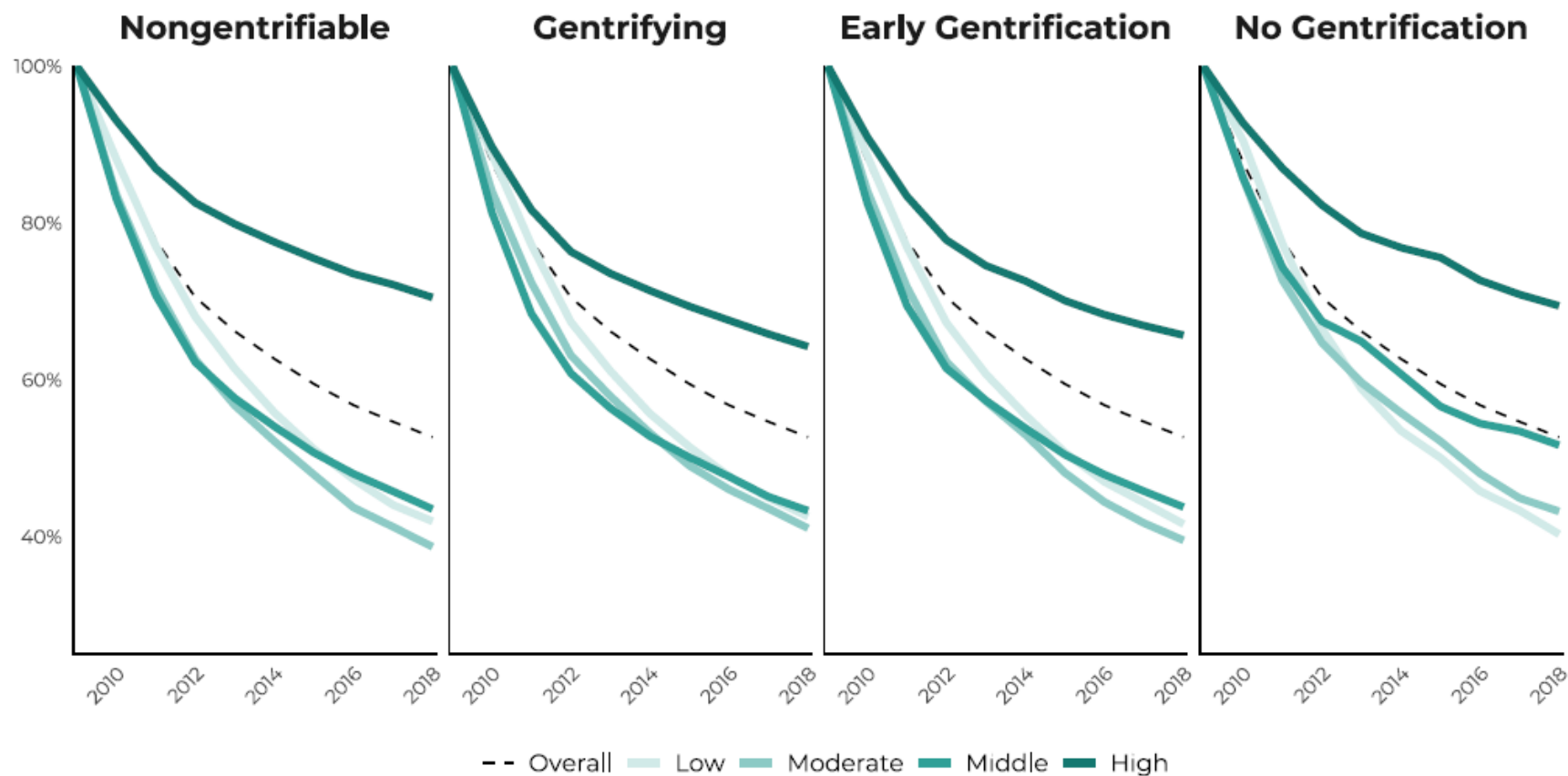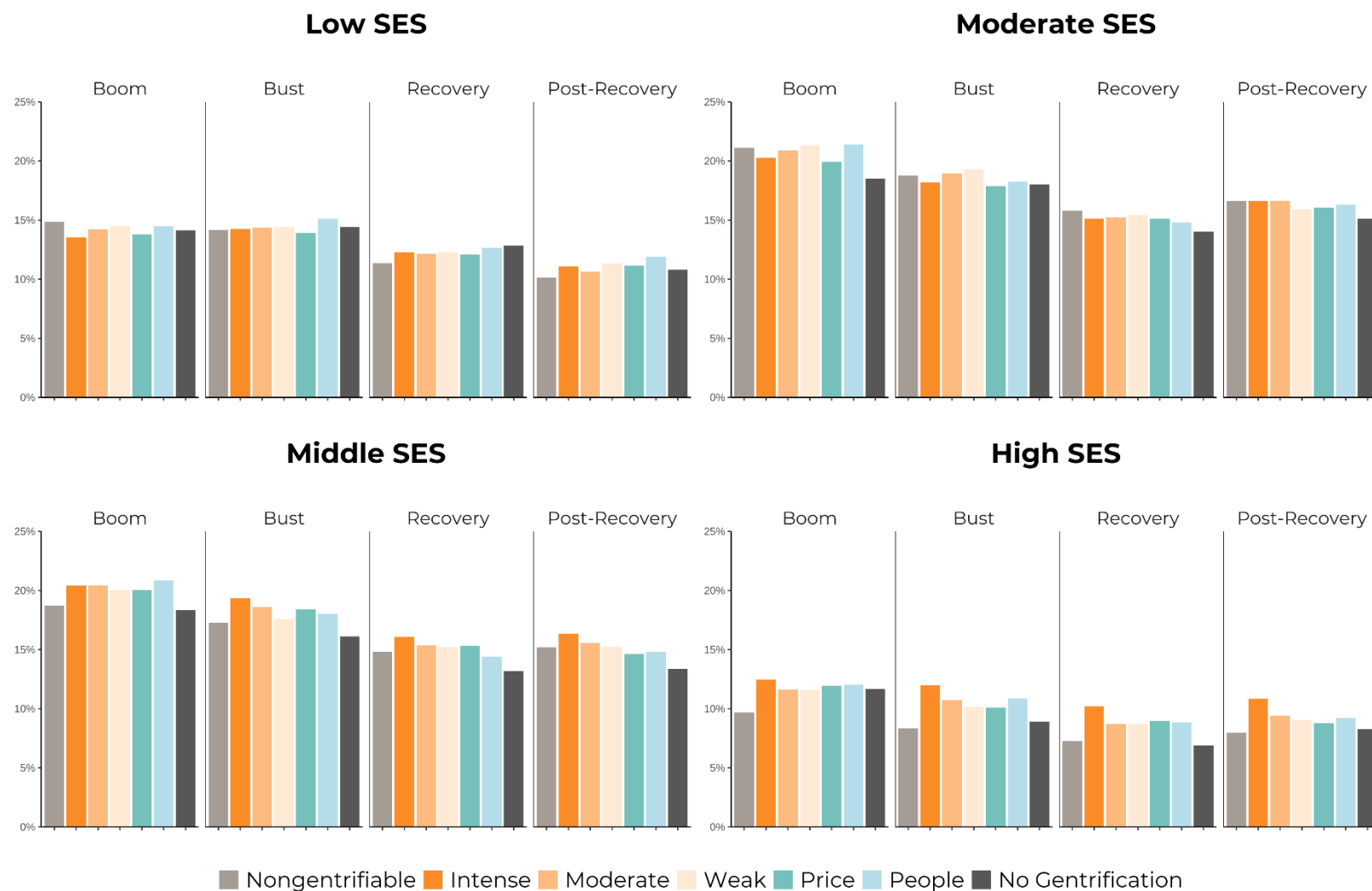
Source: FRBNY Consumer Credit Panel/Equifax Data.

Figure SA6. SES composition of residents in major cities, movers from major cities, movers from major cities who move to different cities/towns within the Bay Area, and movers out of the Bay Area from major cities over four housing periods

(a) Boom

	Low	Moderate	Middle	High
Resident Composition	18%	13%	28%	40%
Moved	16%	16%	37%	30%
Moved out of City	16%	17%	37%	31%
Moved out of Bay Area	17%	16%	36%	31%

(b) Bust

	Low	Moderate	Middle	High
Resident Composition	18%	12%	25%	45%
Moved	17%	16%	34%	34%
Moved out of City	16%	15%	33%	37%
Moved out of Bay Area	17%	15%	33%	34%

(c) Recovery

	Low	Moderate	Middle	High
Resident Composition	16%	13%	26%	45%
Moved	15%	16%	34%	35%
Moved out of City	12%	16%	34%	38%
Moved out of Bay Area	21%	16%	32%	31%

(d) Post-Recovery

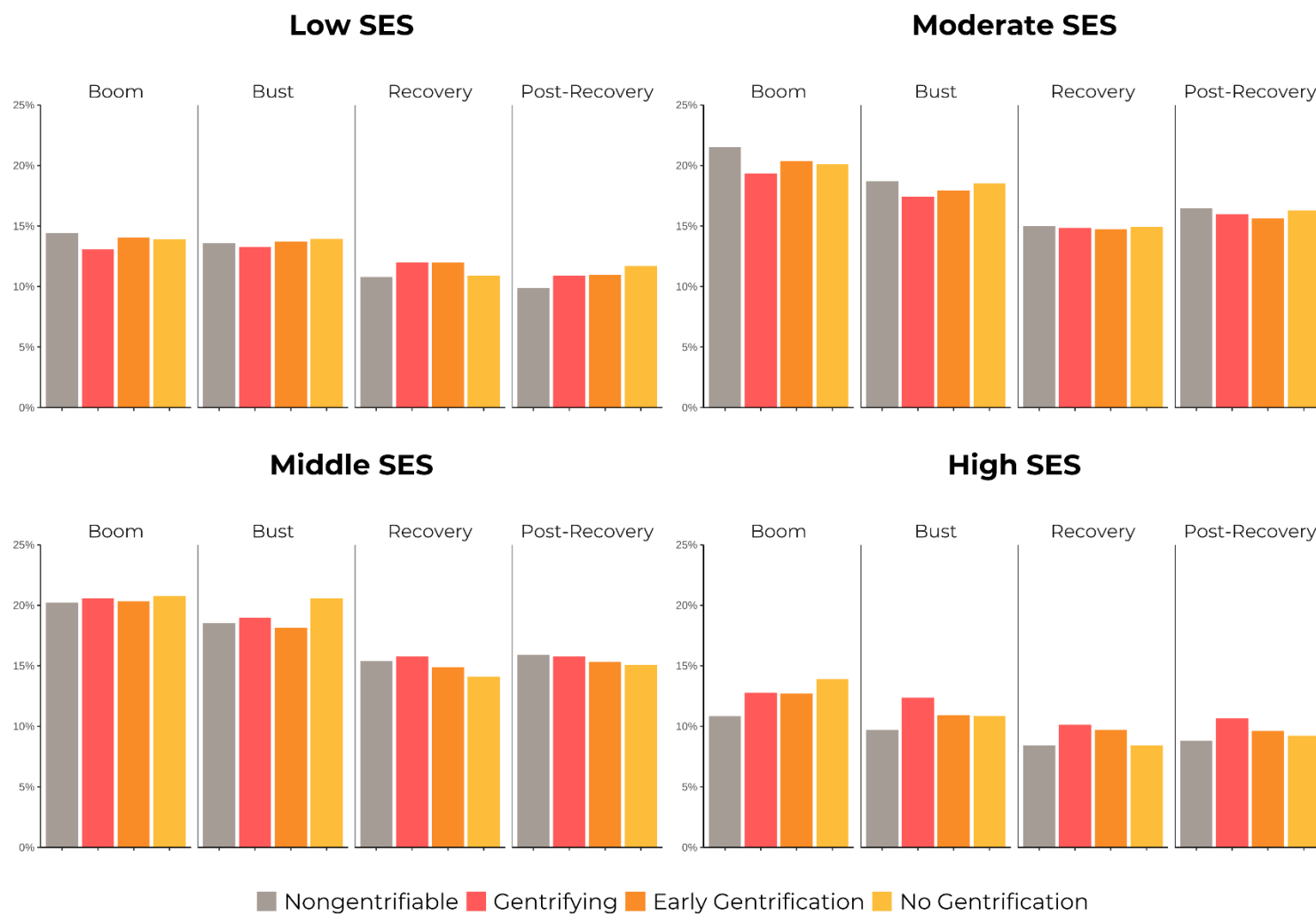|	Low	Moderate	Middle	High
Resident Composition	14%	10%	28%	49%
Moved	12%	13%	37%	39%
Moved out of City	10%	12%	36%	41%
Moved out of Bay Area	16%	13%	35%	36%

Low   Moderate   Middle   High

SES Ranges by Equifax Risk Scores: Low = missing or <580, Moderate = 580-649, Middle = 650-749, High = 750+
Housing Period Ranges: Boom = 2002-2006, Bust = 2007-2009, Recovery = 2010-2014, Post-Recovery = 2015-2017

Source: FRBNY Consumer Credit Panel/Equifax Data.

Figure SA7. Percent of 2009 Bay Area residents without mortgages remaining in their neighborhood, by SES and gentrification category over time

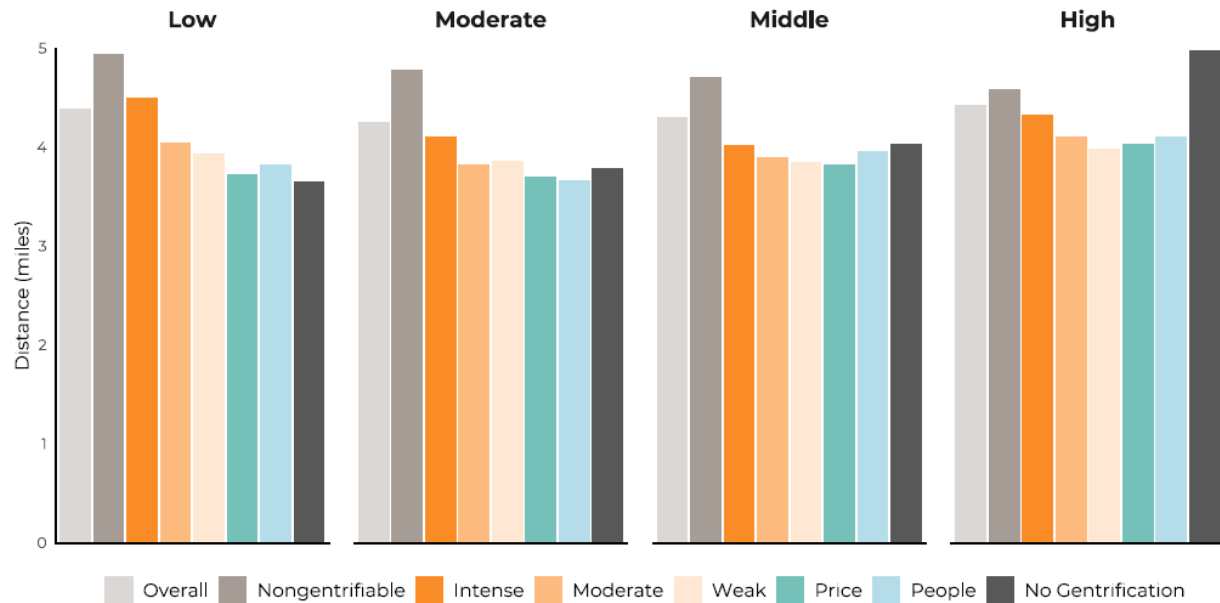SES Ranges by Equifax Risk Scores: Low = missing or <580, Moderate = 580-649, Middle = 650-749, High = 750+

Source: FRBNY Consumer Credit Panel/Equifax Data, 2000 Census, and 2012-2016 American Community Survey 5-year Estimates. Results based on 2009 longitudinal cohort.

Figure SA8. Percent of residents moving by SES and gentrification category (detailed categories) over four housing periods

Low SES

Moderate SES

Middle SES

High SES

Legend: Nongentrifiable | Intense | Moderate | Weak | Price | People | No Gentrification

SES Ranges by Equifax Risk Scores: Low = missing or <580, Moderate = 580-649, Middle = 650-749, High = 750+.
Housing Period Ranges: Boom = 2002-2006, Bust = 2007-2009, Recovery = 2010-2014, Post-Recovery = 2015-2017.
Source: FRBNY Consumer Credit Panel/Equifax Data, 2000 Census, and 2012-2016 American Community Survey 5-year Estimates.
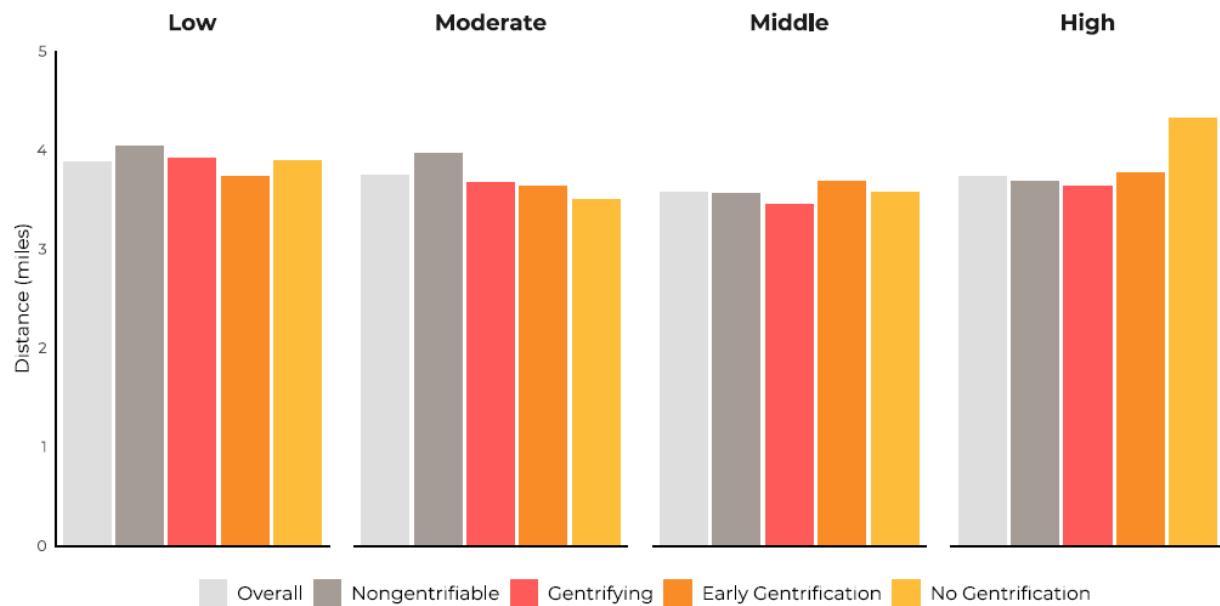
Figure SA9. Percent of residents in major cities moving by SES and gentrification category over four housing periods

SES Ranges by Equifax Risk Scores: Low = missing or <580, Moderate = 580-649, Middle = 650-749, High = 750+.
Housing Period Ranges: Boom = 2002-2006, Bust = 2007-2009, Recovery = 2010-2014, Post-Recovery = 2015-2017.
Source: FRBNY Consumer Credit Panel/Equifax Data, 2000 Census, and 2012-2016 American Community Survey 5-year Estimates.

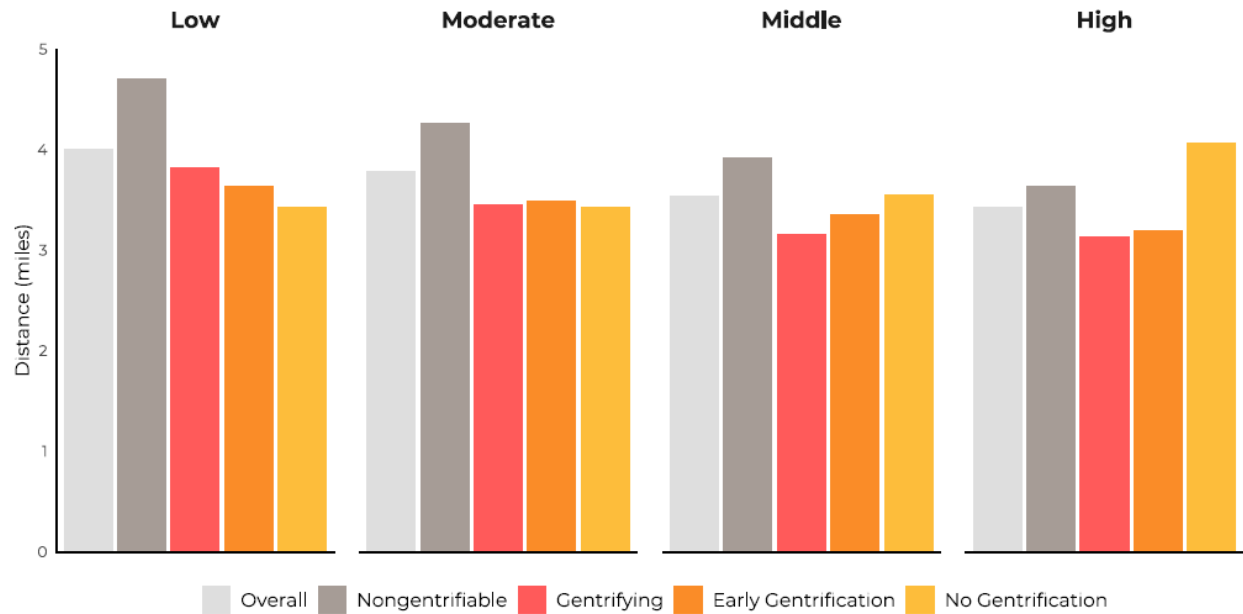**Figure SA10. Percent of movers leaving their cities/towns and the Bay Area by SES and gentrification category (detailed) over four housing periods**

Source: FRBNY Consumer Credit Panel/Equifax Data, 2000 Census, and 2012-2016 American Community Survey 5-year Estimates.

Figure SA11. Percent of movers from major cities leaving their cities/towns and the Bay Area by SES and gentrification category over four housing periods

Source: FRBNY Consumer Credit Panel/Equifax Data, 2000 Census, and 2012-2016 American Community Survey 5-year Estimates.

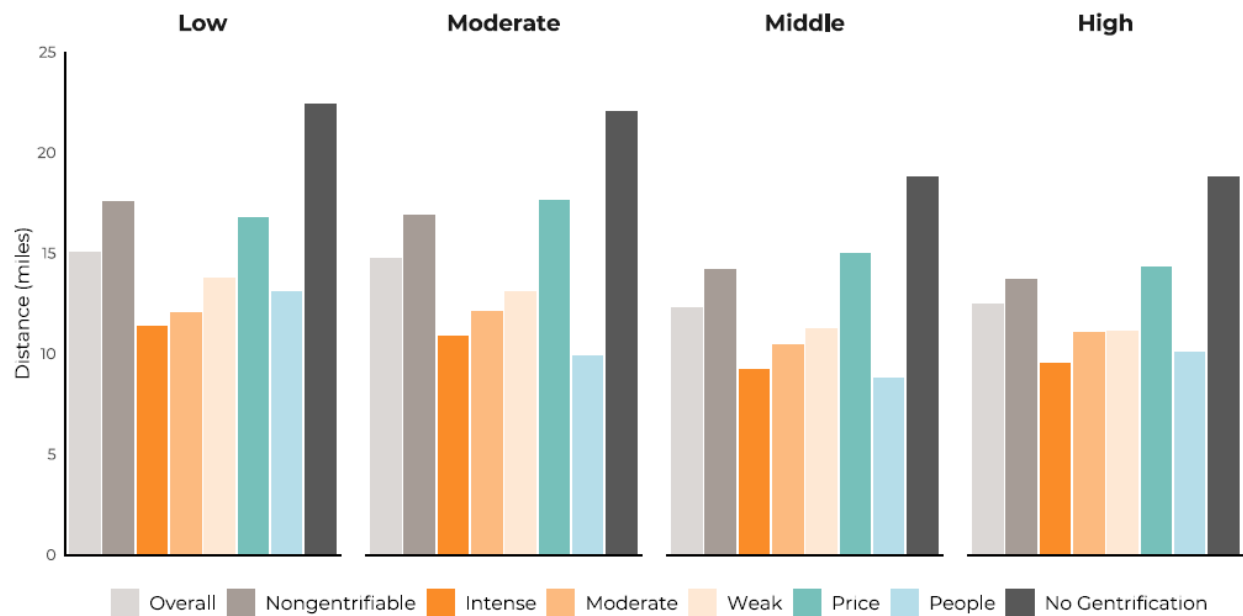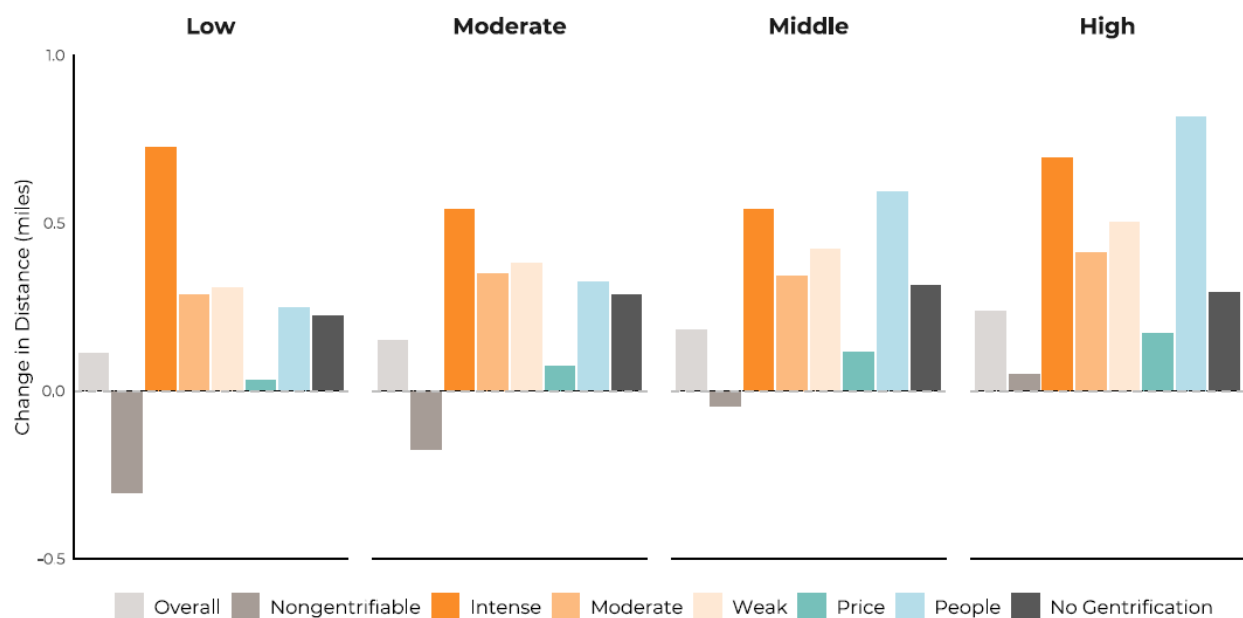*Figure SA12. Median move distance (in miles) for Bay Area movers by SES and gentrification category (detailed)*

Figure SA13. Median move distance (in miles) for Bay Area movers from major cities by SES and gentrification category

Figure SA14. Median move distance (in miles) for Bay Area movers without mortgages by SES and gentrification category

Figure SA15. Destination median (a) distance and (b) change from major city downtown for Bay Area movers by gentrification category (detailed)

(a) Median Distance from Major City Downtown

SES Ranges by Equifax Risk Scores: Low = missing or <580, Moderate = 580-649, Middle = 650-749, High = 750+.

(b) Median Change in Distance from Major City Downtown

SES Ranges by Equifax Risk Scores: Low = missing or <580, Moderate = 580-649, Middle = 650-749, High = 750+.

Source: FRBNY Consumer Credit Panel/Equifax Data, 2000 Census, and 2012-2016 American Community Survey 5-year Estimates.

Figure SA16. Destination median (a) distance and (b) change from major city downtown for Bay Area movers from major cities by gentrification category
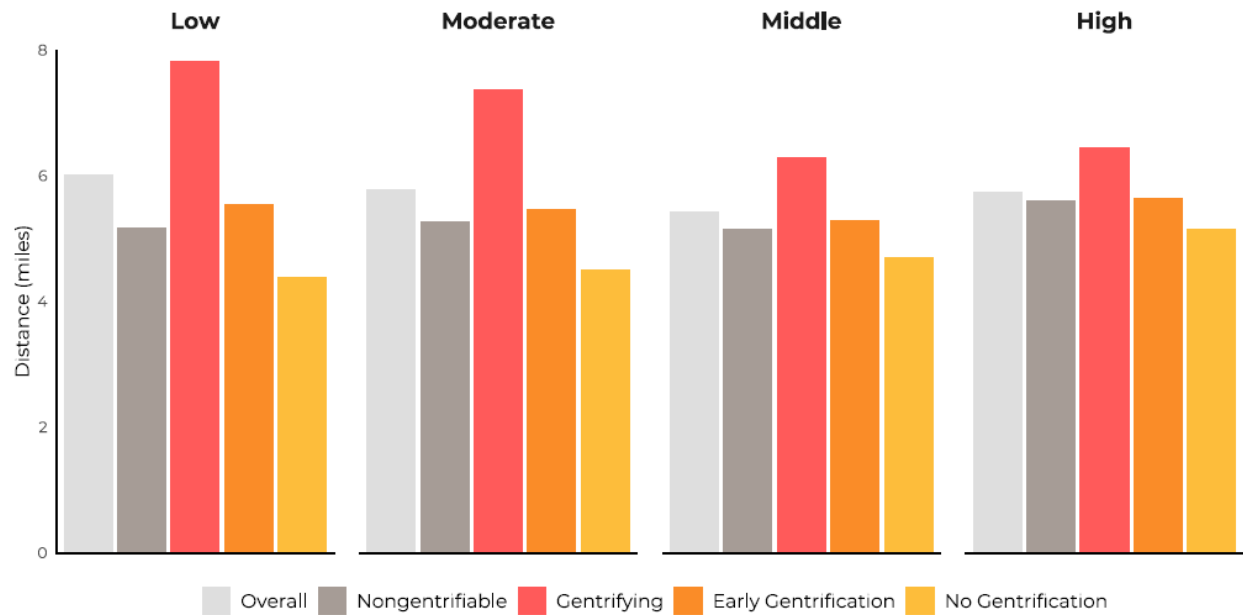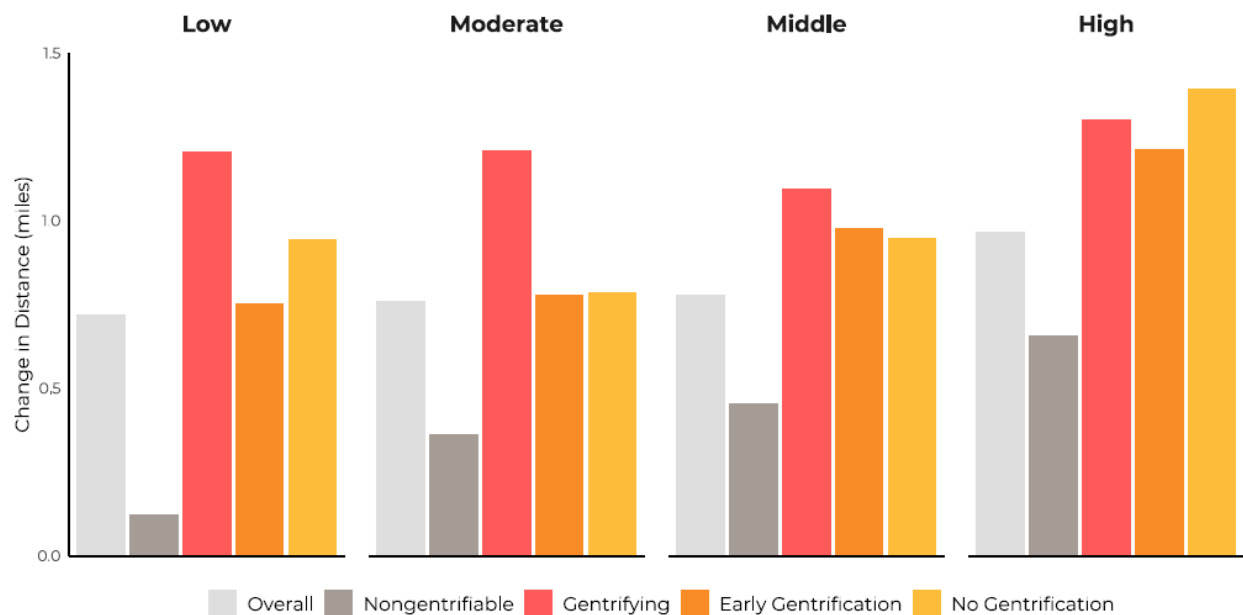
(a) Median Distance from Major City Downtown

(b) Median Change in Distance from Major City Downtown

Source: FRBNY Consumer Credit Panel/Equifax Data, 2000 Census, and 2012-2016 American Community Survey 5-year Estimates.
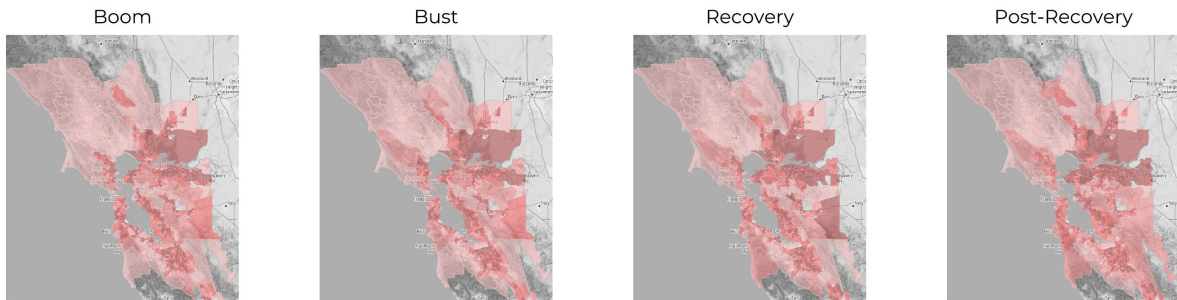
Table SA2. Mean racial and ethnic composition and change for Bay Area movers' destinations by SES and gentrification category (detailed) of origin neighborhood

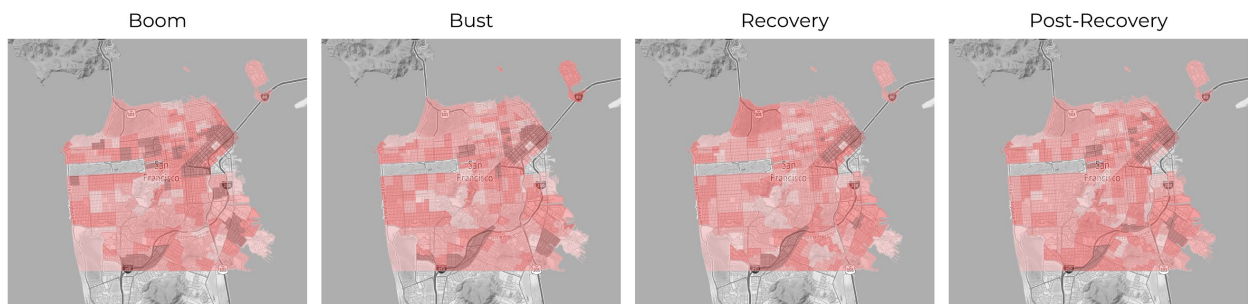| SES	Gentrification Category	% non-Hispanic Black	Δ % non-Hispanic Black	% non-Hispanic white	Δ % non-Hispanic white	% Hispanic	Δ % Hispanic	% Asian	Δ % Asian
Low-SES	Overall	8.83	-0.06	35.08	0.29	28.36	-0.02	23.17	-0.24
	Nongentrifiable	6.77	1.37	39.43	-4.72	24.62	6.27	24.56	-2.85
	Intense	12.17	-2.58	32.40	2.17	28.53	-0.79	22.21	1.25
	Moderate	9.20	-0.37	32.69	2.08	29.78	-2.76	23.93	0.88
	Weak	9.40	0.14	32.30	2.79	31.03	-5.07	22.83	2.01
	Price	10.83	-1.90	33.25	4.64	31.31	-4.65	19.94	1.76
	People	7.88	0.45	31.80	3.37	33.49	-4.97	22.55	1.09
	No Gentrification	11.25	-2.02	31.76	7.95	33.63	-8.22	18.74	2.32
Moderate-SES	Overall	7.26	0.01	37.77	0.37	26.45	0.01	24.02	-0.41
	Nongentrifiable	5.90	1.11	41.69	-4.15	22.97	5.76	24.88	-2.64
	Intense	9.77	-2.13	34.99	2.62	27.53	-1.26	23.09	0.83
	Moderate	7.64	-0.12	35.36	2.39	28.05	-3.35	24.62	0.89
	Weak	7.73	0.11	34.58	2.75	28.98	-5.21	24.29	2.20
	Price	9.00	-1.55	36.44	5.14	29.65	-4.55	20.30	0.81
	People	6.33	-0.09	33.59	4.85	32.48	-5.61	23.42	0.68
	No Gentrification	9.49	-2.63	34.26	7.58	31.82	-8.33	19.74	3.46
Middle-SES	Overall	5.71	0.11	41.35	0.41	22.26	0.19	26.19	-0.74
	Nongentrifiable	4.73	1.05	44.52	-3.53	19.36	4.78	26.89	-2.32
	Intense	7.73	-2.02	38.74	4.01	23.48	-1.94	25.43	0.08
	Moderate	6.18	-0.07	38.86	2.58	24.19	-3.49	26.37	0.88
	Weak	6.26	0.17	37.92	2.83	25.46	-5.07	25.90	1.90
	Price	7.04	-1.46	39.74	5.32	25.29	-4.23	23.29	0.36
	People	5.54	-0.06	36.49	5.10	28.11	-6.12	25.59	0.76
	No Gentrification	7.61	-3.26	37.19	8.40	29.66	-8.83	21.06	3.91
High-SES	Overall	4.29	-0.06	46.95	1.36	18.03	-0.14	26.24	-1.19
	Nongentrifiable	3.59	0.65	49.19	-2.10	16.04	3.47	26.71	-2.02
	Intense	6.10	-2.29	43.99	6.94	19.71	-3.61	25.55	-0.93
	Moderate	4.82	-0.32	44.82	4.35	20.30	-4.48	25.61	0.36
	Weak	4.94	-0.20	43.56	4.41	20.90	-5.91	26.07	1.48
	Price	5.21	-1.53	45.31	6.82	20.59	-4.77	24.27	-0.46
	People	4.88	-0.10	41.18	6.21	23.81	-6.42	25.76	-0.21
	No Gentrification	6.02	-3.32	42.75	9.73	24.85	-11.43	21.95	5.57

Source: FRBNY Consumer Credit Panel/Equifax Data, 2000 Census, 2012-2016 American Community Survey 5-year Estimates. 2004 data are excluded. SES Ranges by Equifax Risk Scores: Low = missing or <580, Moderate = 580-649, Middle = 650-749, High = 750+.

Figure SA17. Destinations of low- and moderate-SES residents in (a) the Bay Area, (b) San Francisco, (c) North Bay, (d) East Bay, and (e) South Bay based on quartiles for each period
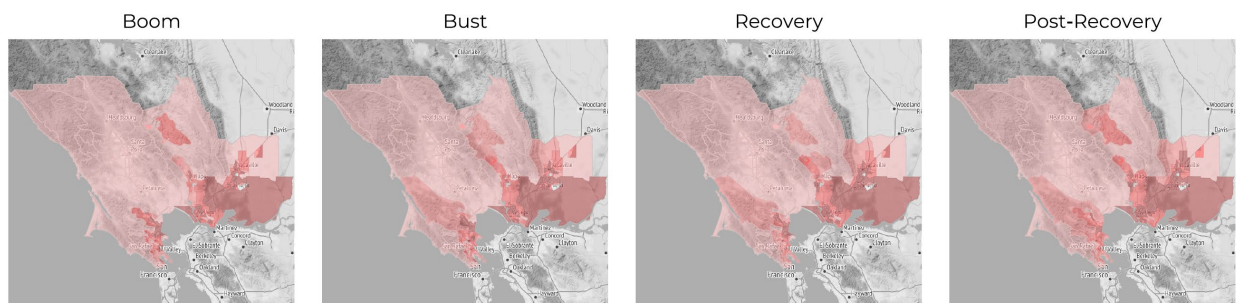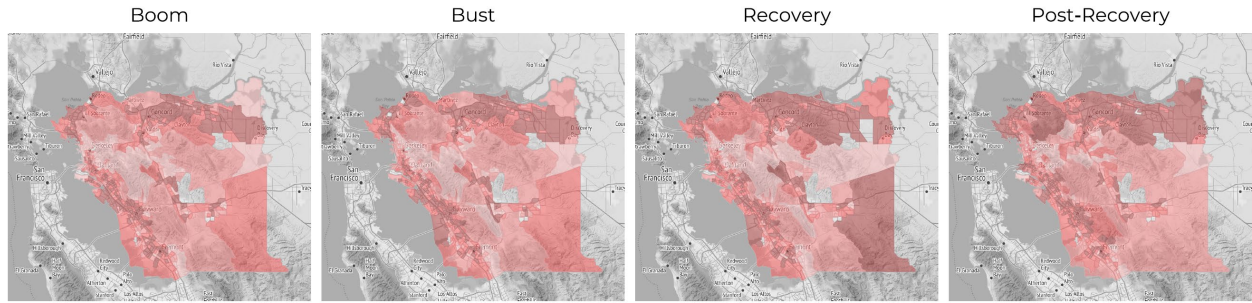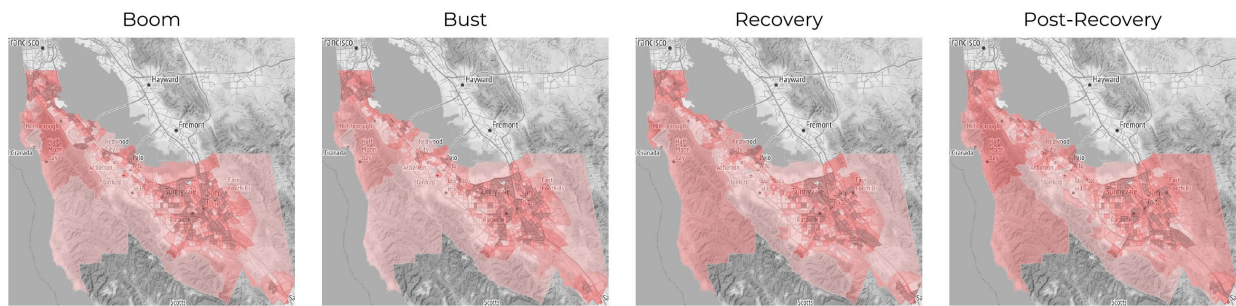
(a) Bay Area

(b) San Francisco

(c) North Bay

(d) East Bay

Boom	Bust	Recovery	Post-Recovery

(e) South Bay

Boom	Bust	Recovery	Post-Recovery

■ 1st Quartile ■ 2nd Quartile ■ 3rd Quartile ■ 4th Quartile

Housing Period Ranges: Boom = 2002-2006, Bust = 2007-2009, Recovery = 2010-2014, Post-Recovery = 2015-2017

Source: FRBNY Consumer Credit Panel/Equifax Data