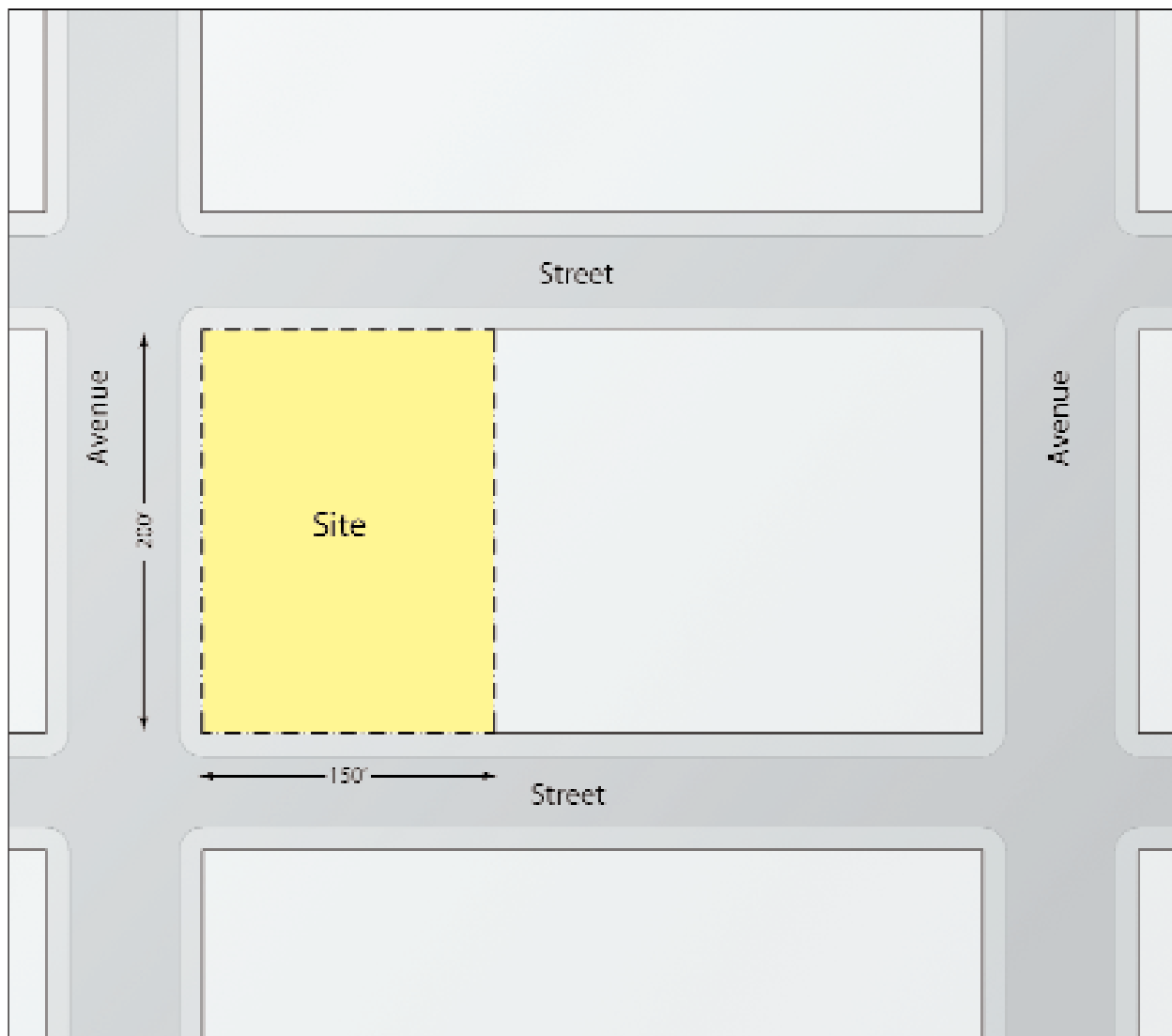


Figure 15: Model Site

Zoning diagrams in this report place low, midrise and high-rise buildings on a generic site of 30,000 square feet with a width along an avenue of 200 feet and a depth along two streets of 150 feet. Sites of this size and simple rectangular configuration are becoming rare in New York City's residential zones, though they are prevalent in industrial and waterfront areas now targeted for rezoning and redevelopment. Sites otherwise tend to be smaller, irregularly shaped, or mid-block. Thus, any difficulties encountered with this prototypical site would surely apply to the others; though the converse might not have been the case. The buildings shown using this prototypical site are not specific recommendations on building mass and bulk, but rather illustrations of general ideas of mass-

ing to illustrate various zoning concepts. R4, R6, R7 and R9 zoning districts were chosen for study in that these districts correlate with low-, mid- and high-rise buildings respectively.

Figure 16:
Financial analysis using \$75/sf land acquisition for residential with ground floor retail: FAR 2-8

INPUTS	
Area Median Income	62,800
Mortgage qualifying % of income	35%
Monthly maintenance & reserves	462.50
Annual mortgage interest rate	6.00%
construction interest rate	7.50%
Amortization period (months)	360
Site Size	30,000
Percent of land financial	60.0%
land cost	75.00
land costs	170.00
soft costs	50.03
interest	41.48

SOFT COSTS	% of Hard	\$/SF
Fees, permits, legal, accounting	0.5%	0.84
A/E	3.3%	5.53
Marketing	3.1%	5.21
Insurance (1.0% of hard)	1.0%	1.70
Developer's Overhead (\$25,000/hw)	0.5%	1.54
Development Fee (3.0% of hard)	3.0%	5.10
Real Estate Taxes During Construction	6.6%	11.25
Loan Costs, Title Insurance, Recording Tax, etc.	10.0%	17.03
Soft Cost Contingency (5.0% of soft excluding mortgage fees)	1.1%	1.84
TOTAL SOFT EXCLUDING INTEREST	29.4%	50.03
Interest	24.4%	41.48
TOTAL SOFT INCLUDING INTEREST	53.8%	91.51
Hard costs	100.0%	170.00
TOTAL CONSTRUCTION COSTS	153.8%	261.51

CONSTRUCTION LOAN	year one	year two	year three
Beginning Balance	45.00	116.20	260.58
Draws	65.38	130.75	65.38
Interest	5.83	13.62	21.56
Ending Balance	116.20	260.58	347.56
Calculated interest on 60% of land and 100% of hard (land cost assumes 50% out of equity balance)	24.4%		

BUYER INCOME	LOW	MEDIUM	HIGH	MARKET
Percent Range of Median Income	0%-60%	60% - 120%	120% - 180%	> 180%
Percent of Median Income	40%	60%	80%	155%
Distribution of Buyers	10%	10%	10%	70%
Annual Income	25,120	37,680	50,240	97,063
Income Available for Housing	8,792	13,188	17,584	33,872
Income Available for Mortgage	3,242	7,638	12,034	28,422
Amount Financiable	50,000	110,000	170,000	365,048
Percent down payment	0%	5%	10%	20%
Condominium Price	50,000	120,000	190,000	453,810
Unit size (SF)	800	875	950	1,200
Price per square foot	63	137	200	412
Residential pricing psf	328			
Commercial pricing psf	600			
Unit Cost, Land & Building psf	337			

DEVELOPMENT PROFORMA							
Floor Area Ratio	2.0	3.0	4.0	5.0	6.0	7.0	8.0
Residential Area	60,000	90,000	120,000	150,000	180,000	210,000	240,000
Commercial Area	30,000	30,000	30,000	30,000	30,000	30,000	30,000
Cost PSF	337	337	337	337	342	347	352
Total Cost	30,285,748	40,380,968	50,476,247	60,571,496	71,716,746	83,161,996	94,907,246
Revenue Adjustment Factor	100.0%	100.0%	100.0%	103.0%	106.0%	109.0%	112.0%
Total Revenue	37,681,206	47,521,809	57,362,413	69,219,106	81,696,236	94,703,802	108,231,804
Profit	7,395,458	7,140,842	6,886,166	8,647,610	9,949,490	11,541,807	13,424,558
Equity	2,700,000	3,600,000	4,500,000	5,400,000	6,300,000	7,200,000	8,100,000
Internal Rate of Return	50.7%	41.5%	35.4%	30.5%	26.2%	22.5%	19.3%
Cash on-Cash Return	273.9%	158.4%	153.0%	160.1%	157.9%	160.3%	165.7%

Figure 17:
Financial analysis using \$75/sf land acquisition for residential w/out ground floor retail: FAR 2-8

INPUTS	
Area Median Income	62,800
Mortgage qualifying % of income	35%
Monthly maintenance & reserves	462.50
Annual mortgage interest rate	6.00%
construction interest rate	7.50%
Amortization period (months)	360
Site Size	30,000
Percent of land finished	60.0%
land cost 1	75.00
land costs	170.00
soft costs	50.03
interest	41.48

SOFT COSTS	% of Hard	\$/SF
Fees, permits, legal, accounting	0.5%	0.84
A/E/E	3.3%	5.53
Marketing	3.1%	5.21
Insurance (1.0% of hard)	1.0%	1.70
Developer's Overhead (\$25,000/yr)	0.5%	1.54
Development Fee (3.0% of hard)	3.0%	5.10
Real Estate Taxes During Construction	6.6%	11.25
Loan Costs, Title Insurance, Recording Tax, etc.	10.0%	17.03
Soft Cost Contingency (5.0% of soft excluding wages fees)	1.1%	1.84
TOTAL SOFT EXCLUDING INTEREST	29.4%	50.03
Interest	24.4%	41.48
TOTAL SOFT INCLUDING INTEREST	53.8%	91.51
Hard costs	100.0%	170.00
TOTAL CONSTRUCTION COSTS	153.8%	261.51

CONSTRUCTION LOAN	year one	year two	year three
Beginning Balance	45.00	116.20	260.58
Draws	65.38	130.75	65.38
Interest	5.83	13.62	21.56
Ending Balance	116.20	260.58	347.56
Calculated interest on 60% of land and 100% of hard (hard cost assumes 50% out of land loan balance)	24.4%		

BUYER INCOME	LOW	MEDIUM	HIGH	MARKET
Percent Range of Median Income	0%-60%	60% - 120%	120% - 180%	> 180%
Percent of Median Income	40%	60%	80%	155%
Distribution of Buyers	10%	10%	10%	70%
Annual Income	25,120	37,680	50,240	97,053
Income Available for Housing	8,792	13,188	17,584	33,972
Income Available for Mortgage	3,242	7,638	12,034	28,422
Annual Financially	50,000	110,000	170,000	395,048
Percent down payment	0%	5%	10%	20%
Condominium Price	50,000	120,000	190,000	493,810
Unit size (SF)	800	875	950	1,200
Price per square foot	63	137	200	412
Residential pricing psf	328			
Commercial pricing psf	600			
Unit Cost, Land & Building psf	337			

DEVELOPMENT PROFORMA							
Floor Area Ratio	2.0	3.0	4.0	5.0	6.0	7.0	8.0
Residential Area	60,000	90,000	120,000	150,000	180,000	210,000	240,000
Commercial Area	0	0	0	0	0	0	0
Cost PSF	337	337	337	337	342	347	352
Total Cost	20,190,459	30,285,748	40,380,998	50,476,247	61,471,496	72,466,746	84,361,995
Revenue Adjustment Factor	100.0%	100.0%	100.0%	103.0%	105.0%	109.0%	112.0%
Total Revenue	19,981,206	29,521,809	39,362,413	50,679,105	62,586,236	75,083,802	88,171,804
Profit	-509,252	-763,939	-1,018,585	202,859	1,114,740	2,317,056	3,809,809
Equity	1,800,000	2,700,000	3,600,000	4,500,000	5,400,000	6,300,000	7,200,000
Internal Rate of Return	-12.4%	-12.4%	-12.4%	1.7%	7.1%	11.8%	16.1%
Cash-on-Cash Return	-28.3%	-28.3%	-28.3%	4.5%	20.6%	36.8%	52.9%

Figure 18:
Financial analysis using \$100/sf land acquisition for residential with ground floor retail: FAR 2-8

INPUTS	
Area Median Income	62,800
Mortgage qualifying % of income	35%
Monthly maintenance & reserves	462.50
Annual mortgage interest rate	6.00%
construction interest rate	7.50%
Amortization period (months)	360
Site Size	30,000
Percent of land financed	60.0%
land cost	100.00
hard costs	170.00
soft costs	50.00
interest	45.55

SOFT COSTS	% of Hard	\$/SF
Fees, permits, legal, accounting	0.5%	0.84
A/E/E	3.3%	5.53
Marketing	3.1%	5.21
Insurance (1.0% of hard)	1.0%	1.70
Developer's Overhead (\$25,000/hw)	0.5%	1.54
Development Fee (3.0% of hard)	3.0%	5.10
Real Estate Taxes During Construction	6.6%	11.25
Loan Costs, Title Insurance, Reconciling Tax, etc.	10.0%	17.00
Soft Cost Contingency (5.0% of soft excluding wages fees)	1.1%	1.84
TOTAL SOFT EXCLUDING INTEREST	29.4%	50.00
Interest	26.8%	45.55
TOTAL SOFT INCLUDING INTEREST	56.2%	95.55
Hard costs	100.0%	170.00
TOTAL CONSTRUCTION COSTS	156.2%	265.55

CONSTRUCTION LOAN	year one	year two	year three
Beginning Balance	60.00	133.39	281.16
Draws	66.40	132.79	66.40
Interest	6.59	14.58	23.58
Ending Balance	133.39	281.16	371.14
Calculated interest on 60% of land and 100% of hard (hard cost assumes 50% out of land balance)	26.8%		

BUYER INCOME	LOW	MEDIUM	HIGH	MARKET
Percent Range of Median Income	0%-60%	60% - 120%	120% - 180%	> 180%
Percent of Median Income	43%	70%	100%	172%
Distribution of Buyers	10%	10%	10%	70%
Annual Income	27,004	43,960	64,684	107,736
Income Available for Housing	9,451	15,386	22,639	37,707
Income Available for Mortgage	3,501	5,836	17,089	32,157
Annual Financials	50,000	140,000	240,000	446,565
Percent down payment	0%	5%	10%	20%
Condominium Price	50,000	150,000	270,000	558,705
Unit size (SF)	800	875	950	1,200
Price per square foot	63	171	284	465
Residential pricing psf	378			
Commercial pricing psf	600			
Unit Cost, Land & Building psf	365			

DEVELOPMENT PROFORMA							
Floor Area Ratio	2.0	3.0	4.0	5.0	6.0	7.0	8.0
Residential Area	60,000	90,000	120,000	150,000	180,000	210,000	240,000
Commercial Area	30,000	30,000	30,000	30,000	30,000	30,000	30,000
Cost PSF	365	365	365	365	371	376	381
Total Cost	32,902,948	43,870,558	54,838,247	65,805,856	77,823,546	90,141,195	102,758,845
Revenue Adjustment Factor	100.0%	100.0%	100.0%	100.0%	105.0%	109.0%	112.0%
Total Revenue	40,633,544	51,565,216	63,227,087	76,888,625	91,150,039	106,081,419	121,892,676
Profit	7,730,596	8,124,718	8,488,841	11,082,729	13,326,523	15,940,224	18,933,831
Equity	3,800,000	4,800,000	6,000,000	7,200,000	8,400,000	9,600,000	10,800,000
Internal Rate of Return	44.0%	37.8%	33.6%	30.6%	28.3%	27.4%	26.7%
Cash-on-Cash Return	215.6%	169.3%	141.5%	124.1%	108.6%	106.0%	105.3%

Figure 19:
Financial analysis using \$100/sf land acquisition for residential w/out ground floor retail: FAR 2-8

INPUTS	
Area Median Income	62,800
Mortgage qualifying % of income	36%
Monthly maintenance & reserves	462.50
Annual mortgage interest rate	6.00%
construction interest rate	7.50%
Amortization period (months)	360
Site Size	30,000
Percent of land financed	60.0%
land cost	100.00
land costs	170.00
soft costs	50.00
interest	45.56

SOFT COSTS	% of Hard	\$/SF
Fees, permits, legal, accounting	0.5%	0.84
A/E	3.3%	5.53
Marketing	3.1%	5.21
Insurance (1.0% of hard)	1.0%	1.70
Developer's Overhead (\$25,000/wo)	0.9%	1.54
Development Fee (3.0% of hard)	3.0%	5.10
Real Estate Taxes During Construction	6.6%	11.25
Loan Costs, Title Insurance, Reconciling Tax, etc.	10.0%	17.00
Soft Cost Contingency (5.0% of soft excluding wages)	1.1%	1.84
TOTAL SOFT EXCLUDING INTEREST	29.4%	50.00
Interest	26.8%	45.56
TOTAL SOFT INCLUDING INTEREST	56.2%	95.56
Hard costs	100.0%	170.00
TOTAL CONSTRUCTION COSTS	156.2%	265.56

CONSTRUCTION LOAN	year one	year two	year three
Beginning Balance	60.00	133.39	281.16
Draws	66.40	132.79	66.40
Interest	6.59	14.58	23.68
Ending Balance	133.39	281.16	371.14
Calculated interest on 60% of land and 100% of hard (land cost assumes 50% out of loan balance)	26.8%		

BUYER INCOME	LOW	MEDIUM	HIGH	MARKET
Percent Range of Median Income	0%-60%	60% - 120%	120% - 180%	> 180%
Percent of Median Income	43%	70%	100%	172%
Distribution of Buyers	10%	10%	10%	70%
Annual Income	27,004	43,680	64,684	107,736
Income Available for Housing	9,451	15,286	22,639	37,707
Income Available for Mortgage	3,501	5,836	17,089	32,157
Annual Financial	50,000	140,000	240,000	445,965
Percent down payment	0%	5%	10%	20%
Contingency Price	50,000	150,000	270,000	558,705
Unit size (SF)	800	875	950	1,200
Price per square foot	63	171	284	465
Residential pricing psf	378			
Commercial pricing psf	600			
Unit Cost, Land & Building psf	365			

DEVELOPMENT PROFORMA							
Floor Area Ratio	2.0	3.0	4.0	5.0	6.0	7.0	8.0
Residential Area	60,000	90,000	120,000	150,000	180,000	210,000	240,000
Commercial Area	0	0	0	0	0	0	0
Cost PSF	365	365	365	365	371	376	381
Total Cost	21,905,259	32,902,948	43,870,558	54,838,247	65,705,896	78,873,546	91,341,196
Revenue Adjustment Factor	100.0%	100.0%	100.0%	103.0%	105.0%	109.0%	112.0%
Total Revenue	22,663,544	33,566,316	45,327,087	58,258,625	72,070,069	86,461,419	101,532,676
Profit	728,245	1,062,367	1,456,480	3,520,378	5,364,173	7,587,874	10,191,481
Brutly	2,400,000	3,600,000	4,800,000	6,000,000	7,200,000	8,400,000	9,600,000
Internal Rate of Return	10.0%	10.0%	10.0%	17.5%	21.1%	24.4%	27.5%
Cash-on-Cash Return	30.3%	30.3%	30.3%	58.7%	74.5%	90.3%	106.2%

Figure 20:
Financial analysis using \$125/sf land acquisition for residential with ground floor retail: FAR 2-8

INPUTS	
Area Median Income	62,800
Mortgage qualifying % of income	35%
Monthly maintenance & reserves	462.50
Annual mortgage interest rate	6.00%
construction interest rate	7.50%
Amortization period (months)	360
Site Size	30,000
Percent of land financed	60.0%
land cost	125.00
rent cost	170.00
soft costs	50.00
interest	49.64

SOFT COSTS	% of Hard	\$/SF
Fees, permits, legal, accounting	0.5%	0.84
A/E	3.3%	5.53
Marketing	3.1%	5.21
Insurance (1.0% of hard)	1.0%	1.70
Developer's Overhead (\$25,000/ha)	0.5%	1.54
Development fee (3.0% of hard)	3.0%	5.10
Real Estate Taxes During Construction	6.6%	11.25
Loan Costs, Title Insurance, Recording Tax, etc.	10.0%	17.03
Soft Cost Contingency (5.0% of soft excluding wages fees)	1.1%	1.84
TOTAL SOFT EXCLUDING INTEREST	29.4%	50.03
Interest	29.2%	49.64
TOTAL SOFT INCLUDING INTEREST	58.6%	99.67
Hard costs	100.0%	170.00
TOTAL CONSTRUCTION COSTS	158.6%	269.67

CONSTRUCTION LOAN	year one	year two	year three
Beginning Balance	75.00	150.57	301.75
Draws	67.42	134.83	67.42
Interest	8.15	16.35	25.16
Ending Balance	150.57	301.75	394.33
Calculated interest on 60% of land and 100% of hard (hard cost assumes 50% out of equity balance)	29.2%		

BUYER INCOME	LOW	MEDIUM	HIGH	MARKET
Percent Range of Median Income	0%-60%	60% - 120%	120% - 180%	> 180%
Percent of Median Income	45%	80%	120%	185%
Distribution of Buyers	10%	10%	10%	70%
Annual Income	28,288	50,240	75,128	118,407
Income Available for Housing	10,111	17,584	27,095	41,143
Income Available for Mortgage	4,951	12,034	22,145	35,893
Amount Financiable	60,000	170,000	310,000	458,882
Percent down payment	0%	5%	10%	20%
Condominium Price	60,000	180,000	340,000	623,602
Unit size (SF)	800	875	950	1,200
Price per square foot	75	206	358	520
Residential pricing psf	428			
Commercial pricing psf	600			
Unit Cost, Land & Building psf	355			

DEVELOPMENT PROFORMA								
Floor Area Ratio	2.0	3.0	4.0	5.0	6.0	7.0	8.0	
Residential Area	60,000	90,000	120,000	150,000	180,000	210,000	240,000	
Commercial Area	30,000	30,000	30,000	30,000	30,000	30,000	30,000	
Cost PSF	355	355	355	355	400	405	410	
Total Cost	35,520,148	47,380,158	59,200,247	71,040,296	82,930,345	97,120,395	110,610,445	
Revenue Adjustment Factor	100.0%	100.0%	100.0%	103.0%	105.0%	109.0%	112.0%	
Total Revenue	43,657,723	56,486,585	69,215,447	84,608,637	100,671,590	117,504,214	135,105,600	
Profit	8,137,575	9,126,387	10,115,200	13,668,341	16,741,244	20,383,819	24,495,155	
Equity	4,500,000	6,000,000	7,500,000	9,000,000	10,500,000	12,000,000	13,500,000	
Internal Rate of Return	39.5%	35.3%	32.5%	35.1%	36.4%	37.9%	39.6%	
Cash on-Cash Return	180.8%	152.1%	134.5%	150.8%	159.4%	169.9%	181.5%	

Figure 21:
Financial analysis using \$125/sf land acquisition for residential w/out ground floor retail: FAR 2-8

INPUTS	
Area Median Income	62,800
Mortgage qualifying % of income	35%
Monthly maintenance & reserves	462.50
Annual mortgage interest rate	6.00%
construction interest rate	7.50%
Amortization period (months)	360
Site Size	30,000
Percent of land financial	60.0%
land cost	125.00
rent cost	170.00
soft costs	50.03
interest	49.64

SOFT COSTS	% of Hard	\$/SF
Fees, permits, legal, accounting	0.5%	0.84
A/E	3.3%	5.53
Marketing	3.1%	5.21
Insurance (1.0% of hard)	1.0%	1.70
Developer's Overhead (\$25,000/yr)	0.9%	1.54
Development fee (3.0% of hard)	3.0%	5.10
Real Estate Taxes During Construction	6.6%	11.25
Loan Costs, Title Insurance, Recording Tax, etc.	10.0%	17.03
Soft Costs Contingency (5.0% of soft excluding insurance)	1.1%	1.84
TOTAL SOFT EXCLUDING INTEREST	29.4%	50.03
Interest	29.2%	49.64
TOTAL SOFT INCLUDING INTEREST	58.6%	99.67
Hard costs	100.0%	170.00
TOTAL CONSTRUCTION COSTS	158.6%	269.67

CONSTRUCTION LOAN	year one	year two	year three
Beginning Balance	75.00	150.57	301.75
Draws	67.42	134.83	67.42
Interest	8.15	16.35	25.16
Ending Balance	150.57	301.75	394.33
Calculated interest on 60% of land and 100% of hard (hard cost assumes 50% out of equity balance)	29.2%		

BUYER INCOME	LOW	MEDIUM	HIGH	MARKET
Percent Range of Median Income	0%-60%	60% - 120%	120% - 180%	> 180%
Percent of Median Income	46%	80%	126%	189%
Distribution of Buyers	10%	10%	10%	70%
Annual Income	28,288	50,240	79,128	118,407
Income Available for Housing	10,111	17,584	27,696	41,443
Income Available for Mortgage	4,951	12,034	22,146	35,893
Amount Financiable	60,000	170,000	310,000	456,882
Percent down payment	0%	5%	10%	20%
Condominium Price	60,000	180,000	340,000	623,602
Unit size (SF)	800	875	950	1,200
Price per square foot	75	206	358	520
Residential pricing psf	428			
Commercial pricing psf	600			
Unit Cost, Land & Building psf	365			

DEVELOPMENT PROFORMA							
Floor Area Ratio	2.0	3.0	4.0	5.0	6.0	7.0	8.0
Residential Area	60,000	90,000	120,000	150,000	180,000	210,000	240,000
Commercial Area	0	0	0	0	0	0	0
Cost PSF	365	365	365	365	400	405	410
Total Cost	23,680,000	36,520,148	47,360,198	69,200,247	71,940,296	84,980,346	98,320,396
Revenue Adjustment Factor	100.0%	100.0%	100.0%	103.0%	105.0%	109.0%	112.0%
Total Revenue	25,657,723	38,486,586	51,315,447	65,038,637	81,591,590	97,284,214	114,946,600
Profit	1,977,524	2,966,437	3,955,249	6,268,390	9,651,294	12,903,868	16,626,205
Equity	3,000,000	4,500,000	6,000,000	7,500,000	9,000,000	10,500,000	12,000,000
Internal Rate of Return	19.2%	19.2%	19.2%	24.7%	27.7%	30.5%	33.1%
Cash on-Cash Return	65.9%	65.9%	65.9%	91.6%	107.2%	122.9%	138.6%

Figure 22:
Financial analysis using \$150/sf land acquisition for residential with ground floor retail: FAR 2-8

INPUTS	
Area Median Income	62,800
Mortgage qualifying % of income	35%
Monthly maintenance & reserves	462.50
Annual mortgage interest rate	6.00%
construction interest rate	7.50%
Amortization period (months)	360
Site Size	30,000
Percent of land financed	60.0%
land cost	150.00
land costs	170.00
soft costs	50.03
interest	53.72

SOFT COSTS	% of Hard	\$/SF
Fees, permits, legal, accounting	0.5%	0.84
A/E	3.3%	5.53
Marketing	3.1%	5.21
Insurance (1.0% of hard)	1.0%	1.70
Developer's Overhead (\$25,000/wo)	0.5%	1.54
Development Fee (3.0% of hard)	3.0%	5.10
Real Estate Taxes During Construction	6.6%	11.25
Loan Costs, Title Insurance, Recording Tax, etc.	10.0%	17.03
Soft Cost Contingency (5.0% of soft excluding wage fees)	1.1%	1.84
TOTAL SOFT EXCLUDING INTEREST	29.4%	50.03
Interest	31.6%	53.72
TOTAL SOFT INCLUDING INTEREST	61.0%	103.75
Hard costs	100.0%	170.00
TOTAL CONSTRUCTION COSTS	161.0%	273.75

CONSTRUCTION LOAN	year one	year two	year three
Beginning Balance	50.00	167.75	322.34
Draws	68.44	136.87	68.44
Interest	9.32	17.71	26.74
Ending Balance	167.75	322.34	417.52
Calculated interest on 60% of land and 100% of hard (land cost assumes 50% out of origin balance)	31.6%		

BUYER INCOME	LOW	MEDIUM	HIGH	MARKET
Percent Range of Median Income	0%-60%	60% - 120%	120% - 180%	> 180%
Percent of Median Income	50%	90%	150%	200%
Distribution of Buyers	10%	10%	10%	70%
Annual Income	31,400	56,520	94,200	129,079
Income Available for Housing	10,560	19,782	32,970	45,178
Income Available for Mortgage	5,440	14,232	27,420	39,628
Amount Financiable	80,000	200,000	380,000	560,758
Percent down payment	0%	5%	10%	20%
Contaminant Price	80,000	210,000	420,000	688,458
Unit size (SF)	800	875	950	1,200
Price per square foot	100	240	442	574
Residential pricing psf	480			
Commercial pricing psf	600			
Unit Cost, Land & Building psf	424			

DEVELOPMENT PROFORMA							
Floor Area Ratio	2.0	3.0	4.0	5.0	6.0	7.0	8.0
Residential Area	60,000	90,000	120,000	150,000	180,000	210,000	240,000
Commercial Area	30,000	30,000	30,000	30,000	30,000	30,000	30,000
Cost PSF	424	424	424	424	429	434	439
Total Cost	38,137,348	50,849,758	63,952,247	76,274,696	90,037,146	104,099,596	118,462,046
Revenue Adjustment Factor	100.0%	100.0%	100.0%	100.0%	106.0%	109.0%	112.0%
Total Revenue	46,790,061	61,186,091	75,580,121	92,674,406	110,632,383	129,464,082	149,139,472
Profit	8,652,713	10,336,294	12,017,874	16,399,710	20,595,247	25,364,487	30,677,428
Equity	5,400,000	7,200,000	9,000,000	10,800,000	12,600,000	14,400,000	16,200,000
Internal Rate of Return	36.5%	33.5%	32.3%	35.2%	37.0%	38.8%	40.7%
Cash-on-Cash Return	160.2%	143.5%	133.5%	151.8%	163.5%	176.1%	189.4%

Figure 23:
Financial analysis using \$150/sf land acquisition for residential w/out ground floor retail: FAR 2-8

INPUTS	
Area Median Income	62,800
Mortgage qualifying % of income	35%
Monthly maintenance & reserves	462.50
Annual mortgage interest rate	6.00%
construction interest rate	7.50%
Authorization period (months)	360
Site Size	30,000
Percent of land financed	60.0%
land cost	150.00
rent cost	170.00
soft costs	50.00
interest	53.72

SOFT COSTS	% of Hard	\$/SF
Fees, permits, legal, accounting	0.5%	0.84
A/E	3.3%	5.53
Marketing	3.1%	5.21
Insurance (1.0% of hard)	1.0%	1.70
Developer's Overhead (\$25,000/yr)	0.5%	1.54
Development Fee (3.0% of hard)	3.0%	5.10
Real Estate Taxes During Construction	6.6%	11.25
Loan Costs, Title Insurance, Recording Tax, etc.	10.0%	17.03
Soft Cost Contingency (5.0% of soft excluding wages fees)	1.1%	1.84
TOTAL SOFT EXCLUDING INTEREST	29.4%	50.03
Interest	31.6%	53.72
TOTAL SOFT INCLUDING INTEREST	61.0%	103.75
Hard costs	100.0%	170.00
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Amount Financiable	80,000	200,000	380,000	580,758
Percent down payment	0%	5%	10%	20%
Condominium Price	80,000	210,000	420,000	688,458
Unit size (SF)	800	875	950	1,200
Price per square foot	100	240	442	574
Residential pricing psf	480			
Commercial pricing psf	600			
Unit Cost, Land & Building psf	424			

DEVELOPMENT PROFORMA							
Floor Area Ratio	2.0	3.0	4.0	5.0	6.0	7.0	8.0
Residential Area	60,000	90,000	120,000	150,000	180,000	210,000	240,000
Commercial Area	0	0	0	0	0	0	0
Cost PSF	424	424	424	424	429	434	439
Total Cost	25,424,880	38,137,348	50,849,758	63,562,247	77,174,896	91,087,146	105,259,596
Revenue Adjustment Factor	100.0%	100.0%	100.0%	103.0%	105.0%	109.0%	112.0%
Total Revenue	28,790,061	43,185,091	57,580,121	74,134,405	91,652,383	109,834,082	128,579,472
Profit	3,365,162	5,047,743	6,730,324	10,572,159	14,377,687	18,746,936	23,679,877
Equity	3,800,000	5,400,000	7,200,000	9,000,000	10,800,000	12,600,000	14,400,000
Internal Rate of Return	25.1%	25.1%	25.1%	29.6%	32.3%	34.8%	37.1%
Cash-on-Cash Return	93.5%	93.5%	93.5%	117.5%	133.1%	148.8%	164.4%

I. Density impacts: Case studies:

i. The context for housing expansion

a. Background

This chapter addresses the following complex question: In which neighborhood contexts can there be significant amounts of new housing construction, especially inclusionary housing, without countermanning contextual planning principles (even if the contextual zoning rules are modified), with the prospect of community support for the needed rezoning and upzoning?

Four analyses inform the answer to this question:

1. The Newman Institute Team prepared (published separately) the *New York City Affordable Housing Atlas*, illustrating the land availability in selected industrial districts and along selected commercial corridors. The atlas reveals that there is plenty of land available for redevelopment in the areas considered, provided that there is upzoning and rezoning to physically accommodate and provide incentives for redevelopment.
2. The Team (specifically the Center for Advanced Research of Spatial Information at Hunter College) mapped City-owned property, and confirmed that the once swarthy inventory of in rem property (due to foreclosures on delinquent real estate taxes) has been disposed of and developed for housing.
3. Further analysis prepared by the Team (specifically the Environmental Simulation Center) showed that the City still owns much underutilized land, including Housing Authority projects that are not built to the limits of zoning or reasonable land capacity.
4. The Team prepared a series of architectural tests involving a 20 percent density bonus in connection with affordable housing, applied to a variety of zoning districts. These tests showed that the additional density could be accommodated in compliance with the intent of the contextual zoning, with only minor alteration of height and bulk requirements, though more significant adjustments to parking requirements. (Refer to Report 2.)

Further design tests prepared by the Team (the Environmental Simulation Center) showed the outcomes of more meaningful increases in zoning, for a variety of sites and contexts: public housing, residen-

tial areas, industrial areas, and boulevards. (Refer to the diagrams at the end of this chapter.)

The Newman Institute team produced a series of proformas (financial spreadsheet analyses) in connection with inclusionary housing. These analyses showed that even a modest cross-subsidy burden only works in the most lucrative housing markets within the city. (Refer to Part Two of the Study.)

Corridors	Manufacturing Districts
<i>The Bronx:</i>	
Broadway	Harlem River
Third Avenue	Westchester Creek
Webster Avenue	Bronx River
Westchester Avenue	
Boston Road	
Fordham Road	
<i>Brooklyn:</i>	
Coney Island Avenue	Greenpoint
Fourth Avenue	Gowanus
Atlantic Avenue	
Neptune Avenue	
McDonald Avenue	
<i>Queens:</i>	
Northern Boulevard	Sunnyside Yards
Jamaica Avenue	Flushing Bay
Queens Boulevard	
<i>Staten Island:</i>	
Richmond Avenue	Arthur Kill
Forest Avenue	The Narrows

Refer to Figure 5: Commercial corridors: City-wide map and Figure 10: Manufacturing districts: City-wide map in this report. Note that the list above is neither complete nor conclusive. No corridors and districts were picked for rezoning or upzoning; they were simply analyzed in terms of the amount of present and potential housing development possible. The intent has been to inform the debate on zoning changes, rather than to weigh in on one side or another.

Based on these mappings, financial analysis and simulations, three contexts were identified as promising for new housing production, as follows:

1. *Commercial and Industrial Corridors:* Major arteries – many of which once accommodated elevated subway lines – span the boroughs. These corridors are often characterized by low-scale or

low-density development, consistent with their generally commercial and industrial zoning. Many pass through or alongside highly marketable residential neighborhoods. Most corridors fit within the city's normal street grid pattern, and thus have relatively small lots. Some corridors have large sites that can be measured in acres rather than thousands of square feet.

2. *Industrial Districts:* In addition to corridors, there are a number of industrial districts that invite redevelopment. These especially include the vast amount of industrially zoned land along the waterfront. Many parcels are vacant, used for outdoor storage, or have relatively small or low-scale buildings. Conversely, many parcels have large loft buildings, often built at a density that exceeds the after-the-fact zoning applied to the property. However valuable for industry, housing is often, from a real estate perspective, the "higher and better" use; indeed, in terms of return on investment, large footprint retail is often the more meaningful competitor to housing and industry.
3. *Residential Infill:* There is relatively little vacant buildable land remaining in the city's residential districts. But there are plenty of underbuilt parcels in terms of market potential or land capacity. Most are small sites that can accommodate small-scale development, including, in the prime neighborhoods, "sliver" buildings – i.e., very slender and tall buildings that defy the usual rules with regard to layout efficiencies. Some are larger sites that can accommodate towers; this would include, by way of example, the recently upzoned Sixth Avenue corridor in Chelsea, and the prospectively rezoned Far West Side of Midtown. Finally, some are larger sites that can accommodate low-scale infill; this would include many Housing Authority sites, as noted earlier.

A careful reading of the three contexts described above actually yields seven prototypes:

1. corridors with smaller sites;
2. corridors with larger sites;
3. industrial districts with smaller sites;
4. industrial districts with larger sites;
5. residential areas with smaller infill sites;
6. residential areas with larger, tower sites; and
7. public housing with infill potential.

Now, no single corridor, district or neighborhood is strictly one or the other. New York City neighborhoods are extraordinary in their diversity of land use, built form, and place. But for analytical purposes, these seven prototypes are still arrayed (in the matrix below) in terms of four sets of criteria:

1. *Typical development:* This set of criteria describes the general and likely potential zoning, and the current and prospective yield of a typical development in the selected corridor/area. The typical development is largely based on analysis (and illustrations) prepared by the Simulation Center, presented at the end of this chapter.
2. *Neighborhood factors:* This set of criteria weighs the trade-offs associated with development, from a neighborhood perspective. This includes quality of life as well as physical considerations; and perceptions as well as realities. The urban design considerations are also based on the illustrations presented later.
3. *Cost factors:* This set of criteria weighs the cost and risk trade-offs from the builder's perspective. Note that the builders would as often consist of non-profits dedicated to affordable housing production. Costs and risks matter a great deal for these builders, given the limits of available funding sources.
4. *Yield:* This last criterion returns to the citywide perspective. It considers whether, when all is said and done, a significant amount of new housing production might be expected. This too is based on the illustrations presented later, as well as on the amount of soft sites (more readily developed parcels) identified in the "new atlas" described at the outset of this chapter.

The conclusions of this analysis are at once obvious and elusive. As might be expected, the smaller infill developments (whether in corridors, in industrial districts, or in residential areas) yield less housing units than their larger counterparts. But if controversy and risk are factored in, the outcome is less predictable, with the potential for infill developments to cumulatively yield more units. The implication is that if the City is to be aggressive in its effort to stimulate housing development, it should be aggressive everywhere and anywhere where it might rezone and upzone for

housing. There is ample land, but not yet ample suitably zoned land; there are ample neighborhoods, but not yet ample neighborhoods where the rezoning and upzoning would not countermand local if not also city-wide planning, economic development and quality of life considerations. Given the variety of contexts in the city where housing production could be stepped up, each area will require its own planning and zoning analysis, defying across-the-board overgeneralization.

	DEFINITIONS <i>This portion of the Matrix explains the terminology used in the remainder of the chart, below.</i>
TYPICAL DEVELOPMENT	
Sample Areas	<i>Neighborhoods, districts, corridors.</i>
Typical Land Use and Urban Design	<i>Prevailing land uses and built form.</i>
Typical Current Zoning	<i>Prevalent zoning districts for these areas.</i>
NEIGH'D FACTORS	
Traffic	<i>This factor relates to the likely potential for significant negative impacts on neighborhood traffic congestion. The question is the relative impact of incremental versus significant amounts of new development.</i>
Parking	<i>This factor relates to the likely potential for significant added demand for off-site (i.e., on-street) parking. The question is the ability of the development to address the added demand for parking on-site</i>
Transit	<i>This factor relates to the likely potential for the new housing to be sited near subway stops and major bus transit corridors, and thereby add to transit ridership. This factor also considers whether there is the potential for the development to fulfill Transit Oriented Development (TOD) objectives.</i>
Existing Jobs and Services	<i>This factor relates to the likelihood that the new housing development will displace existing industrial and commercial businesses.</i>
Demand for New Services	<i>This factor relates to the likelihood that the new housing will add more than incrementally to the need and demand for additional retail, parks, schools, and other services. This would be the case where significant amounts of residential development are possible within the area.</i>
Opportunities for Parks/Amenities	<i>This factor relates to the likelihood that the new development would be linked to major park, plaza, waterfront or other such amenities; and conversely, whether the cross-subsidy for affordable housing may conflict with the cross-subsidy available for such amenities.</i>
Perception of Density	<i>This factor relates to the possibility that the new development will appear out of scale with the prevailing type of development, or with local expectations as to appropriate density and height.</i>
Pedestrian Experience	<i>This factor relates to the probability that the new development will improve or detract from the everyday public experience of the development, including but not limited to pedestrian amenities, perception of density at the street level, etc.</i>

Rate of Change	<i>This factor relates to the potential for significant amount of development within a short timeframe. National growth management studies have shown that local residents are often more upset by the rapidity of new development or added density, than by the ultimate amount of same.</i>
Threat of Uncertainty	<i>This factor relates to the potential that the development will contribute to gentrification, speculation, or other trends – besides added density -- that would unsettle the sense of neighborhood stability.</i>
COST FACTORS	<i>Neighborhoods, districts, corridors.</i>
Assemblage Costs	<i>These costs would be more significant where multiple sites need to be acquired to create suitable development sites, or where residential or other significant relocation or buyout costs (e.g., for residential or business tenants) are involved.</i>
Need for CEQR, Special Approvals	<i>This cost and risk factor relates to the need for environmental, regulatory or other approvals, including but not limited to those attendant to the City Environmental Quality Review Act (CEQR), Uniform Land Use Review Procedure (ULURP), zoning variances, landmark/historic district reviews, etc.</i>
Infrastructure, Remediation	<i>This category addresses the need for sewer tie-ins, new roads, bulkheading, brownfield remediation, and other unusual site preparation costs and risks. While usually associated with new construction involving industrial and waterfront sites, this also includes unusual building rehabilitation costs such as for asbestos remediation. Infrastructure and remediation not only entail added costs, they often involve uncertain time and money costs that trigger the need for greater profits.</i>
Added Construction Costs	<i>While in most cases, going to higher densities does not affect the net per-unit cost, in some cases it might. This includes instances where the added density requires structured parking, triggers different building code standards, etc.</i>
Mitigation, Public Improvements	<i>This category relates to the likelihood that the development would be tied to other public objectives, e.g., waterfront promenades, off-site roadway improvements, subway station improvements, etc. These would represent other potential benefits (in addition to the competition for cross subsidies explored above).</i>
Potential for Controversy	<i>Controversial projects invariably entail varied extra costs and great risks in terms of approvals, more detailed study, and/or legal and other fees. As with other risk factors (e.g., the need for discretionary approvals, unusual infrastructure and remediation), the impact has as much to do with the need for higher profits as it does with the direct costs</i>

YIELD	<i>The likely potential of the physical category of land under consideration to generate a significant amount of housing units.</i>
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	CORRIDORS CITY BLOCK SITES	CORRIDORS LARGE SITES
TYPICAL DEVELOPMENT		
Sample Areas	<i>Forest Avenue, Staten Island Coney Is. Avenue, Brooklyn</i>	<i>Northern Boulevard, Queens Kings Highway, Brooklyn</i>
Typical Land Use and Urban Design	<i>Major arterial routes, often served by subway and/or buses, with a mix of low-scale housing, automotive/industrial uses, and/or freestanding retail businesses. The lots are usually no more than 100 feet deep, and no larger than 10,000 square feet.</i>	<i>Major arterial routes, intermittently served by subway but with express as well as local buses. There would often be a mix of shopping centers, freestanding stores with ample off-street parking, and similar low-density uses. The lots would be much larger – and can be meas- ured in acres rather than tens of thousands of square feet.</i>
Typical Current Zoning and Floor Area Ratio (FAR)	<i>Forest Ave</i> <i>District FAR</i> <i>C4-1 1.0</i> <i>C8-1 1.0</i> <i>R2 0.5</i> <i>R3-1 0.5/0.6</i> <i>R3-2 0.5/0.6</i> <i>R3A 0.5/0.6</i> <i>R3X 0.5/0.6</i> <i>Coney Island Ave</i> <i>District FAR</i> <i>C8-1 1.0</i> <i>C8-2 2.0</i> <i>C4-2 3.4</i> <i>R5 1.25</i> <i>R6 2.43/3.0</i>	<i>Northern Blvd</i> <i>District FAR</i> <i>M1-5 5.0</i> <i>M1-1 1.0</i> <i>M1-3 5.0</i> <i>Kings Highway</i> <i>R4 0.75/0.9</i> <i>R5 1.25</i> <i>R6 2.43/3.0</i> <i>M1-1 1.0</i>
NEIGH'D FACTORS		
Traffic	<i>The housing development would often replace uses that generate as much or more traffic, and certainly more “friction” to accommodate cars turning in and out of curb cuts and/or parking spaces. There would therefore be the potential for traffic improvements as much as induced traffic volumes. There would therefore be the poten- tial for traffic improvements as much as induced traffic volumes.</i>	<i>These larger housing developments would tend to cater to an auto-ori- ented residential population. But they would often replace uses that generate more traffic or traffic con- flicts, e.g., strip development.</i>

Parking	<i>These sites would often not be required to or able to adequately address the parking demand generated by the new residents, thus adding to the number of people searching for parking spaces on neighborhood streets.</i>	<i>These larger housing developments would usually have the acreage and marketing need to address their residents' parking needs on-site.</i>
Transit	<i>These corridors would often be served by subway lines (e.g., Fourth Avenue in Brooklyn). They would almost always be served by local bus service.</i>	<i>While subway stops are fewer and further apart, these corridors would usually be served by express as well as local bus service.</i>
Existing Jobs and Services	<i>These corridors would generally be lined with small businesses (e.g., automotive repair, construction services) that have relatively high employment relative to their land area.</i>	<i>These corridors would often include large retail uses; but also low-intensity uses like storage yards. The sites would often be large enough and would have the market potential for mixed-use development, involving retail as well as housing.</i>
Demand for New Services	<i>The incremental addition to housing supply would tend to support existing public services and retail areas, rather than create significant demand for new services and retail.</i>	<i>Sudden increases and concentrations of new housing would likely spur convenience retail development in the same corridors or nearby; but would also likely add significantly to the demand for nearby parks and services.</i>
Opportunities for Parks/Amenities	<i>The fact that most sites are small and "infill" would mean that there would be minimal opportunities to link new development to new on-site parks and amenities. The fact that most of the development would be incremental would mean that there would be minimal opportunities to line the new development to off-site mitigation measures.</i>	<i>The larger sites would provide opportunities for park and open space amenities. However, the City has only blunt tools to promote such parks and amenities other than on waterfront sites. Unlike elsewhere in the U.S., there is no NYS enabling legislation for impact fees. The City has been reluctant to use incentive zoning and special district zoning to create amenities except along the waterfront – as it moves away from the as-of-right zoning regime.</i>
Perception of Density	<i>Many of these corridors are considered physically unattractive and environmentally problematic. Thus, the perception would often be that the residential development is less dense because it is less intense (in terms of improvements to the negative visual, traffic or environmental conditions).</i>	<i>Many of these corridors include broad, almost highway-like thoroughfares. Large-scale development, while in fact adding greatly to density, would often be perceptually absorbed into this expansive landscape. In truth, though, there would be significant increases in density.</i>

<p>Pedestrian Experience</p>	<p><i>Many of these corridors are, from a pedestrian point of view, shredded by frequent curb cuts, parking on sidewalks, etc. The housing developments would often reduce these features and improve landscaping as well as provide ground floor retail. They would therefore improve the pedestrian experience.</i></p>	<p><i>Many of these corridors are primarily about moving vehicular traffic, overwhelming their pedestrian qualities. Often, the developments (especially those using the Quality Housing regime) would have a street orientation that can mitigate this quality. Also often, however, freestanding towers or other housing formats would entail building setbacks, off street or structured parking, or other features that would not fundamentally change the experience for pedestrians.</i></p>
<p>Rate of Change</p>	<p><i>Unlike some of the other real estate contexts under consideration, these corridors are largely occupied by going businesses, which often own the land and therefore calculate the value of their business (or cost of business location) in their land sales price. It is therefore unlikely that there would be rapid transformations of these corridors.</i></p>	<p><i>The new housing would be less land-intensive than the existing uses (since at-grade parking usually occupies much of the land), creating more potential for mixed-use development. However, ownership and lease arrangements would put a drag on the rate of development in these corridors. For example, a shopping center site would take some time to become available as leases are terminated or renegotiated.</i></p>
<p>Threat of Uncertainty</p>	<p><i>The removal of blight from these highly visible corridors would in some cases lead to gentrification pressures on the adjoining residential areas</i></p>	<p><i>These sites would generally be large and generally self-contained, thus reducing the likelihood that their redevelopment for housing would promote gentrification in the adjoining areas.</i></p>
<p>COST FACTORS</p>		
<p>Assemblage Costs</p>	<p><i>These sites would often involve assemblage of small sites, some of which have residential or viable businesses, and thus also involving buyout or relocation expenditures.</i></p>	<p><i>These large sites would ostensibly be easy to assemble, from a transaction point of view. However, they would often have going businesses with long-term leases that need to be renegotiated.</i></p>
<p>Need for CEQR, Special Approvals</p>	<p><i>The infill nature of these sites would presumably mean that it would be easy to arrange an as-of-right zoning regime, reducing the need for special approvals. Sites that were used for industry or automotive uses would often, however, need special environmental-related approvals.</i></p>	<p><i>These larger redevelopments would often involve approvals for new roads, environmental remediation, special zoning considerations (e.g., large site development), etc. Generally, it should be expected that these developments would trigger ULURP and CEQR, and thus would entail a review process taking a year or more.</i></p>

Infrastructure, Remediation	<i>Sites that were used for industry or automotive uses would usually require remediation. Gas station sites, for example, can be very expensive to redevelop for housing.</i>	<i>Some of these sites would be “gray fields” – i.e., large commercial sites used for single uses with a vast parking field. Other sites would, however, be “brownfields” with significant remediation costs. Unlike the waterfront sites, few sites would require significant new infrastructure.</i>
Mitigation, Public Improvements	<i>The infill, and generally as-of-right nature of most of these small-scale developments would make it harder to link them to on- and off-site public improvements. Mitigation and similar measures would likely be confined to signalization improvements, landscaping, etc.</i>	<i>These large projects would often trigger CEQR or ULURP; and/or would use special zoning tools such as the large site zoning. As such, there would be opportunities to hold the development to open space and other standards. Even so, the preference for as-of-right zoning, absence of site plan review, and lack of linkage fee enabling legislation would likely contain the scope and range of public improvements that might be expected (relative to what is often the case in other parts of the nation).</i>
Mitigation, Public Improvements	<i>The removal of blight from these highly visible corridors would in some cases lead to gentrification pressures on the adjoining residential areas</i>	<i>These sites would generally be large and generally self-contained, thus reducing the likelihood that their redevelopment for housing would promote gentrification in the adjoining areas.</i>
Potential for Controversy	<i>These corridors are often at the boundaries of neighborhoods, and/or are considered to be unattractive, congested, and a source of blight. While many residents would likely object to the increased population and density associated with the new development, many other residents would view the new development as an improvement; and still other residents would feel conflicted about which is the preferred condition and therefore dispassionate about the projects.</i>	<i>The corridors themselves do not have that many neighbors who would object. But traffic and development on these major thoroughfares would bear on the quality of life (perceived or real) of nearby neighborhoods. Any intensification of use would be likely to be objected to, though likely without the same passion, as would be the case if the same development were proposed inside these nearby neighborhoods.</i>
YIELD	<i>These narrow and largely built-out commercial corridors would likely yield a goodly amount of development. This is despite the fact that the lots would be generally small, and already occupied by going businesses. Many of these corridors would be convenient to subway lines and most are convenient to major bus routes, increasing their value for housing. Many of these corridors would adjoin or run through high-value residential neighborhoods, increasing their value to developers.</i>	<i>These corridors have large sites that while, few in number, would be sufficient in size to each generate a significant number of units. Intermittent subway and excellent commuter as well as regular bus service would create value for housing. High visibility, and also an ability to build and amortize the cost of significant on-site amenities, would increase the marketability of these sites.</i>

	CORRIDORS CITY BLOCK SITES	CORRIDORS LARGE SITES
TYPICAL DEVELOPMENT		
Sample Areas	<i>Webster Avenue, the Bronx Greenpoint mixed-use area</i>	<i>Harlem River, the Bronx Greenpoint waterfront, Brooklyn</i>
Typical Land Use and Urban Design	<i>Older industrial areas, with either small industrial outfits or with multi- story (loft) buildings.</i>	<i>Newer, usually low-rise industrial areas; or older industrial areas with significant amounts of open and underutilized land, often along the waterfront.</i>
Typical Current Zoning and Floor Area Ratio (FAR)	<i>Webster Ave District FAR C8-2 2.0 M1-1 1.0 R6 2.43/3.0 R7A 4.0 R7-1 3.44/4.0 Greenpoint Mixed-use District FAR R6 2.43/3.0 C8-2 2.0 M1-1 1.0 M1-2 2.0 C4-3 3.4</i>	<i>Harlem River District FAR M1-2 2.0 M2-1 2.0 M3-1 2.0 MX-1 (M1-2/R6A) 2.0/6.0 Greenpoint waterfront District FAR M1-1 1.0 M3-1 2.0</i>
NEIGH'D FACTORS		
Traffic	<i>There is potential for significant impacts, since residential/industrial traffic conflicts can be expected, even on a block-by-block basis.</i>	<i>There is potential for significant impacts, since a large number of units would often be built on these relatively large sites.</i>
Parking	<i>There is potential for significant impacts, due to conflicts between truck and resident parking, loading, double-parking and sanitation needs.</i>	<i>There is minimal likelihood of signif- icant impacts, since these large sites would provide more ability (and marketing need) for on-site parking.</i>
Transit	<i>Many of these industrial districts are proximate to subway stops.</i>	<i>Few of these industrial areas -- would be proximate to subway stops. Waterfront sites, in particu- lar, are usually distant.</i>
Existing Jobs and Services	<i>The impact would likely be incre- mental but eventually great. Most of the surviving industrial outfits in loft districts tend to have relatively high employment per square foot of land area.</i>	<i>The impact would likely be sudden but eventually not as great, since the most inviting sites (as along the waterfront) would be vacant or used for low-scale industrial ware- housing operations.</i>

Demand for New Services	<i>The demand for retail services would, again, be likely to be incremental but eventually significant.</i>	<i>The opportunity for significant new housing development with hundreds if not thousands of units would generate significant new demand for parks, schools, and other services. The demand for shopping and services would likely take some time to translate into retail development, as the thresholds for supporting retail centers and districts would not be achieved immediately.</i>
Opportunities for Parks/Amenities	<i>The opportunity to provide additional parks and amenities would be minor, given that most development would involve in-fill or loft conversions.</i>	<i>The opportunity (or mandate, as along the waterfront) to link the development to park and other amenities would be significant, especially given the potential for windfalls combined with the dearth of amenities in the industrial districts.</i>
Perception of Density	<i>In the case of loft conversions, there would be negligible impact on the perception of density.</i>	<i>The rapid change from low-scale industrial to mid- and high-scale residential would likely be viewed as significant, particularly in cases where the industrial district would abut historic or other traditionally low-scale neighborhoods.</i>
Pedestrian Experience	<i>The pedestrian experience would vary largely based on the conflicting use of sidewalks, parking lanes and roads for trucks/deliveries/etc. versus for residents/pedestrians.</i>	<i>The pedestrian experience would vary, largely based on the type of ground level uses, e.g., parking structures versus shops</i>
Rate of Change	<i>The rate of change would be incremental, as many individual properties would be involved.</i>	<i>The rate of change would be sudden, as major sites would be turned over for housing.</i>
Threat of Uncertainty	<i>There is potential for residential as well as commercial displacement and gentrification, e.g., that rising residential values would lead to turnover of smaller housing units and artist lofts, so as to accommodate more affluent buyers and renters. Industrial firms and property owners would often reduce future capital investments in anticipation of future rezoning or housing development opportunities. Some industries would also be dismayed by the growing number of residents, and the accompanying complaints about their parking, environmental, loading and other perceived or real transgressions on the neighborhood's residential quality of life.</i>	<i>There would be only modest potential for displacement, since these sites would not tend to be in mixed-use areas. However, there would be significant potential for promoting gentrification and speculation. Many industrial firms and property owners would likely reduce their future capital investments, in anticipation of future rezoning or housing development opportunities.</i>

COST FACTORS		
Assemblage Costs	<i>Often, several sites would need to be acquired to make the development economic or to provide needed parking. Often, the cost of the land would reflect the cost of relocating the business.</i>	<i>Single sites would, by definition, be large enough to accommodate significant development.</i>
Need for CEQR, Special Approvals	<i>Zoning variances would often be needed, e.g., to meet parking requirements.</i>	<i>Significant environmental and community impacts would often necessitate EISs or other studies.</i>
Infrastructure, Remediation	<i>Often, existing loft buildings lack adequate plumbing, have asbestos problems, etc. Yet these costs would usually be predictable, and therefore would not affect risk as much as cost.</i>	<i>These sites would often have significant costs for new sewer lines, roadways, environmental clean-up, bulkheading, etc. These costs would often be highly unpredictable, and therefore would often effect developer profit expectations as much or more than they would directly drive up construction costs.</i>
Added Construction Costs	<i>These developments would not pose unusual building costs, other than those associated with land preparation noted above.</i>	<i>These developments would not pose unusual building costs, other than those associated with land preparation noted above.</i>
Mitigation, Public Improvements	<i>These developments would usually be small enough, such that they would not involve significant traffic or other mitigation measures.</i>	<i>The waterfront sites, in particular, would often involve added costs for promenades and other open space features; and the larger sites would more easily be singled out for their impacts on community services, etc. Especially in cases where the market is unproven, these amenities would compete for the cross-subsidies generated by the market-rate units and/or upzoning.</i>
Potential for Controversy	<i>These developments would often displace uses that the community has grown accustomed to, or that employ local residents.</i>	<i>These developments would often be associated with significant and sudden changes in area land use.</i>
YIELD	<i>The yield would vary by neighborhood. Older, mixed-use areas (such as Maspeth), with smaller industrial uses such as machine shops, would generate relatively few units since assemblage of larger sites would prove difficult. But areas with large multi-story loft buildings (such as SoHo)—often exceeding the allowable floor area of the underlying residential district under consideration—would yield a great many units. And many industrial areas actually have a blend of both built conditions (such as Greenpoint and Williamsburg).</i>	

	RESIDENTIAL CONTEXTUAL SITES	RESIDENTIAL TOWER SITES	HOUSING AUTHORITY SITES
TYPICAL DEVELOPMENT			
Sample Areas	<i>Sliver Buildings, Manhattan Park Slope, Brooklyn</i>	<i>Far West Side, Manhattan Queens Boulevard (parts), Queens</i>	<i>Manhattan Morrisania Houses, the Bronx</i>
Typical Land Use and Urban Design	<i>Residential areas, with small lots (e.g., no larger than 10,000 square feet, or 100x100 feet in dimension), generally bordered by low/moderately scaled (e.g., three- to six-story) housing that defines the built char- acter of the area.</i>	<i>Areas that may or may not be residential now, where the development would have more of a stand-alone quality, or would itself cre- ate the built character of the area.</i>	<i>Towers in the park housing dating to second half of the past century, where new low-scale housing on park- ing lots and open space would mirror the scale of development in the rest of the neighborhood as well as produce more units still within the yield allowed under zoning.</i>
Typical Current Zoning and Floor Area Ratio (FAR)	<i>Manhattan District FAR R6* 2.43 R7* 3.44 R8* 6.0 R9* 7.5 R10* 10.0 *and commercial equiva- lents Park Slope District FAR R6 2.43 R6B 2.0 R7A 4.0 R7B 3.0 R8A 6.0 R8X 6.0</i>	<i>Far West side District FAR M1-5 5.0 M2-3 2.0 M1-6 10.0 C6-2 6.0 C6-4 10.0 Queens Blvd. District FAR C4-2 3.4 R7-1 3.44/3.0 M1-1 1.0</i>	<i>NYCHA sites Manhattan District FAR R7 3.44/4.0 R8 6.0/7.2 Outer Boroughs District FAR R4 0.75/0.9 R5 1.25 R6 2.43/3.0 R7 3.44/4.0 R3 0.5/0.6</i>
NEIGH'D FACTORS			
Traffic	<i>Negligible increases to traf- fic would be expected, as the development would be "infill" and incremental. basis.</i>	<i>Significant additional traffic would be generated in these "new" neighbor- hoods. However, the road- way systems would usually adequate with minor mitiga- tion involved; the existing uses would often be more auto-intense than the hous- ing that would replace them.</i>	<i>Although car ownership is higher than might be pre- supposed (or even docu- mented) in Housing Authority developments, it would normally still be rela- tively low and not the prin- ciple means of transport for commuting purposes.</i>

<p>Parking</p>	<p><i>These sites would often be in zones that require no or minimal parking. While these sites would often be proximate to mass transit, many residents would still own cars, and would add to the large number of local residents dependent on on-street parking spaces.</i></p>	<p><i>These larger housing developments would usually have the acreage and marketing need to address their residents' parking needs on-site.</i></p>	<p><i>The replacement of on-site parking lots with new housing would surely increase the number of people searching for parking on neighborhood streets. Many of the targeted Housing Authority sites would be in Urban Renewal Areas where road widening and the like provide the opportunity for diagonal parking and similar reconfigurations that would increase the supply of on-street parking spaces.</i></p>
<p>Transit</p>	<p><i>These sites would often be proximate to transit.</i></p>	<p><i>These sites may or may not be proximate to transit.</i></p>	<p><i>These sites may or may not be proximate to transit.</i></p>
<p>Existing Jobs and Services</p>	<p><i>These sites would often have small-scale business operations on their premises - warehousing, garage, parking operation, etc., that are often non-conforming with the underlying zoning.</i></p>	<p><i>These sites would generally be in prime locations, sometimes with existing businesses that would be displaced, but more often with parking lots and/or "taxpayer" non-residential uses that would not need replacement or relocation as they would be there only for the duration until development is pursued. retail as well as housing.</i></p>	<p><i>These potential building sites would often be occupied by single-story retail development or community facilities that would still be accommodated as the ground floor of a multi-story building that has housing above.</i></p>
<p>Demand for New Services</p>	<p><i>These would generally be "infill" developments in higher-density zones, and thus would only augment existing demand for services, rather than radically increase demand.</i></p>	<p><i>The opportunity for significant new housing development with hundreds of units on a single site would, not immediately but eventually, generate significant new demand for parks, schools, and other services. The added demand for shopping and services would likely to take some time to translate into retail development, as the thresholds for supporting retail centers and districts would also take some time to be achieved.</i></p>	<p><i>These generally "infill" buildings would add to but not vastly expand the demand generated for retail and public services.</i></p>

Opportunities for Parks/Amenities	<i>The opportunity to create parks and amenities in connection with the new development would be few and far between, since most of the developments would likely to be as-of-right and infill.</i>	<i>The opportunity to link the development to park and another amenities would be significant, especially given the potential for real estate value windfalls. Much of the opportunity (except along the waterfront) would consist of plazas and the like, however.</i>	<i>The additional housing would often entail removal of open space. However, the targeted Housing Authority campuses would often be characterized by barren or underutilized parking lots and open spaces, inviting redesign whereby the open space may be reduced but still be better than what was there before.</i>
Perception of Density	<i>Most of the new developments would not, in the long run, add to the perception of density. The sliver buildings would have an immediate impact on the perception of density, though.</i>	<i>The rapid change from low-scale industrial/taxpayer uses to high-scale residential would likely be viewed as significant, particularly in cases where the site(s) would be in otherwise historic or low-scale settings.</i>	<i>While density would increase, the perception of density would be more often determined by the high rises than the additional low rises. I.e., the added density would likely be perceived as incremental.</i>
Pedestrian Experience	<i>The pedestrian experience would generally be improved, as contextual development replaces vacant lots or low-scale commercial/industrial uses. The infill development could take the form of a sliver tower on a contextual base. (The earlier prototype often broke with the streetwall context of the block.) Such towers would not generally impose on pedestrians as much as bulky buildings with the same amount of floor area.</i>	<i>The pedestrian experience would vary largely based on the type of ground level uses tolerated, e.g., parking structures versus shops. Many towers would be much higher, but if slender, their shadow impact would be fleeting; bulky buildings that loom over a street often would have greater shadow impacts with lower heights.</i>	<i>The pedestrian experience would likely be improved. The additional development would often “complete” the streetscape, offset the institutional look of towers in the park; and provide added “eyes on the street” - and thus would improve the reality or perception of safety for passing pedestrians.</i>
Rate of Change	<i>The rate of change would be incremental, as sites come onto market.</i>	<i>The rate of change would be sudden, as major sites are turned over for housing.</i>	<i>For neighborhood residents, the rate of change would seem incremental. For the tenants of the Housing Authority project, the rate of change would feel dramatic.</i>

<p>Threat of Uncertainty</p>	<p><i>Many of these developments would be in the transitional peripheries of otherwise strong residential areas, e.g., on the edge of Park Slope or Forest Hills. While the core area would be relatively unaffected, they might contribute to the rapid repositioning of these areas by introducing the area to a more affluent population.</i></p>	<p><i>There is some potential for displacement, since these sites are often in transitional neighborhoods, such as Sixth Avenue in Chelsea during the 1980s. But in other cases, the market would already be directed to higher income households, such as Sixth Avenue in Chelsea during the present decade.</i></p>	<p><i>There would rarely be any displacement involved - as units would generally be added without demolition. Nonetheless, Housing Authority tenants would often feel profoundly threatened by any change to their home, especially given their lack of alternatives and the fact that the present housing shortage has also led to illegal doubling and tripling up of households in the units.</i></p>
<p>COST FACTORS</p>			
<p>Assemblage Costs</p>	<p><i>Most of these single sites would be, by definition, large enough to accommodate the types of infill development contemplated.</i></p>	<p><i>These single sites would, by definition, generally be large enough to accommodate significant development.</i></p>	<p><i>These parcels would be owned by an entity dedicated to affordable housing production.</i></p>
<p>Need for CEQR, Special Approvals</p>	<p><i>Presumably, these would be as-of-right developments</i></p>	<p><i>Presumably, these would be as-of-right developments requiring, at most, special plaza or bonus-related approvals.</i></p>	<p><i>Surprisingly, most of these developments would be as-of-right in terms of zoning, but would sometimes require changes to the Urban Renewal Plan if not also zoning.</i></p>
<p>Infrastructure, Remediation</p>	<p><i>These sites would almost always be well served in terms of infrastructure. There generally would be remediation costs in cases where the new development is replacing automotive or industrial uses. These would often be pre-existing, non-conforming - i.e., "grandfathered" -- uses that have been on the sites for some time.</i></p>	<p><i>These sites would usually be well served in terms of infrastructure. While there would often be remediation costs, these costs could be spread out over a great many units.</i></p>	<p><i>These sites would almost always have sufficient infrastructure and pose no remediation costs.</i></p>
<p>Infrastructure, Remediation Added Construction Costs</p>	<p><i>The sliver buildings, unlike the contextual buildings, would be particularly expensive to build on a per square foot basis</i></p>	<p><i>While the towers would not be especially expensive to build on a per square foot basis, the need for structured or underground parking, or other expensive building elements, would often add to construction costs</i></p>	<p><i>The low-rise infill development would rarely involve unusual construction costs.</i></p>

Mitigation, Public Improvements	<i>Presumably, these developments would be as of right, with only incremental impact on traffic, schools, etc.</i>	<i>Presumably, these developments would be as of right. But given recent history, often these developments would be linked to off-site park, infrastructure or other improvements, in connection with the mitigation for the area-wide rezoning.</i>	<i>There would often be the need to provide substitute on- or off-street parking, as well as substitute or substantially improved park and open space.</i>
Potential for Controversy	<i>Contextual infill development would by definition be hard to argue with, though many would, all the same. The sliver building model (even if improved with a tower on top of a contextual base format) would likely be viewed as contrary to the attempts of neighborhoods to control building heights.</i>	<i>These developments would often be associated with significant and sudden changes in area land use. The residents of the effected neighborhoods would usually be well-organized, with the ability to bring to bear considerable financial and political resources.</i>	<i>Given the profound dependency of the existing tenants on Public Housing, considerable controversy would be the norm. This would sometimes be offset by tenant and community support for mixed income or ownership formats, as well as contextual low-rise development that would provide housing variety and upward mobility for the tenants and/or area residents.</i>
YIELD	<i>These generally small, intermittent sites would not yield a goodly amount of development. Many of these corridors would adjoin or run through high-value residential neighborhoods, increasing their value to developers.</i>	<i>These areas have large sites that while, few in number, would be sufficient in size to each generate a significant number of units. Intermittent subway and excellent commuter as well as regular bus service would create value for housing. High visibility, and also an ability to build and amortize the cost of significant on-site amenities, would increase the marketability of these sites.</i>	<i>While many such developments might be designed and proposed, few would be built given the level of controversy anticipated – at least until the city has sufficient successful precedents that tenants and area residents ask for rather than respond to top-down proposals for the infill. This low yield is offset by the fact that virtually all of the units would be affordable. If the units housed upwardly mobile Housing Authority tenants, an additional Housing Authority unit would be freed up for another financially strapped household.</i>

ii.-viii. Hypothetical build-out under current zoning densities: M1, M2 and C8 zones

The hypothetical build-out analysis shows how much additional floor area can hypothetically be built based upon current zoning densities found in the New York City Zoning Resolution. This analysis focuses on M1, M2 and C8 zones because if these areas were rezoned to allow new residential or mixed use development, large numbers of residential units could be created without up-zoning the adjoining residential zoning districts, while at the same time allowing existing uses to remain.

Hypothetical build-out analyses were performed in six neighborhoods in the Bronx, Brooklyn and Queens as a mathematical exercise. They are not design studies. Hypothetical build-out analysis assumes each site can be built to its maximum zoning density (Floor Area Ratio or FAR is a ratio between floor area and lot area.) The difference between the existing floor area already built and the maximum allowable floor area determines the amount of unused floor area. Minimally, unused floor area under current density¹ represents the amount of floor area that could be developed for housing in a mixed-use development. The figures labeled as “Hypothetical build-out” illustrate this unused floor area by simply placing it on top of the existing building² regardless of the feasibility or desirability of such an action.

The calculations for hypothetical build-out analysis were performed on a lot-by-lot basis. If a lot is overbuilt which means that it has more floor area than allowed under current zoning—it does not impact the amount of floor area generated by other zoning lots in the district³.

¹ Density can be measured in volume, dwelling units and/or FAR. This exercise is performed solely using floor area ratio as the density measure with dwelling units derived from the floor area produced by the FAR density measure.

² In vacant lots, a massing model representing build-out was placed on the lot with a rear yard if it was a mid-block site. If it was a vacant corner lot the build-out massing was placed on the lot with full coverage. Surface parking is considered vacant. Occasionally if the only building on the site was very small (like a gas station) in relation to its lot, the existing building was removed and the mass-

The six study areas were taken from the following neighborhoods or corridors:

- Case study one: Coney Island Ave.
- Case study two: Atlantic Avenue
- Case study three: Queens Blvd
- Case study four: Gowanus Canal
- Case study five: Sunnyside Yards
- Case study six: Harlem River

These areas were selected because they lend themselves to residential mixed use as they already have existing housing within the M1/M2 and C8 districts. They also tend to be under-built under current zoning and usually are bisected or bounded by a wide street.

This analysis has been performed on real places in New York City using real data⁴, but we have intentionally omitted identifiers such as cross streets and landmarks. These examples were selected to be prototypical and illustrative of many neighborhoods in New York City, not just the few neighborhoods that have been analyzed.

ing placed as if the lot were vacant.

³ This means that calculating hypothetical build-out for the study areas is not simply lot area x FAR. It is actually lot area x FAR + the amount the area is overbuilt since the existing floor area that is overbuilt does not count against zoning densities elsewhere in the study area.

⁴ Some highly idiosyncratic elements specific to the neighborhoods selected may have been changed. Data that appeared to be in error was also changed without field confirmation.

ii. Case study one: (Coney Island Avenue)**Model commercial corridor: Brooklyn**

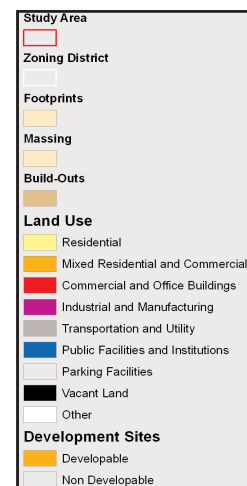
This study area is representative of mixed-use neighborhoods throughout Brooklyn. The existing zoning district along most of the avenue (C8) does not allow new residential uses, but nonconforming residential buildings built before the 1961 Zoning Resolution remain the most common use facing the avenue. The C8 district extends 100 feet from the avenue to the centerline of the block in most places and backs up on residential zoning districts. If residential uses were allowed in on this avenue, it would be an excellent area for in-fill housing that would be consistent with the current residential mixed character of Coney Island Avenue as potential development sites are relatively small.



Case study one: Model commercial corridor: Brooklyn:

Figure 24: District boundary

The study area includes six city blocks facing a wide street.





Case study one: Model commercial corridor: Brooklyn:

Figure 25: Building footprints

Most lots are built with relatively high-coverage, low-rise buildings with rear yards.





Case study one: Model commercial corridor: Brooklyn:

Figure 26: Land-use

The land use is mixed with residential and commercial uses, but residential uses predominate even though they are non-complying in the C8 district. Owners of these properties cannot expand their level of non-compliance, which means that additions are prohibited and residential buildings cannot be rebuilt after severe fire damage.





Case study one: Model commercial corridor: Brooklyn:

Figure 27: Massing

The buildings are decidedly low-rise and underbuilt. The C8 district alone is underbuilt by over 500,000 SF or nearly 50 percent.





Case study one: Model commercial corridor: Brooklyn:

Figure 28: Hypothetical build-outs

Most of the sites are underbuilt and 500,000 SF of unused floor area would be available for residential development.

ONEY ISLAND AVENUE

04-2 and 08-2 Zoning Districts

	Lot Area	Average Neighborhood FAR	Amount Overbuilt	Hypothetical Build-Out	As Built Gross Sq.Ft.	Current Zoning Underbuilt	Hypothetical New Housing Units
Residential Use	211,384	2.17	3,371,000	432,017	318,403	191,538	137
All Other	238,930	2.07	22,333,000	303,373	233,811	37,157	48
TOTAL	494,424	2.11	29,789,000	1,073,895	551,540	522,145	590
Percentage Overbuilt Build-Out			51.3%				

Study Area

- Study Area (Red outline)

Zoning District

- 04-2 (Light Blue)
- 08-2 (Light Green)

Footprints

- Massing (Light Yellow)
- Build-Outs (Orange)

Land Use

- Residential (Yellow)
- Mixed Residential and Commercial (Orange)
- Commercial and Office Buildings (Red)
- Industrial and Manufacturing (Purple)
- Transportation and Utility (Grey)
- Public Facilities and Institutions (Blue)
- Parking Facilities (Light Grey)
- Vacant Land (Black)
- Other (White)

Development Sites

- Developable (Yellow)
- Non-Developable (Grey)

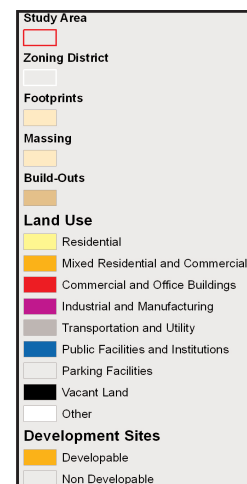


Case study one: Model commercial corridor: Brooklyn:

Figure 29: Potential development sites with rezoning

The highlighted areas above show lots in the C8 zoning district that do not have existing nonconforming residential uses. These are areas that would more likely be developed with housing should the zoning allow such development. Also highlighted are vacant sites within existing R districts that might also be developed under current zoning.

How development might occur in this area at various FARs is highlighted in the following section (J. Density models).



iii. Case study two: (Atlantic Avenue)

Model commercial corridor: Brooklyn

This area contains M1, C8 and R zoning districts. The M1 and C8 districts are largely underbuilt under current zoning densities. The C8 and M zones also contain a good deal of surface parking. While the C8 and M districts are rather rigid regarding allowable uses, these districts--like many C8 and M zoning districts in older neighborhoods--have a good deal of nonconforming residential uses.

Residential mixed use is a reality of existing land use in many of the C8 and M1/2 districts in Brooklyn, albeit, a noncomplying use. Allowing new residential uses in these areas would more closely reflect existing conditions in many of these areas, obviating a fiction created by the tidiness of the Zoning Resolution.

While the analysis for the Atlantic Avenue corridor found elsewhere in this document has been done only on the blocks facing Atlantic Avenue, the study area in this example extends south to the next block. The reality of this area is that the M zone in the block south of Atlantic Avenue faces both sides of the street. If there were modifications to the Zoning Resolution to allow residential uses in the C8 and M zones in the corridor then it is probable that they would apply to the entire C8/M1 districts.

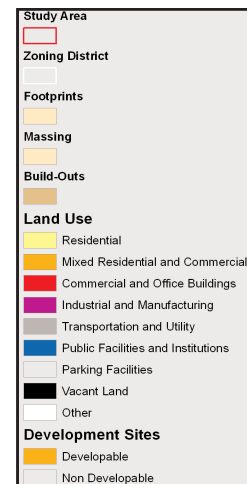
This area contains about 500,000 SF of built area within the C8 and M zones, which is about 50 percent built-out under current Zoning Resolution densities. Most of the unused floor area is generated from sites that are used for nonresidential uses. Hypothetical build-out shows that nearly 500,000 SF of floor area could be added or about 550 units at 900 SF per dwelling unit if this floor area were residential.



Case study two: Model commercial corridor: Brooklyn:

Figure 30: District boundary

The Study area includes 6 whole blocks and 12 half blocks and includes a wide avenue to the north of the study area and narrow avenue to in the south.



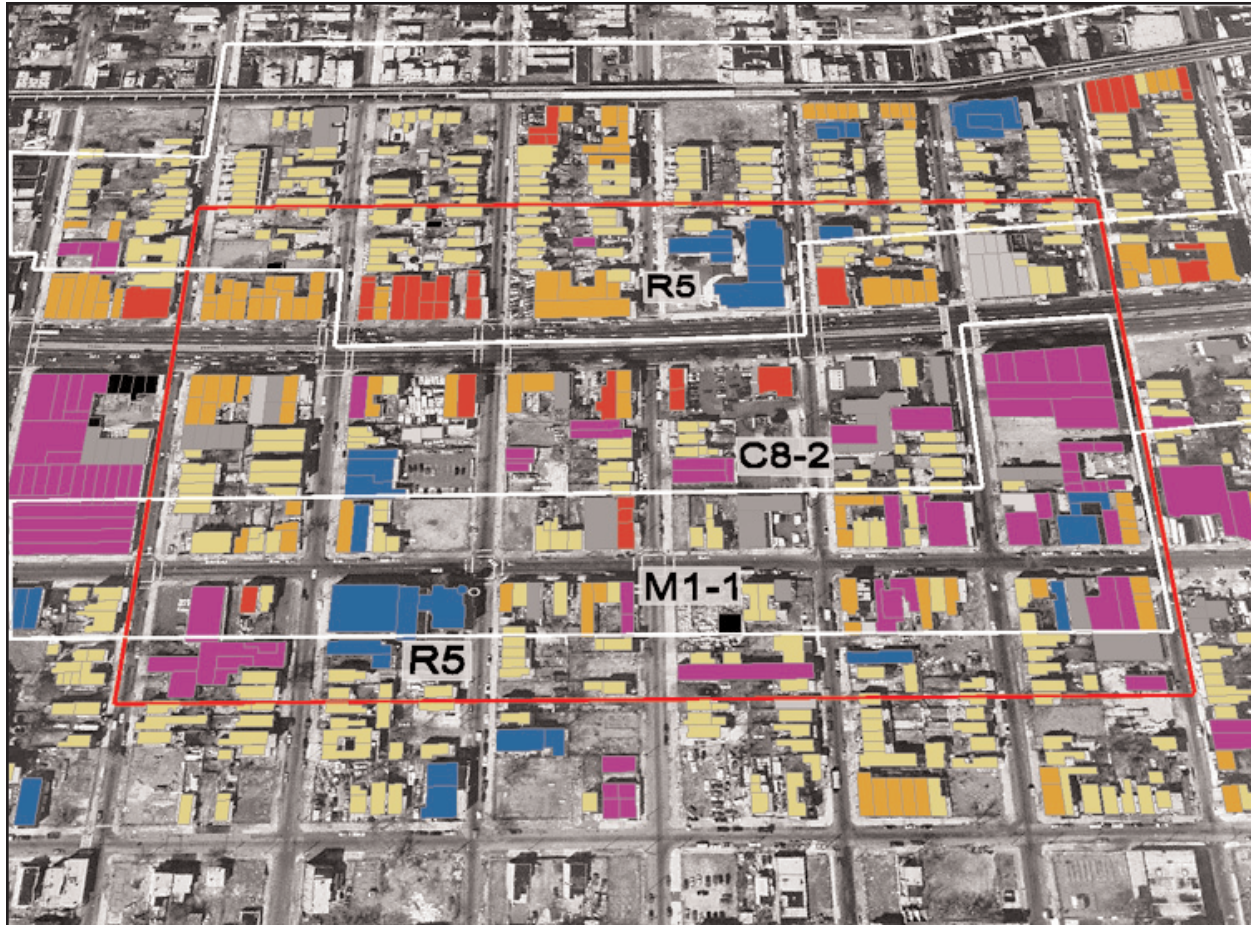


Case study two: Model commercial corridor: Brooklyn:

Figure 31: Building footprints

The built area shows many gaps in the street wall and surface parking lots typical of many under-built areas of the City.

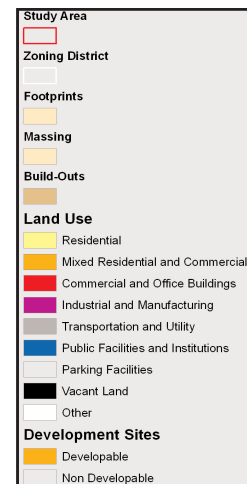




Case study two: Model commercial corridor: Brooklyn:

Figure 32: Landuse

The land use is mixed even though the predominant zoning districts (C8 and M1) do not allow new residential uses. This is typical of many New York City neighborhoods that developed before the adoption of the 1961 Zoning Resolution. Owners of residential properties in these zoning districts often have difficulties obtaining financing for improvements because their use does not conform to the Zoning Resolution.





Case study two: Model commercial corridor: Brooklyn:

Figure 33: Massing

The area is decidedly low rise and the C8 and M districts are underbuilt under current zoning densities by nearly 500,000 SF.





Case study two: Model commercial corridor: Brooklyn:

Figure 34: Hypothetical buildouts

Most sites within the C8 and M districts are underbuilt, with most built sites adding the equivalent of a floor or two depending on their building coverage.

ATLANTIC AVENUE

C8-1 and C8-2 Zoning Districts

	Lot Area	Average Nearest FAR	Amount Overbuilt	Hypothetical Build-Out	As Built Gross Sq.Ft.	Amount Underbuilt	Hypothetical New Housing Units
Residential Use	228,250	1.59	25,828.00	351,268	248,781	102,487	128
Other Use	373,010	1.42	73,623.00	337,533	270,362	67,171	408
TOTAL	601,260	1.33	100,351.00	1,013,793	520,073	493,720	536
Percentage Over/Under Built Out		51.0%					

Study Area
 Study Area

Zoning District
 Zoning District

Footprints
 Footprints

Massing
 Massing

Build-Outs
 Build-Outs

Land Use
 Residential
 Mixed Residential and Commercial
 Commercial and Office Buildings
 Industrial and Manufacturing
 Transportation and Utility
 Public Facilities and Institutions
 Parking Facilities
 Vacant Land
 Other

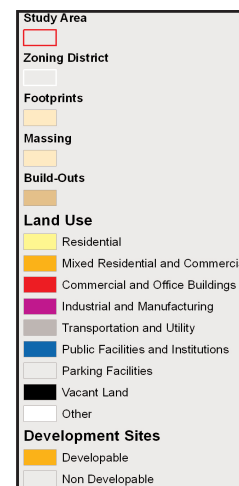
Development Sites
 Developable
 Non-Developable



Case study two: Model commercial corridor: Brooklyn:

Figure 35: Potential development sites with rezoning

The highlighted areas above show lots in the M and C8 zoning districts that do not have existing noncomplying residential uses. These are areas that would more likely be developed with housing should the zoning allow such development. Also highlighted are vacant sites within existing R districts that might also be developed under current zoning.



iv. Case study three: (Queens Blvd.)

Model commercial corridor: Queens:

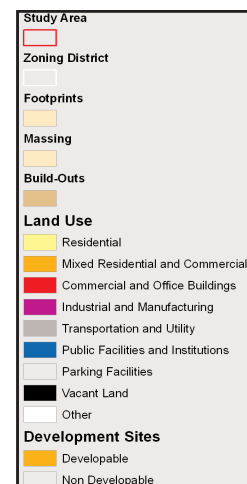
Some corridors are challenged by zoning districts that are radically different on either side of the street. This study area shows one of these places along Queens Blvd. In a space of four blocks, R5, C8 and M1 districts all face the wide street and everywhere in this study area the zoning on one side of the street is different from the zoning on the opposite side. Predictably, the existing uses are mixed, with commercial uses gravitating to sites that front the wide street.



Case study three: Model commercial corridor: Queens:

Figure 36: District boundary

The area contains eight irregularly shaped blocks facing a very wide street and is cut by a rail line in the southeast corner.

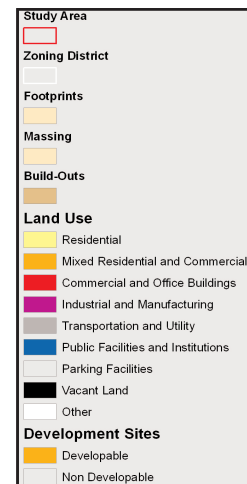


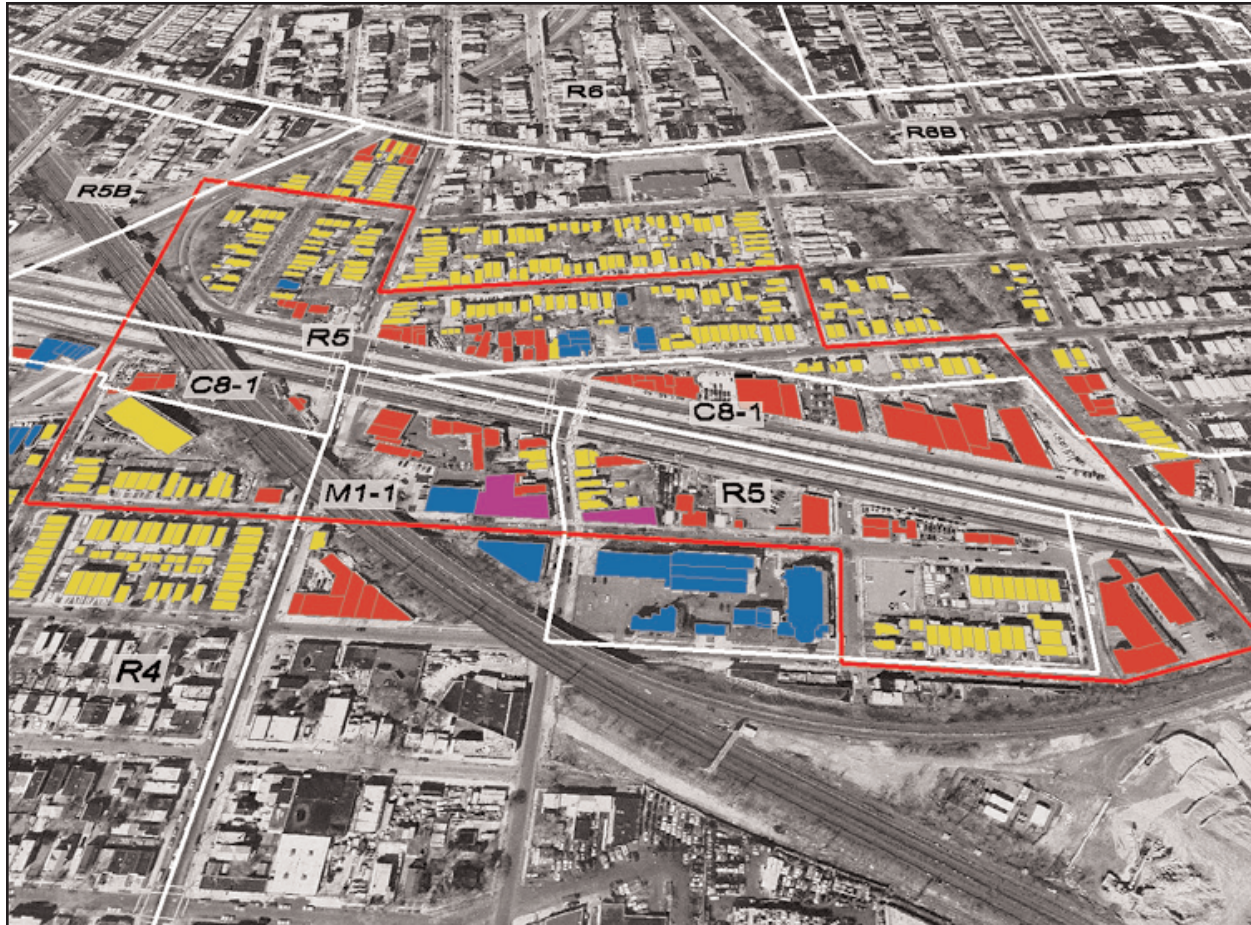


Case study three: Model commercial corridor: Queens:

Figure 37: Building footprints

Most nonresidential buildings have relatively low coverage with ancillary on-site surface parking.

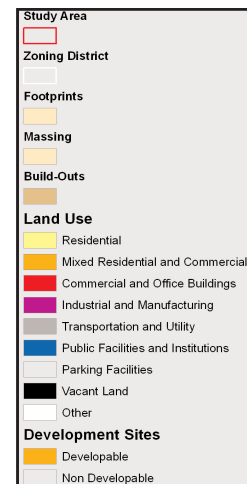




Case study three: Model commercial corridor: Queens:

Figure 38: Landuse

Despite three different zoning districts, the land use facing the wide street is predominantly commercial regardless of the actual district. Unlike the previous examples, the C8 district is exclusively commercial. In this study area the M zone contains a single manufacturing use while the rest of the zone is given to commercial, residential and institutional uses. The existing R zones contain a good deal of commercial uses facing the wide street.





Case study three: Model commercial corridor: Queens:

Figure 39: Massing

The area is low rise with a broken street wall.





Case study three: Model commercial corridor: Queens:

Figure 40: Hypothetical build-outs

The M and C districts in this study area are less than half the total study area. This means that the hypothetical build-out is relatively low. Even so, the C and M districts are underbuilt by nearly 50 percent with over 100,000 SF that could be hypothetically built. Much of this would go on vacant surface parking which would help restore the street wall on the north side of the wide street.

QUEENS BLVD.

M-1 and C-1 Zoning Districts

	Lot Area	Average Neighborhood FAR	Amount Overbuilt	Hypothetical Build-Out	As Built Gross S.F.	Current Zoning Underbuilt	Hypothetical New Housing Units
Residential Use	1,171	1.00		1,171	1,322	1,524	4
All Other	231,917	1.00	3,039.00	231,319	181,939	112,481	125
TOTAL	233,088	1.00	3,039.00	232,490	183,261	113,995	129

Percentage Overbuilt Out **51.8%**

Study Area
 [Red Outline] Study Area

Zoning District
 [Grey Box] Zoning District

Footprints
 [Yellow Box] Footprints

Massing
 [Orange Box] Massing

Build-Outs
 [Light Orange Box] Build-Outs

Land Use
 [Yellow Box] Residential
 [Orange Box] Mixed Residential and Commercial
 [Red Box] Commercial and Office Buildings
 [Purple Box] Industrial and Manufacturing
 [Grey Box] Transportation and Utility
 [Blue Box] Public Facilities and Institutions
 [Light Grey Box] Parking Facilities
 [Dark Grey Box] Vacant Land
 [White Box] Other

Development Sites
 [Yellow Box] Developable
 [Light Grey Box] Non-Developable



Case study three: Model commercial corridor: Queens:

Figure 41: Potential development sites with rezoning

The highlighted areas above show lots in the M and C8 zoning districts that do not have existing noncomplying residential uses. These are areas that would more likely be developed with housing should the zoning allow such development. Also highlighted are vacant sites within existing R districts that might be developed under current zoning.

