APPENDIX E

CONSTRUCTION

- *Noise Level Projections*
- *Receptor Areas*

Phase	Sub-Phase	Equipment	Usage Factor	L_{max} Level	L_{max} Level (with shielding as needed)	ACME				OFFICE			
						Quantity	Quantity/Usage-Adjusted L_{eq} Level	Overall Level at 50 feet	Notes	Quantity	Quantity/Usage-Adjusted L_{eq} Level	Overall Level at 50 feet	Notes
Demolition		Generator	0.5	82	82	1	79.0	87.0		2	82.0	89.6	
		Chipping Gun	0.2	73	73	15	77.8			15	77.8		
		Torches	0.4	73	73	3	73.8			3	73.8		
		Skid Steer	0.4	80	80	2	79.0			4	82.0		
		Excavator	0.4	85	85	2	84.0			4	87.0		
Foundation	**Rock Excavation / Impact Pile Driving**	Generator	0.5	82	82	1	79.0	94.0		2	82.0	94.4	
		Drill Rig	0.2	85	85	3	82.8			2	81.0		
		Rock Hammer or Impact Pile Driver	0.2	95	95	1	88.0			1	88.0		
		Air Compressor	0.4	80	80	1	76.0			1	76.0		
		Cherry Picker	0.16	85	85	1	77.0			1	77.0		
		Excavator	0.4	85	85	3	85.8			5	88.0		
		Rebar Bender	0.2	80	80	2	76.0			2	76.0		
		Concrete Truck	0.4	85	85	2	84.0			2	84.0		
		Concrete Pump	0.2	82	82	1	75.0			1	75.0		
		Chain Saw	0.2	85	85	3	82.8			3	82.8		
		Demo Saw	0.2	90	90	3	87.8			3	87.8		
	w/o Rock Drill or Pile Driving	Typical foundation construction will not require rock hammering or impact pile driving, but a rock hammer will be on standby in case of boulders and there may be some impact pile driving during dewatering. The aggregate use of both pieces would not be more than approximately 9 weeks.						92.7				93.3	
Superstructure		Crane	0.16	85	85	1	77.0	89.3		3	81.8	90.2	
		Generator	0.5	82	82	2	82.0			3	83.8		
		Stud Welder	0.4	73	73	1	69.0			1	69.0		
		Demo Saw / Grinder	0.2	90	90	3	87.8			3	87.8		
		Torches	0.4	73	73	3	73.8			3	73.8		
		Hoist	0.5	75	75	1	72.0			1	72.0		
Concrete		Rebar Bender	0.2	80	80	1	73.0	85.1		2	76.0	85.3	
		Concrete Trowel	0.5	67	67	6	71.8			12	74.8		
		Concrete Truck	0.4	85	85	2	84.0			2	84.0		
		Concrete Pump	0.2	82	82	1	75.0			1	75.0		
		Hoist	0.5	75	75	1	72.0			1	72.0		
Exterior and Interior		Mini Crane	0.16	85	85	1	77.0	78.5	Equipment operating within the building includes 25 dBA shielding for standard building attenuation.	2	80.1	80.9	Equipment operating within the building includes 25 dBA shielding for standard building attenuation.
		Hoist	0.5	75	75	1	72.0			1	72.0		
		Man Lift	0.2	85	60	15	64.8			25	67.0		
		Pipe Welder	0.4	73	48	4	50.0			2	47.0		
		Masonry/Tile Saw	0.2	90	65	2	61.0			2	61.0		

SUMMARY

Phase	Combined L_{eq} at 50 ft	
	Acme	Office
Demolition	87.0	89.6
Foundation	94.0	94.4
Foundation w/o Rock Drill or Impact Pile Driver	92.7	93.3
Superstructure	89.3	90.2
Concrete	85.1	85.3
Exterior and Interior	78.5	80.9

Receiver Number	Receiver Area	Survey Site	Increment Threshold	Existing Leq
1	Guernsey Street Residences	1	3	62
2	Dobbins Street Residences	1	3	62
3	North 13th Residence	4	3	62.2
4	Quay & Franklin Street Residences	2	3.5	61.5
5	Calyer Street Residences	2	3.5	61.5
6	Banker & Mesarole Street Residences	1	3	62
7	Meserole Ave & Dobbins Street Residences	1	3	62

Variables		Resulting Existing Leq
Recepor:	1	62.0
Demolition (Office)	89.582	
Distance (15 increment):	216.3	
Distance (20 increment):	120.3	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		Resulting Existing Leq
Recepor:	1	62.0
Rock Excavation / Impact Pile Driving (Office)	94.401	
Distance (15 increment):	376.7	
Distance (20 increment):	209.5	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		Resulting Existing Leq
Recepor:	1	62.0
Foundation w/o rock drills or pile driving (Office)	93.268	
Distance (15 increment):	330.6	
Distance (20 increment):	183.9	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		Resulting Existing Leq
Recepor:	4	61.5
Demolition (Office)	89.582	
Distance (15 increment):	229.11	
Distance (20 increment):	127.4	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		Resulting Existing Leq
Recepor:	4	61.5
Rock Excavation / Impact Pile Driving (Office)	94.401	
Distance (15 increment):	399	
Distance (20 increment):	221.9	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		Resulting Existing Leq
Recepor:	4	61.5
Foundation w/o rock drills (Office)	93.268	
Distance (15 increment):	350.2	
Distance (20 increment):	194.8	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		Resulting Existing Leq
Recepor:	6	62.0
Demolition (Office)	89.582	
Distance (15 increment):	216.3	
Distance (20 increment):	120.3	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		Resulting Existing Leq
Recepor:	6	62.0
Rock Excavation / Impact Pile Driving (Office)	94.401	
Distance (15 increment):	376.7	
Distance (20 increment):	209.5	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		Resulting Existing Leq
Recepor:	6	62.0
Foundation w/o rock drills (Office)	93.268	
Distance (15 increment):	330.6	
Distance (20 increment):	183.9	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		Resulting Existing Leq
Recepor:	6	62.0
Demolition (ACME)	87.0	
Distance (15 increment):	159.8	
Distance (20 increment):	88.9	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		Resulting Existing Leq
Recepor:	6	62.0
Rock Excavation / Impact Pile Driving (ACME)	94.0	
Distance (15 increment):	357.8	
Distance (20 increment):	199.0	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		Resulting Existing Leq
Recepor:	6	62.0
Foundation w/o rock drills (ACME)	92.7	
Distance (15 increment):	309.0	
Distance (20 increment):	171.9	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		Resulting Existing Leq
Recepor:	7	62.0
Demolition (Office)	89.582	
Distance (15 increment):	216.3	
Distance (20 increment):	120.3	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		Resulting Existing Leq
Recepor:	7	62.0
Rock Excavation / Impact Pile Driving (Office)	94.401	
Distance (15 increment):	376.7	
Distance (20 increment):	209.5	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		Resulting Existing Leq
Recepor:	7	62.0
Foundation w/o rock drills (Office)	93.268	
Distance (15 increment):	330.6	
Distance (20 increment):	183.9	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		Resulting Existing Leq
Recepor:	7	62.0
Demolition (ACME)	87.0	
Distance (15 increment):	159.8	
Distance (20 increment):	88.9	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		Resulting Existing Leq
Recepor:	7	62.0
Rock Excavation / Impact Pile Driving (ACME)	94.0	
Distance (15 increment):	357.8	
Distance (20 increment):	199.0	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		Resulting Existing Leq
Recepor:	7	62.0
Foundation w/o rock drills (ACME)	92.7	
Distance (15 increment):	309.0	
Distance (20 increment):	171.9	
15 Increment Check	15.00	
20 Increment Check	20.00	

Distance Attenuation Formula:
Leq50ft-20*log(newdistance/50)

Increment Formula:
10*log(10^(Leqexist/10)+10^(Leqconstr/10))-Leqexist

Increment Formula incorporating Distance Attenuation Formula
10*log(10^(Leqexist/10)+10^((Leq50ft-20*log(newdistance/50))/10))-Leqexist

Variables		*Resulting Existing Leq*
Recepor:	6	62.0
Demolition (ACME)	86.955	
Distance (15 increment):	159.8	
Distance (20 increment):	88.9	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		*Resulting Existing Leq*
Recepor:	6	62.0
Rock Excavation / Impact Pile Driving (ACME)	93.955	
Distance (15 increment):	357.8	
Distance (20 increment):	199.0	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		*Resulting Existing Leq*
Recepor:	6	62.0
Foundation w/o rock drills (ACME)	92.680	
Distance (15 increment):	309.0	
Distance (20 increment):	171.9	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		*Resulting Existing Leq*
Recepor:	6	62.0
Superstructure (ACME)	89.329	
Distance (15 increment):	210.1	
Distance (20 increment):	116.8	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		*Resulting Existing Leq*
Recepor:	6	62.0
Concrete (ACME)	85.058	
Distance (15 increment):	128.5	
Distance (20 increment):	71.5	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		*Resulting Existing Leq*
Recepor:	6	62.0
Exteriors+Interiors (ACME)	78.499	
Distance (15 increment):	60.4	
Distance (20 increment):	33.6	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		*Resulting Existing Leq*
Recepor:	6	62.0
Demolition (Office)	89.582	
Distance (15 increment):	216.3	
Distance (20 increment):	120.3	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		*Resulting Existing Leq*
Recepor:	6	62.0
Rock Excavation / Impact Pile Driving (Office)	94.401	
Distance (15 increment):	376.7	
Distance (20 increment):	209.5	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		*Resulting Existing Leq*
Recepor:	6	62.0
Foundation w/o rock drills (Office)	93.268	
Distance (15 increment):	330.6	
Distance (20 increment):	183.9	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		*Resulting Existing Leq*
Recepor:	6	62.0
Superstructure+Concrete (Office)	91.342	
Distance (15 increment):	264.9	
Distance (20 increment):	147.3	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		*Resulting Existing Leq*
Recepor:	6	62.0
Exteriors+Interiors (Office)	80.910	
Distance (15 increment):	79.7	
Distance (20 increment):	44.3	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		*Resulting Existing Leq*
Recepor:	7	62.0
Demolition (ACME)	86.955	
Distance (15 increment):	159.8	
Distance (20 increment):	88.9	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		*Resulting Existing Leq*
Recepor:	7	62.0
Rock Excavation / Impact Pile Driving (ACME)	93.955	
Distance (15 increment):	357.8	
Distance (20 increment):	199.0	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		*Resulting Existing Leq*
Recepor:	7	62.0
Foundation w/o rock drills (ACME)	92.680	
Distance (15 increment):	309.0	
Distance (20 increment):	171.9	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		*Resulting Existing Leq*
Recepor:	7	62.0
Superstructure (ACME)	89.329	
Distance (15 increment):	210.1	
Distance (20 increment):	116.8	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		*Resulting Existing Leq*
Recepor:	7	62.0
Concrete (ACME)	85.058	
Distance (15 increment):	128.5	
Distance (20 increment):	71.5	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		*Resulting Existing Leq*
Recepor:	7	62.0
Exteriors+Interiors (ACME)	78.499	
Distance (15 increment):	60.4	
Distance (20 increment):	33.6	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		*Resulting Existing Leq*
Recepor:	7	62.0
Demolition (Office)	89.582	
Distance (15 increment):	216.3	
Distance (20 increment):	120.3	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		*Resulting Existing Leq*
Recepor:	7	62.0
Rock Excavation / Impact Pile Driving (Office)	94.401	
Distance (15 increment):	376.7	
Distance (20 increment):	209.5	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		*Resulting Existing Leq*
Recepor:	7	62.0
Foundation w/o rock drills (Office)	93.268	
Distance (15 increment):	330.6	
Distance (20 increment):	183.9	
15 Increment Check	15.00	
20 Increment Check	20.00	

Variables		*Resulting Existing Leq*
Recepor:	7	62.0
Superstructure+Concrete (Office)	91.342	
Distance (15 increment):	264.9	
Distance (20 increment):	147.3	
15 Increment Check	15.00	
20 Increment Check	20.00	

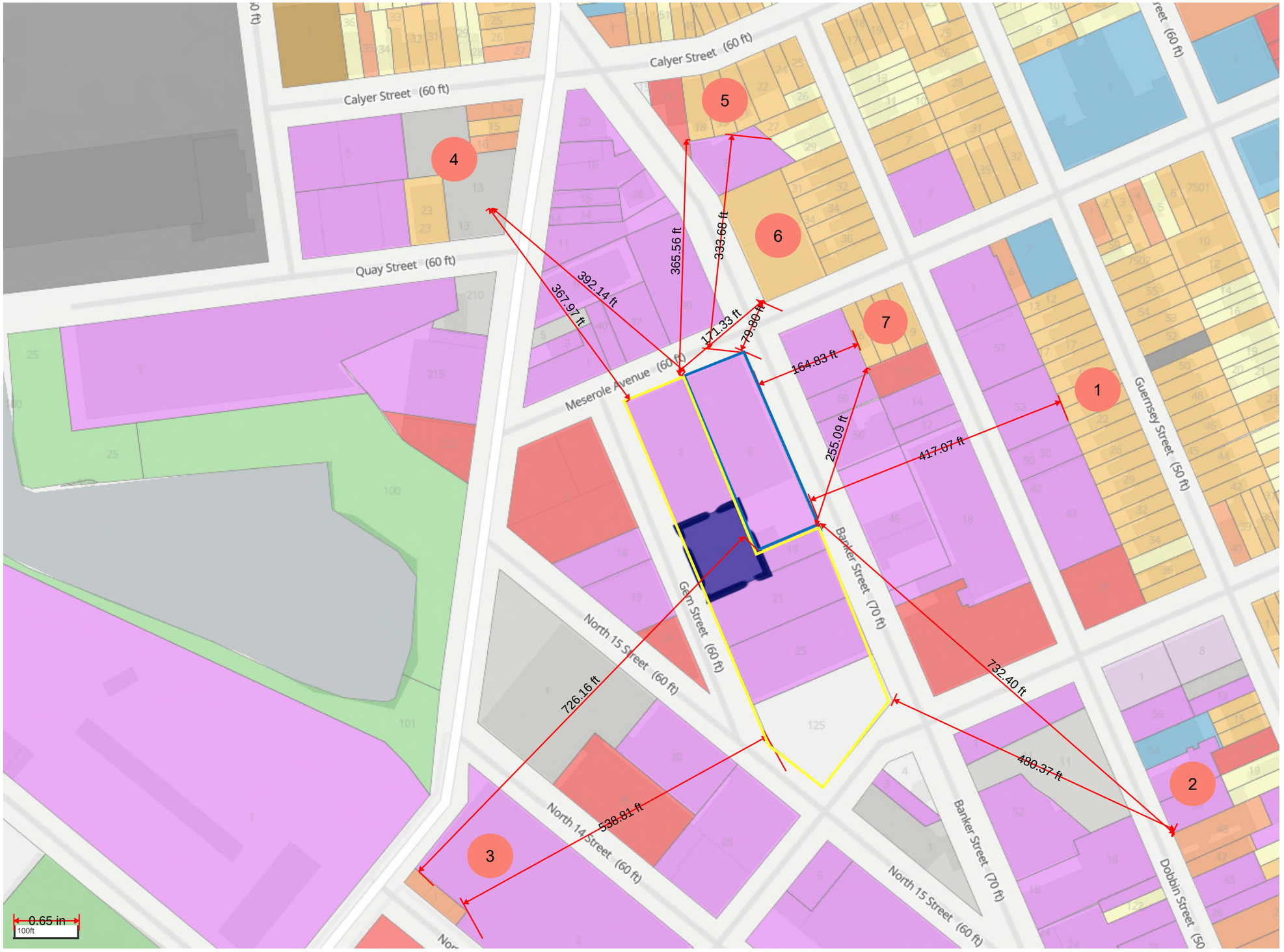
Variables		*Resulting Existing Leq*
Recepor:	7	62.0
Exteriors+Interiors (Office)	80.910	
Distance (15 increment):	79.7	
Distance (20 increment):	44.3	
15 Increment Check	15.00	
20 Increment Check	20.00	

Distance Attenuation Formula:
Leq50ft-20*log(newdistance/50)

Increment Formula:
10*log(10^(Leqexist/10)+10^(Leqconstr/10))-Leqexist

Increment Formula incorporating Distance Attenuation Formula
10*log(10^(Leqexist/10)+10^((Leq50ft-20*log(newdistance/50))/10))-Leqexist

		ACME								Office						
		Demo	Rock Excavation / Imact Pile Driving	Foundation	Superstructure	Concrete	Exteriors (w/ Interiors Overlap)	Interiors + Move-in	Total (Excluding Interiors / Move-In)	Demo	Rock Excavation / Impact Pile Driving	Foundation	Superstructure	Exteriors (w/ Interiors Overlap)	Interiors	Total (Excluding Interiors)
Receptor	Duration (months):	3	2.5	4	4	1	3	9	15	3	2.5	5	7	6	9	21
6	Obj Distance	160	358	309	210	128	60	60		216	377	331	265	80	80	
	V Obj Distance	89	199	172	117	71	34	34		120	210	184	147	44	44	
	% Site Obj	19%	100%	81%	42%	7%	0%	0%		3%	28%	21%	10%	0%	0%	
	% Site V Obj	0%	38%	25%	4%	0%	0%	0%		0%	2%	0%	0%	0%	0%	
	Duration Obj	0.6	2.5	1.5	1.7	0.1	0	0	6.4	0.1	0.7	1.1	0.7	0	0	2.6
	Duration V Obj	0	0.9	1.0	0.2	0	0	0	2.1	0	0.1	0	0	0	0	0.1
7	Obj Distance	160	358	309	210	128	60	60		216	377	331	265	80	80	
	V Obj Distance	89	199	172	117	71	34	34		120	210	184	147	44	44	
	% Site Obj	0%	100%	100%	27%	0%	0%	0%		0%	45%	22%	0%	0%	0%	
	% Site V Obj	0%	20%	2%	0%	0%	0%	0%		0%	0%	0%	0%	0%	0%	
	Duration Obj	0	2.5	1.5	1.1	0	0	0	5.1	0	1.1	1.1	0	0	0	2.2
	Duration V Obj	0	0.5	0.1	0	0	0	0	0.6	0	0	0	0	0	0	0



Zoning and Land Use

Tax Lots ☐

- One & Two Family Buildings
- Multi-Family Walk-Up Buildings
- Multi-Family Elevator Buildings
- Mixed Residential & Commercial Buildings
- Commercial & Office Buildings
- Industrial & Manufacturing
- Transportation & Utility
- Public Facilities & Institutions
- Open Space & Outdoor Recreation
- Parking Facilities
- Vacant Land
- Other

Basemaps

Subways

Building Footprints ☐