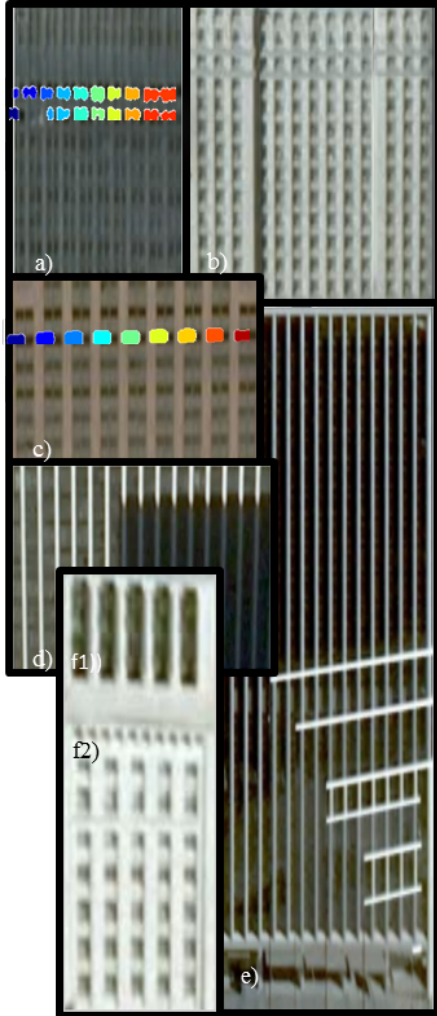# Proceduralization of Buildings at City Scale:
Supplementary Material

Ilke Demir
Computer Science
Purdue University
West Lafayette, IN, US
idemir@purdue.edu

Daniel G. Aliaga
Computer Science
Purdue University
West Lafayette, IN, US
aliaga@purdue.edu

Bedrich Benes
Computer Graphics Technology
Purdue University
West Lafayette, IN, US
bbenes@purdue.edu

Façade	Width	Height	X-Spc	Y-Spc	Empt	Inten
a)	7.81	11.74	1.6	2.55	0.74	76.2
b)	9.02	10.48	17.66	12.83	0.86	156
c)	24.83	16.13	13.5	9.66	0.87	95.43
d)	18.31	276.25	10.46	-	0.81	73.36
e)	21.57	286.42	13.33	-	0.89	62.60
f1)	13.36	16.45	35.75	44.66	0.76	188
f2)	28.60	135.40	42.5	-	0.95	188

Figure S1. **Feature Vector Robustness**. Features for (a-c) easy-to-determine windows, for (d-e) hard examples, and for (f1 and f2) facades with two window styles. For a and c we show some of the binarized pixels with a unique color per window.
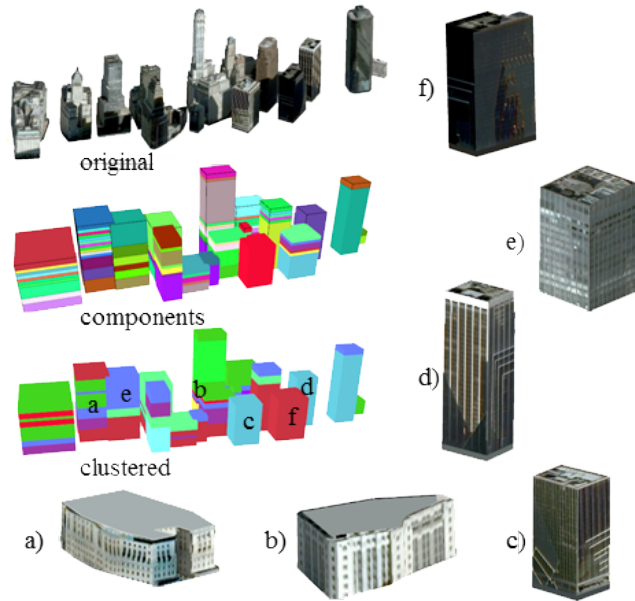

Figure S2. **Components**. We show the components for a subset of New York. On left side, from top to bottom: the original buildings, initial components, and a clustering of the components from the middle of the simplification tree (each component cluster is drawn as a color-coded bounding box of the contained geometry). a-b) and c-d) are two pairs of components from the same cluster (a and b are from the middle of building structures so we draw a gray plane over the top of it). e-f) is a pair of components from clearly dissimilar clusters.

REFERENCES

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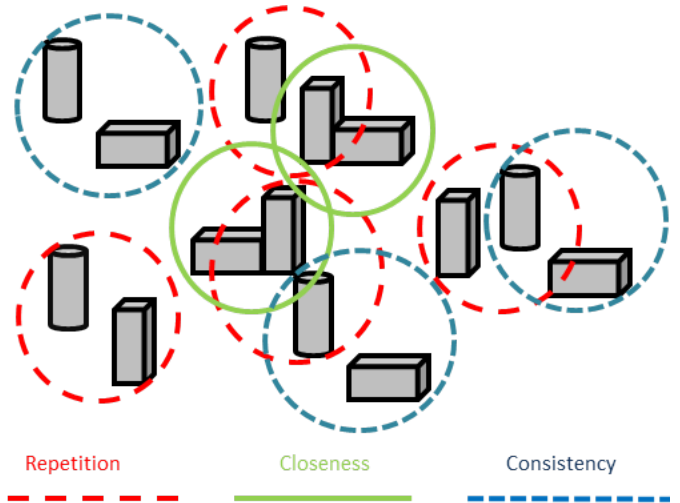
Figure S3. **Distance Metric.** We show the intuition behind the structural properties used by our clustering distance metric. Repeating components in red/long-dashes, closeby components in green/solid, and consistently-spaced components in blue/short-dashes.

	Mesh	Point Clouds	Automatic	3D	Unknown Grammar	Grammar Output	Hierarchical Rules	Editing	City Model	Compress
ZN10					NA			+	+	
ZXJ*13			+		NA			+		
ARB07				+		+		+		
NSZ*10		+		+	NA			+		
VAB10		+	+	+		+				
LWW08				+		+	+	+		
LM11		+	+	+	NA				+	
LGZ*13		+	+	+	NA				+	
KW11				+		+	+	+	+	
HKH*09		+	+	+		+			+	
TLL*10			+	+		+	+	+	+	
TMT10		+	+	+	+	+			+	
VGA*12	+		+	+		+		+	+	
BWS10	+	+	+	+	+	+		+		
DAB14	+	+	+	+	+	+	+	+	+	+

Table S1. **Comparison.** We compare our method characteristics (bottom) with previous work (other). Many (inverse and forward procedural) modeling approaches assume a grammar a priori, do not produce a procedural output, or have limited rules.