

نموذج مقترح للتحكم فى الكثافة البنائية
داخل المواقع السكنية

ملخص:

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GIS

(Microsoft Excel)

(TransCAD)

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GIS (TransCAD) -

GIS (TransCAD)

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[Lot R. No.]

[Lot R. A.] ()

[Str. W.] ()

()

[St. L.]

[St. A.] ()

[St. W.]

()

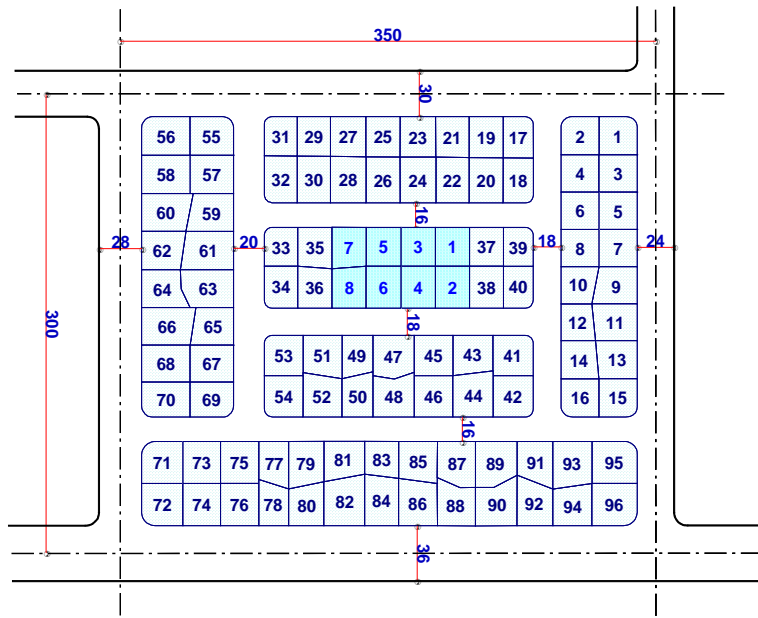
[Lot Srv. No.]

[Lot Srv. A.] ()

Microsoft Excel

Microsoft Excel

GIS (TransCAD)



()

:
GIS (TransCAD) :

(×) :

:

:

(TransCAD) ()

[Str. W.]	[Lot R. A.]	[Lot R. No.]
'	'	
'	'	
'	'	
'	'	

(TransCAD) ()

[St. A.]	[St. W.]	[St. L.]
'	'	'

(TransCAD) ()

[Lot Srv. A.]	[Lot Srv. No.]
'	
'	
'	
'	

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: Microsoft Excel (TransCAD)

()

[T. Lot R.A.]

[T. Lot R.A.] = \sum (row # 2 : row # 99)
()

()

[T. Lot R.A.] : [T. Lot Srv. A.]
[T. Lot Srv. A.] = \sum (row # 2 : row # 99)

(Excel) ()

[Str. W.]	[Lot R. A.]	[Lot R. No.]

(Excel) ()

[Lot Srv. A.]	[Lot Srv. No.]

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[Lot R. No.]

[Lot R. A.]

[T. Lot R. A.]

[T. Lot R. A.] = Σ (row # 2: row # 99)

[Str. W.]

[Bldg. H./Str. W]

: [Bldg. H.]

[Bldg. H.] = [Str. W.] × ([Bldg. H./Str. W.]

[Sto. No.1]

:

$$[\text{Sto. No.1}] = (([\text{Bldg. H.}] - 4) / 3) + 1$$

[Sto. No.2]

:

$$[\text{Sto. No.}] = \text{IF} (([\text{Sto. No.1}] - \text{INT}([\text{Sto. No.1}])) > 0.66, \text{INT}([\text{Sto. No.1}] + 1, \text{INT}([\text{Sto. No.1}])))$$

[Sto. No.3]

:

$$[\text{Sto. No.3}] = \text{IF} ([\text{Sto. No.2}] > 12, 12, [\text{Sto. No.2}])$$

% [Bldg. C]

% %

[G.F.A.]

:

$$[\text{G.F.A.}] = [\text{Lot R. A.}] \times [\text{Sto. No.3}] \times [\text{Bldg.C.}]$$

[T.G.F.A.]

:

$$[\text{T.G.F.A.}] = \Sigma ([\text{G.F.A.}] \text{ in row \# 2: } [\text{G.F.A.}] \text{ in row \# 99})$$

[Ft. A.]

[St. A.]

()

[T. Lot Srv. A. %]

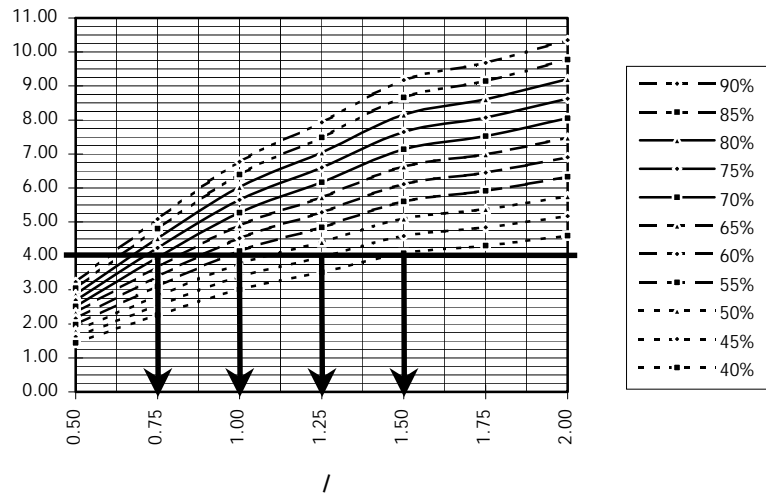
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$$[\text{T. Lot Srv. A. \%}] = [\text{T. Lot Srv. A.}] / [\text{St. A.}]$$

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.%



/ ()

.(% ,) (% ,) (% ,) (% ,) :

()

[Str. A.%]	[T. Lot Srv. A.%]	[Bldg. C]	/ [Bldg. H.\Str. W.]	[F.A.R.]
%	%	%	,	
%	%	%	,	
%	%	%	,	
%	%	%	,	

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4. Caliper corporation, TransCAD Manual: Version 3.01c, (1996).
5. Microsoft Corporation, Microsoft Excel Manual, (1997).
6. Mohamed, Esam Al-Din, "Urban Planning Laws and Building Regulations in Egypt: District Codes as an Approach to Improve the Quality of the Residential Environment", Ph.D. Dissertation, Faculty of Engineering, Assiut University, (1998).

A Proposed Model to Control Floor Area Ratio in the Residential Sites

Dr. Esam Al-Din M. A. Mohamed
Lecture of Urban Planning – Dept. of Arch.
Faculty of Engineering – Assiut University - Egypt

Abstract:

This paper supposes a proposed model to control Floor Area Ratio (F.A.R.) through controlling building height [Bldg. H.] and building coverage [Bldg. C.] in the residential sites. Floor Area Ratio is an important indicator for limiting population density and measuring the quality of residential environment. In Egypt, Building Arrangement Law No. 106 of 1976 and its ordinances include building height regulations, and Urban Planning Law No. 3, 1982 and its ordinances include building coverage regulations are considered to be the main factors which contribute to increases in Floor Area Ratio and subsequently increases in population densities. So, the author looking for how to find a relationship between Floor Area Ratio and building height and coverage. In this paper, the author proposes a model to assist decision makers, architects, and planners to control Floor Area Ratio through controlling building height and coverage. This model can be used to assist in the development of residential sites, especially in new settlements.