

# LAND USE DIVERSITY

NYC Department of City Planning Transportation Division

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- **MapPLUTO**

- BBL
- Census Tract 2010
- Shape Area
- Residential Area
- Office Area
- Retail Area
- Garage Area
- Storage Area
- Factory Area
- Other Area

Total Building Area



- Total Building Area  $\neq 0$
- Total Building Area / Shape Area  $\leq 40$ 
  - ↑  
Built FAR
  - ↑  
Max allowed FAR



$$LUDI_{CT} = -\left(\sum_{i=1}^n P_i \times \ln(P_i) \times WT_i\right) \div \ln\left(\sum_{i=1}^n WT_i\right)$$

Where,

$LUDI_{CT}$  = the Census Tract level Land Use Diversity Index with a range between 0 and 1; 0 represents homogenous land use, and 1 indicates the building area is equally distributed across all land use types

$P_i$  = the proportion of total building area of the  $i^{th}$  land use category found in the Census Tract being analyzed

$WT_i$  = the weight for the  $i^{th}$  land use category

$n$  = the number of land use categories of interest



$$LUDI_{NTA} = \left( \sum_{i=1}^n LUDI_{CT}^i \times BA_{CT}^i \right) \div \sum_{i=1}^n BA_{CT}^i$$

Where,

$LUDI_{NTA}$  = the Neighborhood Tabulation (NTA) level Land Use Diversity Index with a range between 0 and 1; 0 represents homogenous land use, and 1 indicates the building area is equally distributed across all land use types

$LUDI_{CT}^i$  = the Census Tract level Land Use Diversity Index in Census Tract  $i$

$BA_{CT}^i$  = the total building area in Census Tract  $i$

Residential Area — Residential Area × 1

Office Area  
Retail Area > Office & Retail Area × 1

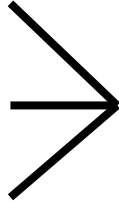
Garage Area  
Storage Area  
Factory Area  
Other Area > Other Area × 1



Residential Area — Residential Area × 1

Office Area — Office Area × 1

Retail Area — Retail Area × 1

Garage Area  
Storage Area  
Factory Area  Industrial Area × 1

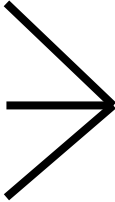
Other Area — Other Area × 1



Residential Area — Residential Area

Office Area — Office Area

Retail Area — Retail Area

Garage Area  
Storage Area  
Factory Area  Industrial Area

Other Area — Other Area





Residential Area — Residential Area  $\times 1$

Office Area — Office Area  $\times 1$

Retail Area — Retail Area  $\times 3$

Garage Area  
Storage Area  
Factory Area  $\Rightarrow$  Industrial Area  $\times 0.25$

Other Area — Other Area  $\times 1$