MEASURING EMPLOYMENT

HOW TO MEASURE EMPLOYMENT INTENSITY AND CAPACITY

Calculating the Employment Capacity of Nonresidential Land

Whether estimating the employment on a future site or estimating the land supply needed to accommodate a local employment forecast, two measures determine the relationship between land and employment outcome:

- The **space utilization per job**, particular to specific building types or industries, represents the typical square footage per job.
- The **floor area ratio** (or FAR) relates floor space with net land area.

What Are Typical Space Utilization Per Job Rates? How Do They Vary?

Existing employment at a specific site can be known with certainty. But often, when communities are planning future land use, it's hard to know how many jobs a site can support. Industry averages serve as a starting point. We recommend U.S. Energy Information Administration's (EIA) survey of commercial buildings for identifying space utilization averages for specific building types or industries: http://www.eia.gov/consumption/commercial/data/2012/bc/cfm/b2.cfm

The space utilization rates range from 556 square feet per job at the low end (medical clinics) to 2,500 square feet per job at the high end (hotels).

Often, planners starting from a development proposal need to estimate expected employment. This involves dividing building floor space by the space utilization rates. For example, a 600,000 square-foot office campus (divide by the appropriate rate= 600 square feet per office job) is estimated to have about 1,000 jobs. A 600,000 square-foot warehouse (appropriate rate= 1,500 square feet for warehouse jobs) is estimated to have 400 jobs.

Floor Area Ratios

Planners also need to consider the floor area ratio (or FAR) which relates floor space with land area. The ratios vary partly by real estate type – for example, office tower development is more compact and intensive, and thus consumes less land, than industrial development. Still greater variation comes from the specifics of site design, location context, and urban form. Planners need to consider what is appropriate and economical in a local area.

What Are Typical Fars In the Region? How Do They Vary?

Metropolitan Council staff have analyzed data from Xceligent, a commercial real estate data provider. The data show that FARs, comparing floor space with net land area, are highly variable in the Twin Cities metro area.

FAR by Business Type

	20th Percentile	50th Percentile	80th Percentile
Industrial	0.19	0.32	0.46
Retail/Commercial	0.17	0.28	0.69
Office	0.25	0.64	4.35

Source: Metropolitan Council analysis of Xceligent data

The FARs above represent sites that are fully developed. Underutilized sites and partially developed sites, where land is banked for future uses, are likely to have much lower FARs. For all of these real estate types, FARs tend to be higher -- and employment-bearing uses more compact and intensive -- in urban core areas and areas with higher land values. High-rise office towers in central business districts are the most intensive form and have the highest FARs.

Finally, the FARs above describe what exists today. In newly developing areas, planners should consider the future community form and spatial relationships – not just FARs of what exists now.

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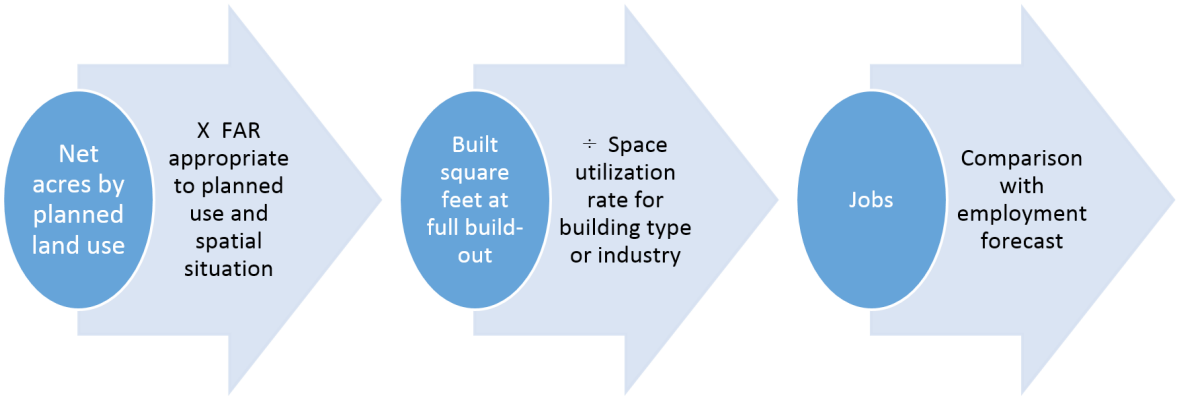
Applying Fars And Space Utilization Rates

Understanding land consumption is necessary to evaluate the consistency between an employment forecast and a land use plan. Consider again the 600,000 square foot office campus with 1,000 jobs:

- If such a development is planned as a low-intensity site, perhaps surrounded by surface parking, with a low FAR of 0.25, the land requirement calculates to 2.4 million square feet of land = 56 acres.
- Alternately, if the building is multi-story and in a central business district, with a high FAR of 4.35, the land requirement calculates to 138,000 square feet of land = 3.2 acres.



How Do I Know If My Plan Has Enough Land Guided to Meet Employment Forecasts?

EXAMPLE

A developing suburban city has a 250 gross acres area guided for office and retail development. Once platted, the city expects 200 net acres – half office and half retail – all of it suitable for use and proximate to major arterials.

Metropolitan Council's employment forecast for the same city is 3,000 added jobs by 2040. Are the plan and the forecast consistent with one another?

SITE YIELD

In our example, commercial space in the developing suburban city has had a very low FAR, but the city plans for new development to fit with a city-center concept, with future FAR of 0.28. Assuming full build out, this level of intensity could yield:

200 acres X 0.28 FAR = 56 acres ⟶ 2.4 million square feet
= 1.2 million square feet of office and 1.2 million square feet of retail

EMPLOYMENT

Using the space utilization rates from U.S. EIA, the combined office and retail sites will have an employment capacity of 3,300 jobs:

(1.2 million s.f. office)/(600 s.f. per job) + (1.2 million s.f. retail)/(920 s.f. per job)
= 2,000 office jobs +1,300 retail jobs

CONCLUSION

250 gross acres guided for office and retail development is sufficient to reach and exceed an employment forecast of 3,000 added jobs, but with a number of caveats:

- Reaching the employment forecast in this case requires full build-out, over 90% market absorption of the built space, and a FAR that is high compared to local history.
- Reaching the employment forecast in this case also assumes half the development is an office campus, which has a more intensive space utilization. If instead, the land is developed as all commercial or industrial, with less intense employment outcomes, then the forecast is not attainable with this amount of land supply.
- These considerations could prompt the city to consider additional land guidance in its 2040 plan update or to request an appropriate employment forecast reduction.

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