

<b>CITY &amp; COUNTY OF DENVER</b> <b>COMMUNITY PLANNING &amp; DEVELOPMENT</b> <b>BUILDING PERMIT POLICY</b>		
<b>Subject: BUSINESS OFFICE OCCUPANT LOAD DETERMINATION ALTERNATIVE</b>		
<b>Approved: Scott V. Prisco, AIA - Building Official</b>		<b>Drafted by: Browning</b>
<b>Number: IBC 1004.5</b>	<b>Publication Date: 4/1/2020</b> <b>Revision Date: 4/1/2020</b>	<b>Pages: 3</b>

**REFERENCE:** 2018 IBC Section 1004.5

**GENERAL:**

Provide a clearly defined methodology for calculating occupant load in business office occupancies by recognizing historic and current trends in office configurations including non-simultaneity of occupancy in shared spaces.

**SCOPE:**

IBC Section 1004 provides general direction for establishing occupant loads based primarily on occupant load factors. It incorporates language for determination of occupant load with consideration for accumulation of occupant load, multiple function areas, areas with and without fixed seating, concentrated business use areas, etc. Section 1004.3 specifies that when an area under consideration contains multiple functions having different occupant load factors, the design occupant load for such area shall be based on the floor area of each function calculated independently.

Most business office occupancies contain some portion of shared assembly space (meeting rooms, break rooms, lounges, etc.) that facilitate the overall office function. Applying higher density occupant load factors to all these areas may result in an overly conservative design of the means of egress systems (e.g. wider stairs) or alternative configurations to a tenant space that are undesirable (e.g. horizontal exits). The exception to IBC Section 1004.5, as amended by the City, allows the design occupant load to be less than determined by calculation where approved by the building official and fire code official, and this policy clarifies how this exception applies to business office occupancies.

**DEFINITIONS:**

For the purpose of this policy, the following terms shall have the meanings as defined.

*OLF* – Occupant load factor from IBC Table 1004.5, as amended in the 2019 Denver Building and Fire Code.

*Primary Business Function OLF* – the *OLF* for the majority of the tenant space (typically 100 ft<sup>2</sup> / occupant).

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**POLICY:**

Within business office occupancies, means of egress requirements may be determined based on Items 1 and 2 below.

1. For means of egress directly from a room, area or space, the *OLF* appropriate for the function of the room, area or space shall be used (e.g. *OLF*'s of 100 for business, 50 for concentrated business, 20 for training, and 15 or 7 for assembly).
2. For means of egress from an office suite or story, the combined occupant loads from all rooms, areas or spaces, as determined by Item 1 above, shall be used, except as permitted by Items A and B below.
  - A. Rooms, areas or spaces with an assembly function and with a net floor area of 150 ft<sup>2</sup> or less may use an *OLF* equal to that of the *primary business function OLF*.
  - B. For a maximum 7% of the net floor area of an office suite or story: rooms, areas or spaces with an assembly function and with a net floor area greater than 150 ft<sup>2</sup> but less than 750 ft<sup>2</sup> may use an *OLF* equal to that of the *primary business function OLF*.

(The 7% need not include those areas within A, above. All rooms, areas or spaces with an assembly function and with a net floor area greater than 150 ft<sup>2</sup> but less than 750 ft<sup>2</sup> that exceed 7% of the net floor area of the tenant space or floor plate shall use an *OLF* for the assembly function.)

Note: All rooms, areas, or spaces with an assembly function with a net floor area greater than or equal to 750 ft<sup>2</sup> shall use an *OLF* for the assembly function.

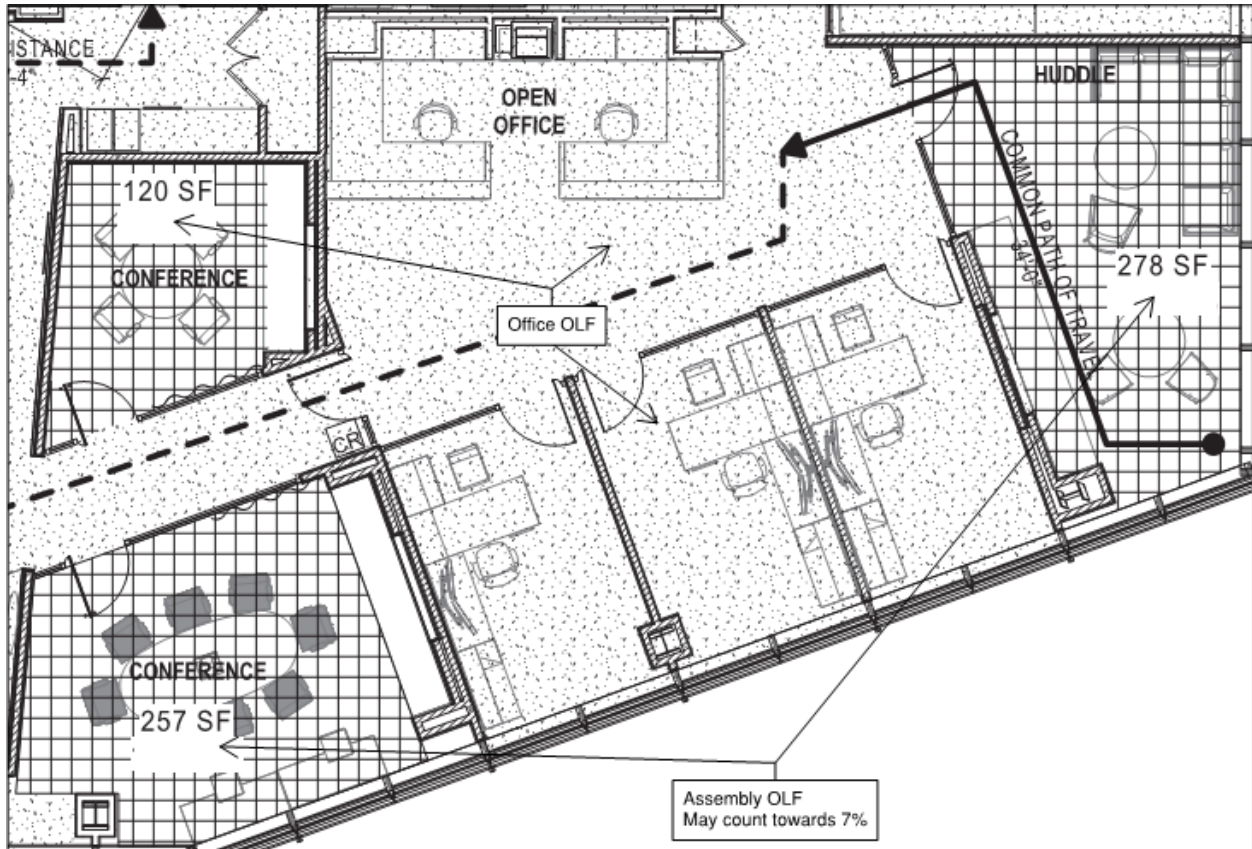
See Figure 1 on Page 3 for a general example of *OLF* designations.

For a partial floor tenant, code compliant means of egress for the entire floor plate shall be justified by including the actual occupant load of all other suites on the floor. (This requirement only applies if the occupant load within the suite is increasing. It does not apply if the occupant load is the same or decreasing.)

Calculation of the quantity of required plumbing fixtures is permitted to be based on the occupant load as determined by Item 2 in this policy.

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**FIGURE:**



*Figure 1 - Sample Use, Area, and Occupant Load Factors within an Office Suite*

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