

506.2 Frontage increase. The initial requirement of the code, insofar as a frontage increase is concerned, is that it adjoin or have access to a public way. Thus, the structure could extend completely between side lot lines and to the rear lot line, and be provided with access from only the front of the building, and still potentially be eligible for a small frontage increase. Therefore, it follows that if a building is provided with frontage consisting of public ways and/or open space for an increased portion of the perimeter of the building, some benefit should accrue based on better access for the fire department. Also, if the yards or public ways are wide enough, there will be a benefit that is due to the decreased exposure from adjoining properties.

Because of the beneficial aspects of open space adjacent to a building, the IBC permits increases in the tabular areas established from Table 503 based on the amount of open perimeter and width of the open space and public ways surrounding the building. For any open space to be effective for use by the fire department, it is mandated that it be accessed from a public way or a fire lane so that the fire department will have access to that portion of the perimeter of the building that is adjacent to open space. See Figure 506-1.

Open space and public ways—what can and can't be used. In addition to allowances for public ways, the IBC uses the term *open space* where related to frontage increases in the determination of allowable floor areas. Although the term *open space* is not specifically defined in the IBC, the definition of a *yard* is an open space unobstructed from the ground to the sky that is located on the lot on which the building is situated. It is logical that this definition is consistent with the intended description of open space. This definition seems to preclude the storage of pallets, lumber, manufactured goods, home improvement materials, or any other objects that similarly obstruct the open space. However, it would seem reasonable to permit automobile parking, low-profile landscaping, fire hydrants, light standards, and similar features to occupy the open space. These types of obstructions can be found within the public way, so their allowance within the open space provides for consistency. Because a yard must be unobstructed from the ground to the sky, open space widths should be measured from the edge of roof overhangs or other projections, as shown in Figure 506-2.

Regarding the use of public ways for providing frontage increases, the width of public way that should be used for determining area increases seems to cause confusion. Should the full width of the public way or only the distance to the centerline be used? The confusion evolves from the definition of fire separation distance as established in Chapter 2, which states that fire separation distance is measured from the building face to the centerline of a street, alley, or public way. However, the requirement to use the centerline is limited to fire separation distance and is not applicable to Section 506.2. For determining frontage increases for open space, the full width of the public way may be used by buildings located on both sides of the public way.

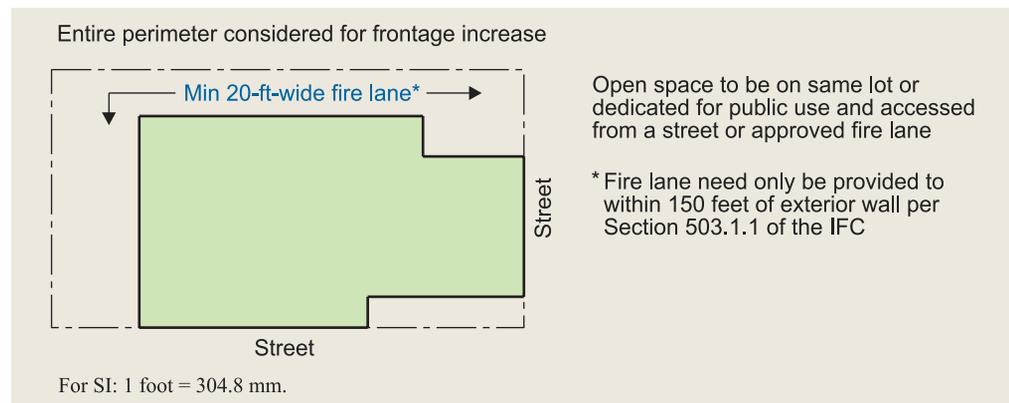


Figure 506-1
Open space
access.

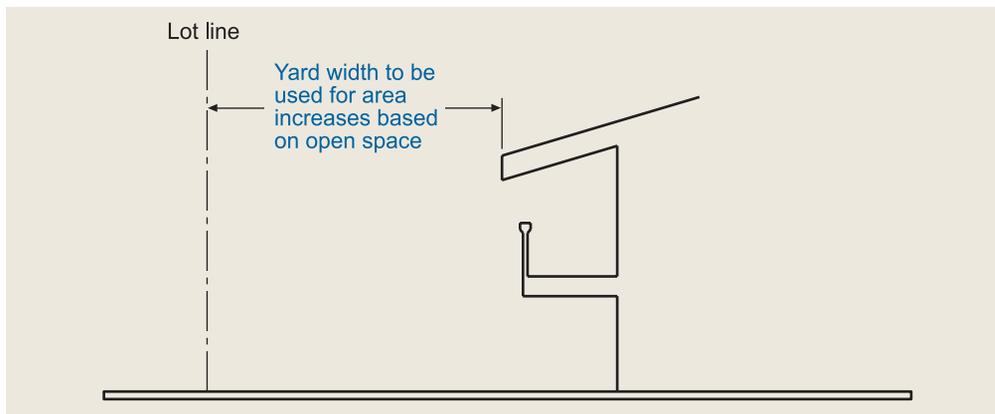
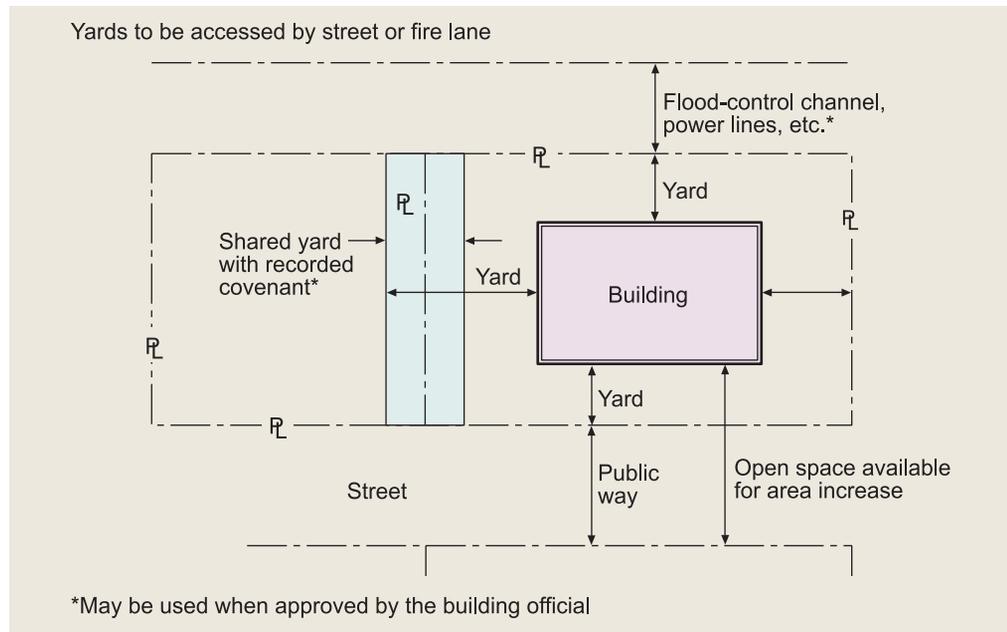


Figure 506-2
Measurement
of open space.

The following type of question is also sometimes asked: “Why can’t I use the big open field next door for area increases?” Section 506.2.2 specifically mandates that open space used for a frontage increase must be on the same lot as the building under consideration, or alternatively, dedicated for public use. There is a good reason for this limitation, insofar as the owner of one parcel lacks control over a parcel owned by another and, thus, the open space can disappear when the owner of “the big open field” decides to build on it. One method by which some jurisdictions have allowed such large open spaces to be used is by accepting joint use of shared yards. It is typically necessary that a recorded restrictive covenant be executed to ensure that the shared space will remain open and unoccupied as long as it is required by the code. The creation of a no-build zone does not seem unreasonable insofar as the aim is to maintain open spaces between buildings. Any covenant should be reviewed by legal counsel to be sure it will accomplish what is intended. In addition, it should clearly describe the reason and applicable code section so that any future revisions or deletions may be considered if the owners wish to terminate such an agreement. In such an event, each building should be brought into current code compliance, or the agreement would be required to remain in effect.

Whereas use of a public way as open space is permitted by the IBC, other publicly owned property is generally not, because the building official usually has no control over the long-range use of publicly owned property, and there is little assurance that such property will be available as open space for the life of the building. Remember that what is today’s publicly owned open parking lot could become tomorrow’s new city hall, and the open space used to justify area increases would no longer exist. Whereas Section 506.2.2 allows publicly owned property to be considered open space, the intent is such that the property be permanently dedicated for public use and maintained as unobstructed. The term *public way* was used in place of streets because its definition allows the use of a broader range of publicly owned open space while still allowing the building official some discretion as to the acceptability of a particular parcel. *Public way* usually conjures up visions of streets and alleys, but how about other open spaces such as power line right-of-ways, flood-control channels, or railroad rights-of-way? Many such open spaces are generally acceptable, provided there is a good probability that they will remain as open space during the life of the building for which they will serve. Power lines and flood-control channels are usually good bets for longevity, but railroad routes are often abandoned and, therefore, may not be as good a bet. There is also an expectation that the public way is maintained in an unobstructed condition to allow for fire department access, which potentially would disallow the use of waterways and similar features. If the public way does not provide for fire department access, its use for a frontage increase is prohibited. It should be noted that the definition for public way requires any such public parcel of land, other than a street or alley, to lead to a street. Figure 506-3 provides a visual summary of open space and public ways that could be used for open-space area increases.

Figure 506-3
Yards and
public ways
available for
area increases.



How much increase? In the case where public ways or open space adjoin more than 25 percent of the building's perimeter, the code permits an increase in the building area per story as shown in Table 503. The amount of the increase is based on the percentage of open perimeter having a width of at least 20 feet (6,096 mm). By utilizing the formula shown below, the area increase that is due to frontage (I_f) can be determined by Equation 5-2:

$$I_f = [F/P - 0.25]W/30$$

WHERE:

I_f = Area increase due to frontage (percent)

F = Building perimeter that fronts on a public way or open space having 20-foot-minimum (6,096 mm) open width

P = Perimeter of entire building

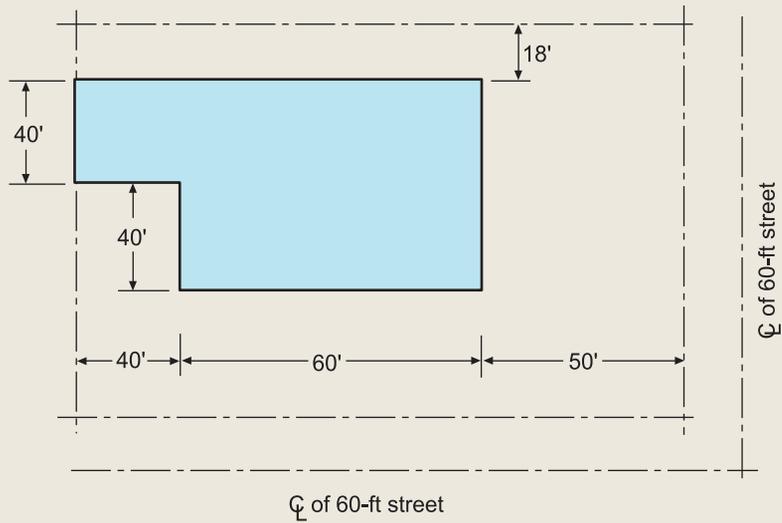
W = Width of public way or open space in accordance with Section 506.2.1

Based on this method of calculation, the maximum area increase permitted will typically be 75 percent, as shown in Application Example 506-2. This is based on the general requirement of Section 506.2.1 that requires a value of 30 feet (9,144 mm) to be used for the value W in those cases where W exceeds 30 feet (9,144 mm). As this figure illustrates, the entire perimeter of the building must adjoin a public way or open space having a width of at least 30 feet (9,144 mm). Where less than the entire perimeter has adequate open area, the area increase for frontage will be reduced as illustrated in Application Example 506-3.

Where the open space at the building's perimeter is between 20 feet (6,096 mm) and 30 feet (9,144 mm) in width, the code permits the use of the weighted average of such width in relation to the entire perimeter. This approach allows for the width W in Equation 5-2 to be more representative of the availability of open space around the building, rather than basing the frontage increase on simply the smallest open space of 20 feet (6,096 mm) or more.

**Application
Example
506-3**

GIVEN: Yards as shown, two 60-ft streets
DETERMINE: Percentage frontage increase



For SI: 1 foot = 304.8 mm.

$$\begin{aligned}
 I_f &= \left[\frac{F}{P} - 0.25 \right] \frac{W}{30} \\
 F &= 220 \text{ ft} \\
 P &= 360 \text{ ft} \\
 W &= 40 \text{ ft} \\
 &= \left[\frac{220}{360} - 0.25 \right] \frac{40}{30} \\
 &= [0.61 - 0.25] \frac{30^*}{30} \\
 &= [0.36] 1.00 \\
 I_f &= 0.36
 \end{aligned}$$

*W not to exceed 30 feet

FRONTAGE INCREASE