

Designation: E1661 - 95a (Reapproved 2012)

An American National Standard

Standard Classification for Serviceability of an Office Facility for Meetings and Group Effectiveness^{1,2}

This standard is issued under the fixed designation E1661; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

- 1.1 This classification covers pairs of scales for classifying an aspect of the serviceability of an office facility, that is, the capability of an office facility to meet certain possible requirements to enable work groups or project groups to function effectively and productively.
- 1.2 Within that aspect of serviceability, each pair of scales, shown in Figs. 1-4, are for classifying one topic of serviceability. Each paragraph in an Occupant Requirement Scale (see Figs. 1-4) summarizes one level of serviceability on that topic, which occupants might require. The matching entry in the Facility Rating Scale (see Figs. 1-4) is a translation of the requirement into a description of certain features of a facility which, taken in combination, indicate that the facility is likely to meet that level of required serviceability.
- 1.3 The entries in the Facility Rating Scale (see Figs. 1-4) are indicative and not comprehensive. They are for quick scanning to estimate approximately, quickly, and economically, how well an office facility is likely to meet the needs of one or another type of occupant group over time. The entries are not for measuring, knowing, or evaluating how an office facility is performing.lards.iteh.ai/catalog/standards/sist/910df41c
- 1.4 This classification can be used to estimate the level of serviceability of an existing facility. It can also be used to estimate the serviceability of a facility that has been planned but not yet built, such as one for which single-line drawings and outline specifications have been prepared.
- 1.5 This classification indicates what would cause a facility to be rated at a certain level of serviceability but does not state how to conduct a serviceability rating nor how to assign a serviceability score. That information is found in Practice

and compatible with Practice E1334. Each requires the other.

E1334. The scales in this classification are complimentary to

2. Referenced Documents

2.1 ASTM Standards:³

E631 Terminology of Building Constructions

E1334 Practice for Rating the Serviceability of a Building or Building-Related Facility (Withdrawn 2013)⁴

E1679 Practice for Setting the Requirements for the Serviceability of a Building or Building-Related Facility, and for Determining What Serviceability is Provided or Proposed 2.2 ISO Document:⁵

ISO 6240 International Standard, Performance Standards in Building—Contents and Presentation

3. Terminology

- 3.1 Definitions:
- 3.1.1 facility—a physical setting used to serve a specific purpose.
- 3.1.1.1 Discussion—A facility may be within a building, a whole building, or a building with its site and surrounding environment; or it may be a construction that is not a building. The term encompasses both the physical object and its use.
- 3.1.2 facility serviceability—the capability of a facility to perform the function(s) for which it is designed, used, or required to be used. E631
- 3.1.2.1 *Discussion*—The scope of this performance is of the facility as a system, including its subsystems, components and materials and their interactions, such as acoustical, hydrothermal, air purity, and economic; and of the relative importance of each performance requirement.
- 3.1.3 office—a place, such as a room, suite, or building, in which business, clerical or professional activities are conducted. E631

¹ This classification is under the jurisdiction of ASTM Committee E06 on Performance of Buildings and is the direct responsibility of Subcommittee E06.25 on Whole Buildings and Facilities.

Current edition approved April 1, 2012. Published May 2012. Originally approved in 1995. Last previous edition approved in 2005 as E1661 - 95a (2005). DOI: 10.1520/E1661-95AR12.

² Portions of this document are based on material originally prepared by the International Centre for Facilities (ICF) and © 1993 by ICF and Minister of Public Works and Government Services Canada. Their cooperation in the development of this standard is acknowledged.

³ For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For Annual Book of ASTM Standards volume information, refer to the standard's Document Summary page on the ASTM website.

⁴ The last approved version of this historical standard is referenced on www.astm.org.

⁵ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, http://www.ansi.org.

Scale A.2.1. Meeting and conference rooms

Occupant Requirement Scale

9 O QUANTITY AND SIZE OF

- **ROOMS:** Operations require many types and sizes of meetings, including conferences of about 25 plus observers.
 - O **LOCATION IN OFFICE:** On large floors, the meeting rooms need to be distributed throughout the office, and only a few of the largest rooms may be in a group at one location.
 - O FREQUENCY OF MEETINGS:
 Many meetings last for several hours
 and some all day. The frequency of
 meetings requires that many meeting
 rooms be used almost continuously
 by successive groups. Meetings often
 involve visitors from other
 organizations.
 - O PRIVACY AND FREEDOM FROM DISTRACTION: The nature of the work sometimes requires complete privacy, and much meeting work requires extended periods of concentration.
 - O AUDIO VISUAL AIDS: Audiovisual presentations are used extensively, e.g. video, overhead transparency, 35 mm slides, and display of computer information on large monitor or projection display, connected to local area network.
- 7 O QUANTITY AND SIZE OF
 - **ROOMS:** Operations require several types and sizes of meetings, including conferences of about 20 plus a few observers.
 - O **LOCATION IN OFFICE:** Meeting rooms may be grouped together at one location on a floor.
 - O FREQUENCY OF MEETINGS:
 Some meetings last for several hours
 or all day, but most are 2 hours or
 less. The frequency of meetings
 requires that some rooms be used
 almost continuously by successive
 groups. Meetings often involve
 visitors from other organizations.

 (continued)

Facility Rating Scale

- O Mix, quantity: Sufficient meeting rooms and conference rooms exist with full mix of size/type, including a large conference room with audience
 - O <u>Floorplate and access</u>: There is sufficient space to add or enlarge a conference room, with direct, controlled entry from public access zone. No wayfinding difficulties for visitors to any meeting or conference rooms
 - O <u>Acoustic control</u>: Excellent, e.g. raised voices or amplified sounds are not heard in adjacent spaces, and sounds from adjacent spaces are never distracting. It is easy to understand soft-spoken speech from across the room, and no echo or reverberation from loud or abrupt sounds.
 - O Environment: Excellent, e.g. ventilation rates (current ASHRAE Standards 62 and 55) and volume of air entering the space are maintained at all times that the rooms are in use (see introductory pages to this Aspect A2). Rooms are comfortable for full-day use. Local control of lighting, ventilation and temperature exists in all meeting rooms, including temporary flushing with 100% outside air. Separate illumination for wall-wash, for presentation at end of the room, and for work surfaces, all under instructor control. Meeting and conference rooms can be located at the outside or atrium, so all can have windows.
 - O <u>Fixtures and fixed equipment</u>: There is provision for full audiovisual presentations, e.g. screens and sound system. The present high-quality standards for meeting rooms are achievable in any location on the floor, including monitor or projected displays generated by a portable computer (which can be connected to a local area network). Ceiling height at screen end of room is at least 2.7 m in rooms with a long dimension of up to 4.5 m and a capacity of 10 people or less. Ceiling height at screen end of room is at least 3 m in larger rooms.
- 7 O Mix, quantity: Meeting rooms exist with a good range of sizes, e.g. small, medium, large, and one medium size conference room. One large conference room with space for audience now exists, or capable of installing one easily.
 - O <u>Floorplate and access</u>: Capability for large conference room with audience, adjacent to public access zone, or one exists. No wayfinding difficulties for visitors.
 - O Acoustic control: Good, e.g. raised voices or amplified sounds are not understood in adjacent spaces, and sounds from adjacent spaces are rarely distracting. Soft-spoken speech from across the room can be understood. Only slight echo or reverberation from loud or abrupt sounds; or, only slight muffling of speech and loud sounds.

 O Environment: Good, e.g. ventilation rates (current ASHRAE Standards 62 and 55) per person make the rooms comfortable for full-day use. If variable air volume boxes are used, volume never falls below required ventilation rates. Capability exists for added ventilation. There is a local thermostat, under occupant control, of ventilation and temperature. Local control of lighting exists in all meeting rooms. Meeting and conference rooms can be located at the outside or atrium with some difficulty.

(continued)

Scale A.2.1. continued on next page

FIG. 1 Scale A.2.1 for Meeting and Conference Rooms

Scale A.2.1. Meeting and conference rooms (continued)

Occupant Requirement Scale Facility Rating Scale 7 (continued) 7 (continued) O PRIVACY AND FREEDOM FROM O Fixtures and fixed equipment: There is provision for full **DISTRACTION:** The work requires audio-visual presentations, and for using portable computer good concentration, and above average with large display monitor and connection to local area privacy and freedom from distraction. network. Ceiling height at screen end of room is at least 2.7 O AUDIO VISUAL AIDS: Frequent m in rooms with a long dimension of up to 4.5 m and a audio-visual presentations, e.g. video, capacity of 10 people or less. Ceiling height at screen end of overhead transparency, 35 mm slides, room is at least 3 m in larger rooms. use of portable or notebook computer connected to local area network, with large monitor display. O Mix, quantity: Present and potential meeting room sizes 5 **O QUANTITY AND SIZE OF** 5 are mainly small or medium. There are barely enough **ROOMS:** Operations require meetings meeting rooms. No medium or large conference rooms of a few types and sizes that can be exist, but have space and capability in existing open plan accommodated by two or three room area for meetings of 25 plus an audience. sizes. Large meetings can be held in O Floorplate and access: Floorplate permits large conference open areas or in leased or borrowed room with audience. It is difficult to place meeting rooms accommodation, but may justify the near reception from the public access zone. Some addition of a conference room in the wayfinding difficulties for visitors. future. O Acoustic control: Only raised voices or amplified sounds LOCATION IN OFFICE: Meeting are understood in adjacent spaces. Sounds from adjacent rooms may be grouped together and spaces are occasionally distracting; difficult and costly to fix. the location is not critical. Easy to understand normal speaking voice across the room. O FREQUENCY OF MEETINGS: Soft-spoken speech is sometimes hard to understand, or Meetings typically last for an hour or distinct but hard to hear. two, and sometimes up to half a day. O Environment: Adequate, e.g. ventilation rates reach target The frequency of meetings usually means that each room remains unused (current ASHRAE Standards 62 and 55) for meeting rooms and are comfortable for half-day use. Ventilation and for part of the day. Visitors temperature are controlled by thermostat with fixed settings infrequently or hardly ever use meeting which cannot be adjusted by occupants. Limited capability exists for added ventilation. Local control of lighting in O PRIVACY AND FREEDOM FROM meeting rooms is possible, but difficult and costly. Difficult **DISTRACTION:** Need average levels

Scale A.2.1. continued on next page

of concentration, privacy, and freedom

O AUDIO VISUAL AIDS: Audio-

visual aids are used occasionally,

mainly overhead transparencies.

from distraction.

FIG. 1 Scale A.2.1 for Meeting and Conference Rooms (continued)

practicable.

and expensive to locate meeting and conference rooms at the

O **Fixtures and fixed equipment:** There is basic provision

basic sound system, and projection of video or computer images, or video monitors can conveniently be used. Ceiling height is 2.6 m to 2.7 m for rooms with a long dimension of up to 6.5 m, and 3 m ceiling height for larger rooms.

for audio-visual presentations, e.g. screens are installed and

outside, so windows to the outside are mostly not

Scale A.2.1. Meeting and conference rooms (continued)

Occupant Requirement So	cale			Facility Rating Scale	
Operations require only limited typ sizes of meetings, readily accommon one size room. ○ LOCATION IN OFFICE: If the common need is for a medium or size room, a small conference room magiustified in the future. Large meetin not normally held, or can be held in plan or in rented or borrowed accommodation. ○ FREQUENCY OF MEETINGS: are mostly of short duration, e.g. or less, and do not normally occur succession. Visitors infrequently or ever use meeting rooms. ○ PRIVACY AND FREEDOM FREDISTRACTION: No special needs privacy. ○ AUDIO VISUAL AIDS: No specifor use of audio-visual presentation.	most small size by be ngs are n open Meetings one hour in close hardly OM s for	S	tan	O Mix, quantity: Meeting rooms now are mainly one size, e.g. either small or medium, and there are too few. No conference room exists, but one could be installed. There is marginally enough space in open plan area for meetings of 25 plus an audience. O Floorplate and access: It would be difficult to install meeting rooms near reception. Some wayfinding difficulties exist for visitors. O Acoustic control: Poor, e.g. discussion is understood in adjacent spaces, and sounds from adjacent spaces are often distracting. Fixing this is possible, but difficult and costly. In some parts of the room, a normal speaking voice is hard to understand, or hard to hear. O Environment: Poor, e.g. ventilation rates per person are not at target (current ASHRAE Standards 62 and 55) for meeting rooms. Limited capability exists for some added ventilation, but not sufficient to meet target. Local control of lighting in meeting rooms is possible but difficult and costly. O Fixtures and fixed equipment: Limited provision exists for audio-visual presentations, e.g. screens only, and low ceilings (2.4 m) which prevent the use of projection screens higher than 1.5 m.	
1 O QUANTITY AND SIZE OF BOX	OMS:		144 1 -	O Miss assertion No meeting rooms swist, or rooms are and	
 QUANTITY AND SIZE OF ROOMS: Operations require a few types and sizes of meetings. LOCATION IN OFFICE: Larger meetings can occur in open plan areas, or elsewhere. No foreseeable need for a conference room. FREQUENCY OF MEETINGS: Held only infrequently and generally of short duration. Most meetings do not have more than 4 participants. Visitors do not use meeting room(s). PRIVACY AND FREEDOM FROM DISTRACTION: Privacy and freedom from distraction not seen as significant. AUDIO VISUAL AIDS: Audio-visual presentations rarely or never used. 		<u>1 E1</u>	661-95 lc-9e9l	 Mix, quantity: No meeting rooms exist, or rooms are one size only, e.g. small, and there are too few. There is no conference room or area in open plan that is large enough for meetings of 25 plus an audience, or to install a conference room. Floorplate and access: It is difficult or impossible to install meeting rooms near reception. Staff must escort visitors to meeting places because of wayfinding difficulty. Acoustic control: Bad, e.g. discussion is understood in adjacent spaces, and sounds from adjacent spaces are continually distracting. Environment: Bad, e.g. ventilation rates per person are effectively lower than in an open office, are not increased for the density of population in meetings, and more ventilation cannot be added. Local control of lighting would be very difficult and costly. Fixtures and fixed equipment: No provision for audiovisual presentations, and very difficult or expensive to install. 	
□ Exceptionally important. □ Important. □ Minor Importance.					
Minimum <u>T</u> hreshold level =	□ NA □	NR	☐ Zer	o 🗓 DP	

NOTES Space for handwritten notes on Requirements or Ratings

FIG. 1 Scale A.2.1 for Meeting and Conference Rooms (continued)

Scale A.2.2. Informal meetings and interaction

Occupant Requirement Scale

8

6

9 O VALUE TO ORGANIZATION:

- The success of the organization is critically dependent on the innovation, creative thinking and collaboration of its people.
 - O PURPOSE OF MEETING AND INTERACTION: It is essential that staff be aware of what people in other parts of the organization are doing, and how it might affect or be supported by their own work and ideas.
 - O PARTICIPANTS IN MEETINGS
 AND INTERACTION: Informal
 meetings, interactions and dialogue
 among staff with diverse roles and
 interests are to be encouraged,
 explicitly and implicitly, as strongly as
 possible. Interactions are to be
 especially encouraged among people
 from different branches, divisions and
 projects whose interests and objectives
 may compete or diverge.
- 7 O VALUE TO ORGANIZATION: To

 a significant degree, the success of the
 organization is dependent on the
 innovation and collaboration of its
 people.
 - O PURPOSE OF MEETING AND INTERACTION: It is important that staff be aware of what people in other parts of the organization are doing, and how it might affect or be supported by their own work and ideas.
 - O PARTICIPANTS IN MEETINGS AND INTERACTION: Informal interactions and dialogue among staff with diverse roles and interests are to be encouraged, explicitly and implicitly. Interactions are to be encouraged among people from different branches, divisions and projects whose interests and objectives may compete or diverge.

Facility Rating Scale

- O Internal circulation node(s): Staff going from one part of the facility to another must pass through a circulation node where they are likely to encounter others whom they do not normally see during daily work, e.g. floorplate configuration and layout have all main aisles and corridors within occupant space converge on a central circulation node (main street) from which all frequently used support and service facilities are accessed; and, access to main vertical circulation (elevators, escalators, main stairs) is through this node. O Entrance node(s): When arriving and leaving, staff are likely to encounter others whom they do not normally see during daily work, e.g. all use single entrance route, and pass through a single main lobby, whether to/from parking, public transit, bicycle or on foot. O Pause area(s): Floorplate, layout and fitup encourage unplanned informal interaction among staff, e.g. where main circulation routes meet, pause areas facilitate informal, unplanned discussion with colleagues from other workgroups. Pause areas have seating, whiteboards or chalkboards, access to beverages, and users can see to the outside or to an atrium.
- informal interaction among staff during breaks, e.g. pleasant food facility with a view to the outside or to an atrium and large tables so staff typically eat together with people outside their immediate work group.

O <u>Food and public facilities</u>: Floorplate, layout and fitup encourage

- Tentance reduction node(s): Most staff going from one part of the facility to another pass through a circulation node where they are likely to encounter others whom they do not normally see during daily work, e.g. floorplate configuration and layout have most main aisles and corridors within occupant space converge on a central circulation node (main street) from which some frequently used support and service facilities are accessed; and, access to main vertical circulation (elevators, escalators, main stairs) is through this node.

 Entrance reductory When arriving and leaving staff are likely to the control of the control of
 - <u>Entrance node(s)</u>: When arriving and leaving, staff are likely to encounter others whom they do not normally see during daily work, e.g. all use one of two entrance routes, whether to/from parking, public transit, bicycle or on foot.
 - O Pause area(s): Floorplate, layout and fitup encourage unplanned informal interaction among staff, e.g. at some points where main circulation routes meet, pause areas facilitate informal, unplanned discussion with colleagues from other workgroups. Pause areas have two or more of: seating, white-boards or chalk-boards, access to beverages, and users can see to the outside or to an atrium.
 - O **Food and public facilities:** Floorplate, layout and fitup encourage informal interaction among staff during breaks, e.g. at lunch, a pleasant food facility with a view to the outside or to an atrium and large tables, for 4, 6 and 8 persons, so staff typically eat together, and with people outside their immediate work group.

Scale A.2.2. continued on next page

FIG. 2 Scale A.2.2 for Informal Meetings and Interaction

Scale A.2.2. Informal meetings and interaction (continued)

Occupant Requirement Scale				Facility Rating Scale	
collaboration of its p O PURPOSE OF M INTERACTION: Si what other parts of doing, and how it m supported by their o O PARTICIPANTS AND INTERACTIO interactions are to be	nization is aided by the beople. IEETING AND taff should be aware of the organization are hight affect or be bown work. IN TABLE TO BE T	4 🖸	5 C	O <u>Internal circulation node(s)</u> : Some staff going from one part of the facility to another are likely to encounter others whom they do not normally see during daily work, e.g. floorplate configuration and layout have some main aisles and corridors within occupant space that converge on a central circulation node from which some support and service facilities are accessed. O <u>Entrance node(s)</u> : When arriving and leaving, some staff may encounter others whom they do not normally see during daily work, e.g. when passing through the elevator lobby. O <u>Pause area(s)</u> : Floorplate, layout and fitup permit informal interaction among staff, e.g. pause areas facilitate informal discussion with colleagues from other workgroups. Pause areas have access to beverages. Users may see to the outside or to an atrium from within pause area, or nearby. O <u>Food and public facilities</u> : Floorplate, layout and fitup encourage informal interaction among staff during breaks, e.g. at lunch, food facility with a view to the outside or to an atrium, and large tables so staff can eat together, and with people outside their immediate work group.	
	g individuals in although welcome, ularly significant for rganization. IEETING AND taff may be aware of the organization are re is no effort or	m FM 12df	3 en 166 41c-	 Internal circulation node(s): Staff going from one part of the facility to another are not likely to encounter people from outside their workgroup. Entrance node(s): There are several entrances and stairs or elevators, so staff can go directly from the outside or parking to their immediate work area, without seeing people from other workgroups. Pause area(s): Pause areas are not provided on the office floors, and floorplate, layout or fitup make it very difficult or expensive to provide suitable areas with access to beverages and view to the outside or to an atrium. Food and public facilities: Floorplate, layout and fitup do not encourage informal interaction among staff during breaks, e.g. no central or shared food facility. 	
1 ○ VALUE TO ORGANIZATION: Informal meetings and interaction are to be avoided because it is undesirable for personnel to be aware of what others in the organization are doing. ○ PARTICIPANTS IN MEETINGS AND INTERACTION: The facility should permit staff to come and go while having minimal contact with persons from other workgroups.		1	 Internal circulation node(s): Each part of the facility is separate from the others. Entrance node(s): Each workgroup has its own entrance, so staff go directly from the outside or parking to their immediate work area, without seeing people from other workgroups. Pause area(s): Pause areas are not provided. Food and public facilities: There are no shared facilities for food or other public services. 		
□ Exceptionally important. □ Important. □ Minor Importance.					
Minimum Threshold level = □ NA □ NR □ Zero □ DP					

NOTES Space for handwritten notes on Requirements or Ratings

FIG. 2 Scale A.2.2 for Informal Meetings and Interaction (continued)