

DEPARTMENT OF BUILDING INSPECTION
City & County of San Francisco
1660 Mission Street, San Francisco, California 94103-2414

DRAFT # 4

ADMINISTRATIVE BULLETIN NO. AB-090

NO. AB-090

DATE : December 19,
2008

SUBJECT :
Disability Access

TITLE :
Rules for Local Equivalency Approval of Destination-
Based Elevator Control Systems

PURPOSE : The purpose of this Bulletin is to establish acceptable design for equivalent facilitation standards for Destination-Based Elevator Control Systems.

REFERENCE : 2007 San Francisco Building Code
Section 104A.2.8, Alternate materials, design and methods of construction;
Section 1102B, Definitions, Equivalent Facilitation
Section 1116B, Elevators and Special Access (Wheelchair) Lifts
ANSI A117.1-2003 American National Standard: Accessible and Usable Buildings and Facilities

DISCUSSION: Destination-based elevator control systems are proposed as performance-based alternatives to traditional elevator control systems. These systems are desirable for some projects to increase elevator efficiency resulting in reduced wait and travel times, to provide high standards of building sustainability, and to allow flexibility in elevator control system operation. Adopted area plans for development of the City and County of San Francisco rely on high-density buildings in certain areas of

the City to meet planning goals; elevators with destination-based control systems allow higher usage efficiencies, helping achieve those City goals.

The codes regulating elevator control systems prescriptively detail requirements for traditional elevator control systems, for example size and location of call keys. These prescriptive requirements lead to standardized installations that allow all users to be able to readily use elevator systems, and provide for accessible operation by persons with disabilities of all types. Alternate designs that provide equivalent performance to the prescriptive requirements of the codes may be approved on a case-by-case basis administratively if such alternate designs provide a code equivalent of that prescribed in the code for suitability, strength, effectiveness, fire resistance, durability, safety, sanitation, and accessibility for persons with disabilities.

The Department of Building Inspection will consider destination-based elevator control systems to meet the requirements for approval of alternate design through “equivalent facilitation” if the specific conditions listed in this bulletin are met. Any proposal for approval of a destination-based elevator control system that does not meet these conditions, or that fails to meet any other prescriptive requirement not addressed in this Administrative Bulletin, may be considered for administrative approval by the Department of Building Inspection on a case-by-case basis.

In cases where there are proposals substantially different from the alternatives prescribed in this bulletin, such proposals shall go to the Access Appeals Commission. A proposed destination-based elevator control system meeting the specific conditions of this Administrative Bulletin will not typically be required to have such determination of “equivalent facilitation” ratified by the Access Appeals Commission, and will be determined to have met requirements as a “Local Equivalency”.

DEFINITIONS

For the purpose of this Administrative Bulletin the following definitions shall apply:

Clearly audible	Audible and discernable by 90% of non-deaf listeners.
Dwell time	The time the elevator door is fully open.
Keypad	Telephone-style user input device.
Active signage	
Passive signage	Traditional printed, unchanging signage.

ALTERNATE DESIGN EQUIVALENT FACILITATION REQUIREMENTS

1 Application.

The installation of new destination-based elevator control systems requires a permit. This bulletin applies to newly installed, altered, or modernized destination-based elevator control systems in new and existing buildings for which building permits are issued after the effective date of this bulletin.

As alternate to meeting the prescriptive requirements of the San Francisco Building Code, the following elevator control systems and features **shall** be provided.

2 Hall Control User Interface Unit.

The hall user control interface unit includes an accessible keypad unit, visual display, and voice output. All user control interface units shall be accessible.

1. Each hall control user interface unit shall have the word "Elevator" in ½ inch high raised characters, and in braille on the control interface unit faceplate.
2. Hall control interface unit keypads shall have a non-glare finish.
3. All elements of a hall control unit input device, including keypad and display, shall be adjacent and not more than six (6) inches apart.
4. If a security system or other form of access control system is in use, voice prompts shall be provided such as, "Present security credential."
5. Any additional features provided at the hall control user interface shall also be made accessible.

A. Location.

- 1 Accessible wall-mounted hall control units shall be provided at each floor elevator lobby for each bank of elevators, located between elevator entrances in a location similar to conventional elevators.
- 2 Any additional fully complying hall control units keypad controls may be pedestal- or kiosk- mounted.
- 3 Units outside the immediate elevator lobby include voice responses, but need not announce a path to the assigned elevator.

B. Keypad.

1. Each hall control unit shall have a control keypad.
2. Keypads shall include a 12-key ascending telephone keypad arrangement per ANSI A117.1-2003
3. Keypads shall have a rectangular Accessibility Function key. per ANSI

A117.1-2003, 407.2.1.7. The key shall be directly below the keypad and shall be the width of the keypad.

4. After the Accessibility Function key is pressed, a voice prompt shall immediately direct the user to enter their destination floor.
5. The accessible interface shall make an audible indication of an invalid keypress sequence.
6. Any keys additional to the Accessibility Function key and the 12-key pad shall be arranged in columns immediately to the [bottom | left | right ?] of the telephone keypad.

C. Active Visual Display

1. Visual displays shall provide a contrast ratio of at least 150:1 against a solid, static background.
2. Character font and size shall meet ANSI A117.1-2003 requirements. [Specify ANSI *font details.*]

D. Voice Output.

1. Auditory output from the control unit including voice or electronic responses, shall be clearly audible and discernible in a crowded lobby environment.
2. Auditory signals shall be within the frequency range of 300 to 3,000 Hz and volume shall be at least 10dBA above ambient sound level, but not more than 80 dBA.
3. When a destination floor has been entered on the keypad or through an access control system, a voice prompt will, within two seconds, indicate the destination floor that was entered and will indicate which elevator is assigned to this destination.
4. Except for units provided under Section 1 A.2 above, such voice prompts will include direction to the elevator relative to the location of the keypad. An example of an acceptable voice prompt is, "Tenth Floor, Elevator D as in Delta, First Car to the Left."

3 Wayfinding to Designated Elevator.

A Elevator Designation

1. Elevators shall be designated by a single letter, in ascending alphabetical order, assigned clockwise from the main entrance to the ground floor elevator lobby, except that for large group installations other clearly

understandable designations may be approved on a case-by-case basis. Elevator systems with more than 26 elevators may use alpha-numeric designations, such as 'A1.'

2. Adjacent to each elevator entrance shall be an elevator designation letter with a minimum character height of 3½ inches.

B Floor Naming.

1. In newly constructed buildings, floor names shall begin with 'one' or 'zero' at the ground floor, and increase by one for each successive higher floor.
2. In newly constructed buildings, the first floor below ground shall be named 'minus one' (-1), and shall decrease by one for each successive lower floor.
3. In newly constructed buildings, floor names and control signage shall not include other designations such as 'P' or 'Plaza,' 'P1' or 'Parking Level 1,' etc.

C Elevator Assignment Adjacency.

1. An elevator adjacent to the hall control user interface and on the same side of the lobby shall be given assignment preference.
2. Long keypress. The user may hold the Accessibility Function key for approximately two seconds to indicate the need for accessible features, but not adjacency.

D Hoistway Elevator Signage.

1 Elevator passive directional and identification signage shall conform to the minimum requirements of ANSI A117.1-2003 Sect. 70S, 'Signs,' with characters not less than 5/8 inches in height.

E Hall Annunciators, visual and auditory.

- 1 There shall be, adjacent to each elevator entrance, on on the elevator car door jamb, a hall annunciator that provides illumination, voice prompts, and auditory tones.
- 2 Upon elevator car arrival or earlier, the annunciator shall illuminate and shall emit a voice prompt indicating the arrival of the car and specifying the car designation, such as "Car D as in Delta."
- 3 In newly constructed buildings, the hall annunciator shall be installed at a height of at least 80 inches above finished floor.

