Airport Roadway Sign Design Manual

January 2013

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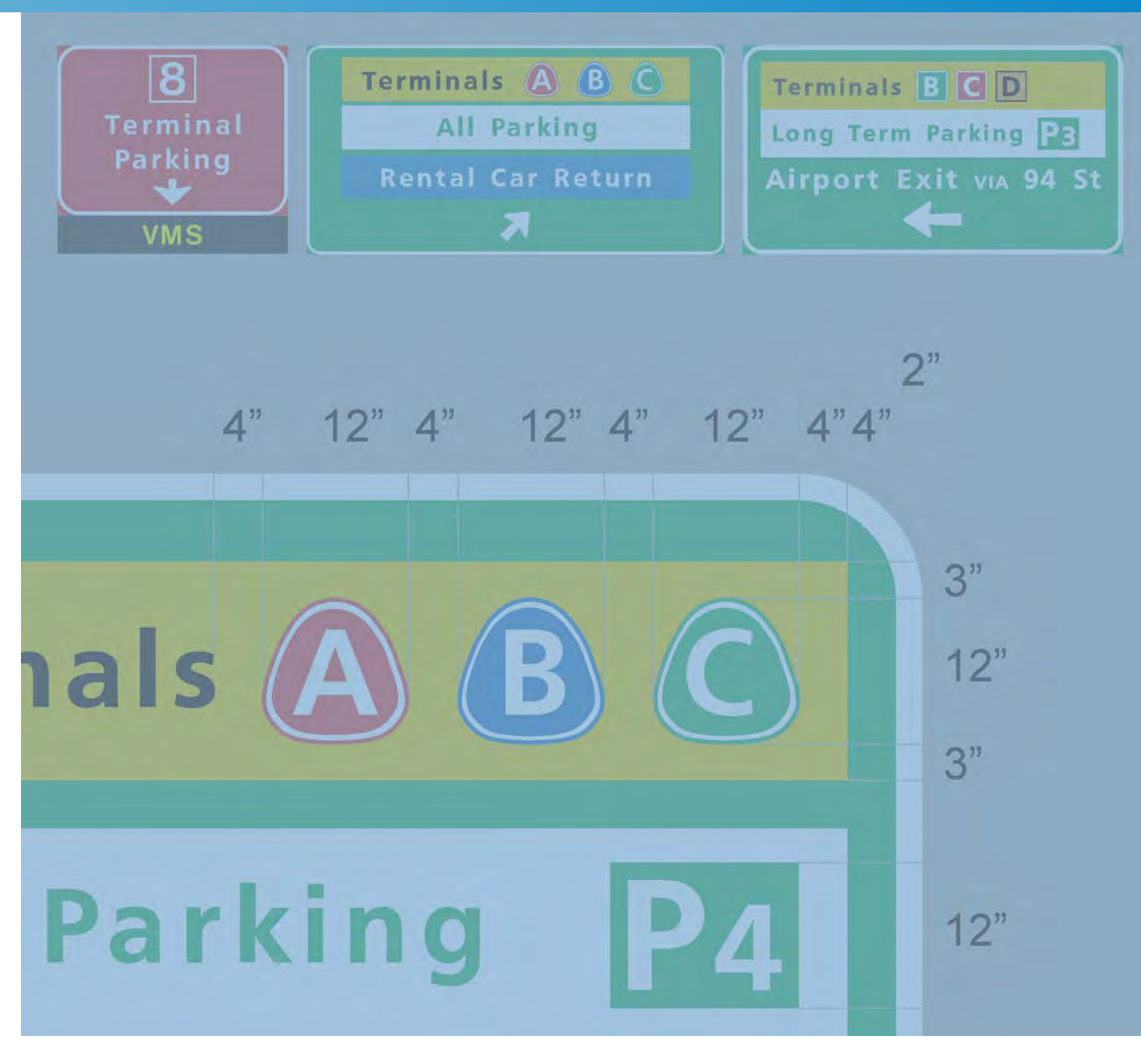
THE PORT AUTHORITY OF NY & NJ



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1. Overview

1A. Introduction

The Port Authority of New York and New Jersey (Port Authority) operates five airports in the New York and New Jersey region:

- John F. Kennedy International Airport (JFK)
- Newark Liberty International Airport (EWR)
- LaGuardia Airport (LGA)
- Stewart International Airport (SWF)
- Teterboro Airport (TEB)

Facility maps of these airports are included in *Appendix A – Facility Maps*.

Airport roadways are designed to perform functions and operate in ways that are often different from the functions and operation of a typical highway. The complex highway systems and terminals of the airport facilities present challenges to travelers accustomed to typical highways and their operational characteristics. The goal of airport signing is to enable travelers to navigate into, through, and out of its airport facilities. To achieve that goal, the sign design process involves overcoming unique challenges, including:

- Many destinations within the limited area of the airport;
- Travelers who are unfamiliar with the airport and its roadways;
- Reduced speeds, restricted geometry, and frequent decision points on airport roadways;
- Transitioning between off-airport highways and arterials and on-airport roadways;
- Travelers who are late, uncertain about the location of their destination, or both;
- Travelers from other countries and cultures who may not be able to read sign text or who may be unfamiliar with American signing practices; and
- Occasional changes in airlines and other service providers at each terminal and airport.

1B. Purpose

The purpose of this Manual is to establish standards and guidelines to be used in developing comprehensive, clear, consistent, and conspicuous signing at all Port Authority airports.

- Comprehensive: Signs include all the information necessary and no extra information.
- Clear: Signs are easily understandable.
- Consistent: Signs look the same and sign messages are arranged and worded in the same manner at each facility and across all facilities.
- Conspicuous: Signs are properly located and readable from the appropriate angles and distances.

Following these signing principles is essential in conveying airport highway and terminal information to the traveling public. The design criteria and text presented herein provide guidance to the designer by referencing a recommended range of values for critical dimensions. For this purpose, this Manual offers numerous illustrations that reflect the products of its signing standards. However, one set of signing standards and guidelines cannot resolve every signing situation, and variations from design criteria may be required for special or unusual conditions such as space restrictions. The Port Authority reserves the right to make or allow modifications to the standards based on lessons learned, and always applying sound engineering judgment.

1C. Compliance with this Manual

This document supersedes the previously published *1994 Airport Signing Standards Manual*.

Any sign erected on the Port Authority's airport roadway system must be approved by the Chief Traffic Engineer or his designated representative.

Graphic design of airport roadway directional and informational signs shall conform to this Manual, including temporary (e.g., construction) signs. When design criteria presented in this Manual differ from criteria presented in other sources, this Manual shall take precedence. In the absence of direction given by this Manual, signs shall conform to the latest edition of the *Manual on Uniform Traffic Control Devices* (MUTCD) published by the Federal Highway Administration. Airport-related messages to be placed on signs located outside of Port Authority jurisdiction shall be coordinated with the controlling agency. This Manual does not apply to Port Authority signs located away from airport facilities, such as trailblazers.

Signs may be replaced through one of several processes:

- Tenant requests for new signing, changes to sign messages, or sign changes necessitated by physical airport improvements (such as terminal reconstruction) must be coordinated with the Tenant Facility Office (TFO) through the Tenant Alteration Application (TAA) process.
- Tenant requests for other changes (such as airline name, terminal, or level number) are coordinated directly with the facility's Landside Operations. Landside Operations may also initiate or request sign replacements, such as for operational changes, in coordination with Port Authority Traffic Engineering.
- The Aviation Department may initiate facility-wide or agency-wide changes to signing, such as parking toll rate changes, in coordination with Port Authority Traffic Engineering.
- Port Authority Traffic Engineering may also initiate replacement for routine sign maintenance and upgrades.

Except for the TAA process, signs may be replaced by sending a Sign Service Request (SSR) to the Port Authority's Sign Shop, by initiating a work order, or through a contract.

1D. Design Process

Throughout the design process, the designer should keep in mind that the purpose of roadway signing is to give motorists clear directions to their desired destination. Before a highway sign can be designed for airport usage, other factors such as the sign's location, messages, text height, etc. must be determined by a traffic engineer.

At the beginning of the design process, the sign message and location must be established. The location is just as important as the message in determining sign layout based on whether the sign is overhead or ground mounted and whether height or width may be restricted. The sign design process generally follows the outline of this Manual:

- The color coding scheme and message hierarchy to be followed are established (Sections 2 and 3).
- Terminology is verified and text, overlays, and graphic elements are placed and appropriately sized (Sections 4 through 6).
- Arrows are located on the sign (Section 7).
- Borders and other panel design elements are added, and the final sign size and layout are determined (Section 8).

Sections 9 through 13 cover the design of various types of landside roadway guide signs. Sections 14 through 17 each apply to particular signing situations (frontages, parking facilities, parking entry and exit plazas, and airside).

The only pedestrian signs included in this Manual are those in mixed-mode locations such as frontages, parking lots, and garages. For design of pedestrian signs in terminal buildings and other locations, refer to the *Airport Standards Manual for Pedestrian Signing & Wayfinding* published by the Port Authority's Aviation department, hereafter referred to as the *Manual for Pedestrian Signing & Wayfinding*.

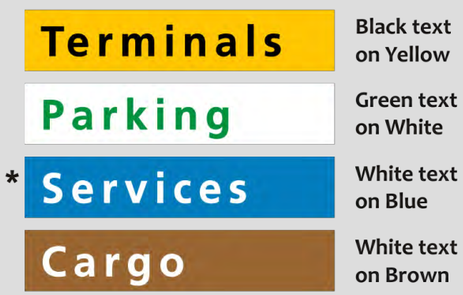
2. Color Coding System

The Port Authority uses a system of color coding according to function at all of its airports. Color coding requires that similar destination types utilize a single color, which allows road users to identify exactly which signs are relevant to their need. This provides for earlier recognition by travelers as the sign color will be visible before the message. The concept utilizes distinct and highly visible color combinations to visually organize messages by information type.

At JFK Airport, the Port Authority also uses a system of color coding according to location.

2A. Color Coding According to Function

In this system, similar functions are assigned the same color regardless of their location within the airport facility, as shown in **Figure 2-1**.



* Airport Services shall include but are not limited to all on-airport rental car companies, hotels, and gas stations.

Figure 2-1

All on-airport roadway signs shall start with a white message and border on a green background. Color overlays in accordance with the color coding system shall then be added to the sign. All messages not assigned to a function listed in **Figure 2-1** shall be directly applied to the sign without use of an overlay. Any regulatory or warning messages within the sign shall adhere to the standards for color as provided in the *MUTCD* and as discussed in *Section 12 – Regulatory and Warning Signs*.

Typical applications of color coding according to function on guide signs are shown in **Figures 2-2, 2-3, 2-4,** and **2-5** at Newark, LaGuardia, Stewart, and Teterboro Airports respectively. Signing for functions related to general aviation, such as all functions at Teterboro Airport (which does not accommodate scheduled commercial flights), is discussed in *Section 11A – General Aviation*.

2B. Color Coding According to Location (JFK Only)

At JFK Airport, the Central Terminal Area is divided into 5 distinct zones. Each zone is assigned a color regardless of the functions being served within the zone. Details of the terminals located in a particular zone and the color assigned are given in **Table 2-1**.

Table 2-1 Color Coding According to Location

Zone	Terminals	Sign Colors	
		Legend	Background
Green	1, 2, and 3	White	Green
Blue	4	White	Blue
Yellow	5	Black	Yellow
Orange	7	Black	Orange
Red	8	White	Red

All signs exclusively related to a particular zone that display messages exclusive to that zone shall use the zone's color for sign background. All of these signs shall be designed according to the color coding listed in **Table 2-1**, without the use of overlays. Any regulatory or warning messages within the sign shall adhere to the color standards as provided in the *MUTCD* and as discussed in *Section 12 – Regulatory and Warning Signs*.

Figure 2-6 shows typical applications of color coding according to location on guide signs at JFK Airport.

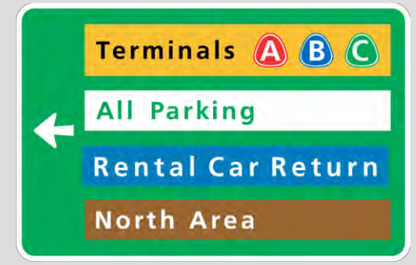


Figure 2-2

Figure 2-3

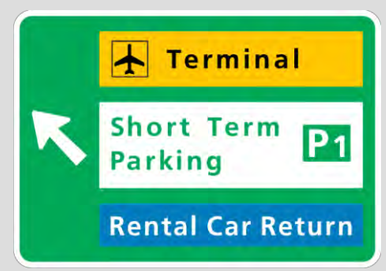


Figure 2-4

Figure 2-5

The standards described in Sections 2B.1 and 2B.2 shall apply at JFK Airport when signs do not belong exclusively to a particular zone.

2B.1 Inbound Roadways

On signs that display messages related to multiple zones, a gray background shall be used. Logos following color coding according to location shall be applied to the gray background. Color coding according to function and the use of overlays shall not be permitted. A typical example is shown in **Figure 2-7**.

On signs that display messages not related to any zone, color coding according to function shall be used. A typical example is shown in **Figure 2-8**.

2B.2 Other Roadways

Other than inbound roadways, signs may appear on terminal roadways, outbound roadways, and airport roadways not associated with terminals. On signs that display messages not related to any zone, color coding according to function shall be used as shown in **Figure 2-9**.

On signs that display messages related both to zones and functions, signs shall start with a white message and border on a green background. On these signs, overlays shall be applied according to the following rules:

- When an overlay displays a message related to a single location (zone), the overlay shall use the color coding as specified in **Table 2-1**. A typical example is shown at the bottom of **Figure 2-10**.
- When an overlay displays a message related to an airport-wide function, the overlay shall use the color coding as defined in *Section 2A – Color Coding According to Function*. Typical examples are shown in **Figures 2-8** and **2-9**.
- When multiple overlays are grouped with a single arrow orientation or directional message, they shall all be related either to location or to function, as shown in **Figure 2-10**.

All messages not assigned to an overlay function as described in this section or as listed in **Figure 2-1** shall be directly applied to the sign without use of an overlay.

Figure 2-6a

Figure 2-6b

Figure 2-6c

Figure 2-6d

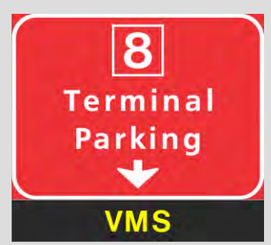


Figure 2-6e

Figure 2-7

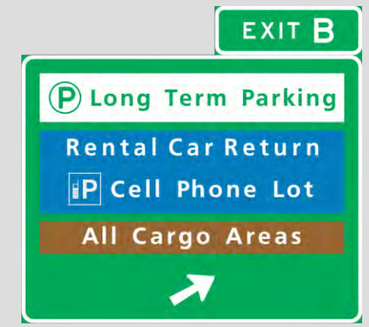


Figure 2-8

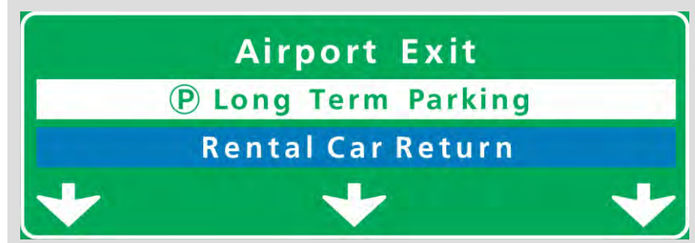


Figure 2-9

Figure 2-10

3. Message Hierarchy

Consistent placement and arrangement of messages on a sign panel is important. Messages shall be placed on guide signs in accordance with the Port Authority's message hierarchy. The message hierarchy allows one to determine which messages are most important.

Except as otherwise stated in *Section 3D – Exceptions to Hierarchy*, guide signing within airport facilities shall list messages according to the following message hierarchy:

1. Terminals
2. Parking
3. Services
4. Cargo
5. Other messages that do not belong to the above categories

Figures 3-1 and **3-2** show signs illustrating message placement according to the message hierarchy. The message hierarchy shall apply to signs following either of the two systems of color coding discussed in *Section 2 – Color Coding System*. Directional messages such as "KEEP RIGHT" shall be located below all related messages.

3A. Message Groups

When a sign has messages relating to more than one direction of travel, messages shall be divided into message groups according to the related arrow or directional message. Message groups, including the related arrow or directional message, shall be separated by message separator lines. To determine the order of message groups on a sign:

- In each message group, determine which message is listed first based on the message hierarchy.
- Use the message hierarchy to compare the first-listed messages.
- The order of first-listed messages according to the message hierarchy determines the order of message groups.

Figure 3-3 shows an example of message groups sorted by hierarchy.

3B. Hierarchy of Message Groups

When determining the order of messages or message groups on a sign, there may be two or more messages belonging to the same message hierarchy level. The following rules shall apply to determine the order of messages within each level of hierarchy:

1. Terminals: "A" or "1" shall be listed first, followed by other terminals in ascending order. General messages such as "Return to Terminals" shall be listed last.
2. Parking:
   a. Parking listed by terminal facility logo shall be listed first in the same order as Terminals.
   b. Parking listed by lot number logo shall be listed next. "P1" shall be listed first, followed by other lots in ascending order, except for Long Term Parking Lot P3 at LaGuardia Airport.
   c. At Newark Airport, Valet Parking shall be listed after Daily Parking Lots P1, P3, and P4 and before Economy Parking Lot P6.
   d. At JFK and LaGuardia Airports, Long Term Parking shall be listed last.
3. Services:
   a. Within the same message group, rental car messages shall be listed first in alphabetical order. If other service messages are preceded by building numbers, they shall be listed in ascending order starting with the lowest number; otherwise, they shall be listed in alphabetical order.
   b. When the first-listed messages in different message groups are service-related or when all messages are service-related, use the *MUTCD* arrow hierarchy defined in *Section 3C – Arrow Hierarchy*.
4. Cargo:
   a. Within the same message group, cargo messages shall be listed in alphabetical order.
      - At JFK Airport, cargo areas shall be listed in order from A to D.
      - At Newark Airport, the North Area shall be listed before the South Area.
      - Within each cargo area, building numbers shall be listed in numerical order.
   b. When the first-listed messages in different message groups are cargo-related or when all messages are cargo-related, use the *MUTCD* arrow hierarchy defined in *Section 3C – Arrow Hierarchy*.
5. Other messages that do not belong to the above categories:
   a. Within the same message group, if messages are preceded by building numbers, they shall be listed in ascending order starting with the lowest number; otherwise, they shall be listed in alphabetical order.
   b. When different message groups have no messages related to terminals, parking, services, or cargo, use the *MUTCD* arrow hierarchy defined in *Section 3C – Arrow Hierarchy*.

Figure 3-1

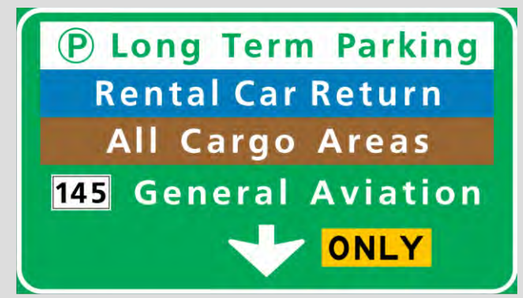


Figure 3-2

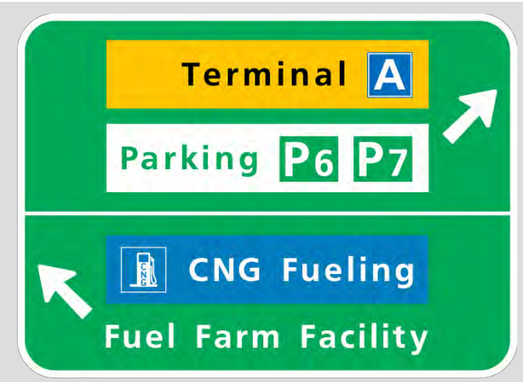


Figure 3-3

Figure 3-4 shows an example of sorting messages when two messages belong to the same hierarchy level. The message "Terminal A" is the only one associated with the directional message "NEXT LEFT," so it forms one message group. The messages "Terminals B, C" and "Daily Parking P1, P3" are both associated with the up arrow, so they form a second message group. The rules for Terminals are applied because both message groups have terminal messages (hierarchy level 1), so the "Terminal A" message group is listed first.

3C. Arrow Hierarchy

The arrow orientation hierarchy, as defined in the *MUTCD*, is up, left, right, down, directional message only. The arrow hierarchy shall be used to sort between message groups in the following circumstances, as described in *Section 3B – Hierarchy of Message Groups*:

- When the first-listed messages in two or more message groups are related to services, or when all messages on the sign are service-related as described in *Section 9 – Service Signs*.
- When the first-listed messages in two or more message groups are related to cargo areas (including building numbers), or when all messages on the sign are cargo-related as described in *Section 10 – Cargo Areas*.
- When two or more message groups on a guide sign have no messages related to terminals, parking, services, or cargo.

3D. Exceptions to Hierarchy

3D.1 Exit Signs

On signs leading to or immediately prior to an exit, such as a parking lot exit or the airport exit, the message related to the exit shall take precedence over the established hierarchy and the associated message group shall be placed first on the sign. Any remaining messages shall adhere to the basic hierarchy rules. A typical example is shown in **Figure 3-5**.

3D.2 Cargo Area Signs

On signs entering or within cargo areas along roadways away from terminal and parking areas, cargo-related messages should take precedence over the established hierarchy and the associated message group should be placed first on the sign. Any remaining messages shall adhere to the basic hierarchy rules. Typical examples are shown in **Figure 3-6**.

3D.3 Parking Facility Signs

Refer to *Section 15A.2 – Parking Facilities – Message Hierarchy* for the hierarchy of parking facility signs.

Figure 3-4

Figure 3-5

Figure 3-6a

Figure 3-6b

4. Text

All airport roadway signs shall use only the English language. Roadway signs must be read, understood, and acted upon by the driver of a moving vehicle within a short time span. The Port Authority has implemented the criteria in this section to maintain a balance between readability and sign size.

4A. Terminology

The acceptable terminology that may appear on Port Authority signs is limited in order to establish clear and consistent messages across all facilities. Each facility has unique signing requirements, including different buildings and locations within the facility, but all airport facilities share common elements. A list of approved sign terminology general to all facilities and specific to each facility is included in *Appendix B – Sign Terminology*. Sign messages shall be selected from the approved terminology.

Signing should avoid using abbreviations whenever possible. If it is necessary to include abbreviations after all other options have been considered, only those abbreviations listed in the approved terminology shall be used. The use of punctuation and symbols such as periods, commas, hyphens, colons, semicolons, apostrophes, etc. should be avoided unless otherwise shown in *Appendix B – Sign Terminology*.

A logical progression of terminology shall be employed on signs leading to any given destination. Consecutive signs should employ the same terminology. For example, the term "Exit" is used on signs within parking facilities because it refers to both the parking facility exit and the airport exit. After leaving the parking facility, the term "Airport Exit" is used on signs on airport roadways. Because it may be confused with the airport exit, the term "Exit" is not used in other contexts. Therefore, instead of using "EXIT ONLY" panels on overhead lane assignment signs, only the word "ONLY" should be used, as shown in Section 3, **Figure 3-2**.

4B. Typeface

In the interest of keeping a uniform, consistent look to on-airport signing, only Frutiger 65 with +150% inter-letter spacing shall be used on roadway guide signs in Port Authority airports. **Figure 4-1** shows Frutiger 65 letters and numbers. **Figure 4-2** shows a comparison of text with +0% and +150% inter-letter spacing.

- The Frutiger typeface has several numbered variants based on character weight, width, and position (such as Frutiger 75, 56, etc.), but the Port Authority will only accept Frutiger 65.
- Inter-letter spacing for Frutiger 65 should be increased to +150% to maintain a balance between readability and sign size while still keeping a uniform appearance to all signs.
- All roadway guide sign figures in this Manual use the Frutiger 65 typeface with +150% inter-letter spacing unless otherwise specified.
- A typeface other than Frutiger 65 may only be used in the following circumstances:
  - Street name signs, which shall adhere to the *MUTCD* as discussed in *Section 11F – Street Name Signs*
  - Regulatory and warning messages, which shall adhere to the *MUTCD* as discussed in *Section 12 – Regulatory and Warning Signs*
  - Variable message signs
- The only exceptions to the inter-letter spacing requirement are as follows:
  - Facility identification signs as described in *Section 11C – Facility Identification*
  - Frontage signs as described in *Section 14 - Frontages*
  - Signs within parking lots and garages as described in *Section 15A.1 – Parking Facilities – General Rules and Guidelines*
  - Pedestrian signs as described in *Section 15B – Pedestrian Signing*
  - Aisle and row markers as shown in *Appendix D – Aisle and Row Markers*
- Otherwise, if message width is limited, reductions in spacing shall occur in 5% increments and shall require the approval of the Port Authority.

Except for directional messages, all guide sign messages shall be written such that the beginning of the word will start with an upper case letter, and the remainder will be in lower case. This provides simplicity in appearance and improved readability. Directional messages such as "KEEP RIGHT" shall be written only in upper case.

Frutiger 65

Upper case:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Lower case:

a b c d e f g h i j k l m n o p q r s t u v w x y z

Numbers:

1 2 3 4 5 6 7 8 9 0

Figure 4-1

Text with additional +150% interletter spacing: (required spacing)

8″ **Terminals**
64.4″

8″ **Economy Parking**
114″

8″ **KEEP LEFT**
64.3″

Text with additional +0% interletter spacing: (spacing not permitted)

8″ **Terminals**
51.2″

8″ **Economy Parking**
92.8″

8″ **KEEP LEFT**
53.5″

Figure 4-2

4C. Text Height

Table 4-1 shall be used for design of roadway guide signs. The provisions of this section apply to all text, whether or not the text is contained within an overlay.

Table 4-1 - Text Height

Sign Type	*Text Height (Upper Case)*
Overhead	16” Recommended 12” Standard Minimum 10” Absolute Minimum
Ground Mounted	8” Recommended 6” Minimum

The text heights shown in **Table 4-1** are based on upper case letters that are not rounded, such as “A” or “E.” Rounded letters and numbers may slightly exceed the specified text height. Lower case text height is defined as part of the font relative to the upper case text height.

Text height is based on the time required to both read and react to the message displayed. Additionally, the size of lettering on adjacent signs, the number of competing signs that must also be processed, and the regulatory speed of the roadway shall be considered.

The designer shall make every effort to adhere to the recommended text height shown in **Table 4-1**. If height or width restrictions limit the size of the sign, text shall be no smaller than the minimum text height shown. On overhead signs, the standard minimum text height should be used in design before considering the absolute minimum text height. More than one text height may be used on the same sign as warranted by factors such as message priority. These rules and guidelines are shown in Section 2, **Figure 2-10** and Section 3, **Figure 3-5**.

Text height on parking lot and garage signs is discussed in *Section 15A.1 – Parking Facilities – General Rules and Guidelines*. Text height on small guide signs is discussed in *Section 11H – Small Guide Signs*.

4D. Text Placement

The unit measurement for spacing is the height of the largest upper case letter as defined in *Section 4C – Text Height*, and is referenced in figures in this section as the letter “Y.” Spacing for signs in parking lots and garages is described in *Section 15A.4 – Parking Facilities – Text Placement*.

Directional messages shall always be placed at the bottom of the sign. Rules regarding placement of fractions within directional messages are described in the *MUTCD*, including the alignment of numerals within the fraction and the size and alignment of the solidus. An example of a directional message with a fraction is in Section 2, **Figure 2-3**.

Horizontal alignment refers to the positioning of text to the left, center, or right. Vertical alignment refers to the positioning of text to the top, center, or bottom.

4D.1 Horizontal Alignment

The following rules govern horizontal spacing of text:

- As shown in **Figure 4-3**, spacing between the leftmost or rightmost letter and the border or message separator line should be a minimum of the upper case text height.
- As shown in **Figure 4-4**, spacing from the edge of the overlay to the leftmost or rightmost letter in the overlay shall be a minimum of 4 inches.
- As shown in **Figure 4-5**, spacing between words shall be equal to the upper case text height.
- As shown in **Figure 4-6**:
  - Spacing between two letters used as initials (e.g., NJ or US) shall be equal to ½ the upper case text height.
  - Spacing between a letter and a number shall be equal to the upper case text height.
  - Spacing between two letters or numbers with a hyphen in between shall be 1¼ times the upper case text height.
  - Spacing between a letter and a punctuation mark or symbol shall be equal to the upper case text height.

As stated in *Section 4A – Terminology*, the use of punctuation marks and symbols should be avoided whenever possible.

Figure 4-3

Figure 4-5

Figure 4-6

Figure 4-4

Directional messages shall be horizonally centered on the sign. The placement of text, including text within an overlay, is contingent on the location of the arrows, if any:

- If an arrow is present on the left side of the sign, the related messages shall be left justified. If an arrow is present on the right side of the sign, the related messages shall be right justified. These rules are shown in **Figure 4-4** and apply except in the following circumstances:
  - When two lines of text are part of the same message, the longer line shall be right justified and the shorter line shall be left justified to the longer line, as shown in Section 3, **Figure 3-6a**.
  - Parking messages may be left justified based on sign design considerations, as shown in Section 3, **Figure 3-6b**.
- If no arrow is present (i.e., there is a directional message) or if arrows are located on the bottom of the sign, overlay messages and general text should be horizontally centered, as shown in **Figures 4-7a** and **4-7b**. However, the presence of logos and symbols or other considerations will ultimately dictate the alignments of the messages, such as left justifying multiple messages with logos or symbols as shown in **Figure 4-7c**.

When overlays and general text are left or right justified on the same sign, the following rules apply:

- When they share an arrow, the general text should be aligned with the text inside the overlay as shown in **Figure 4-8**.
- When they do not share the same arrow, the general text shall be aligned with the edge of overlay closer to the arrow belonging to the general text as shown in **Figure 4-9**.

Horizontal spacing between logos or symbols and the message is discussed in *Section 6 – Graphic Elements*.

4D.2 Vertical Alignment

Spacing between lines of text that are not related should be a minimum of the upper case text height. Lines of text that are related should always be perceived by drivers as belonging together, not as two separate messages. Therefore, spacing between related lines of text should be ¾ times the upper case text height, rounded to the nearest whole number. These guidelines are shown in **Figure 4-10**.

As shown in **Figure 4-3**:

- Spacing between the top line of text and the border should be a minimum of the upper case text height.
- If the bottom line of text contains only word messages, spacing between the bottom line of text and the border should also be a minimum of the upper case text height.

As shown in **Figure 4-4**:

- Spacing between the edges of an overlay and the top or bottom of the message in the overlay should be equal to the height of the upper case letter and shall be a minimum of 4 inches.
- When a line of text includes a letter with a descender (e.g., the letter "g" in Parking), the spacing below that line of text may be increased by 1 inch for every 6 inches of text height, rounded to the nearest inch. This applies to spacing between two related lines of text, between two unrelated lines of text, or between the last line of text on an overlay and the bottom of the overlay.

Figure 4-7a

Figure 4-7b

Figure 4-7c

Figure 4-8

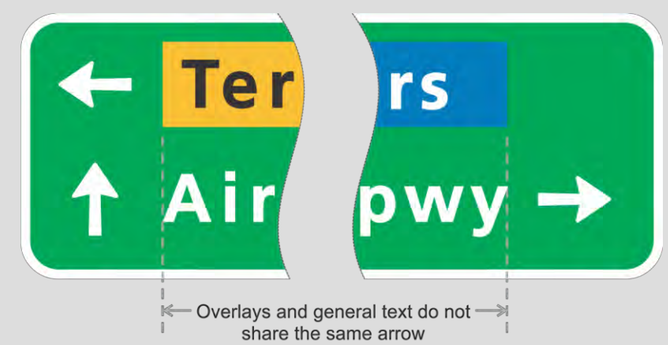


Figure 4-9

Figure 4-10

5. Placement of Overlays on Signs

The following rules apply to overlay placement. Typical examples of overlay placement are shown in **Figures 5-1** to **5-5**.

- The width of all overlays within an individual sign shall be the same, and shall be dictated by the longest message.
- The width of a line of text applied directly to the sign shall be equal to or less than the overlay width.
- The height of each overlay may vary based on the number of lines of text or the height of the logo.
- All overlays shall have square corners. The edges of all overlays on an individual sign shall be horizontally aligned.
- Arrows are the only graphic element that may be placed on the left side and right side of the overlays.

Horizontal alignment refers to the positioning of the overlay to the left, center, or right. Vertical alignment refers to the positioning of the overlay to the top, center, or bottom.

5A. Horizontal Alignment

The horizontal alignment of overlays on the sign panel differs based on sign type:

- **Overhead Signs:** Overlays shall be horizontally centered on the panel. The bottom portion of overhead signs shall be limited to arrows or directional messages. Horizontal spacing between the edge of the overlay and the inner edge of the border or an arrow should be 8 inches and shall be a minimum of 4 inches. **Figure 5-2** shows a typical example of overlay alignment on overhead signs.
- **Ground Mounted Signs:** Arrows on ground mounted signs may be placed on either the right or left side of the sign panel as shown in **Figure 5-3**. Overlays shall be aligned to the right of the panel if an arrow is placed on the left side of the sign and aligned to the left of the panel if an arrow is placed on the right side of the sign. Overlays shall be horizontally centered on the panel if an arrow is placed on the bottom of the sign or if there is no arrow (directional message only). Horizontal spacing between edge of the overlay and inner edge of border or an arrow shall be 4 inches minimum. **Figures 5-1** and **5-4** show typical examples of overlay alignment on ground mounted signs.

Horizontal alignment of text within overlays is discussed in *Section 4D.1 – Text Placement – Horizontal Alignment*.

5B. Vertical Alignment

Vertical alignment of overlays on guide signs is independent of sign type. Spacing between the inner edge of the border or arrow and top or bottom of an overlay shall be 4 inches minimum, not including the width of the border. Vertical spacing between overlays shall be 4 inches minimum. **Figure 5-1** shows vertical spacing requirements. In limited circumstances, the vertical spacing may be eliminated to overcome height restrictions as shown in **Figure 5-5**. Under no circumstances shall a vertical spacing between 0 inches and 4 inches be allowed.

When general text is placed above or below an overlay, the spacing from the overlay to the general text should be at least equal to the height of the adjacent line of text as shown in **Figure 5-5**.

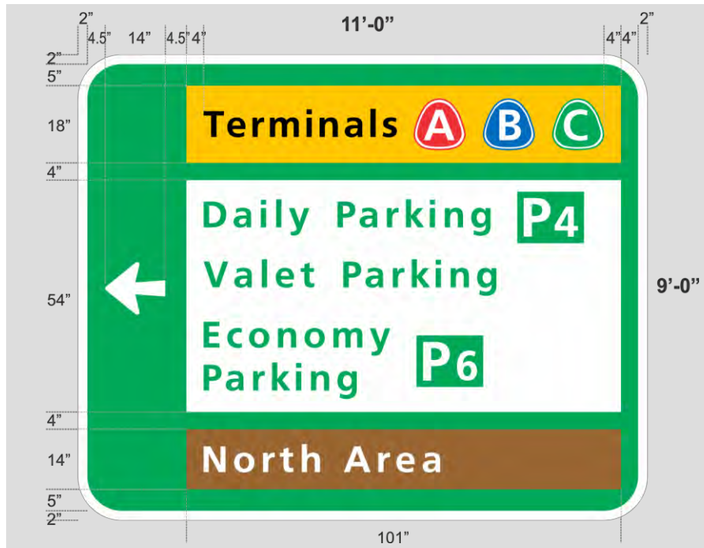


Figure 5-1

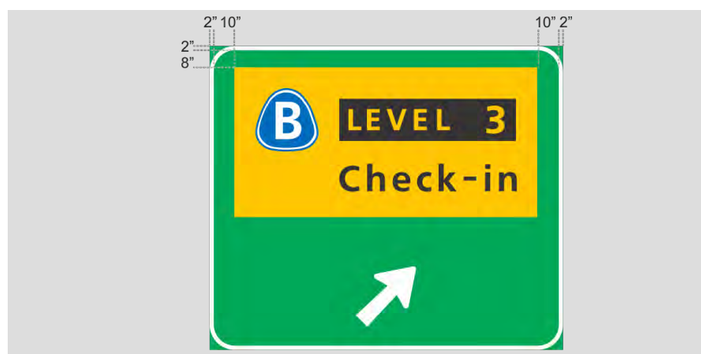


Figure 5-2

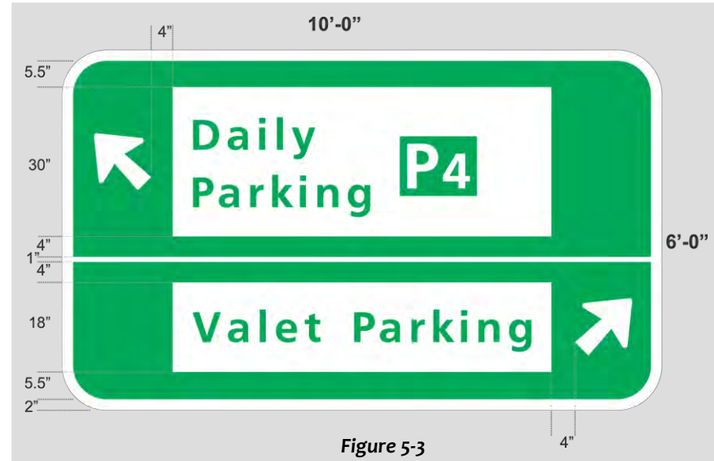


Figure 5-3

Figure 5-4

Figure 5-5

6. Graphic Elements

Graphic elements, including symbols, logos, and highway shields, are incorporated on signs throughout the Port Authority airport roadway system.

- **Symbols** are graphic designs that are generic and can be used at any facility. Symbols used on Port Authority signs include on-airport services and permittee hold areas.
- **Logos** are graphic designs that are unique to a business or service facility, including designs used for brand identification. Logos used on Port Authority signs include specific terminals and parking lots.
- **Highway shields** are graphic designs that indicate numbered or named highways in accordance with the *MUTCD* or the controlling agency. Highway shields are used on Port Authority guide signs, including airport exit signs.

The logos and symbols shown in this Manual were designed to be easily recognized and understood. Where applicable, they are based on standards developed by the U.S. Department of Transportation and the International Organization for Standardization (ISO). To produce sign layouts in accordance with this Manual, the logos and symbols are available in electronic format from Port Authority Traffic Engineering.

Detailed dimensions and specifications of logos and symbols are provided in *Appendix C – Logos and Symbols*. Different logos and symbols, found only in the *Manual for Pedestrian Signing & Wayfinding*, may be used on signs at frontages as discussed in *Section 14 – Frontages* and on pedestrian-oriented signs in parking lots as discussed in *Section 15B – Pedestrian Signing*. No logo or symbol may be altered or added without formal approval. A request for a new logo or symbol must be initiated through Port Authority Traffic Engineering.

The placement of graphic elements shall be in accordance with guidelines listed in *Section 6H – Placement of Graphic Elements*.

6A. Airports

Newark Airport has a custom rounded triangle logo that has developed extensive recognition. All other Port Authority airports use the *MUTCD* airport symbol (I-5). **Figure 6-1** shows the logos used at each airport.

Airport logos and symbols placed on off-airport signs and on signs entering the airport follow certain guidelines. The Newark Airport logo is placed on a brown background with the message ("Newark Airport," "North Area," etc.) in white text. All other Port Authority airports have the *MUTCD* airport symbol placed on a green background followed by the appropriate airport name in white text. The logo or symbol should be followed by the name of the airport. **Figure 6-2** shows typical signs erected off-airport by other agencies.

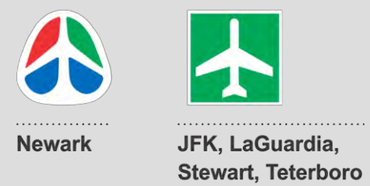


Figure 6-1

Figure 6-2a

Figure 6-2d

Figure 6-2b

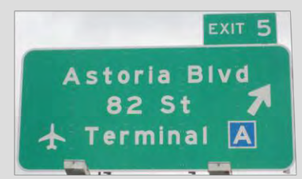


Figure 6-2e

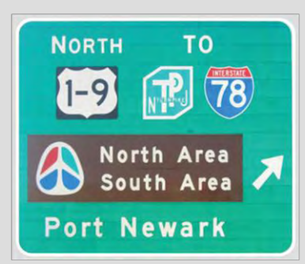


Figure 6-2c

Figure 6-2f

6B. Terminals

The terminal designation on roadway signs shall be represented by a square logo at JFK and LaGuardia Airports and by a rounded triangle logo at Newark Airport in the shape of the airport logo. Each terminal or group of terminals at each airport is assigned a specific background color so that travelers may easily identify their terminal by both designation and color. The terminal logos at each airport are shown in **Figure 6-3**, and colors, detailed dimensions, and other specifications are provided in *Appendix C – Logos and Symbols*. Note that JFK Terminals 5 and 7 have an alternate logo with an inset black border, to be used only on signs with gray backgrounds.

Stewart Airport's passenger terminal is identified with the *MUTCD* airport symbol (I-5) in black legend on a yellow background, accompanied by the message "Terminal." Teterboro Airport has no passenger terminal and therefore has no terminal logo or symbol.

All messages related to terminals in general, such as "Return to Terminals," shall be written in text with no logo or symbol. Logos related to terminal functions on frontages are discussed in *Section 14 – Frontages*. When messages include terminal level numbers, the word "Level" and the level number shall be shown in yellow text on a black background within the yellow overlay, as shown in **Figure 5-2**.

Figure 6-3

6C. Parking

Each airport has a unique system of different types of parking facilities, requiring appropriate messages based on the different rates and locations relative to the terminals. This section discusses the different signing situations encountered when directing motorists to the correct parking facilities in each airport. Signing within parking lots and garages is described in *Section 15 – Parking Facilities*. Teterboro Airport is not included because it does not have public parking facilities.

In the special condition where space constraints do not permit use of a standard guide sign for a parking facility, a small guide sign with logo or symbol and text may be employed. Design considerations are discussed in *Section 11H – Small Guide Signs*.

6C.1 JFK Airport

There are two kinds of public parking at JFK Airport:

- Short Term Parking is available in each zone adjacent to the corresponding terminal or terminals in the Central Terminal Area (CTA). The terminal logo with the message "Parking" is used to identify Short Term Parking, and there is no parking logo. An example of a sign for Short Term Parking is in Section 2, **Figure 2-6**.
- Long Term Parking serves all terminals and is located outside the CTA. Long Term Parking is identified by a symbol consisting of the letter P inside a circle with green legend on a white background. The symbol shall be followed by the message "Long Term Parking." **Figure 6-4** shows the Long Term Parking symbol at JFK Airport. Examples of signs for Long Term Parking are in **Figures 2-8** and **2-9**.

6C.2 Newark Airport

There are four kinds of public parking at Newark Airport:

- Short Term Parking is available adjacent to each terminal. Short Term Parking is identified by the message "Parking" or "Short Term Parking" followed by the terminal logo for its respective terminal. An example of a sign for Short Term Parking is in Section 4, **Figure 4-7b**.
- Daily Parking serves all terminals and is located outside the terminal area. Daily Parking is designated as Lots P1, P3, and P4 and is identified by logos consisting of the lot designation with the number in a subscript. The message "Daily Parking" shall precede the parking logos.
- Economy Parking serves all terminals and is located outside the terminal area. Economy Parking is designated as Lot P6 and is identified by a logo consisting of the lot designation with the number in a subscript. The message "Economy Parking" shall precede the parking logos.
- Valet Parking serves all terminals and is located at Daily Parking Lot P4. It does not have a logo and it is identified by the message "Valet Parking."

Employee Parking is designated as Lot F, but the associated logo is only used on signs at the parking lot entrance.

Figure 6-4 shows logos related to parking at Newark Airport. An example of a sign for Daily, Valet, and Economy Parking is in Section 5, **Figure 5-1**.

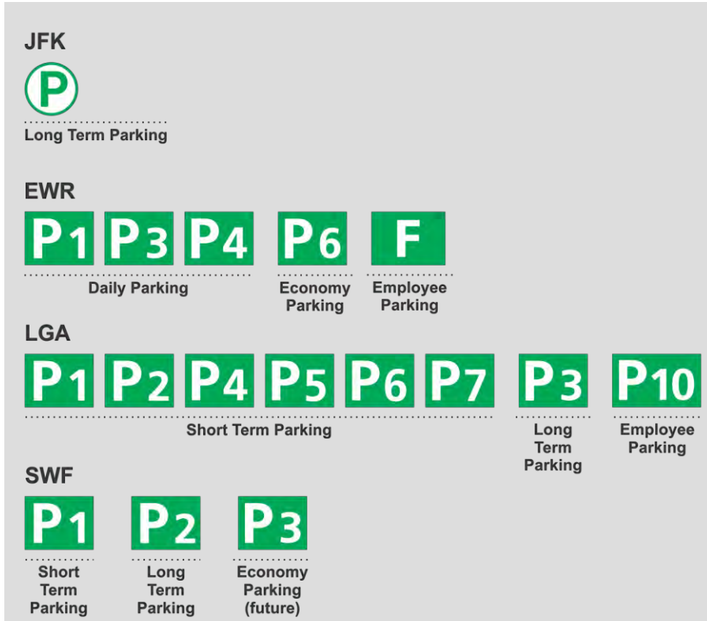


Figure 6-4

6C.3 LaGuardia Airport

There are two kinds of public parking at LaGuardia Airport:

- Short Term Parking is available adjacent to each terminal as identified in **Table 6-1** (Terminals A and B have more than one associated parking lot). Short Term Parking is identified by logos consisting of the lot designation with the number in a subscript. The message "Parking" shall precede the parking logos. The related terminal logos shall only be shown before the word "Parking" if there are terminal messages on the same sign unrelated to those lots. An example of a sign for Short Term Parking is in Section 2, **Figure 2-3**.
- Long Term Parking is centrally located and is designated as Lot P3. Long Term Parking is identified by a logo consisting of the lot designation with the number in a subscript. The message "Long Term Parking" shall precede the parking logo. An example of a sign for Long Term Parking is in Section 3, **Figure 3-1**.

Employee Parking is designated as Lot P10, but the associated logo is only used on signs at the parking lot entrance.

Figure 6-4 shows logos related to parking at LaGuardia Airport.

Table 6-1 - Short Term Parking at LaGuardia

Terminal	*Short Term Parking Designation*
A	P6, P7
B	P1, P2
C	P4
D	P5

6C.4 Stewart Airport

There are two kinds of public parking at Stewart Airport: Short Term Parking (Lot P1) and Long Term Parking (Lot P2). In the future, Economy Parking is planned to open as Lot P3. Parking lots are represented by logos consisting of the lot designation with the number in a subscript. Logos shall be preceded by the name of the parking lot.

Figure 6-4 shows logos related to parking at Stewart Airport. An example of a parking sign at Stewart Airport is in Section 2, **Figure 2-4**.

6C.5 Motorcycle Parking

Motorcycle parking is only allowed in designated sections of designated parking lots. Signs directing motorcyclists to motorcycle parking shall use the symbol shown in **Figure 6-5** in white legend on a green background. The symbol and message shall be placed directly on the sign with no overlay.

Figure 6-5

6D. On-Airport Services

All graphic elements associated with services are considered symbols with the exception of specific rental car companies. Not all services have associated symbols. Service symbols shall be placed on signs or overlays with blue backgrounds. Where signing directs a motorist to a specific building for a service, the building number may be used in the same manner as a symbol, as discussed in *Section 9B – Service Signs – General Services*.

6D.1 Rental Car Companies

When specific on-airport rental car company names are displayed on service signs, the company name shall be displayed on a demountable nameplate with its associated colors as listed in **Table 6-2**. The nameplates shall be as shown in **Figure 6-6** and no corporate logo shall be used. The colors shall be as defined in *Appendix F – Color and Material Specifications* and no other color, including any corporate colors, shall be used. Layout details are discussed in *Section 9A – Rental Car Messages*. Except as otherwise described in this Manual, rental car nameplates should follow the same rules as logos.

Table 6-2 - Rental Car Company Nameplates

Company	*Colors*
Avis	White on Red
Budget	Blue on White
Dollar	Blue on Yellow
Enterprise	White on Green
Hertz	Black on Yellow
National	White on Green

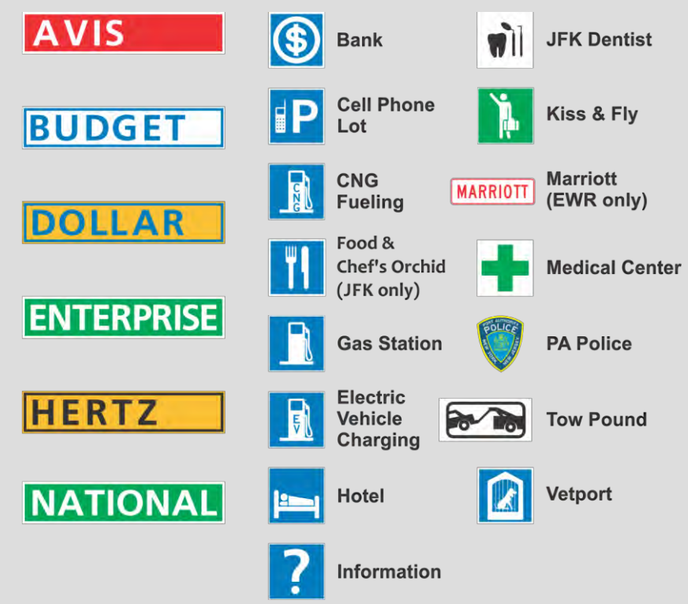


Figure 6-6

6D.2 General Services

General on-airport services include, but are not limited to, those shown in **Figure 6-6**. The related message shall follow the symbol in white text.

- The symbols for Kiss & Fly and Tow Pound shall be placed on signs with green backgrounds followed by the message in white text. No overlay shall be used.
- For the Marriott hotel at Newark Airport, the Marriott logo is used on roadway guide signs with no accompanying message. On frontage signs only, the general hotel symbol is used, followed by the word "Marriott."

The use of any symbol to represent a particular service must be approved by the Port Authority. It shall only apply to the particular service, location, and provider as approved. **Figure 6-6** shows symbols used to represent services. *Section 9B – Service Signs – General Services* includes more information on service-related guide signs.

In the special condition where space constraints do not permit use of a standard guide sign for a service, a small guide sign with logo or symbol and text may be employed, as detailed in *Section 11H – Small Guide Signs*. At Newark Airport, the Port Authority Police are located in the PA Administration Building in Building 1. *Section 11H – Small Guide Signs* describes a special guide sign that is used to direct traffic to Building 1.

6E. Permittee Hold Areas

The symbols shown in **Figure 6-7** shall only be used to designate the Central Taxi Hold and the Permittee, Bus & Limo Staging at JFK Airport. The symbol and text shall have a white legend on a green background and shall be placed directly on the sign with no overlay.

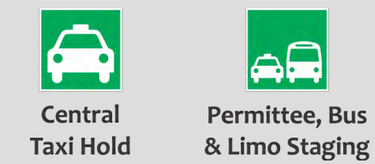


Figure 6-7

6F. Cargo Areas

JFK Airport has four designated cargo areas: Cargo Areas A, B, C, and D. Newark Airport has two designated cargo areas: North Area and South Area. These areas are shown in *Appendix A – Facility Maps*. Only JFK Airport uses logos, as shown in **Figure 6-8**, to designate cargo areas. The logos shall have a white legend on a brown background, and detailed dimensions and other specifications are provided in *Appendix C – Logos and Symbols*.

Figure 6-8

6G. Building Numbers

Building numbers shall be displayed in logos, which may be included on general airport roadway signs or on cargo area signs as discussed in *Section 10 – Cargo Areas*. Building number logos shall follow these rules:

- Logos shall have a black legend on a white background as shown in **Figure 6-9**.
- The logo for a one-digit building number is narrower than the logos for two- and three-digit building numbers. *Appendix C – Logos and Symbols* includes detailed dimensions and specifications of building number logos.
- The horizontal and vertical positioning of building number logos shall be as described in *Section 6H – Placement of Graphic Elements*.
- In most cases, building number logos shall be placed directly on the sign with no overlay. There are two exceptions:
- When logos are included as part of a service-related message, they shall be placed as described in *Section 9B – Service Signs – General Services*.
- When a cargo area message is included on a brown overlay, building number logos related to that cargo area should be placed within the same overlay as shown in Section 3, **Figure 3-6a**.
- Except on directory signs, each row of building number logos shall be aligned to the other messages on the sign and the associated arrow or directional message.

Whenever possible, each building number should be displayed in a separate logo as shown in **Figure 6-9a**. If multiple building numbers must be displayed on a sign but the resulting sign design would exceed height or width constraints, the building numbers may be separated by commas in a single extended logo as shown in **Figure 6-9b**, with detailed dimensions and specifications in *Appendix C – Logos and Symbols*. Building numbers in an extended logo may be on one or more lines depending on sign design constraints. The minimum building number text height in extended logos shall be 10 inches on overhead signs and 6 inches on ground mounted signs.

6H. Placement of Graphic Elements

Special rules on the size, positioning, and spacing of logos and symbols on small guide signs are described in *Section 11H – Small Guide Signs*. Horizontal alignment refers to the positioning of graphic elements to the left, center, or right. Vertical alignment refers to the positioning of graphic elements to the top, center, or bottom.

Figure 6-9a

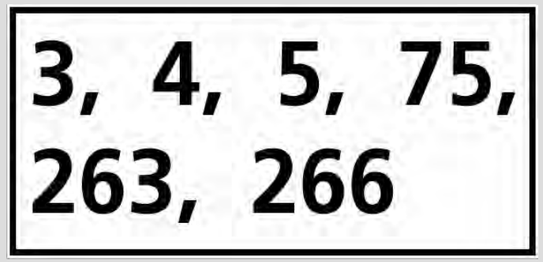


Figure 6-9b

6H.1 Size

The size of a logo or symbol is dependent on the text height:

- On overhead signs without text, the standard size of the logo or symbol shall be 36 inches.
- On ground mounted signs without text, the standard size of the logo or symbol shall be 12 inches.
- For all signs with text, the standard size of the logo or symbol shall be at least 2 times the height of the text.
- The minimum height for a logo or symbol shall be 12 inches.

All logos and symbols on the same sign should be the same height.

6H.2 Positioning

A logo or symbol and its accompanying message should always be perceived by drivers as belonging together, not as two separate elements.

A symbol shall always be placed before the associated text on the same line. The symbol and text shall be horizontally centered.

A logo may be placed on the same line or on a separate line from the associated text. When a logo is placed on the same line as text, the following rules apply:

- Terminal logos at Newark and LaGuardia Airports shall be placed after the word "Terminal" or "Terminals," and otherwise shall be placed before the associated text.
- Terminal and cargo area logos at JFK Airport shall be placed before the associated text.
- Parking lot logos shall be placed after the associated text.
- All logos and text shall be vertically centered.

Figure 6-10 shows examples of signs with terminal logos and **Figure 6-11** shows examples of signs with other logos and symbols.

When there are space restrictions, logos and the associated text may be placed on separate lines, as shown in **Figure 6-12**. The following rules apply:

- The text shall be horizontally centered with respect to the associated logos.
- Terminal logos at Newark and LaGuardia Airports and all parking lot logos shall be placed on the second line, in which case text shall be placed on the first line.
- All other logos shall be placed on the first line, in which case text shall be placed on the second line.
- The vertical spacing between logos and text shall be no greater than the text height. The minimum vertical spacing between logos and text shall be 8 inches for overhead signs and should be 4 inches for ground mounted signs. The minimum vertical spacing for ground mounted signs may be reduced to 3 inches if sign dimensions are constrained.

When multiple lines of text are associated with one or more logos, the following rules apply:

- When one or more logos appear to the left of two or more lines of text that form a single message, the logos shall be top justified to the first line of text, as shown in **Figure 6-10a**.
- When the first line of text is the level number, the logos shall be vertically centered on the first line of text, as shown in **Figure 5-2**.
- In all other cases, the logos shall be vertically centered on the lines of text as shown in **Figure 6-11a**. This includes when the logos appear to the right of the text or when each line of text is a distinct message.

Parking lot logos on different lines shall be horizontally aligned to each other as shown in Section 4, **Figure 4-4**.

When multiple overhead guide signs are next to each other, it may be desirable to configure the signs to look similar (i.e. all terminal logos on top, regardless of message) instead of adhering to the rules in this section. Any such exception for the sake of driver readability shall be approved by Port Authority Traffic Engineering.

Figure 6-10a

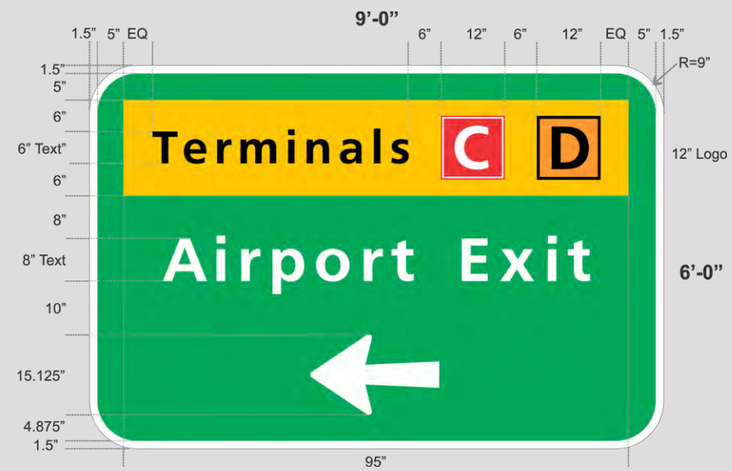


Figure 6-10b

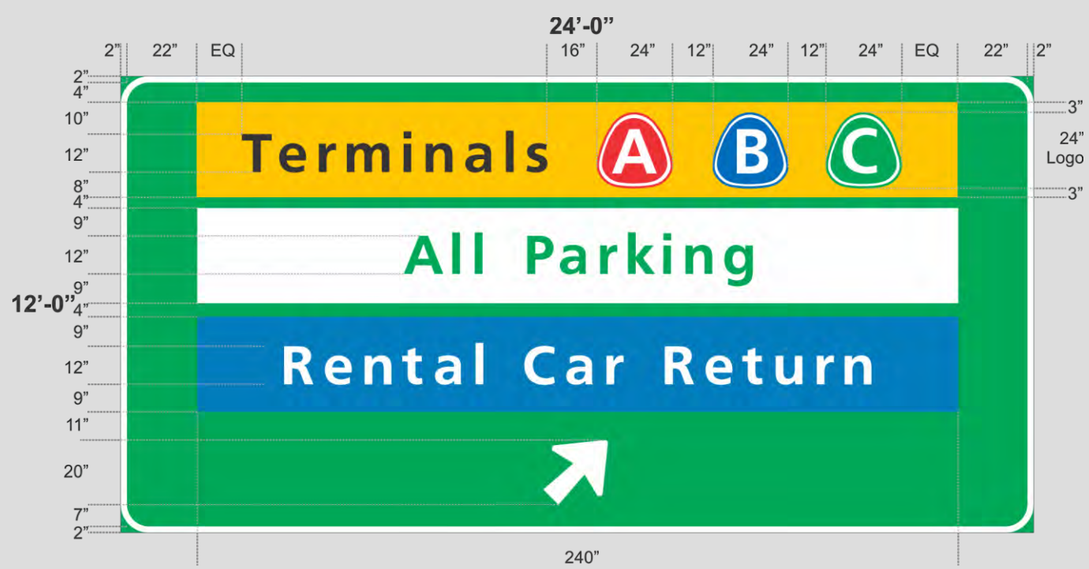


Figure 6-10c

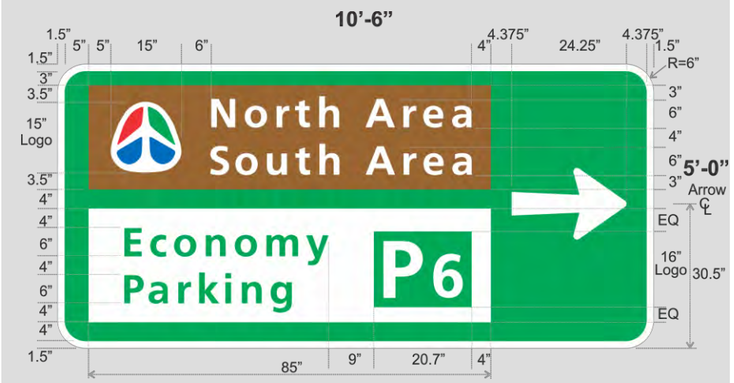


Figure 6-11a

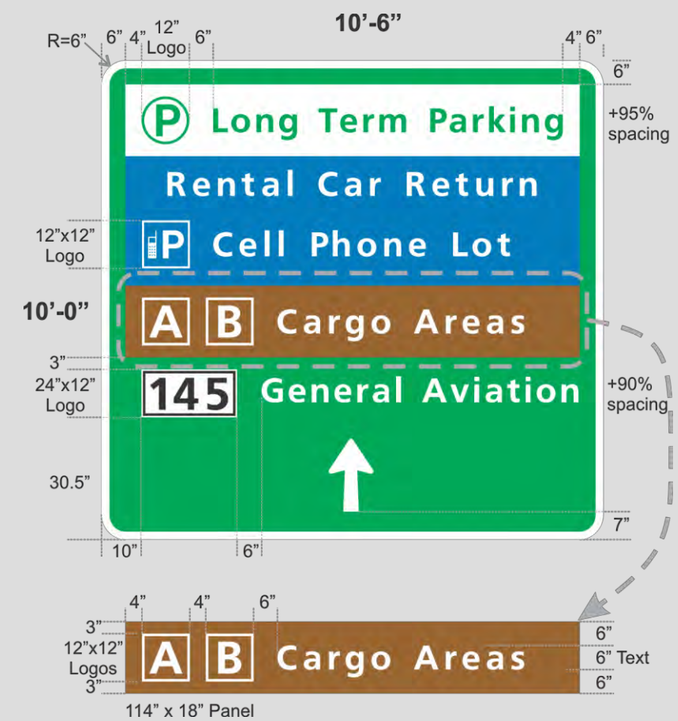


Figure 6-11b

Figure 6-12a

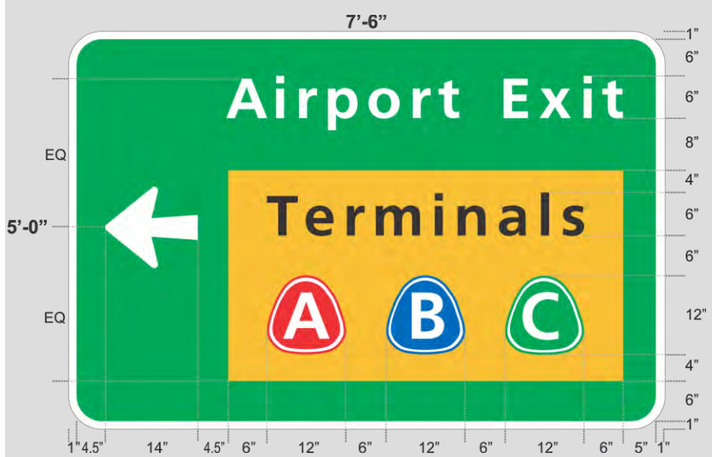


Figure 6-12b

6H.3 Spacing

Figures 6-13 and **6-14** provide an overview of horizontal and vertical spacing requirements. The following spacing rules apply:

- The logo or symbol shall be placed a minimum of 4 inches horizontally from the right or left edge of the overlay and a minimum of 3 inches vertically from either edge of the overlay.
- When the logo or symbol is placed to the left of text, the horizontal spacing to the text shall be a minimum of 4 inches and should be a maximum of the upper case text height. Larger spacing may be warranted on some overhead signs.
- When the logo is placed to the right of text, the horizontal spacing to the text shall be a minimum of the text height.
- There shall never be more than one symbol on any one line, but there may be multiple logos on one line.
- Horizontal spacing between logos depends on the overall size of the sign and the logos.
  - When there is more than one logo on a line, there shall be a 4 inch minimum spacing between the logos.
  - When logos are at least 24 inches tall or on overhead signs, spacing between the logos may be ½ the height of the logos.
- The vertical spacing between logos or symbols should be ½ the height of the logo or symbol, and the minimum spacing shall be 3 inches.

Figures 6-10, **6-11**, and **6-12** show examples incorporating these spacing rules.

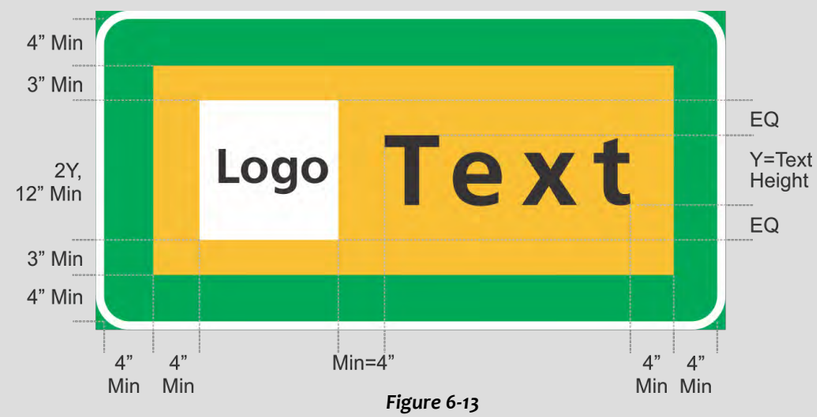


Figure 6-13

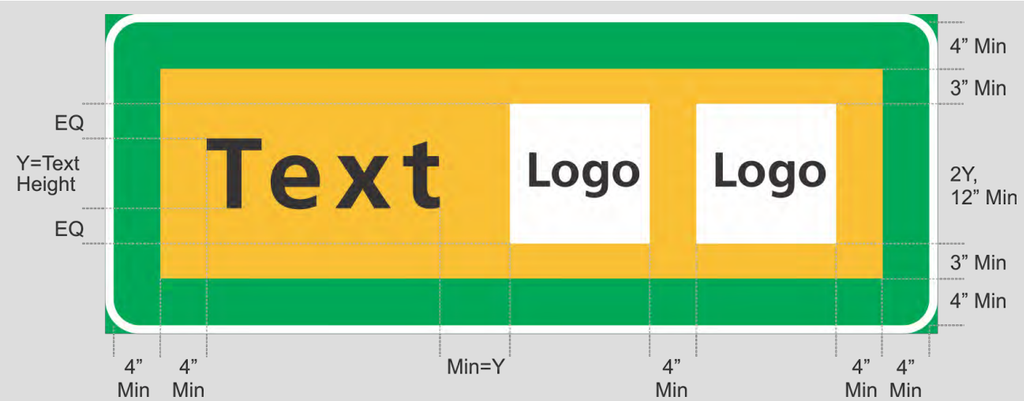


Figure 6-14

7. Arrows

Arrows are used on guide signs to indicate the direction a motorist must take when following the indicated messages.

- Arrows used on small guide signs are discussed in *Section 11H – Small Guide Signs*.
- Arrows used on regulatory and warning signs are discussed in *Section 12 – Regulatory and Warning Signs*.
- Arrows used in parking facilities are discussed in *Section 15A.6 – Parking Facilities – Arrows*.

There are five types of arrows used on guide signs at Port Authority airports: Type A and Type B (up arrows), Type A Extended, Type C (advance turn arrow), and the down arrow. These arrows are described in the *MUTCD*, shown in **Figure 7-1**, and used as described below:

- Type A and B arrows are the primary types used throughout Port Authority airports as described in *Section 7C – Placement*.
- Type A Extended arrows may optionally be used instead of Type A and B arrows where the amount of legend on the sign requires added emphasis on the direction.
- Type C arrows are used at least 200 feet in advance of a turn to pre-position turning vehicles in the correct lanes. Sign location shall follow the guidance given in the *MUTCD*.
- Down arrows shall only be used on overhead signs to indicate one or more lanes to be followed.

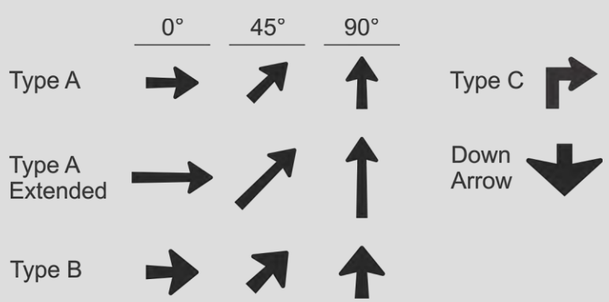


Figure 7-1

Detailed dimensions for these standard arrows are provided in the FHWA's *Standard Highway Signs*.

Arrows shall be pointed at the appropriate angle to clearly convey the direction to be taken. Type A and Type B arrows are typically rotated in increments of 45 degrees, but may be rotated at other angles depending on considerations such as roadway geometry and sign location. Type A and Type B arrows shall always point left, right, or at an upward angle. Type C arrows shall always point upward and either left or right. Down arrows shall always point directly down.

7A. Color

All arrows shall be the same color as the legend.

- Arrows are white when placed on a green, blue, brown, or other dark background.
- Arrows are black when placed on a white, yellow, or orange background.
- Arrows on regulatory and warning signs are designed according to *Section 12 – Regulatory and Warning Signs*.

7B. Size

Arrow sizes shall conform to the dimensions shown in **Table 7-1** for each type. "Width" refers to the width across the arrowhead, while "length" measures from the base of the arrow stem to the point of the arrow.

Table 7-1 - Arrow Sizes

Upper Case Letter Height	Arrow Types and Sizes (Width x Length)				
	Type A	Type A Extended	Type B	Type C	Down
6"	11.25" x 18.25"	11.25" x 22"	8.44" x 9.56" 12.25" x 14"	8.44" x 10.88"	32" x 22"
8"	15.13" x 24.25"	15.13" x 28"	14.25" x 17.25"	14.25" x 18.25"	
10" to 10.67"	18.25" x 29.25"	18.25" x 38"	17.25" x 20.25"	17.25" x 22.38"	
12" to 16"	22.25" x 35.63"	22.25" x 48"	21.88" x 25"	21.88" x 28"	
20"	27.88" x 45"	27.88" x 60"	—	—	

The selection of the appropriate arrow type for a sign depends on several considerations including but not limited to arrow placement, text height, sign location, use of overlays, and dimensions of the sign. In general, the arrow size should be selected from **Table 7-1** based on a width across the arrowhead that is approximately 1.75 times the upper case text height of the major messages on the sign, subject to aesthetic considerations and engineering judgment. Section 6, **Figures 6-10a** and **6- 10b** show the dimensions of arrows and their relationship to text height. The same size arrow shall be used for all messages on one sign as shown in **Figure 7-2**.

For the purpose of sign layout only, the dimensions given in **Table 7-1** may be rounded to the nearest ½ inch. For all other purposes including sign manufacturing, arrow sizes shall conform to this section.

Figure 7-2

7C. Type and Placement

Type A arrows should be used except in the following circumstances:

- Type B arrows should be used for arrows at any angle to the left or right of a single line of text, for vertical up arrows underneath text, or for horizontal left or right arrows to the side of multiple lines of text.
- Type B arrows may be used when Type A arrows do not fit within sign dimension constraints.
- Type A Extended, Type C, and down arrows are used in the circumstances described in paragraph 2 of *Section 7 – Arrows*.

Type A arrows and Type B arrows shall not be used on the same sign.

When two or more signs are next to each other, the same arrow types should be used on all of those signs and the signs should be arranged with a similar layout.

Horizontal centering refers to the positioning of the arrow relative to the left and right. Vertical centering refers to the positioning of the arrow relative to the top and bottom.

7C.1 Overhead Signs

Down arrows shall be located at the bottom of the sign and shall point vertically downward within one foot (plus or minus) of the center of the lane. The arrows should be horizontally centered on the sign if possible.

Down arrows shall only be used on a sign if one arrow points to the center of each lane indicated by the destinations on the sign. These rules and guidelines are shown in **Figure 7-3**.

Up arrows and down arrows shall not both be used on the same sign.

Type A and Type B arrows should be located at the bottom of the sign and horizontally centered on the sign, as shown in **Figure 7-4**. If there are restrictions on the height of the sign:

- The arrow may be placed on the same line of text as the message, to the same side of the text as the arrow direction (either side for an up arrow pointing straight ahead) and vertically centered on the message, as shown in **Figure 7-5**.
- The arrow may be placed on the same side of the overlays as the direction of the arrow (either side for an up arrow pointing straight ahead), vertically centered between the top and bottom edges of the overlays, as shown in **Figure 7-6**.

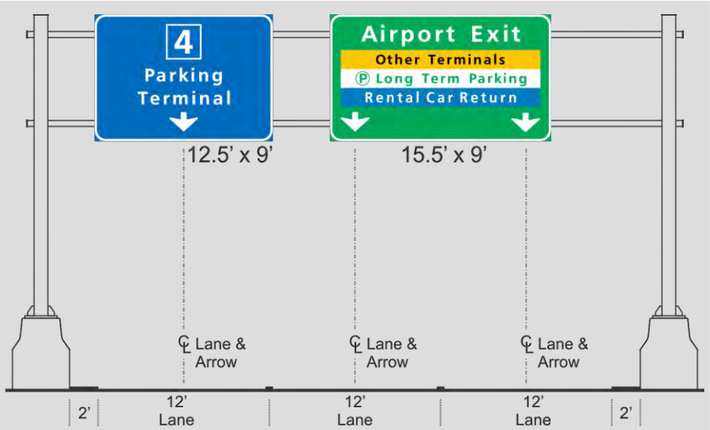


Figure 7-3

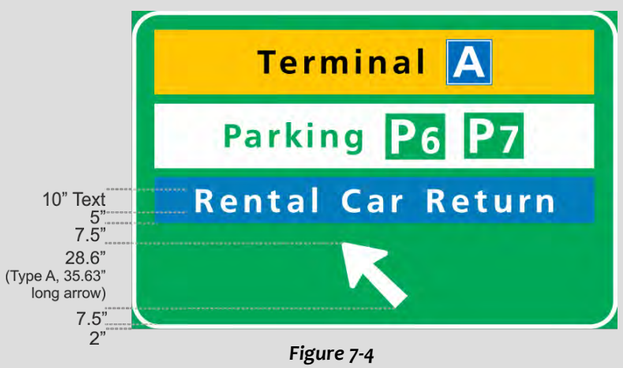


Figure 7-4

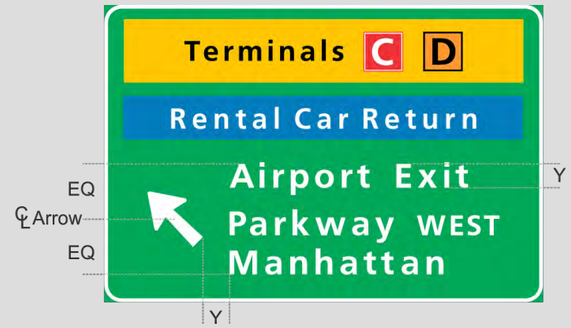


Figure 7-5

Figure 7-6

7C.2 Ground Mounted Signs

The following rules apply to ground mounted signs:

- Arrows should be located in the green space on either or both sides of the sign. The arrow shall be placed at the side of the sign that will reinforce the movement of exiting traffic. For a straight-through movement, the arrow should be placed on the side of the sign closest to the driver.
- When arrows are placed on the side of the sign, each arrow shall be vertically centered on the related lines of text or overlays.
- Signs should never have more than one arrow pointing in any single direction.
- Down arrows shall not be used.

Figures 7-2 and **7-7** show positioning and vertical alignment of arrows.

Figure 7-7

The placement of arrows pointing different directions on the same sign follows the message hierarchy discussed in *Section 3 – Message Hierarchy*, as shown in **Figure 7-8**.

In some cases, the width of ground mounted signs may be restricted due to location, placement, proximity of other signs, etc. In these limited circumstances, the arrow may be placed horizontally centered at the bottom of the sign, as shown in **Figure 7-9**.

7D. Spacing

Spacing is defined in terms of the upper case text height used on the sign. The upper case text height is shown as "Y" in the figures referenced in this section.

7D.1 Overhead

Spacing from the last line of text, bottom of the overlay, or bottom of the logo to the near edge of the arrow should be a minimum of ¾ of the largest upper case text height used on the sign as defined in *Section 4B – Text Height*. Spacing from the edge of the border or message separator line to the near edge of the arrow should be approximately ¾ of the largest upper case text height. **Figure 7-10** shows spacing of arrows on overhead signs.

7D.2 Ground Mounted

Spacing from the edge of arrow to the inner edge of the border, message separator line, logo, or overlay should be a minimum of 4 inches. A minimum space equal to the upper case text height should be maintained from the edge of arrow to a directly applied (not on an overlay) line of text. **Figure 7-11** shows spacing of arrows on ground mounted signs.

Figure 7-8

Figure 7-10

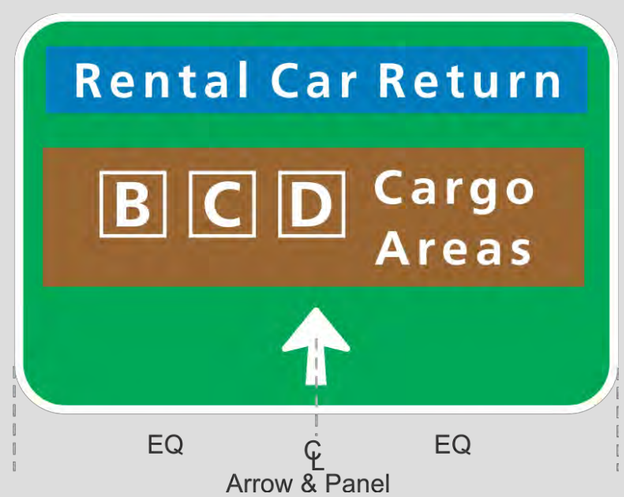


Figure 7-9

Figure 7-11

8. Panel Design

Panels for guide signs shall be sized in 6-inch increments. All ground mounted signs shall have rounded corners and all overhead signs shall have square corners with no rounding.

8A. Borders

Borders are used on signs to give them target value, particularly at night. Accordingly, all on-airport roadway signs shall have borders except Facility Identification signs, as discussed in *Section 11C – Facility Identification Signs*. On both ground mounted and overhead signs, all borders shall have rounded corners as defined in *Section 8B – Corner Radii*.

The border shall be the same color as the legend:

- The border is white on signs with a green, blue, brown, or other dark background.
- The border is black on signs with a white, yellow, or orange background.
- The border on regulatory and warning signs is designed according to *Section 12 – Regulatory and Warning Signs*.

When the border is black, it shall be inset from the edge of the sign, and the space between the border and the edge of the sign shall be the same color as the sign background.

The border dimensions shown in **Table 8-1** shall be used for all overhead and ground mounted roadway signs.

Table 8-1 - Border Width

Location and Sign Area		Border Width	Black Border Inset
All overhead signs		2”	1.5”
Ground mounted signs	< 20 ft^2	1”	0.625”
	20 ft^2 – 40 ft^2	1.25”	0.75”
	> 40 ft^2 – 60 ft^2	1.5”	1”
	> 60 ft^2	2”	1.5”

The stroke width of the lettering used for the primary sign message should be thicker than the border width.

Borders for parking lot and garage signs are as described in *Section 15A.1 – Parking Facilities – General Rules and Guidelines*.

8B. Corner Radii

The corner radius of airport guide signs shall be determined from **Table 8-2** except that the radius shall be no greater than the height of the primary sign message. The corner radius shall always be a multiple of 3 inches. Border widths and insets shall be maintained around the corners.

- On ground mounted signs (rounded corners), the corner radius is defined as the radius applied to the outside edge of the sign.
- On overhead signs (square corners) with a white border, the corner radius is defined as the radius applied to the outside edge of the border.
- On overhead signs (square corners) with a black border, the corner radius is defined as the radius applied to the outside edge of the inset.

Table 8-2 - Corner Radius

Length of Shortest Side	Corner Radius
36” or less	3”
42” – 60”	6”
66” – 84”	9”
90” or more	12”

Regulatory and warning signs shall have a corner radius in compliance with the latest edition of the *MUTCD*, as discussed in *Section 12 – Regulatory and Warning Signs*.

8C. Message Separator Lines

Message separator lines are used to separate different message groups as described in *Section 3 – Message Hierarchy* and to separate messages on overlays as described in *Section 8C.2 – Signs with Overlays*. Section 7, **Figures 7-7** and **7-8** show examples of signs with message separator lines. Message separator lines shall follow these rules:

- Message separator lines on guide signs shall be the same color as the border.
- Message separator lines on overlays shall be the same color as the text on the overlay.
- The width of the separator line shall be at least half the border width and no more than equal to the border width, and shall be rounded to the nearest 0.25 inches.
- Except as described in Sections 8C.1 and 8C.2, all message separator lines shall begin and end at the inside edge of the border or at the edge of another separator line.

8C.1 Signs with Headers

A header is a message at the top of the sign that applies to all of the messages on the sign. The header may or may not have a horizontal message separator line (header separator line) separating it from other messages on the sign. **Figure 8-1** shows examples of signs with headers.

- A header separator line shall be used if there are any other horizontal message separator lines on the sign and otherwise may be omitted.
- When it is used, the header separator line shall extend between the inside edges of the left and right border of the sign.
- Other horizontal message separator lines shall extend at least to the leftmost and rightmost edges of the message (including text, arrows, logos, and symbols). The ends of horizontal message separator lines should be at least 4 inches from the inside edge of the border.
- If there is a header separator line, vertical message separator lines shall extend between the header separator line and the inside edge of the bottom border of the sign.
- If there is no header separator line, vertical message separator lines should extend to the bottom and top edges of the message. The message includes text, arrows, logos, and symbols, but does not include descenders on lower case letters like "p" and "g." The separator lines may instead extend to the inside edge of the bottom border.

8C.2 Signs with Overlays

If an overlay has a header message, refer to *Section 8C.1 – Signs with Headers*. References to "inside edge of border" in that Section should be construed as "edge of overlay."

If an overlay does not have a header message, message separator lines on overlays should extend to the edges of the overlay. Separator lines may instead extend to the left and right edges or top and bottom edges of the message. The message includes text, arrows, logos, and symbols, but does not include descenders on lower case letters like "p" and "g."

Figure 8-1a

Figure 8-1b

9. Service Signs

Signs that include both service-related messages and other messages shall be designed as standard guide signs according to Sections 2 through 8 of this Manual. Signs that include only service-related messages shall follow the principles in Sections 2 through 8, modified by the rules and guidelines given in this Section.

All signs that include only service-related messages shall use the arrow hierarchy described in *Section 3C – Arrow Hierarchy*. Messages associated with the up arrow shall be listed first, followed by messages associated with the left, right, and down arrows. Messages associated with a directional message shall be listed last.

9A. Rental Car Messages

"Rental Car Return" shall be the message used on all inbound roadway signs and any other signs directing traffic between the airport entrance and rental car lots. "Rental Cars" shall be the message used on signs displaying company nameplates, such as on roadways primarily serving rental car lots, to direct motorists between different rental car businesses.

Service signs that include only rental car-related messages shall be designed according to the following rules. A typical example is shown in **Figure 9-1**.

- The sign shall have white legend on a blue background and no overlays shall be used.
- The sign shall have a header message of "Rental Cars" with a separator line below.
- The only graphic elements that shall appear on the sign are rental car company nameplates, arrows, and directional messages.

Rental car company nameplates are demountable panels with allowable colors and company names as listed and described in *Section 6D.1 – Graphic Elements – On-Airport Services – Rental Car Companies*. As shown in **Figure 9-1**, the following rules and guidelines apply to nameplate layouts:

- Nameplates on ground-mounted signs should measure 48 inches wide and 10 inches tall. The Port Authority will provide modified nameplate dimensions if application to an overhead sign is required.
- Nameplates should follow the same layout criteria as logos and symbols as described in *Section 6H – Placement of Graphic Elements*, except the minimum spacing on any side of a nameplate to any other sign panel element (including other nameplates, text, edge of overlay, border, etc.) may be reduced to 3 inches.
- Nameplate specifications are detailed in *Appendix C – Logos and Symbols*.

The dimensions shown in **Figure 9-2** shall only be used if the smaller nameplates result in a beneficial reduction in sign size. The same dimensions shall be used for all nameplates on a sign.

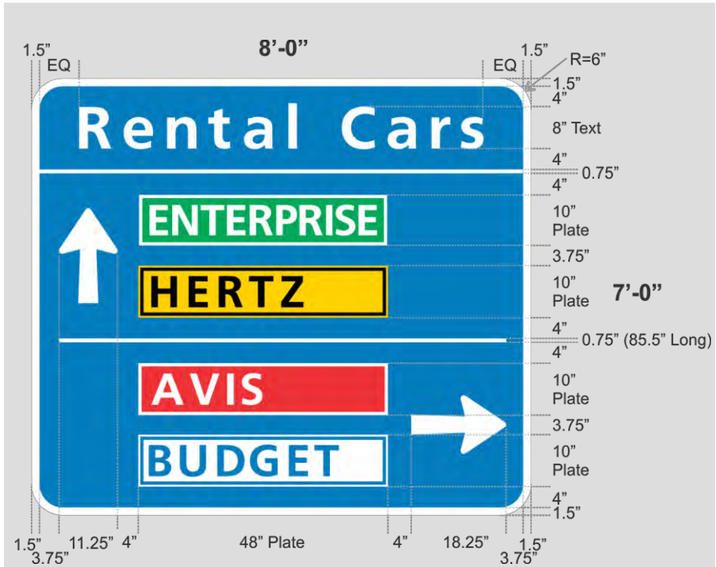


Figure 9-1a

Figure 9-1b

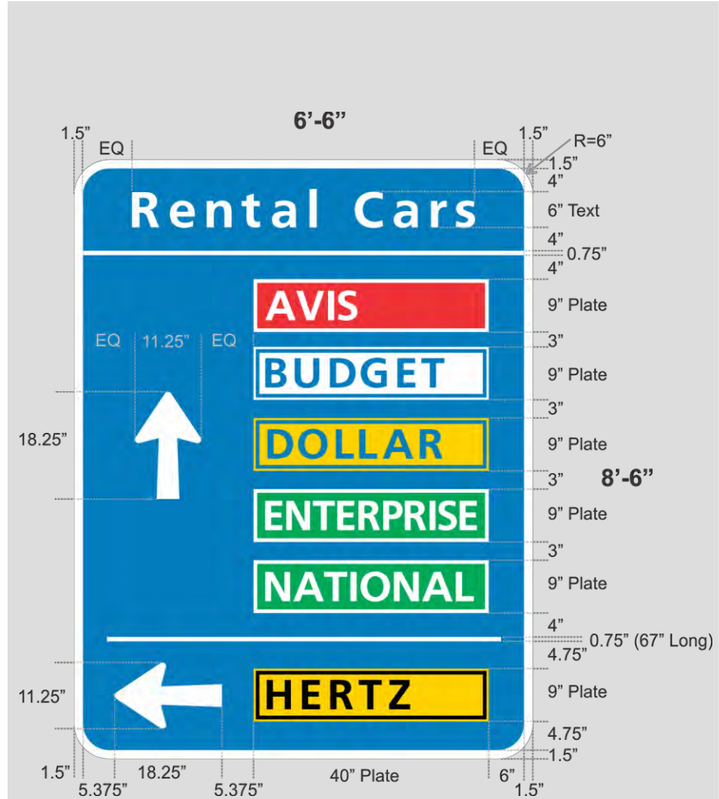


Figure 9-2a

Figure 9-2b

9B. General Services

Appendix B – Sign Terminology includes a list of approved service message terminology. The use of any symbol or terminology representing a particular service must be approved by the Port Authority.

Symbols related to on-airport services are described in *Section 6D.2 – Graphic Elements – On-Airport Services – General Services* and shown in Section 6, **Figure 6-6**. The application of these symbols to guide signs is shown in **Figures 9-3** and **9-4**:

- **Figure 9-3a** shows an example where the service has an associated symbol.
- **Figure 9-3b** shows an example where the service has no associated symbol but the associated building number is used for navigation.
- **Figure 9-4** shows examples where the service has both an associated symbol and building number used for navigation.
  - When a service has an associated symbol, the building number is also displayed when other signs used for navigation to the building display only the building number.
  - The symbol shall appear before the name of the service and the building number shall appear after as shown in **Figure 9-4a**, unless there are other services listed only with building numbers.
  - When there are other services listed only with building numbers, the building number shall appear before the name of the service and the symbol shall appear after as shown in **Figure 9-4b**.

In the special condition where space constraints do not permit use of a standard guide sign for a service, a small guide sign with symbol and text may be employed. Design considerations are discussed in *Section 11H – Small Guide Signs*.

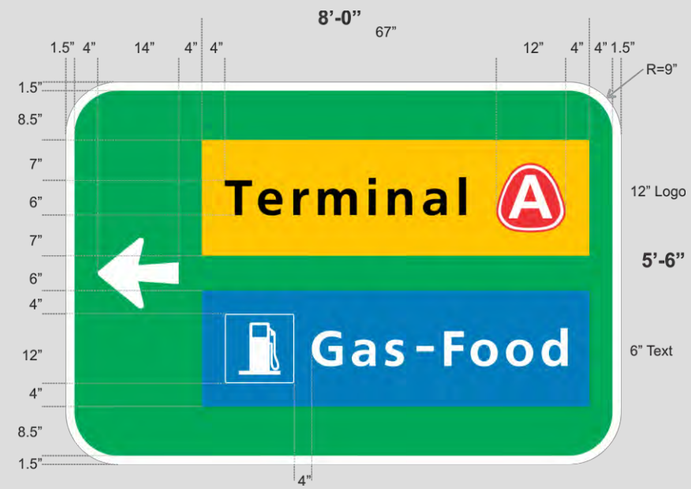


Figure 9-3a

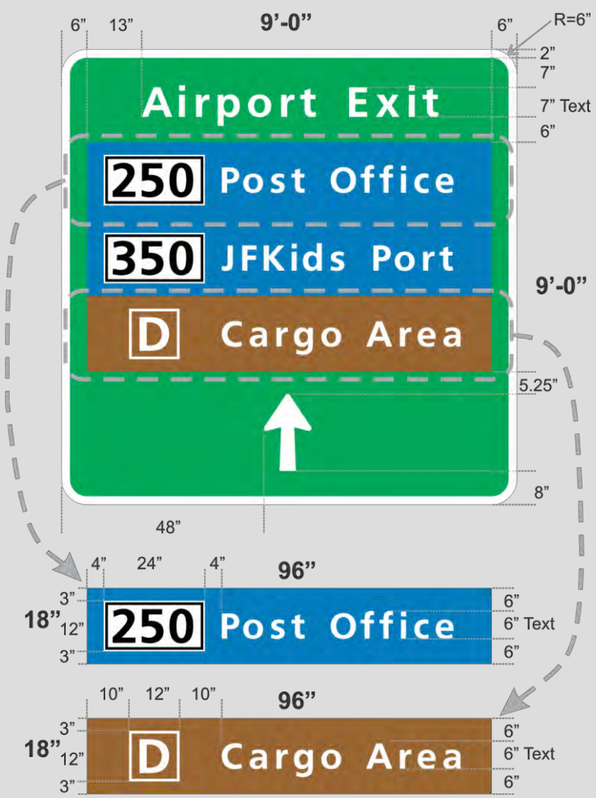


Figure 9-3b

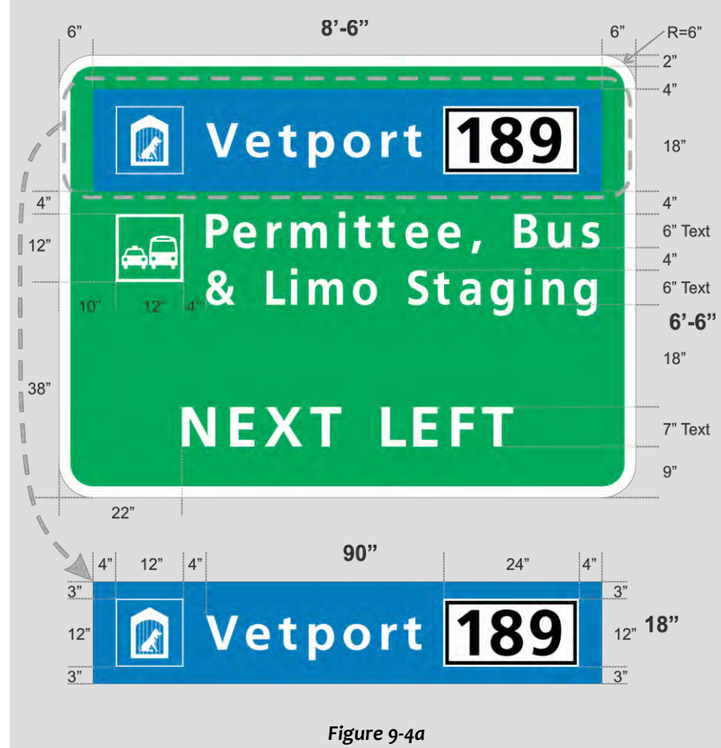


Figure 9-4a

Figure 9-4b

10. Cargo Areas

JFK Airport has four designated cargo areas: Cargo Areas A, B, C, and D. Newark Airport has two designated cargo areas: North Area and South Area. These areas are shown in *Appendix A – Facility Maps*.

- All guide signs with cargo-related messages located outside these areas, including at other airports, shall be designed as standard guide signs according to Sections 2 through 8 of this Manual.
- Inside or entering designated cargo areas, signs that include both cargo-related messages and other messages shall be designed as standard guide signs according to Sections 2 through 8 of this Manual.
- Signs that include only cargo-related messages shall follow the principles in Sections 2 through 8, modified by the rules and guidelines given in this Section.

All signs that include only cargo-related messages shall use the arrow hierarchy described in *Section 3C – Arrow Hierarchy*. Messages associated with the up arrow shall be listed first, followed by messages associated with the left, right, and down arrows. Messages associated with a directional message shall be listed last.

Cargo areas at JFK Airport are represented by logos consisting of the letter designation in white legend on a brown background. These logos are shown in Section 6, **Figure 6-8**.

There are three types of cargo area guide signs with only cargo-related messages:

- Signs with directional messages related to multiple cargo areas, as described below.
- Signs with directional messages related to one cargo area, which shall be designed according to *Section 10A – Directional Signs*.
- Building directory signs, which shall be designed according to *Section 10B – Building Directory Signs*.

Signs with directional messages related to multiple cargo areas shall be designed as standard guide signs according to Sections 2 through 8 of this Manual, except the word "Building(s)" or "Bldg(s)" and the associated building numbers are included on the brown overlay. A typical example is shown in **Figure 10-1**. The word "Building(s)" or "Bldg(s)" may be either:

- On the same line as the building number logos, vertically centered with the logos.
- On the line above the building number logos, left justified with the leftmost logo.

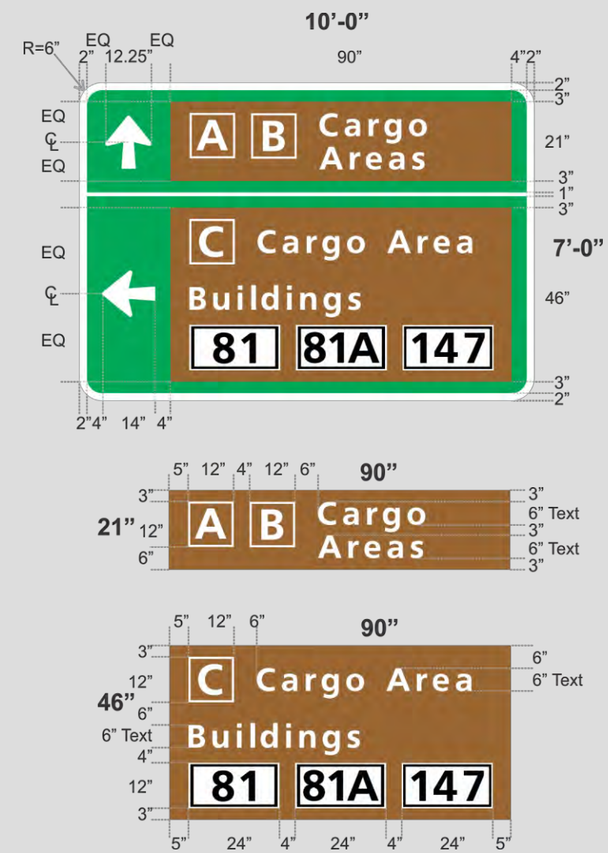


Figure 10-1

10A. Directional Signs

In the context of this Section, directional signs are defined as cargo area signs used to direct motorists to different buildings within a particular cargo area. A typical example is shown in **Figure 10-2**. Cargo area directional signs shall be designed according to the principles described in Sections 2 through 8 of this Manual. The sign shall comprise the following elements:

- A header consisting of the name of the cargo area (and logo if applicable) in white legend on a brown background with a separator line below.
- The building numbers preceded by "Building(s)" or "Bldg(s)" in white legend on a green background. Tenants shall not be listed, except Fixed Base Operators (FBOs) may be listed if they provide public services or operations. Building number logos shall be designed and arranged on the sign as described in *Section 6G – Building Numbers*.

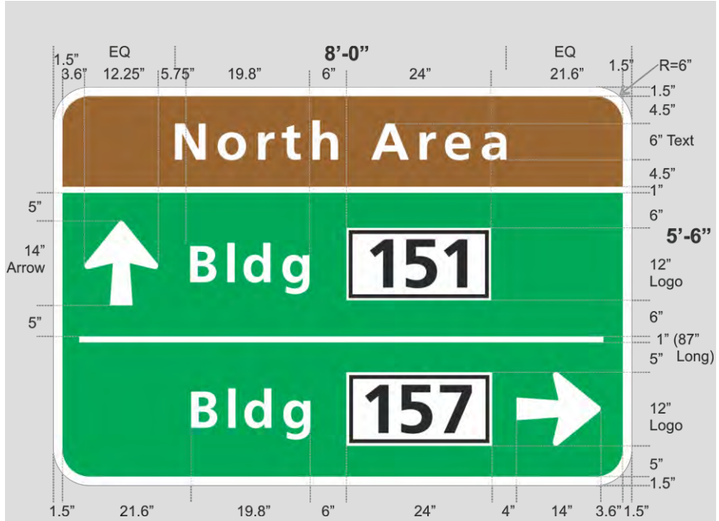


Figure 10-2

10B. Building Directory Signs

Building directory signs are only located at or along building driveways. Some buildings do not have directory signs.

Rules for airline names and capitalization are given in *Section 11D – Airline Directory Signs*. Tenants shall be listed in alphabetical order without providing any distinction for subtenants.

Building directory signs shall be sized to accommodate the maximum number of anticipated tenants. Depending on sign dimension constraints, tenants may be listed in more than one column.

Typical building directory signs are shown in **Figure 10-3**. Building directory signs shall be designed according to the principles described in Sections 2 through 8 of this Manual. The sign shall comprise the following elements:

- A header consisting of the name of the cargo area (and logo if applicable) in white legend on a brown background with a separator line below.
- The building numbers and arrow in white legend on a green background. Building number logos shall be designed as described in *Section 6G – Building Numbers*.
- Tenant listings consisting of demountable nameplates with white text on a green background and no border. The outlines in **Figure 10-3** are only shown for display purposes to represent the extents of the nameplates.

Building directory signs are designed according to the following rules and guidelines:

- The minimum text height of the tenant names shall be 6 inches.
- A minimum horizontal separation of 2 inches shall be maintained between columns of demountable tenant nameplates.
- Columns of demountable tenant nameplates should be separated by a message separator line horizontally centered between the edges of the nameplates. The message separator line should extend from the bottom of the bottommost nameplate to the top of the topmost nameplate.

The Port Authority desires to maintain consistency in nameplate dimensions between different signs so that nameplates may be reused if tenants move between buildings. Whenever possible, new nameplates should be designed to match the dimensions of existing nameplates on signs at that facility. Note that existing signs may reflect prior facility policies on indentation, font sizes, or color schemes, particularly in regard to distinguishing subtenants. These policies shall not be followed on new signs, including the consideration of reusing existing nameplates.

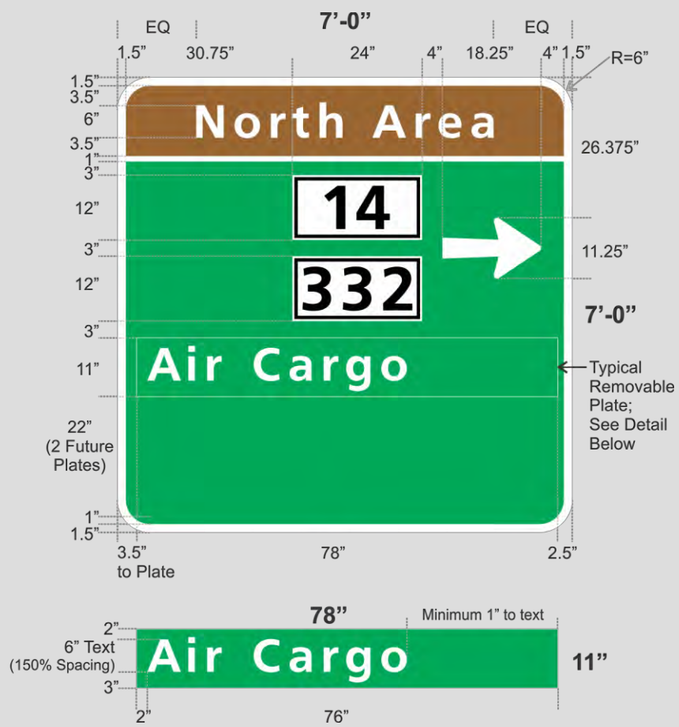


Figure 10-3a

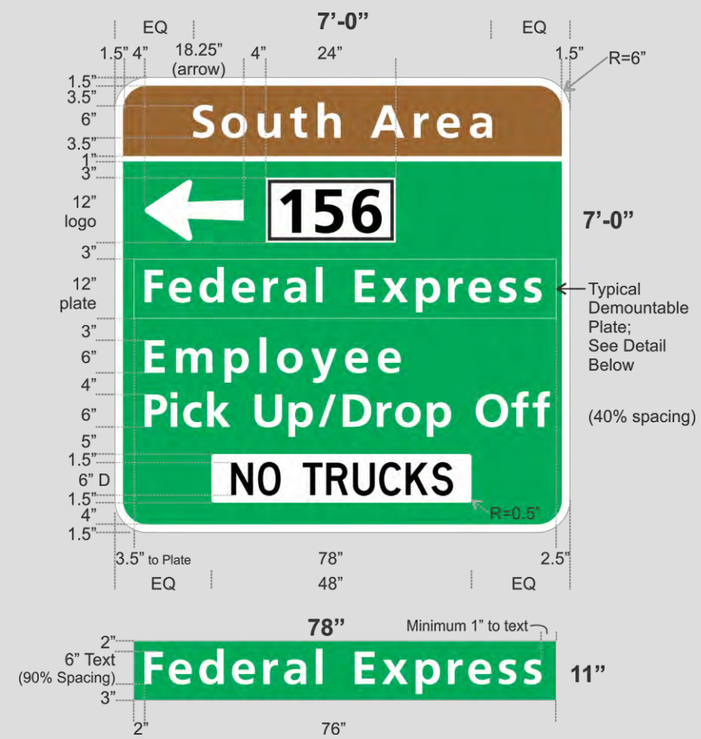


Figure 10-3b

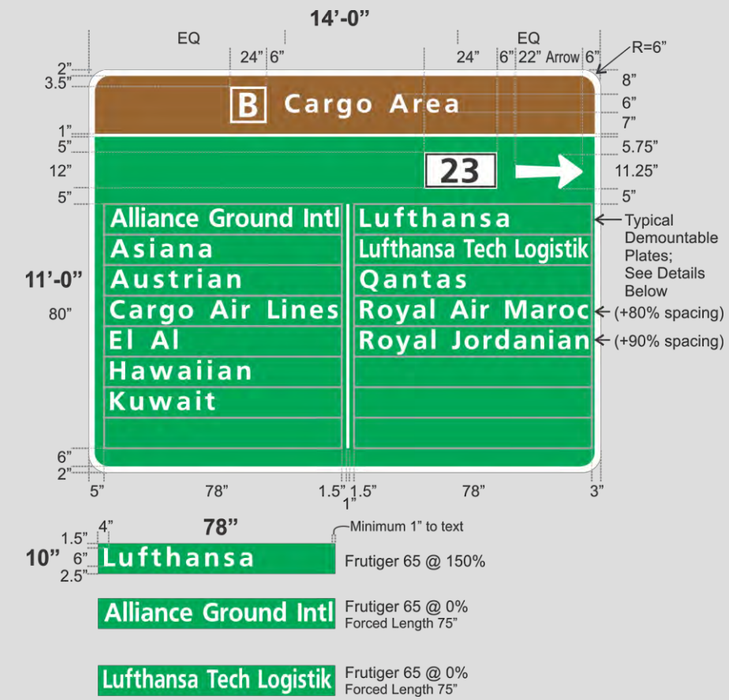


Figure 10-3c

11. Specialized Guide Signs

This section discusses cases of guide signs found throughout airport property that follow special design rules and guidelines. Each subsection discusses a particular type of sign and the particular rules associated with it. Unless otherwise described in this section, signs are designed according to the same principles as regular airport guide signs as described in Sections 2 through 8.

11A. General Aviation

General aviation includes private aircraft operations and various types of cargo and chartered aircraft services provided by Fixed Base Operators (FBOs). Unlike other building tenants, FBOs may be listed on relevant directional signs as well as building directory signs.

- Teterboro Airport functions as a general aviation airport and does not accommodate scheduled carrier operations. At Teterboro Airport, all FBOs shall be listed on guide signs, which shall be designed as standard guide signs according to Sections 2 through 8 of this Manual. The names of FBOs are considered terminal messages and shall therefore appear in black legend on a yellow overlay. All FBOs and other tenants shall be listed in alphabetical order on demountable nameplates. Section 2, **Figure 2-5** shows an example of a Teterboro general aviation guide sign.
- At all other airports, FBOs are only listed if they provide public services or operations. General aviation facilities are signed using building number logos as described in *Section 6G – Building Numbers*. FBOs shall be listed with white text on a green background.
    - FBOs may be listed on directional signs, which are designed according to *Section 10A – Directional Signs*.
    - FBOs listed on building directory signs should be listed the same way as tenants as described in *Section 10B – Building Directory Signs*.

11B. Building Façade Signs

Building façade signs are not strictly guide signs, but are relevant to this Manual because they are used by motorists to locate their destination. Therefore, the signs must be mounted to maximize visibility to approaching motorists:

- Signs should be located toward the top of the building and not at eye level.
- The recommended location is an offset of 2 feet from the top and side of the building, adjusted for visibility and physical obstructions.
- One sign shall be mounted on each side of the building that faces approaching traffic. Approaches from parking lots or dead end roads are excluded.
- Minor approaches to small buildings may also be excluded on a case by case basis with Port Authority approval.

Figure 11-1 shows a typical building façade sign installation.

Signs shall be designed with black legend on white background, indented borders and square corners as shown in **Figure 11-2**.

Because they are mounted to buildings, façade signs do not have the same limitations in sign size as guide signs:

- **Figure 11-2a** shows recommended sign dimensions for one-story buildings.
- **Figure 11-2b** shows recommended sign dimensions for multi-story buildings.
- Sign dimensions vary according to the height of the building and the number of digits (including letters) in the building number.
- Variation from the recommended dimensions is permissible to meet the sign visibility criteria established in the *MUTCD* depending on the mounting height, approaching roadway geometry, and speed of approaching traffic.

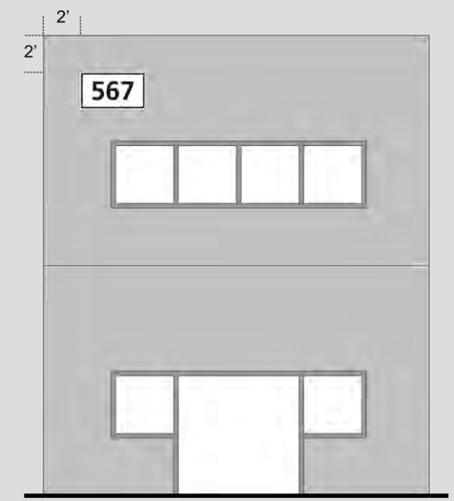


Figure 11-1

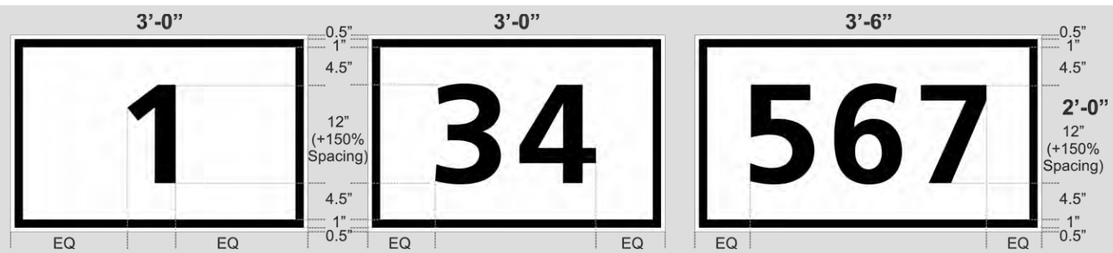


Figure 11-2a

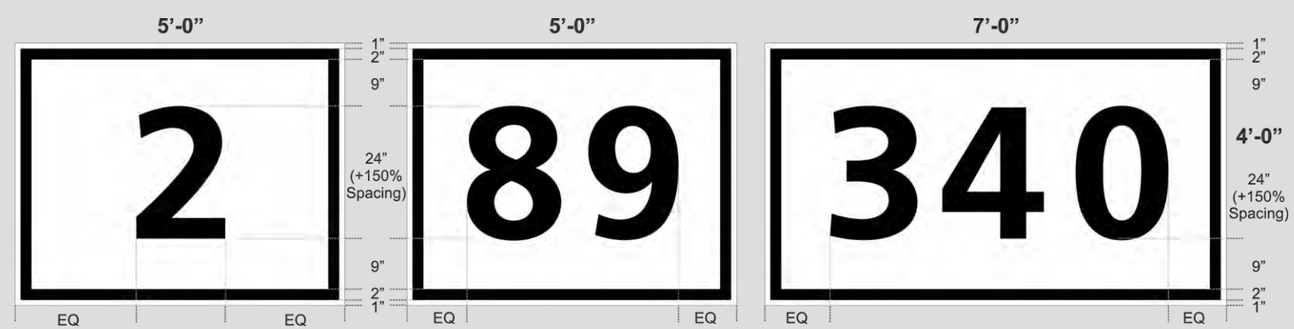


Figure 11-2b

11C. Facility Identification Signs

Facility identification signs are found at entrances to airport property. The locations and placement of the signs are subject to engineering judgment given that guide, regulatory and warning signs have priority to motorists. The dimensions of a facility identification sign depend on the constraints of location and placement, avoiding obstructing messages on other roadway signs.

As shown in **Figure 11-3**, the top of the sign is designed with the facility name in white legend on a light blue background, and the bottom of the sign consists of the Port Authority logo in white legend on a blue background. Inter-letter spacing shall be +0%. Additional rules, including text and logo placement and proportion requirements, are provided by Port Authority Marketing and Port Authority Aviation.

Figure 11-3a

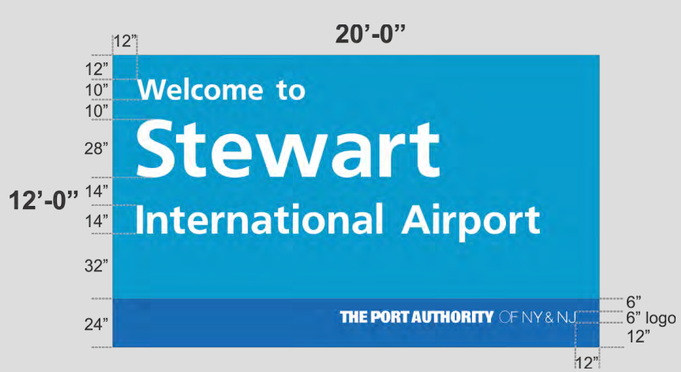


Figure 11-3b

11D. Airline Directory Signs

Airline directory signs are lists of airlines associated with each terminal, located along inbound roadways. Airline directory signs shall be located in ascending terminal order starting with "A" or "1." If there is insufficient advance distance to locate directory signs for all terminals in order, at a minimum the directory sign for each terminal shall be located in advance of the exit or roadway leading to that terminal.

Typical airline directory signs are shown in **Figures 11-4** to **11-6**:

- JFK Airport: **Figure 11-4** shows a ground mounted sign on an inbound roadway.
- Newark Airport: **Figure 11-5a** shows an overhead sign and **Figure 11-5b** shows a ground mounted sign on an inbound roadway.
- LaGuardia Airport: **Figure 11-6a** shows a ground mounted sign on an inbound roadway and **Figure 11-6b** shows a ground mounted sign on a recirculation roadway.
- Stewart Airport: There are no airline directory signs on roadways because there is only one passenger terminal.

11D.1 Airline Listing Criteria

Airline names follow these rules:

- Airline names shall be listed in alphabetical order.
- The first letter of each word within an airline name shall be capitalized and the remaining letters shall be lower case. All letters of an abbreviation shall be capitalized only if the abbreviation consists entirely of initials, such as "KLM." These rules are shown in **Figure 11-4**.
- The word "Air" shall be listed if it comes before the name of the airline, such as "Air India." The words "Air," "Airlines," or "Airways" are omitted if they come after the name of the airline, such as "Alaska." The Port Authority retains the sole discretion to list the words "Air," "Airlines, or "Airways" after the name of the airline if omission would cause confusion, such as "Jet Airways." These rules are shown in **Figure 11-5a**.
- The space between words in an airline name is omitted from the listing if it is omitted in the official airline name, such as "JetBlue," as shown in **Figure 11-5b**.
- Airline names shall not be displayed with corporate logos or other branding.

To reduce the number of airline names that must be read by motorists who enter the airport at moderate to high speeds:

- Codeshare partner airlines that do not operate aircraft at the terminal are not listed.
- Charter services are not listed.
- Subsidiaries operating in the same terminal as the parent airline may be omitted.

Only if approved by Port Authority Traffic Engineering, the listing for an airline may be subdivided to show specific operations. This may occur where one airline has different destinations, services, or operations located in different levels or terminals. An example is shown in **Figure 11-6a**.

11D.2 Sign Design Rules and Guidelines

Airline directory signs should be sized to accommodate the maximum number of anticipated airlines at the terminal, but if all of the airlines associated with a single terminal will not fit within a single sign, two or more consecutive signs may be used. Depending on sign dimension constraints, airlines may be listed in two columns. When there are physical constraints due to roadway configuration, listings for two terminals may be combined on one sign as shown in **Figure 11-6a**.

At JFK Airport, airline directory signs are designed as shown in **Figure 11-4**:

- Header with the terminal designation using the legend and background colors associated with that terminal's zone.
- White header separator line.
- Airline names listed on demountable nameplates in white legend on a gray background with no border. The outlines in **Figure 11-4** are only shown for display purposes to represent the extents of the nameplates.

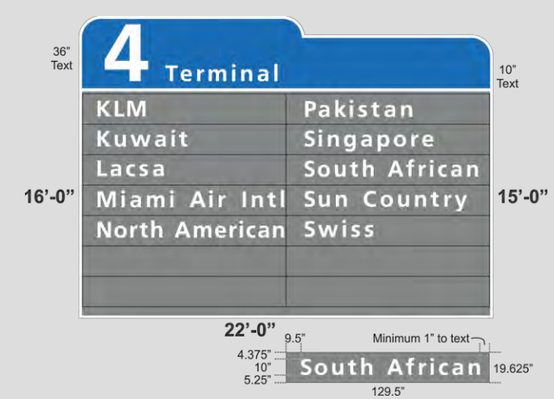


Figure 11-4

At Newark and LaGuardia Airports, airline directory signs are designed as shown in **Figures 11-5** and **11-6**:

- The sign shall start with white legend on a green background. Typically, the sign border is the only element of white legend on the sign, but there may be an arrow or directional message.
- Terminal messages, including airline names listed on demountable nameplates, shall be in black legend on a yellow overlay with no border. The outlines in **Figures 11-5** and **11-6** are only shown for display purposes to represent the extents of the nameplates.

Demountable airline listing nameplates shall match the color of the background or overlay on which they are placed. A message separator line shall be used to separate two columns of airline nameplates. The minimum text height of the airline names shall be:

- 10 inches on overhead signs
- 8 inches on ground mounted signs on inbound roadways
- 6 inches on ground mounted signs on other roadways (such as recirculation roadways)

Passenger drop-off frontages may be located on more than one level of a terminal to serve airline check-in facilities located on each level. The airline directory signs for these terminals shall list airlines associated with each level in separate columns, preceded by a header message listing the level number. The header message may span two columns.

The header message shall consist of the word "Level" and the level number in yellow text on a black background. **Figure 11-5a** shows an example of a level number message at Newark Airport.

When airline nameplates for a single terminal are listed in two columns and the columns are not associated with different levels, the message separator line shall be offset from the top and bottom of the background or overlay on which the nameplates are placed. When the two columns are associated with different levels or different terminals, the message separator line is not offset.

The Port Authority desires to maintain consistency in nameplate dimensions between different signs so that nameplates may be reused if airlines move between terminals. Whenever possible, new nameplates should be designed to match the dimensions of existing nameplates on signs at that facility. Note that existing signs may reflect prior facility policies on font sizes or color schemes. These policies shall not be followed on new signs, including the consideration of reusing existing nameplates.

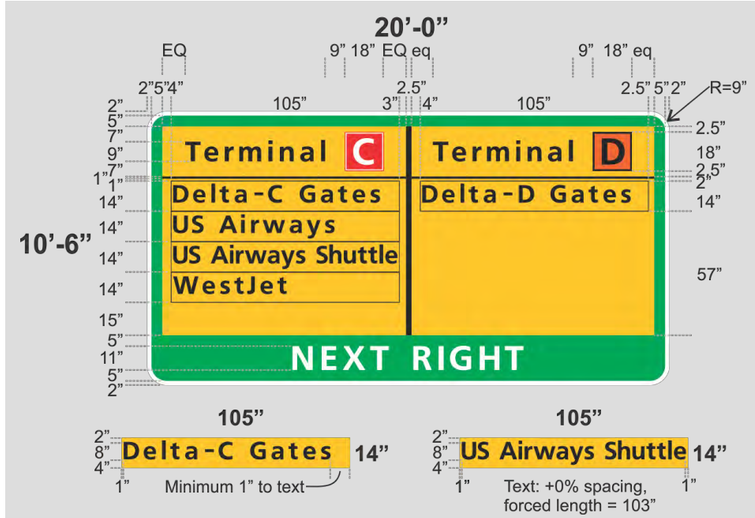


Figure 11-6a

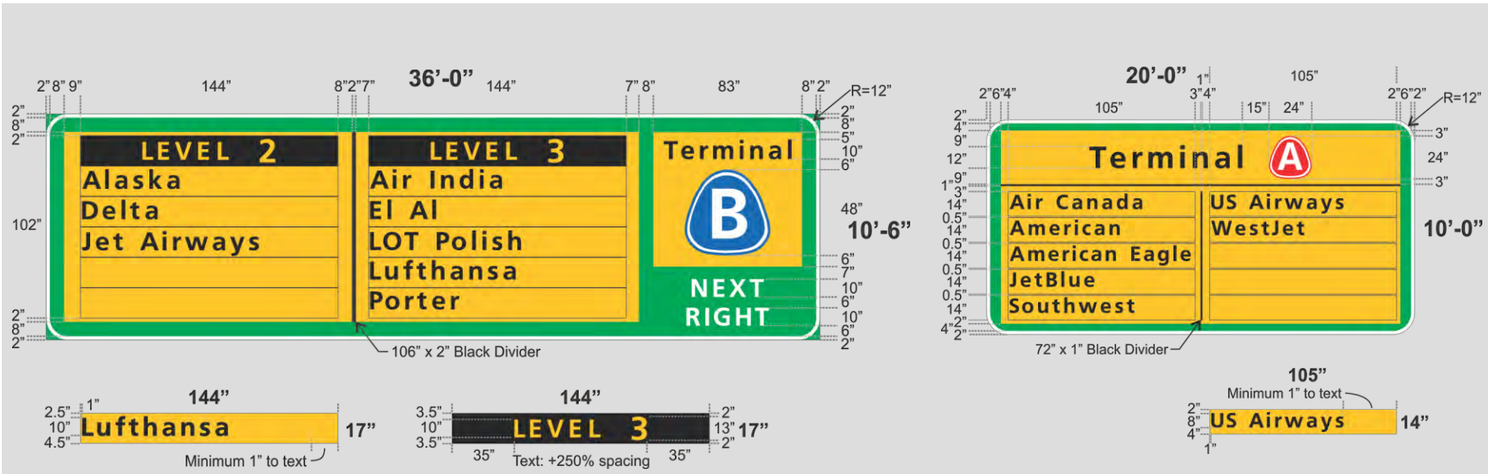


Figure 11-5a

Figure 11-5b

Figure 11-6b

11E. Parking Rate Signs on Inbound Roadways

Parking rate signs display different types of parking lots and their associated rates. They are located at airport entrances along inbound roadways. Examples are shown in **Figure 11-7**. Note that the Aviation Department may change rates and rate structures at each airport. Consult Port Authority Traffic Engineering for the current rates prior to designing the parking rate sign.

The parking rate sign consists of a header with the message "Airport Parking," a message separator line, parking facility designations, and the parking rates associated with each facility. Parking rate signs are designed with white legend on a green background as per Sections 2 through 8 of this Manual, except the minimum text size shall be 8 inches due to the amount of information presented on these signs. Because the text is applied directly to the green background with the exception of JFK Long Term Parking, parking lot logos are displayed using a reverse color scheme (green on white) as shown in **Figure 11-7a**.

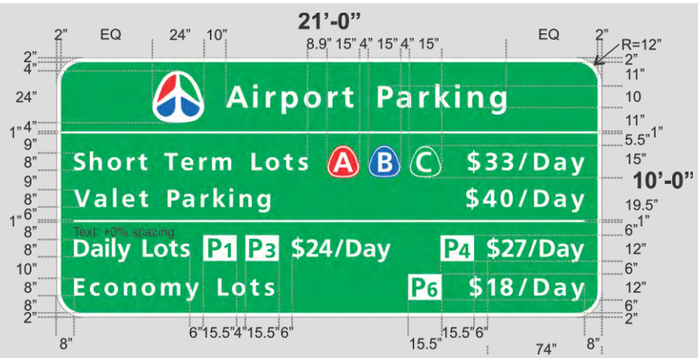


Figure 11-7a

Figure 11-7b

11F. Street Name Signs

Street name signs are located at airport roadway intersections and are generally double sided. They are designed according to the *MUTCD* with specific rules at some airports:

- JFK Airport signs have white legend on a blue background with the associated logo inside an arc as shown in **Figure 11-8a**.
- Newark Airport signs have white legend and the airport logo on a green background as shown in **Figure 11-8b**.
- LaGuardia Airport signs have white legend on a green background with the associated logo inside an arc as shown in **Figure 11-8c**.

Street name signs shall use the Federal Highway Administration "Highway" typeface. Signs mounted on traffic signal mast arms shall have minimum text heights of 8 inches for the street name and 6 inches for secondary text such as "Ave," "St," etc. Ground mounted signs shall have minimum text heights of 6 inches for the street name and 4 inches for secondary text. For a given sign width and text height, the widest typeface that fits should be used (for example, Highway 'C' instead of 'B').

Figure 11-8a

Figure 11-8b

Figure 11-8c

11G. Bus Stop Signs

Regardless of their location in the airport, bus stop signs follow the same design rules and guidelines as terminal frontage location signs. Refer to *Section 14C.1 – Frontages – Bus Stop Signs.*

11H. Small Guide Signs

Small guide signs may be used when a message cannot be accommodated on regular guide signs due to space or visibility constraints. Small guide signs direct motorists along a continuously signed route to destinations such as terminals, parking lots, and services. If a guide sign along this signed route is mounted overhead, it shall be designed according to Sections 2 through 8 of this Manual because additional legibility is required.

Examples of small guide signs are shown in **Figures 11-9** and **11-10**. Small guide signs are designed according to Sections 2 through 8 of this Manual with the following modifications:

- A minimum text height of 4 inches should be used. The absolute minimum shall be 3 inches.
- If a message cannot be written in Frutiger 65 due to sign dimensions, even with reduced inter-letter spacing, the Federal Highway Administration "Highway" typeface may be used as shown in **Figure 11-9c**.
- The edge of any overlay shall be offset a minimum of 1 inch from any other element on the sign, including the border, text, logos, symbols, or arrows. Overlay text shall also be offset a minimum of 1 inch from the edge of the overlay.
- The minimum logo or symbol height shall be proportionally larger than the message text height.
- When the arrow is part of the guide sign, it shall be Type A or Type C. The arrow size should conform to **Table 11-1**, subject to aesthetic considerations and engineering judgment. At a minimum, the width across the arrowhead should be at least equal to the text height on the sign. These arrows are described in the MUTCD and shown in Section 7, **Figure 7-1**.

Table 11-1 - Small Guide Sign Arrow Sizes

Upper Case Letter Height	Arrow Types and Sizes (Width x Length)	
	Type A	Type C
4" to 5"	7.25" x 11"	7" x 9"
6" or greater	See **Table 7-1**	See **Table 7-1**

- When the arrow is on a separate sign mounted immediately below the guide sign, it shall follow the MUTCD standard (M5 and M6 series signs) that incorporates a Type D arrow.
- The overall height and width of the sign shall be in multiples of 3 inches or 4 inches.
- The border width shall be a minimum of ½ inch.

Small guide signs are currently provided for Long Term Parking at JFK Airport and Daily, Valet, and Economy Parking at Newark Airport. **Figure 11-9** shows examples of small parking guide signs.

When small guide signs are provided for services, the sign shall have white legend on a blue background with no overlay. **Figures 11-10a** and **11-10b** show examples of small service guide signs.

The PA Police are considered a service, but there is a special guide sign for the PA Police at Newark Airport because they are located in historic Building 1. The Building 1 guide sign shown in **Figure 11-10c** has a unique design that does not necessarily conform to other design elements in this Manual. The electronic design file for this sign will be provided by Port Authority Traffic Engineering.

Figure 11-9a

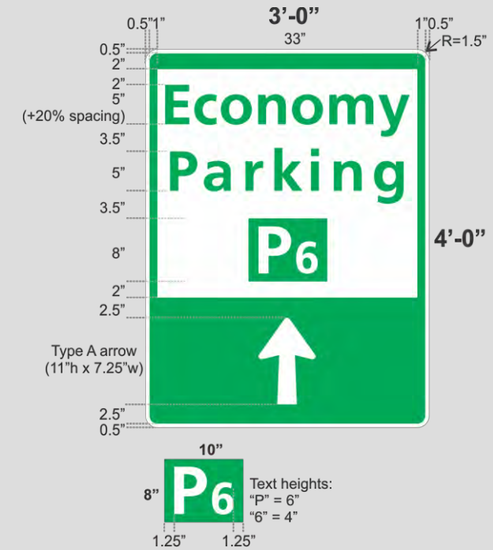


Figure 11-9b

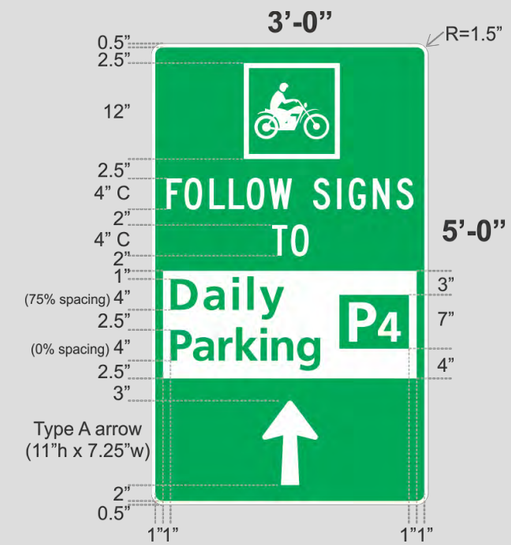


Figure 11-9c

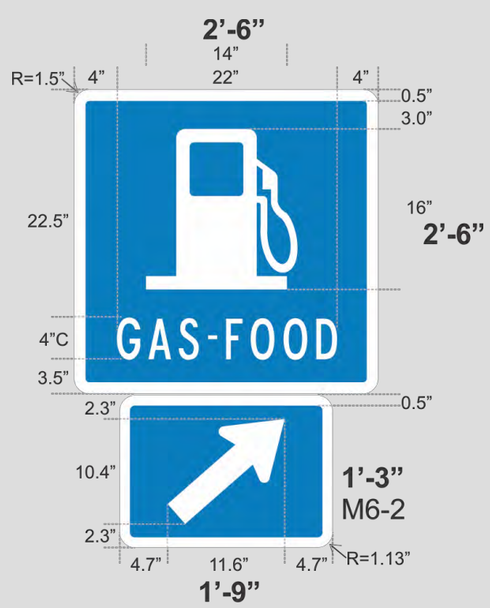


Figure 11-10a

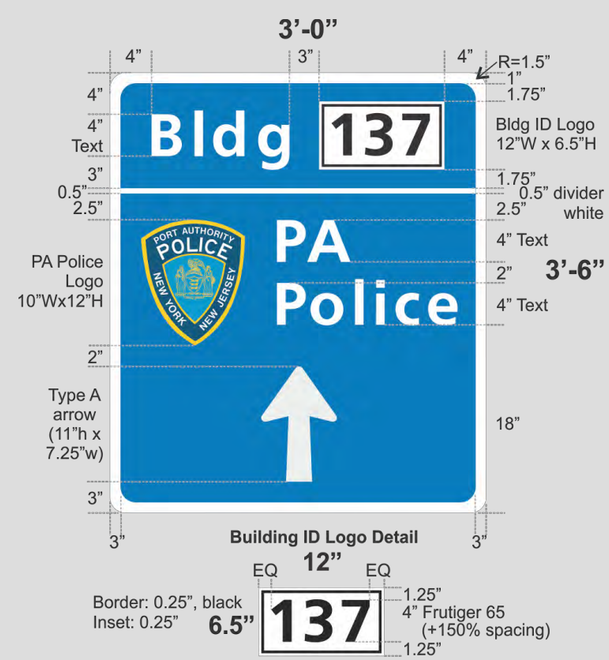


Figure 11-10b

Figure 11-10c

12. Regulatory and Warning Signs

Standard regulatory and warning signs shall use the colors, fonts, arrows, shapes, and dimensions specified in the *MUTCD*. Due to the unique conditions along airport roadways and differences between airports, it is often necessary to modify signs from the *MUTCD* or to create new signs, following *MUTCD* guidance. When a facility requests a new regulatory or warning sign, the sign designer should express the intended message in as few words as possible to communicate it efficiently and effectively to drivers.

Some signs have been adopted from other roadway agencies instead of designing a new sign. Signs in parking garages that are suspended from the ceiling may vary from the shapes and dimensions specified in the *MUTCD* as described in *Section 15A.9 – Parking Facilities – Regulatory and Warning Signs*.

A regulatory or warning message may be on a separate sign, included within a roadway guide sign, or on a panel mounted beneath a roadway guide sign. Section 10, **Figure 10-3b** shows a regulatory message within a roadway guide sign panel.

Examples of signs that are not found in the *MUTCD* are shown in this Section:

- **Figure 12-1** shows a sign posted on all roadways entering airport property.
- **Figure 12-2** shows signs prohibiting unauthorized access. Sign dimensions may vary based on location or other constraints.
- **Figure 12-3** shows terminal frontage signs:
  - Signs shown in **Figures 12-3a** and **12-3b** are found on passenger pick up and drop off frontages.
  - Signs shown in **Figures 12-3c** and **12-3d** are found along taxi lines.
  - The sign shown in **Figure 12-3e** is found on bus frontages.
- **Figure 12-4** shows parking signs; the sign shown in **Figure 12-4d** is only found in New Jersey, where it is required to be mounted underneath the reserved accessible parking sign (R7-8).
- Figures in *Section 16A – Parking Plaza Signs* show parking facility plaza signs.
- Figures in *Section 17A – Guard Posts* show guard post signs.
- **Figure 12-5** shows other regulatory and warning signs. The sign shown in **Figure 12-5d** is found in bus layover areas at Newark Airport, and shall include the text of the applicable statute in the lower right corner of the sign ("NJ 39:3 70-2" or superseding statute).

Note that some of the signs in **Figures 12-1** to **12-5** are designed to include arrows. Arrows may point in any direction, including bidirectional (left and right) arrows, or may be omitted depending on the location and message of the sign.

Figure 12-1

Figure 12-2a

Figure 12-2b

Figure 12-2c

Figure 12-3a

Figure 12-3b

Figure 12-3c

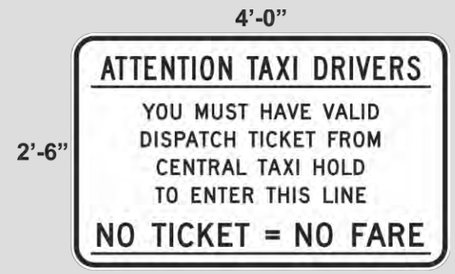


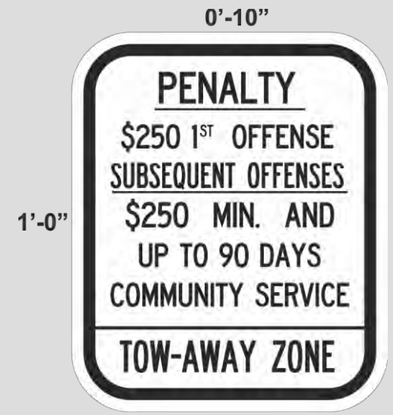
Figure 12-3d

Figure 12-3e

Figure 12-4a

Figure 12-4b

Figure 12-4c



R(NJ)7-8a

Figure 12-4d

Figure 12-4e

Figure 12-5a

Figure 12-5b

Figure 12-5c

Figure 12-5d

Figure 12-5e

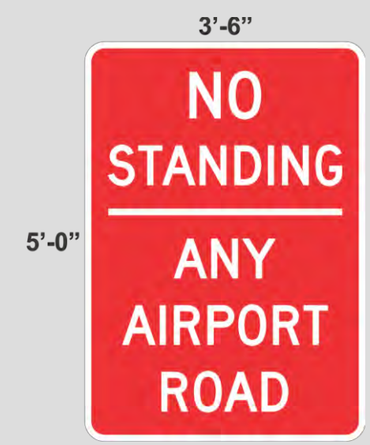


Figure 12-5f

13. Variable and Changeable Message Signs (VMS and CMS)

Variable Message Signs (VMS) and Changeable Message Signs (CMS) are used throughout Port Authority airports to display the appropriate messages to motorists in a wide variety of conditions.

- VMS have the capability to display any message that fits within the height and width of the sign matrix.
- CMS may display one of a limited set of fixed messages.

VMS and CMS are controlled centrally at each airport. They may also be controlled locally at each parking facility or at each individual sign.

A VMS or CMS may be either a standalone sign or a panel located within or below a fixed message sign. When located within a roadway sign, the VMS or CMS panel shall be located with the appropriate offsets to text, sign border, and other sign elements. These offsets should be the same as for logos as described in *Section 6 – Graphic Elements*. Any additional restrictions on the location of a VMS or CMS panel within the sign will be dictated by the sign message. Section 2, **Figures 2-3** and **2-6e** show examples of signs with VMS elements. **Figure 13-1** shows an example of signs with CMS elements.

All messages to be displayed on VMS and CMS require the approval of Port Authority Traffic Engineering. Sign messages shall be displayed using all upper case letters. VMS may remain static (displaying one message) or may cycle between two messages. Additional rules are given in the *MUTCD*.

The mechanical and electrical design of Variable and Changeable Message Signs (VMS and CMS) shall be according to a custom specification ("C spec") issued by the Port Authority for each project until a standard specification is issued. Text height, text color, and display type shall be as indicated in the specification.

Figure 13-1

14. Frontages

Frontages are the interfaces between vehicles and pedestrians, where passengers are picked up and dropped off by private cars, limousines, or permittees such as taxis, buses, and shuttles. Frontages may be found at the following locations and may either be dedicated to one function or serve multiple functions:

- Arrival frontage for passenger pick up at each terminal
- Departure frontage for passenger drop off at each terminal
- Taxi line frontage for passenger pick up by taxis
- Bus frontage for passenger pick up, drop off, or both by authorized permittees (buses, shuttles, and vans)
- Frontages for passenger pick up and drop off in some parking facilities

Guide signs on frontages are designed according to this section, incorporating the *Manual for Pedestrian Signing & Wayfinding*, which discusses requirements and guidelines on color coding, sign layout, dimensions, and other design parameters. The typeface for frontage guide signs shall be Frutiger 65 with +0% inter-letter spacing. Regulatory and warning signs on frontages shall be designed according to *Section 12 – Regulatory and Warning Signs*.

Frontage guide signs are usually mounted in sign boxes. Any sign not mounted in a sign box shall be sized in increments of 1 inch with a dark gray border of ½ inch. When a sign is mounted in a sign box:

- The sign box is typically suspended from a canopy (ceiling mounted) or mounted on poles (ground mounted).
- The overall dimensions of panels for sign boxes shall be determined by the dimensions of the sign box. The extent of material beyond the visible sign face, overlapping the sign box frame, shall be verified to fit the dimensions of the sign box and is typically a minimum of ½ inch. Note that sign box dimensions may vary by location or facility, but are typically the same for signs on each frontage.
- The sign shall have no border, and sign material beyond the visible sign face shall be the color of the sign background.

When a frontage sign is designed and positioned to be read by both vehicular and pedestrian traffic, the sign shall be sized to be readable by motorists:

- The minimum size of logos and symbols should be 12 inches. Only when sign dimensions are constrained, the size of logos and symbols may be reduced to an absolute minimum of 8 inches.
- The minimum text height shall be 4 inches, except the minimum height of secondary text listing destinations shall be 2 inches.

When a frontage sign is designed and positioned to be read by pedestrian traffic only, the sign shall be sized according to the *Manual for Pedestrian Signing & Wayfinding*. Signs mounted higher than an 8-foot vertical clearance should use logo, symbol, and text sizes greater than the minimum to provide sufficient visibility at an increased reading distance.

As shown in **Figure 14-1a**, many frontage guide signs are double sided to be read by pedestrians, with the same message on both sides or different messages on each side. On frontage signs mounted perpendicular to a roadway that include at least one roadway-related message, the logo or symbol and associated light gray band shall be located closer to the roadway than the rest of the message on both sides of the sign.

Because frontage signs are located outside, illumination must be provided for sign readability in any ambient lighting or weather condition, especially when the sign has greater than 8 feet of vertical clearance. Signs to be illuminated shall be mounted in sign boxes with sign panels made of translucent material and internally illuminated as described in the *Manual for Pedestrian Signing & Wayfinding*. Sign illumination shall be coordinated with Port Authority Electrical Engineering.

14A. Passenger Pick Up and Drop Off

Signs for passenger pick up and drop off are designed differently depending on the type of frontage:

- **Figure 14-1** shows signs on terminal frontages for passenger pick up.
- The *Manual for Pedestrian Signing & Wayfinding* shows signs on terminal frontages entirely dedicated to passenger drop off.

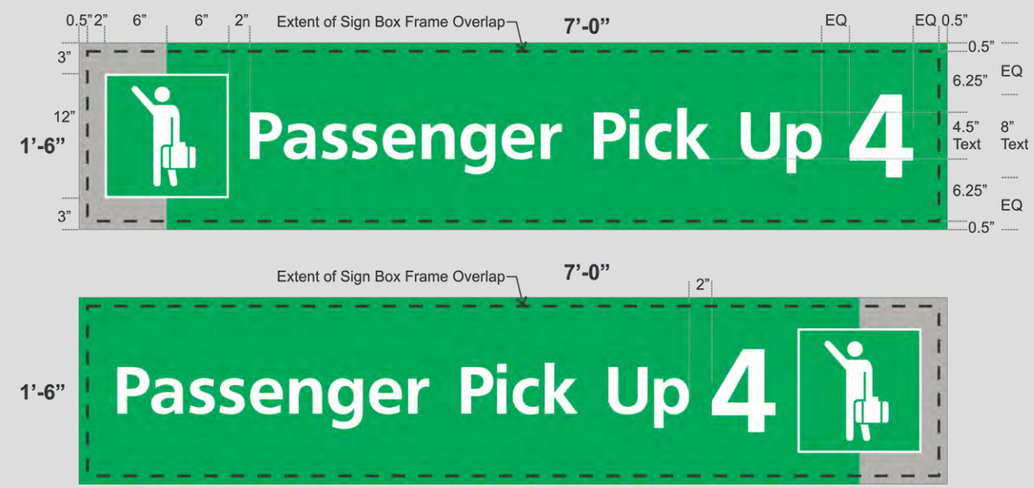


Figure 14-1a

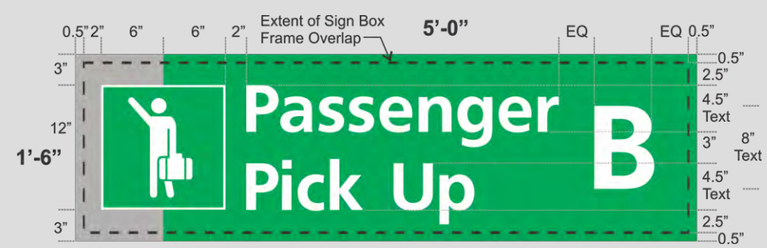


Figure 14-1b

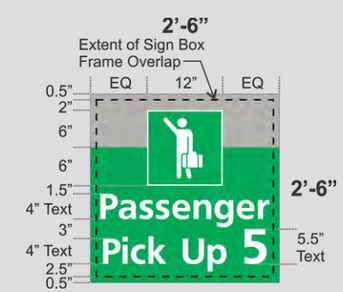


Figure 14-1c

- **Figure 14-2** shows signs on terminal frontages with some areas for passenger drop off.
- **Figure 14-3** shows signs on parking facility frontages for passenger pick up and drop off.

All symbols used on passenger pick up and drop off signs shall match the legend and background color of the sign. As stated in *Section 14A – Frontages*, symbols shall be located closer to the roadway than the rest of the message on both sides of the sign.

On terminal frontages for passenger pick up, signs shall use the passenger pick up symbol and shall read "Passenger Pick Up" with white legend on a green background. Typical examples are shown in **Figure 14-1a** (ceiling or canopy mounted), **Figure 14-1b** (ground mounted on poles), and **Figure 14-1c** (cantilevered from a wall or column). Long frontages are divided into designated pick up areas to assist drivers and passengers in finding each other. Pick up areas are designated by letter where terminals are numbered and by number where terminals are lettered, as shown in **Figure 14-1**.

Terminal frontages for passenger drop off are usually dedicated to that function, but some drop off areas may be located on terminal frontages that serve multiple functions. On frontages that are not dedicated to passenger drop off, signs indicating passenger drop off areas are designed with black legend on a yellow background. The message "Departures" is shown with the departing flight symbol as shown in **Figure 14-2a**. When the drop off area is for a particular airline, the name of the airline may be added as shown in **Figure 14-2b** but the airline logo shall not be used. Signs may have different layouts depending on how they are mounted, similar to **Figure 14-1**.

On parking facility frontages for passenger pick up and drop off, signs are typically ground mounted on poles. Signs shall use the passenger drop off symbol with the optional text "Passenger Drop Off" or "Alternate Drop Off" in white legend on a green background, as shown in **Figure 14-3**. Signs with different mounting types may have different layouts, similar to **Figure 14-1**.

14B. Taxi Lines

A typical sign identifying the location of a taxi line is shown in **Figure 14-4**. The sign is designed with white legend on a green background. Signs may have different layouts depending on how they are mounted, similar to **Figure 14-1**. Note that unlike other passenger frontages, dedicated taxi frontages may be located on the left side of the roadway, in which case the taxi symbol is on the right when facing approaching drivers. Regulatory signs located at taxi lines are discussed in *Section 12 – Regulatory and Warning Signs* and examples are shown in Section 12, **Figures 12-3c** and **12-3d**.

Figure 14-2a

Figure 14-2b

Figure 14-3

Figure 14-4

14C. Ground Transportation

This section addresses signs for areas designated for ground transportation permittees either on dedicated frontages (such as bus frontages) or on frontages serving multiple functions. Permittees may include the following categories:

- City and intercity buses
- Shared ride vans
- Free Port Authority parking facility and inter-terminal buses and shuttles
- Rental car and hotel shuttles
- Off-airport parking shuttles
- Employee buses

Ground transportation signs on frontages include bus directory signs, directional signs, and location signs. Each type of sign is described below, with examples shown in the *Manual for Pedestrian Signing & Wayfinding*:

- Bus directory signs are typically mounted on information kiosks facing the direction of pedestrians leaving the terminal. They provide a listing of bus company names and routes, stop location designations if applicable, and directions (arrows) to the stop locations, and may include destinations.
- Directional signs are typically canopy mounted, leading to but not yet at the stop locations. They provide bus or shuttle information pertaining to one or more stops and directions (arrows) to the stop locations.
- Location signs are found at the stop locations and are typically canopy mounted. They provide specific information for that stop that may include the company name, route designation, stop location, and destination. **Figure 14-5** shows additional examples of location signs.

Company names may appear on signs, but company logos or corporate colors shall not be used.

Ground transportation sign panels, logos and symbols shall be designed with white legend on a green background. Signs at or leading to designated permittee stop locations shall include either a bus or shuttle symbol as appropriate for the service provided. Although the Port Authority's free parking facility and inter-terminal services may be called "shuttles," they are run with full-size buses and therefore are designated by the bus symbol. On signs mounted perpendicular to a

roadway, ground transportation symbols shall be located on the side of the sign closer to the roadway.

Ground transportation frontages may be divided into several designated stop locations. These locations are designated with letters where terminals are numbered and with numbers where terminals are lettered. Stop location designations shall be shown in square logos as shown in **Figures 14-5a, 14-5b,** and **14-5c** to help guide permittees and pedestrians to the proper stop locations. Where ground transportation signs on frontages are mounted perpendicular to a roadway, the stop location logo shall be located closer to the roadway than the rest of the message on both sides of the sign, including any other logo or symbol.

Secondary logos or symbols may also be included on the sign, as shown in **Figure 14-5d**. The secondary logo or symbol and associated text should be smaller than the primary message on the sign. Secondary logos and symbols may include:

- Rental car, hotel, or parking symbol for shuttles to these locations
- Train or subway symbol or AirTrain logo for buses or shuttles to stations

Figure 14-5a

Figure 14-5b

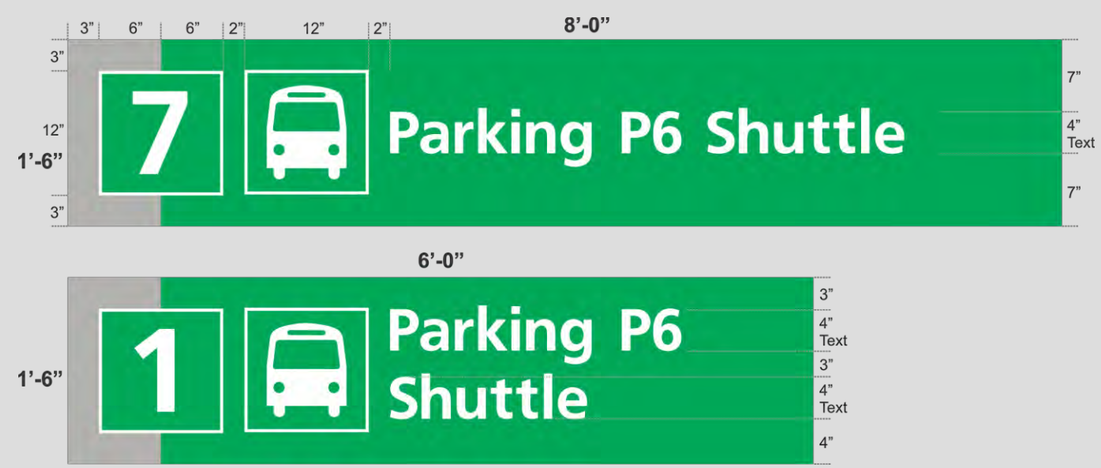


Figure 14-5c

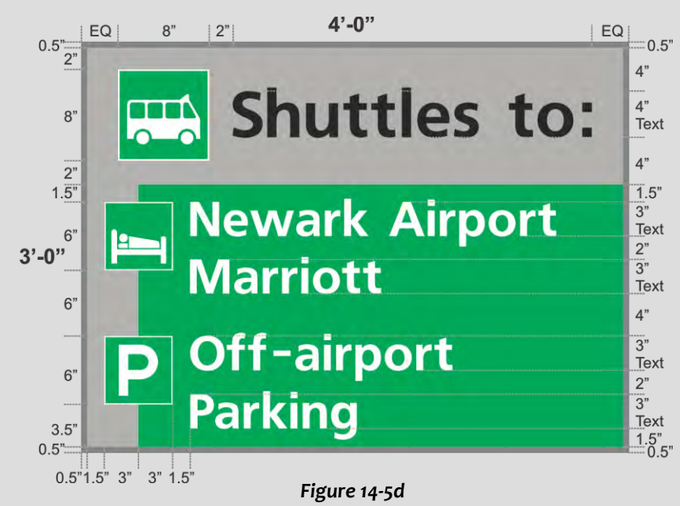


Figure 14-5d

14C.1 Bus Stop Signs

Bus stop signs are designed to the same specifications regardless of whether they are found on a frontage or elsewhere in the airport. Sign height may vary depending on the number of bus companies listed or the design of other bus stop signs on the same frontage.

A typical bus stop sign is shown in **Figure 14-6a.** Bus stop signs in parking lots are designed as shown in **Figure 14-6b**, and are typically pole mounted on the four sides of a cube. Bus stop signs in parking lots have no border, and the horizontal spacing from the edge of the sign to the text may be reduced to 2 inches when the bus stop number has two digits.

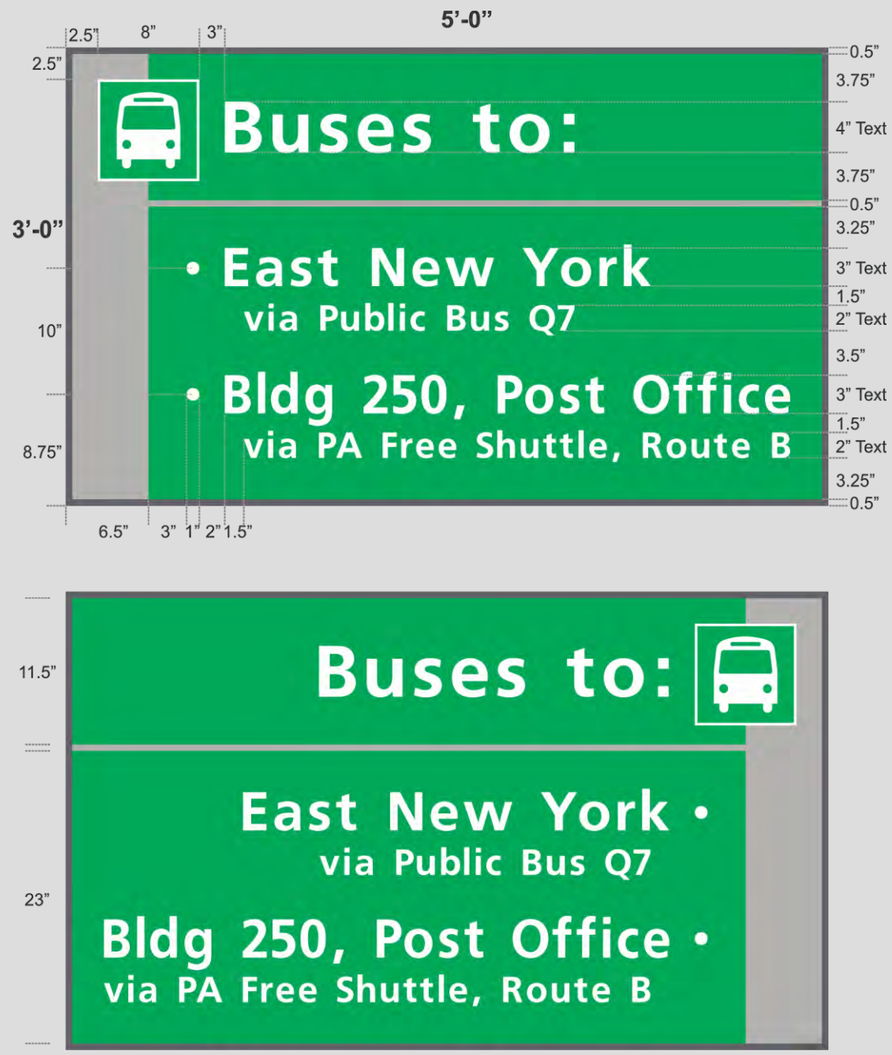


Figure 14-6a

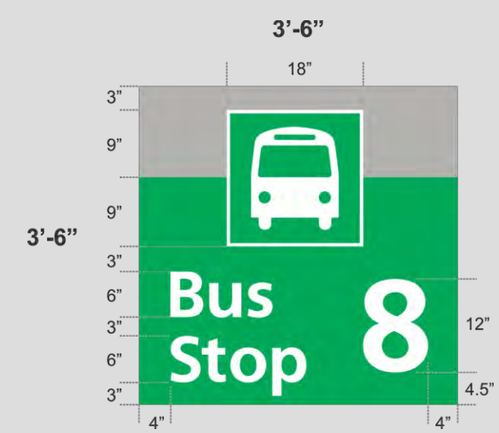


Figure 14-6b

15. Parking Facilities

Parking facilities include single-level surface parking lots and multi-level parking garages. Signing within parking facilities requires special attention because signs may apply to vehicles, pedestrians, or both (such as aisle and row markers) and yet must look consistent with other vehicular and pedestrian signs. When motorists and pedestrians may be able to view the same signs, the signs should be designed to clearly identify the intended audience and signs should be oriented toward the appropriate paths of travel.

Parking lot signs are typically ground mounted, while parking garage signs are typically suspended from the ceiling or mounted on walls, columns, or beams due to space and location restrictions. Sign boxes may be used for non-ground mounted signs, and signs mounted within sign boxes may be internally illuminated as described in *Section 15D – Illumination*.

When sign dimensions are constrained, such as when the sign must be retrofitted to an existing sign box or structure, the minimum criteria established in this section should be upheld to the greatest degree possible within the required dimensions. Spacing between text, logos, symbols, borders, etc. should be reduced before considering other methods to fit the message into the visible sign face.

Signs designating pedestrian drop off and pick up areas within parking facilities are discussed in *Section 14A – Frontages – Passenger Pick Up and Drop Off*. Signs directing motorists to those areas are considered parking guide signs and are covered in this section. Signs at parking lot entry and exit plazas are discussed in *Section 16 – Parking Entry and Exit Plazas*.

15A. Vehicular Signing

Vehicular signs in parking facilities are designed to help motorists search for available parking spaces or find the exit. Parking facility signs should be designed by considering the same factors as for airport roadway signs, such as letter and symbol size, arrangement of text, arrow placement, and the use of variable message sign panels. Due to the low speeds of motorists in parking lots, signs are generally placed only at decision points and advance signing is not used.

Parking facilities at Port Authority airports may provide different types of parking in different areas or levels and messages may include directions for limousines, motorcycles, or other specific users. These messages should be consistently indicated on signs leading to the proper area or level.

15A.1 General Rules and Guidelines

The following rules and guidelines apply to vehicular signs, as shown in **Figure 15-1** (ground mounted) and **Figure 15-2** (suspended from the ceiling).

- **Color Coding System:** All parking facility signs shall have a white message and border on a green background except regulatory and warning signs as described in *Section 15A.9 – Regulatory and Warning Signs* and overlays with the *MUTCD* accessibility symbol as described in *Section 15A.5 – Graphic Elements*.
- **Typeface:** Frutiger 65 shall be use as described in *Section 4B – Typeface*, except an inter-letter spacing of +100% shall be applied. If message width is limited, reductions in spacing shall occur in 5% increments and shall require the approval of the Port Authority.
- **Text Height:** The recommended text height on all signs is 6 inches and the minimum text height shall be 4 inches. Text height shall be increased or decreased in increments of 1 inch. When it is part of a sign with multiple messages, the "Exit" message should utilize a larger text height than the other text on the sign, depending on sign location and restrictions on sign height and width.

Figure 15-1

15A.2 Message Hierarchy

When a sign has messages relating to more than one direction of travel, messages shall be divided into message groups according to *Section 3A – Message Groups*.

Figures 15-2 to **15-5** show signs incorporating the message hierarchies for signs with message groups separated vertically and horizontally.

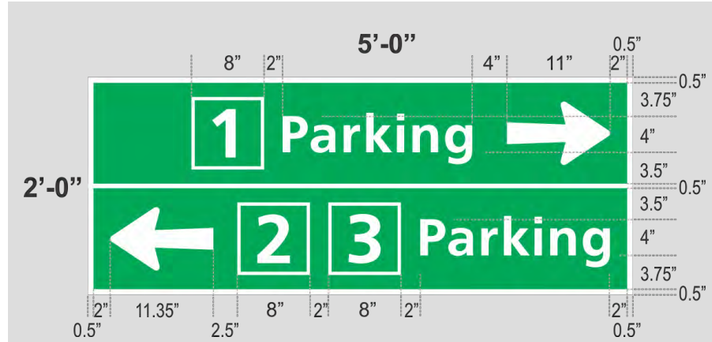


Figure 15-3

Figure 15-4

Figure 15-2

For all individual messages within the same message group or on signs with two or more message groups separated vertically, messages shall be listed according to the following message hierarchy:

1. Terminals: "A" or "1" shall be listed first, followed by other terminals in ascending order, as shown in **Figure 15-3**.
2. Parking garage levels: "1" shall be listed first, followed by other levels in ascending order, as shown in **Figure 15-4**.
3. The "Exit" message, as shown in **Figure 15-4**.
4. Other messages that do not belong to the above categories:
   a. This includes specific types of traffic, such as:
      - Stretch Limos (may include terminal logos and level numbers)
      - *MUTCD* accessibility symbol (D9-6) overlay
      - Passenger Drop Off (may include terminal logos and level numbers)
      - Motorcycle Parking

   b. Use the *MUTCD* arrow hierarchy defined in *Section 3C – Arrow Hierarchy*. Messages associated with the up arrow shall be listed first, followed by messages associated with the left, right, and down arrows. Messages associated with a directional message shall be listed last.

On signs with two or more message groups separated horizontally, the message group associated with the left arrow shall be on the left of the sign and the message group associated with the right arrow shall be on the right of the sign, as shown in **Figures 15-2** and **15-5**.

On ground mounted signs, each message associated with the same arrow orientation or directional message shall be displayed on separate lines. On non-ground mounted signs, different messages in the same message group may be displayed on the same line if required by space constraints, separated as described in *Section 15A.3 – Terminology*.

Figure 15-5

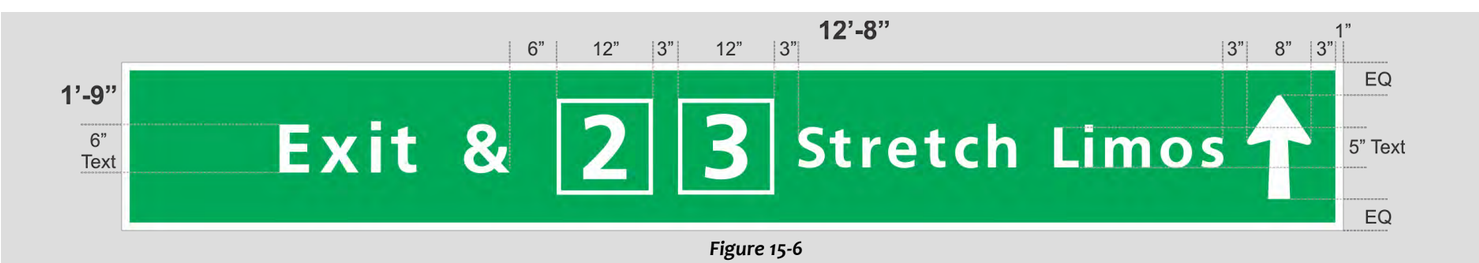


Figure 15-6

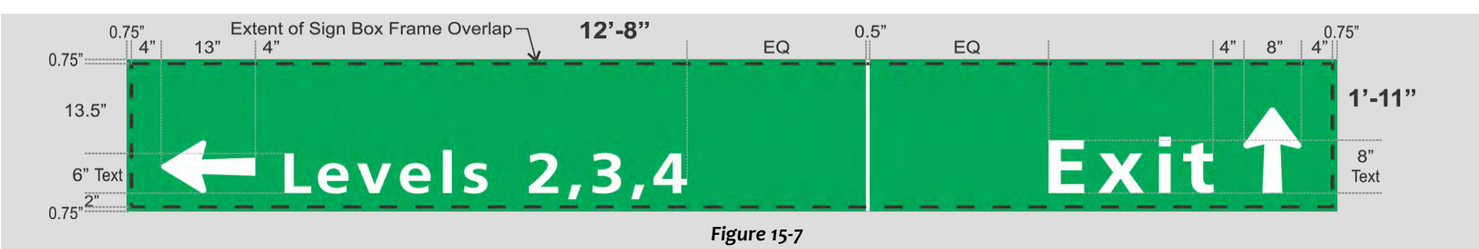


Figure 15-7

15A.3 Terminology

Sign messages shall be selected from the approved list in *Appendix B – Sign Terminology*. Signing should avoid using abbreviations whenever possible, even on non-ground mounted signs with limited height and width. If it is necessary to include abbreviations after all other options have been considered, only those abbreviations listed in the approved terminology shall be used. Parking facility terminology includes the following:

- The term "Level" shall be used to refer to multiple levels of a parking garage. Levels are always designated by numbers, not letters. The word "Parking" shall not be used before the word "Level."
- Parking facility exits shall always be signed using the term "Exit."
- "Aisle" and "Row" shall be used to refer to parking areas as described in *Section 15C – Aisle and Row Markers*.
- The word "and" or the ampersand symbol (&) shall be used to separate different messages in the same message group that are displayed on the same line, as shown in **Figures 15-3** and **15-6**.

15A.4 Text Placement

Ground mounted signs shall follow the rules and guidelines presented in *Section 4D – Text Placement*. Other signs should also follow Section 4D, but text placement may be adjusted based on the following considerations:

- The spacing between the left, right, top, or bottom of a line of text and any border or message separator line should be at least 3 inches but may be reduced to a minimum of 2 inches.
- As shown in **Figure 15-2**, the vertical spacing between two related or unrelated lines of text may be reduced to a minimum of ½ the upper case text height, with increased spacing for descenders as discussed in *Section 4D.2 – Vertical Alignment*.
- Messages on signs suspended from the ceiling should be vertically aligned toward the bottom of the sign for greater visibility, maintaining the minimum spacing defined above, as shown in **Figure 15-7**.

15A.5 Graphic Elements

Graphic elements on vehicular parking signs are limited to the following logos and symbols. The Parking symbol (letter "P" in a green or colored square) shall not be used.

- **Terminal logos:** Parking facilities that serve multiple terminals may designate parking areas for each terminal. In those facilities,

terminal logos shall be used to direct traffic to those designated areas. Terminal logos shall be designed as shown in *Section 6B – Graphic Elements – Terminals* and shall be applied directly to the sign as shown in **Figures 15-3** and **15-6**. The *MUTCD* airport symbol shall not be used on vehicular signs.

- **Passenger drop off / pick up symbol:** The symbol shall be used on signs designating and directing traffic to passenger drop off and pick up areas in parking facilities. The symbol shall not be used when the "Passenger Drop Off" message is preceded by one or more terminal logos. The symbol is shown in **Figure 15-2**.
- **Motorcycle symbol:** The symbol and associated "Motorcycle Parking" text shall be used as described in *Section 6C.5 – Motorcycle Parking*. An example is shown in **Figure 15-4**.
- **MUTCD accessibility symbol:** The *MUTCD* accessibility symbol (D9-6) shall be followed by the "Parking" message in white legend on a blue overlay, as shown in **Figure 15-8**.

The following rules apply to graphic elements on parking signs:

- The recommended height of a logo or symbol is 12 inches. Logos and symbols on ground mounted signs should adhere to the recommended height. Logos and symbols on other signs should be a minimum of twice the height of the associated text.
- Logos and symbols shall always be placed before the text. All logos, symbols, and text on a single line shall be vertically centered. When logos and symbols appear before two or more associated lines of text, the logos and symbols shall be top justified to the first line of text. **Figure 15-2** shows logo and symbol placement.
- The minimum spacing between text and a logo or symbol should be 4 inches on ground mounted signs and may be reduced to ½ the upper case text height or 3 inches, whichever is smaller, on other signs. The maximum spacing between text and a logo or symbol should be equal to the upper case text height. These guidelines are shown in **Figure 15-3**.
- The minimum spacing between a logo or symbol and a sign border or message separator line should be 4 inches on ground mounted signs and may be reduced to ½ the upper case text height or 3 inches, whichever is smaller, on other signs. The minimum spacing between two logos is defined in the same manner. These guidelines are shown in **Figure 15-3**.

When the *MUTCD* accessibility symbol appears on an overlay, overlay placement should be as described in *Section 5 – Placement of Overlays on Signs* and as shown in **Figure 15-8**, incorporating the following rules and guidelines:

- The spacing may be reduced between the logo and the edge of the overlay if required by sign dimension constraints, but the spacing shall not be eliminated.
- Overlays shall be vertically centered to other elements (such as arrows) on the same line.
- Overlays should not exceed the height of logos and symbols on that sign.
- The *MUTCD* accessibility symbol may be reduced in size to a minimum of 9" square.

Figure 15-8

15A.6 Arrows

Type A and Type B arrows, as described in *Section 7 – Arrows*, are the only arrow types used on vehicular parking facility signs.

- On signs that are ground, column, or wall mounted, Type A and Type B arrows should be used as described in *Section 7C.2 – Arrows – Placement – Ground Mounted Signs*.
- On signs that are beam mounted or suspended from the ceiling, only Type A arrows should be used, and Type B arrows should only be considered when extreme height or width limitations (especially on signs suspended from the ceiling) do not allow the use of a Type A arrow. **Figure 15-9a** shows an example of a sign with limited height.
- If the height of the sign is less than 12 inches, the length of the Type B arrow may be reduced to a minimum of 8 inches (with proportional width).

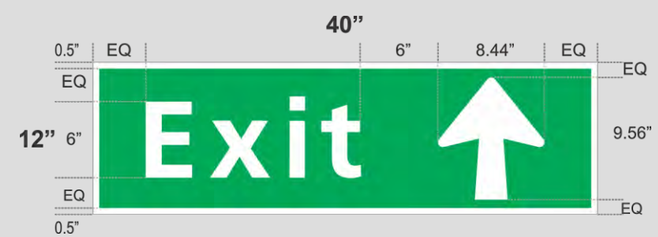


Figure 15-9a

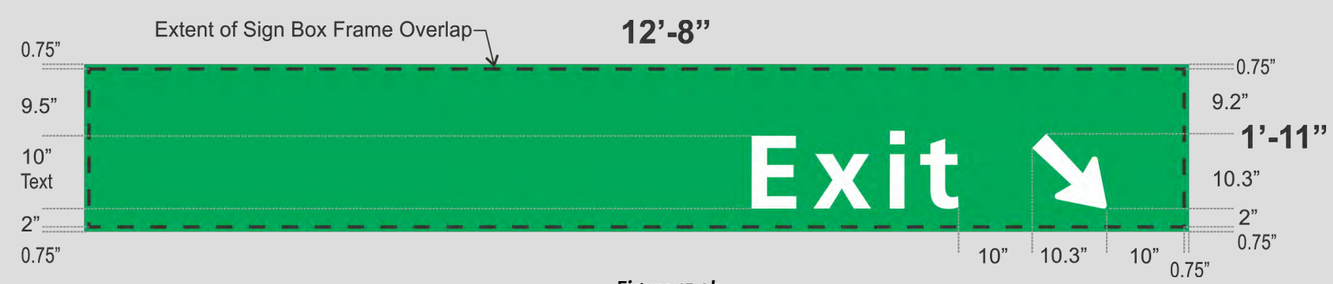


Figure 15-9b

The color of the arrow shall be white to match the sign legend. Arrow dimensions shall be as shown in **Table 15-1**. For the purpose of sign layout only, the dimensions given in **Table 15-1** may be rounded to the nearest ½ inch.

Table 15-1 - Arrow Sizes

Sign Type	*Type A Arrow (Width x Length)*	*Type B Arrow (Width x Length)*
Ground Mounted	11.25" x 18.25" 15.125" x 24.25"	8.44" x 9.56" 12.25" x 14" 14.25" x 17.25"
Non-Ground Mounted	7.25" x 11" 8" x 13"	7" x 8" 8.44" x 9.56"

The appropriate arrow should be selected based on design considerations including text height, sign location, and sign dimensions.

- In general, the arrow size should correspond to a width across the arrowhead that is approximately 1.75 times the upper case text height of the major messages on the sign, subject to aesthetic considerations and engineering judgment.
- The same size arrow shall be used for all messages on one sign.

Arrows shall be pointed at the appropriate angle to clearly convey the direction to be taken.

- Arrows should point left, right, straight up, or at an upward angle.
- Arrows should only point straight down or at a downward angle if a movement is accomplished by descending a ramp in that direction, as shown in **Figure 15-9b**.
- Arrows are typically rotated in increments of 45 degrees, but may be rotated at other angles depending on considerations such as roadway geometry and sign location.
- Up arrows and down arrows shall not both be used on the same sign.

On ground mounted signs, arrows may be located on the left, right, or bottom of all messages on the sign. On other signs, arrows may be located on the left or right of the associated message or group of messages.

- Left arrows and right arrows shall be placed at the side of the sign that will reinforce the movement of traffic.
- Straight up or down arrows should be placed on the side of the sign closest to the driver or the center of the lane.
- Arrows, especially when pointing up or down, should not be located over an opposing lane of traffic or other invalid path of travel.

The minimum spacing between an arrow and text, logo, symbol, sign border, or message separator line should be 4 inches on ground mounted signs. On non-ground mounted signs, the minimum spacing may be reduced to 3 inches or ½ the upper case text height, whichever is smaller. These guidelines are shown in **Figures 15-3** and **15-8**.

15A.7 Panel Design

The following rules and guidelines apply to vehicular signs, as shown in **Figure 15-1** (ground mounted) and **Figure 15-2** (suspended from the ceiling).

- **Panel Dimensions:** Panels for ground mounted signs should be sized in 6-inch increments. The overall dimensions of panels for sign boxes shall be determined by the dimensions of the sign box. The extent of material beyond the visible sign face, overlapping the sign box frame, shall be verified to fit the dimensions of the sign box and should be a minimum of ½ inch. All other parking signs shall be sized in 1-inch increments. Unless a non-ground mounted sign is fit to a sign box or the back of another sign, the messages on the sign shall determine the overall sign dimensions.
- **Borders:** Signs mounted within sign boxes shall have no border, and sign material beyond the visible sign face shall be the color of the sign background. Other signs shall have a border of ½ inch if sign area is less than 20 square feet and shall have a border of 1 inch otherwise. Border widths shall be maintained around both rounded and square corners.
- **Corner Radii:** Ground mounted signs shall have rounded corners and all other parking facility signs shall have square corners. All corner radii shall be rounded to the nearest 3 inch interval and shall be no greater than 12 inches, as shown in Section 8, **Table 8-2**.
- **Message Separator Lines:** Message separator lines shall be ½ inch wide as shown in **Figure 15-2** and shall be white to match the border. Message separator lines shall extend to the border or another separator line, or to the edge of the sign if there is no border.

15A.8 Exit Signs

The layouts shown in **Figure 15-10a** shall be used for exit signs in parking lots and should be used for exit signs in parking garages. The layouts shown in **Figure 15-10b** are typically used for exit signs mounted on light poles on the roof level of parking garages, and may be used at other parking garage locations where sign dimension constraints preclude use of the layouts shown in **Figure 15-10a**.

Where the signs shown in **Figure 15-10** cannot feasibly be installed in a parking garage or would not be sufficiently visible to traffic, the exit message may be included on a sign suspended from the ceiling, designed according to Sections 15A.1 through 15A.6. This typically occurs in parking garages below the roof level. The exit message should be the only message on the sign, as shown in **Figure 15-9**, but the exit message may be included on the same sign as other messages if necessary, as shown in other figures in *Section 15A – Vehicular Signing*.

15A.9 Regulatory and Warning Signs

Regulatory and warning signs in parking facilities shall follow *Section 12 – Regulatory and Warning Signs*. The only exceptions are parking garage locations, especially below the roof level, where it is not feasible to install a standard sign or where a standard sign would not be appropriately visible to traffic. In these locations, regulatory and warning signs may be suspended from the ceiling so that the sign covers the full width of the lane. All regulatory and warning signs shall implement the typefaces specified in the *MUTCD*.

When a regulatory or warning sign is suspended from the ceiling, as shown in **Figure 15-11**:

- The sign panel and sign panel text shall be the same colors as the associated regulatory or warning sign.
- Regulatory or warning signs with a recognizable shape, such as "Do Not Enter" and "Stop," shall be the largest possible size that will fit within the visible sign panel. Other signs, such as "Clearance," may be replaced with the associated text.
- Regulatory or warning signs that are reduced in size shall maintain the same proportions, colors, and shapes as the full-size sign. Text may be eliminated from inside the regulatory or warning sign if it is too small to be legible at the reduced scale.
- The regulatory or warning sign shall be to the left of its associated text. If space permits, the sign should be repeated to the right of the text as well. Regulatory and warning signs shall only appear with the associated text when located on sign panels suspended from the ceiling.
- For the purpose of sign layout, the horizontal and vertical spacing of regulatory and warning signs shall be the same as for logos and symbols as described in *Section 15A.5 – Graphic Elements*.
- Signs mounted within a sign box shall not have borders or insets.
- When a sign is not mounted within a sign box and has a white, yellow, or orange background, the border shall be inset from the edge of the sign, and the space between the border and the edge of the sign shall be the same color as the sign background. The border width and inset dimensions shall be determined based on the sign dimensions.

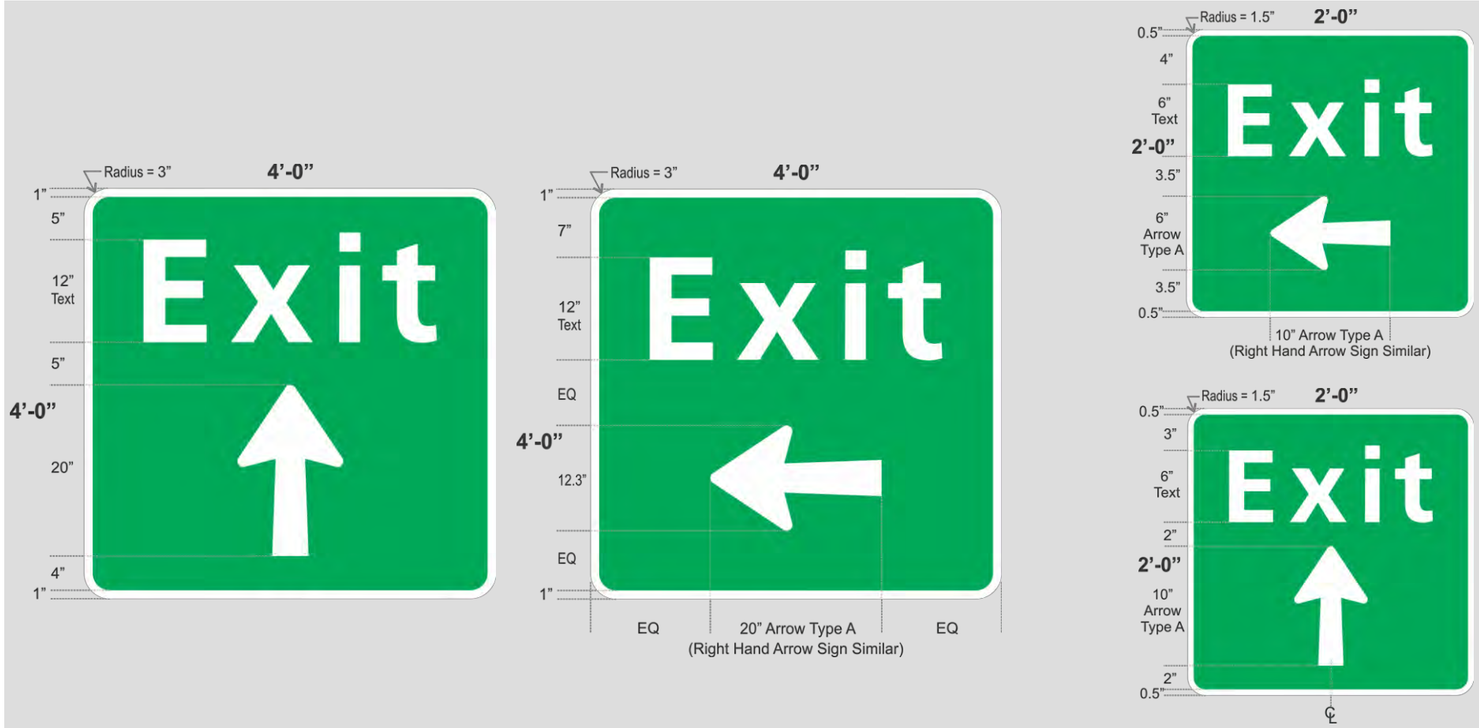


Figure 15-10a

Figure 15-10b

Figure 15-11a

Figure 15-11b

15B. Pedestrian Signing

Pedestrian signs in parking facilities are designed to guide pedestrians from their vehicle to the terminal or other destination, and back to their vehicle upon their return to the parking facility.

- Pedestrian signs shall conform to the *Manual for Pedestrian Signing & Wayfinding*.
- Signs related to services (baggage cart and help phone) and occupancy or egress codes (such as fire extinguisher signs) shall be coordinated with the Port Authority Architecture Department.
- Service or code-related signs that include lighting or other electrical elements, such as "EXIT" signs, shall be coordinated with Port Authority Electrical Engineering.

Pedestrians do not need advance signing, but messages should be repeated on consecutive signs for reassurance along pedestrian routes. Especially in garages or at night, dim ambient light conditions may reduce the visibility of a sign face compared to locations with controlled lighting. In addition, pedestrians may need to read signs from a longer distance in parking facilities to reach their destinations. For these reasons, pedestrian signs in parking facilities should be larger than the minimum dimensions given in the *Manual for Pedestrian Signing & Wayfinding* and consideration should be given to use of illumination for non-ground mounted signs as described in *Section 15D – Illumination*.

15B.1 General Rules and Guidelines

The following rules and guidelines apply to pedestrian signs, as shown in **Figure 15-12**.

- **Color Coding System:** As described in the *Manual for Pedestrian Signing & Wayfinding*, pedestrian signs within parking facilities shall adhere to the color scheme described in **Table 15-2**.

Table 15-2 - Pedestrian Signing Color Schemes

Legend Color	Background Color	Application
Black	Yellow	Get to the terminal or other destination directly or via ground transportation, and related vertical circulation messages
White	Green	Find one's vehicle within the parking facility and related vertical circulation messages
Yellow	Black	Vertical circulation (only when not part of another message) and non-emergency services
Black	Light gray	Instructions or information such as rules, policies, and "AirTrain to:" message
White	Dark gray	Directory messages
White	Red	Emergency services and occupancy or egress codes
White	Blue	Signs for ADA accessibility

- **Message Hierarchy:** The message hierarchy shall be as described in the *Manual for Pedestrian Signing & Wayfinding*.
- **Typeface:** Frutiger 65, which is equivalent to "Frutiger Bold" specified in the *Manual for Pedestrian Signing & Wayfinding*, shall be used as described in *Section 4B – Typeface*, except an inter-letter spacing of +0% shall be applied. If message width is limited, reductions in inter-letter and inter-word spacing require the approval of the Port Authority.
- **Text Height:** The minimum text height shall be 3 inches as described in the *Manual for Pedestrian Signing & Wayfinding*. The designer should make every effort to provide text height greater than the minimum.
- **Terminology:** Sign messages shall be selected from the approved Airport Nomenclature list in the *Manual for Pedestrian Signing & Wayfinding*. The term "Level" shall be used to refer to multiple levels of a parking garage. "Aisle" and "Row" shall be used to refer to parking areas as described in *Section 15C – Aisle and Row Markers*.

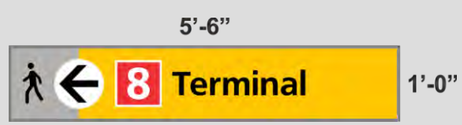


Figure 15-12a

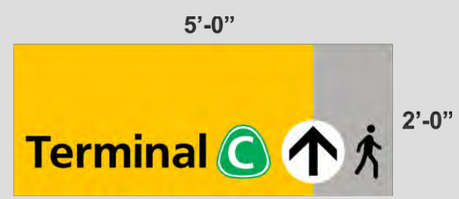


Figure 15-12b

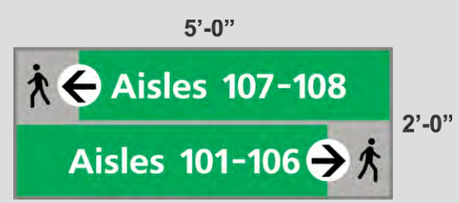


Figure 15-12c

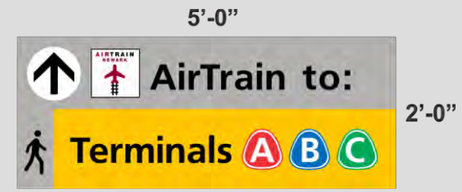


Figure 15-12d

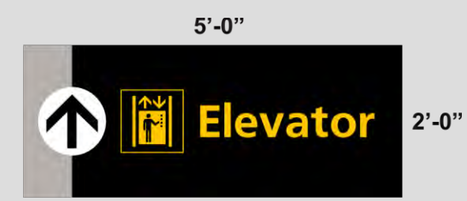


Figure 15-12e

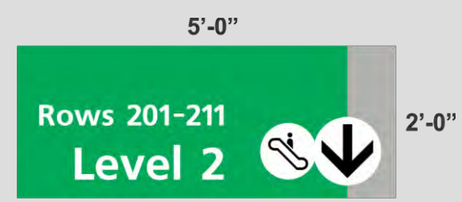


Figure 15-12f

- **Text Placement:** Text shall be placed as described in the *Manual for Pedestrian Signing & Wayfinding*, except messages on signs suspended from the ceiling should be vertically aligned toward the bottom of the sign for greater visibility.
- **Arrows:** The pedestrian directional arrow shall be colored black and centered on a white circular background. No other arrow shall be used on pedestrian signs. Refer to the *Manual for Pedestrian Signing & Wayfinding* for additional discussion.
- **Panel Design:** Sign panels shall be designed as described in the *Manual for Pedestrian Signing & Wayfinding*. All signs shall be sized in increments of 1 inch. Pedestrian signing incorporates a light gray neutral area, also known as the arrow field, that overlaps half of the arrow or half of the logo when there is no arrow. The dimensions and placement of the neutral area shall be as described in the *Manual for Pedestrian Signing & Wayfinding*.
- **Borders:** Signs mounted within sign boxes shall have no border. Sign material beyond the visible sign face shall be the color of the sign background. Other signs shall have a dark gray border of ½ inch.
- **Corner Radii:** All signs shall have square corners with no rounding.
- **Message Separator Lines:** Message separator lines shall be as described in the *Manual for Pedestrian Signing & Wayfinding*.

Pedestrian signs should be manufactured with reflective sheeting as specified in *Appendix F – Color and Material Specifications*. Internally illuminated signs shall follow the translucent color specifications and non-reflective sheeting shall follow the opaque color specifications in the *Manual for Pedestrian Signing & Wayfinding*.

Pedestrian signs located above roadways shall preserve the same minimum vertical clearance as vehicular signs. Other pedestrian signs shall be placed as described in the *Manual for Pedestrian Signing & Wayfinding*.

15B.2 Graphic Elements

Logos and symbols shall be designed and located as described in the *Manual for Pedestrian Signing & Wayfinding*. Graphic elements on pedestrian parking signs are limited to the following logos and symbols:

- Terminal logos
- Transportation logos (bus, shuttle, JFK AirTrain, Newark AirTrain)
- International pedestrian symbol
- Vertical circulation symbols (escalator, elevator, stairs)
- Passenger drop off / pick up symbol

When a sign may be visible to both pedestrians and motorists, the international pedestrian symbol should be added as described in the *Manual for Pedestrian Signing & Wayfinding* and as shown in **Figures 15-12a** to **15-12d**. The symbol should be the same height as other logos and symbols and shall not be larger.

Vertical circulation symbols may be standalone symbols with square borders or may be located next to the arrow in a smaller, overlapping circle, as shown in **Figures 15-12e** and **15-12f**. When located in an overlapping circle, vertical circulation symbols shall be shown with black legend on a white background.

15B.3 Specific Parking Facility Signs

This Section describes specific types of pedestrian signs found near vertical circulation elements (elevators, escalators, and stairs) in parking facilities.

Parking garage level identifiers should follow the layouts shown in **Figure 15-13** and presented in more detail in the *Manual for Pedestrian Signing & Wayfinding*. The legend and background colors of the level number shall match the legend and background color of the corresponding terminal. If there is no corresponding terminal, the level number shall have a green legend on a white background.

Vertical circulation directories should follow the layouts shown in **Figure 15-14** based on the sign dimension constraints at each location. This figure provides additional detail to what is shown in the *Manual for Pedestrian Signing & Wayfinding*.

- If additional rows need to be added to the directory or rows need to be made wider to accommodate the required information, maintain the row height and spacing as shown in **Figure 15-14** for each new or widened row of text.
- When space is limited, signs should be scaled proportionally and the minimum spacing and size criteria of parking facility sign design elements shall be adhered to.

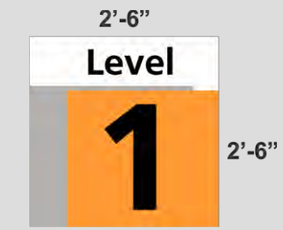


Figure 15-13a

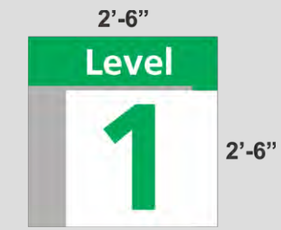


Figure 15-13b

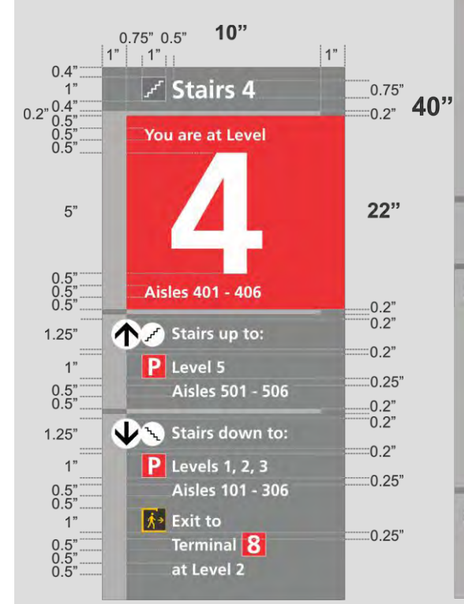


Figure 15-14a

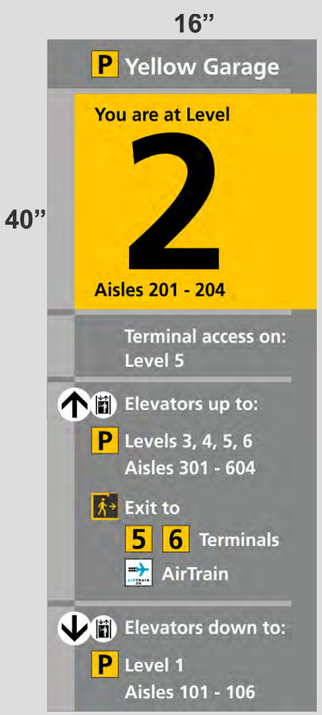


Figure 15-14b

15C. Aisle and Row Markers

Aisle and row markers are unique signs that apply to both vehicular and pedestrian traffic. They serve to reaffirm the location of motorists and help pedestrians identify where their vehicle is parked. To design aisle and row markers:

- Detailed dimensions are provided in *Appendix D – Aisle and Row Markers*.
- Electronic design files for aisle and row markers are available from Port Authority Traffic Engineering.
- Sign color specifications shall be as described in the *Manual for Pedestrian Signing & Wayfinding*.

An "aisle" is defined as the parking spaces accessible from a single parking roadway. A "row" is defined as the parking spaces between two adjacent parking roadways or between a parking roadway and wall. **Figure 15-15** shows a comparison of the definitions of an aisle and a row. Aisle markers are used at JFK and LaGuardia Airports, and row markers are used at Newark and Stewart Airports.

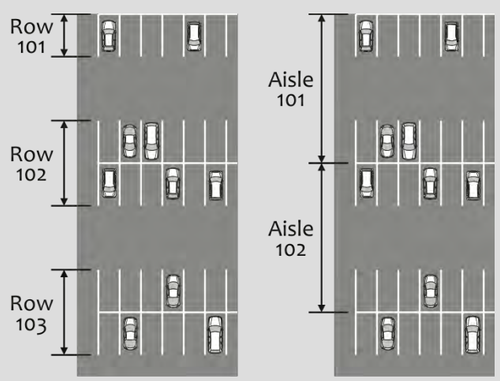


Figure 15-15

Aisle markers are typically mounted next to each other in pairs, with the gray neutral area on each sign located toward the center of the pair of signs as shown in **Figure 15-16**. Row markers are typically either pole mounted on the four sides of a cube or individually mounted (such as on columns or walls), and the gray neutral area is always located on the left of the sign as shown in **Figure 15-17**.

Large parking lots such as JFK Airport Long Term Parking and Newark Airport Lot P6 (Economy Parking) are divided into "areas." Areas are designated with letters to distinguish them from numbered aisles and rows, and are included on aisle and row markers in those parking lots.

At JFK Airport:

- **Figure 15-16a** shows the layout of Short Term Parking lot aisle markers.
- **Figure 15-16b** shows the layout of Short Term Parking garage aisle markers, which shall always include the level number.
- **Figure 15-16c** shows the layout of Long Term Parking lot aisle markers.
- In Short Term Parking facilities, the aisle marker legend and background colors shall match the colors of the zone.
- In Long Term Parking, aisle markers shall have white legend on a green background and the headers shall have green legend on a white background for contrast with Short Term Green Parking.
- The layout and colors of Employee Parking lot aisle markers are shown in *Appendix D – Aisle and Row Markers.*

At Newark Airport:

- **Figure 15-17a** shows the layouts of Short Term Parking lot row markers.
- **Figure 15-17b** shows the layout of Short Term Parking garage row markers except for roof-level markers mounted on light poles.
- **Figure 15-17c** shows the layout of Short Term Parking garage roof-level row markers mounted on light poles.
- **Figure 15-18a** shows the layouts of Daily Parking lot row markers.
- **Figure 15-18b** shows the layout of Daily Parking garage row markers except for roof-level markers mounted on light poles.
- **Figure 15-18c** shows the layout of Daily Parking garage roof-level row markers mounted on light poles.
- **Figure 15-18d** shows the layout of Economy Parking lot row markers.
- In Short Term Parking facilities, the row marker legend and background colors shall match the colors of the associated terminal as shown in *Appendix C – Logos and Symbols*.
- In Daily and Economy Parking facilities, row markers shall have green legend on a white background for contrast with the Terminal C Garage.
- The layout and colors of Employee Parking lot row markers are shown in *Appendix D – Aisle and Row Markers*.

Figure 15-16a *Figure 15-16b*

Figure 15-16c

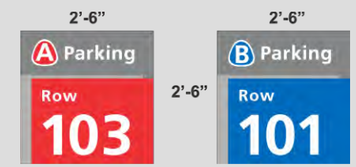


Figure 15-17a

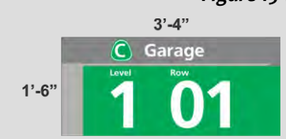


Figure 15-17b

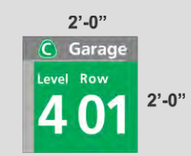


Figure 15-17c

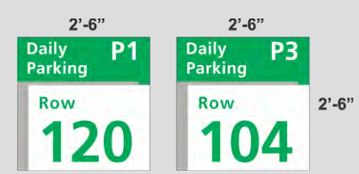


Figure 15-18a

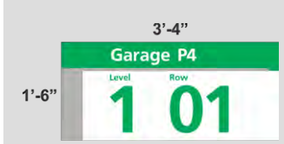


Figure 15-18b

Figure 15-18c *Figure 15-18d*

At LaGuardia Airport:

- **Figure 15-19a** shows the layout of Short Term Parking lot aisle markers.
- **Figure 15-19b** shows the layout of Short Term Parking garage aisle markers, which shall always include the level number.
- **Figure 15-19c** shows the layout of Long Term Parking lot aisle markers.

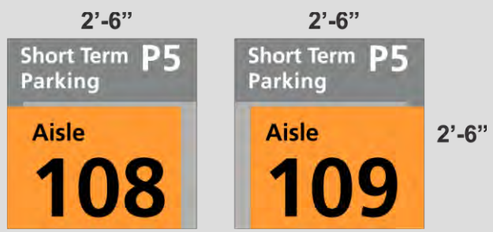


Figure 15-19a

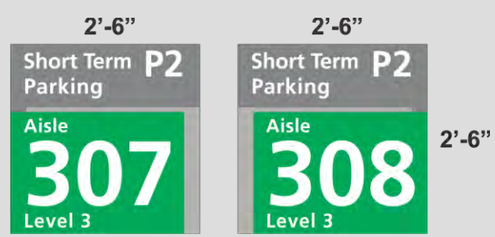


Figure 15-19b

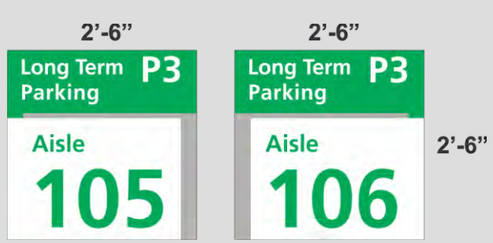


Figure 15-19c

- In Short Term Parking facilities, the aisle marker legend and background colors shall match the colors of the associated terminal as shown in *Appendix C – Logos and Symbols*.
- In Long Term Parking Lot P3, aisle markers shall have green legend on a white background for contrast with Short Term Parking Lots P1 and P2.
- The layout and colors of Employee Parking lot aisle markers are shown in *Appendix D – Aisle and Row Markers.*

At Stewart Airport, **Figure 15-20** shows the layouts of parking lot row markers. Row markers shall have white legend on a green background to emphasize the row number.

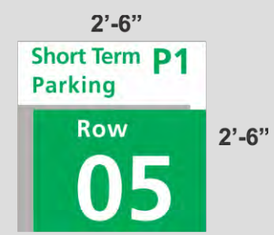


Figure 15-20a

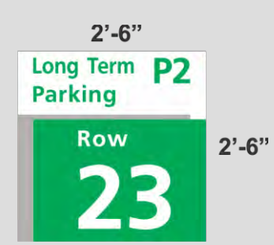


Figure 15-20b

15D. Illumination

Within parking garages, signs mounted within sign boxes may be internally illuminated for greater visibility. Signs are illuminated in garages due to adverse lighting conditions, complex maneuvers required within a short distance, and shorter sight distances than outside the garage. Illumination is warranted for both vehicular and pedestrian signs that are located at key decision points. Sign illumination shall be coordinated with Port Authority Electrical Engineering.

Signs that are internally illuminated shall be made of translucent material. The color specifications shall be as described in the *Manual for Pedestrian Signing & Wayfinding*.

15E. Variable and Changeable Message Signs (VMS and CMS)

Variable Message Signs (VMS) and Changeable Message Signs (CMS) are used in parking facilities to indicate the parking availability within a particular lot, garage, or garage level and can direct motorists to other facilities or levels. VMS and CMS are controlled centrally at each airport and may also be controlled locally at each parking facility or at each individual sign.

VMS and CMS within parking facilities are generally standalone signs. They may be ground mounted or suspended from the ceiling. The characteristics of VMS and CMS are described in *Section 13 – Variable and Changeable Message Signs*.

Parking availability indicators are combinations of a fixed sign panel with VMS or CMS elements. They are located at parking facility entry plazas and are described in *Section 16A – Parking Plaza Signs*.

16. Parking Entry and Exit Plazas

This section addresses signs at and approaching parking lot entry and exit plazas. Signs within parking lots and garages are discussed in *Section 15 – Parking Facilities*.

Parking plaza signs at JFK, Newark, and LaGuardia Airports are typically installed within frames. Sign dimensions given in this section are based on the dimensions of existing frames. Note that if new frames with different dimensions are installed, the specified dimensions of signs in this section shall be updated to match. Signs installed in frames or signs mounted on columns or walls shall be designed with square corners, and all other signs shall be designed with rounded corners. The borders on all signs shall have rounded corners.

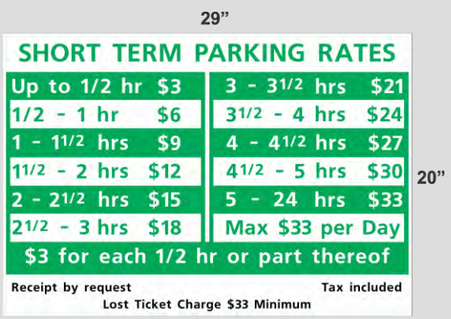


Figure 16-1a

Figure 16-1b

Figure 16-1c

16A. Parking Plaza Signs

Parking toll rate signs are found at and approaching entry and exit plazas. Examples of toll rate signs are shown in **Figure 16-1**. Detailed dimensions and specifications are shown in *Appendix E – Parking Toll Rate Signs*, reflecting the rate structures of each type of parking facility at each airport. As shown in Appendix E, some parking toll rate signs at LaGuardia Airport are installed in vertically oriented frames due to space restrictions, and parking toll rate decals are installed directly on toll plaza structures at some JFK Airport locations.

Note that the Aviation Department may change rates and rate structures at each airport. Consult Port Authority Traffic Engineering for the current rates prior to designing the toll rate sign.

Other signs found at parking entry and exit plazas include the following:

- “Stop – Take Ticket,” shown in **Figure 16-2a**, is found at entry plazas only.
- “Stop – Insert Ticket,” shown in **Figure 16-2b**, is essentially the same as **Figure 16-2a** and is found at exit plazas only.
- “Stop – Wait Here,” shown in **Figure 16-2c**, is found at exit plazas but only where a license plate recognition (LPR) system is present. Depending on location, one of the two arrows shown may be omitted.
- “Lane Closed,” shown in **Figure 16-2d**, is found on barriers at both entry and exit plazas, and is only visible when the barrier is deployed.

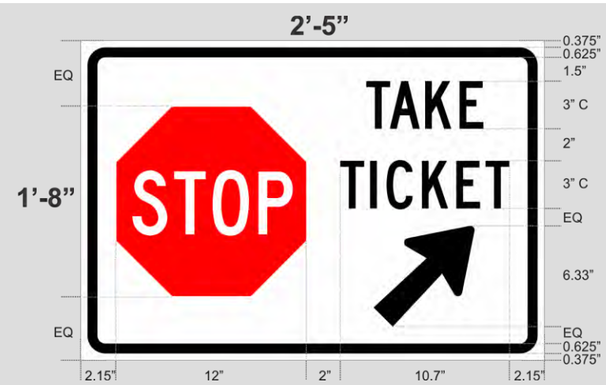


Figure 16-2a

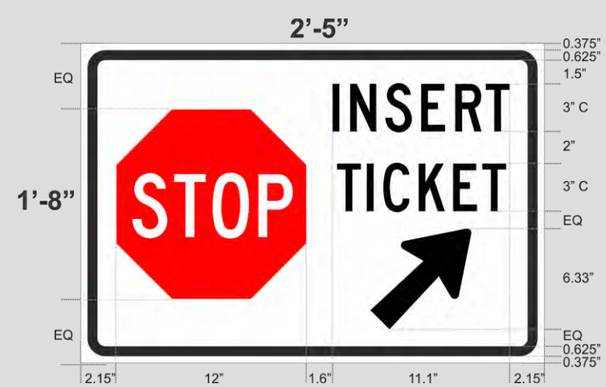


Figure 16-2b

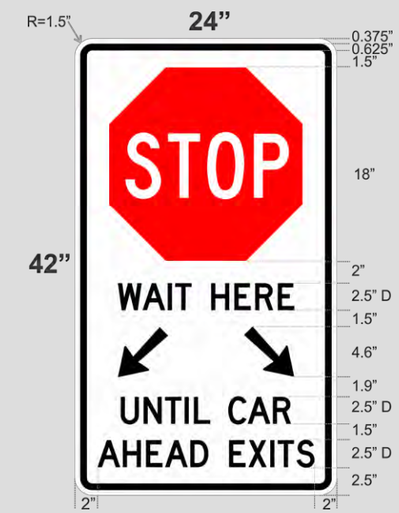


Figure 16-2c

Figure 16-2d

At entry and exit plazas where traffic spikes are employed, signs include the "Severe Tire Damage" message:

- "Do Not Back Up," shown in **Figure 16-3a**.
- "Wrong Way," shown in **Figure 16-3b**, facing the opposing (incorrect) direction of traffic.

At entry and exit plazas without traffic spikes, signs omit the "Severe Tire Damage" message:

- "Do Not Back Up," shown in **Figure 16-3c**.
- "Wrong Way," shown in **Figure 16-3d**, facing the opposing (incorrect) direction of traffic.

The sign shown in **Figure 16-4** is installed just before entering entry plazas at parking facilities that provide a grace period for motorists, allowing them to proceed through the parking lot and exit without being charged.

Figure 16-3a

Figure 16-3c

Figure 16-4

Figure 16-3b

Figure 16-3d

At garage entry plazas, a level status sign may be provided indicating which levels of the parking garage are open or full. An example is shown in **Figure 16-5**. The changeable message sign (CMS) elements shall be designed according to *Section 13 – Variable and Changeable Message Signs*.

In advance of the exit plaza, a sign will indicate whether electronic tolling is accepted in all lanes, as shown in **Figure 16-6a**, or in designated lanes only, as shown in **Figure 16-6b**. If electronic tolling is only accepted in designated lanes, signs as shown in **Figure 16-7** will be mounted on the exit plaza canopy. The first four signs shown are CMS, with two rotating drums that show the accepted payment methods for each lane.

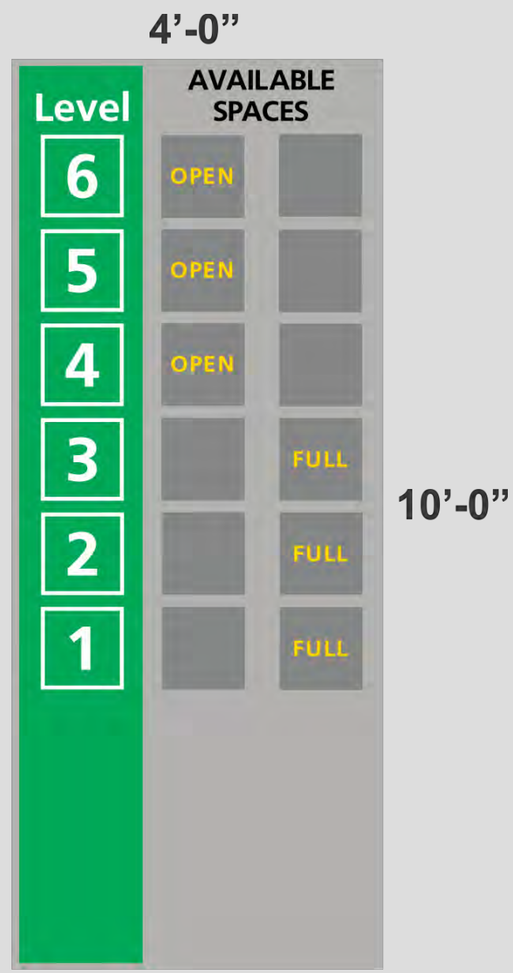


Figure 16-5

Figure 16-6a

Figure 16-6b

Figure 16-7

17. Airside

This section describes signing entering or within the AOA (Air Operations Area).

17A. Guard Posts

Guard posts are the access points from landside roadways to airside roadways. They are designated by letters and numbers at JFK, Newark, and LaGuardia Airports.

A guard post identification sign is typically posted at the guard post, in advance, or both. As shown in **Figure 17-1**, the sign consists of:

- Post designation (if applicable) in yellow text on black background
- "Restricted Area" in white text on red background
- "Authorized Vehicles Only" and related messages in black text on white background

Many guard posts are equipped with a barrier system to prevent unauthorized access. The following three signs are found on an approach to a guard post with a barrier system:

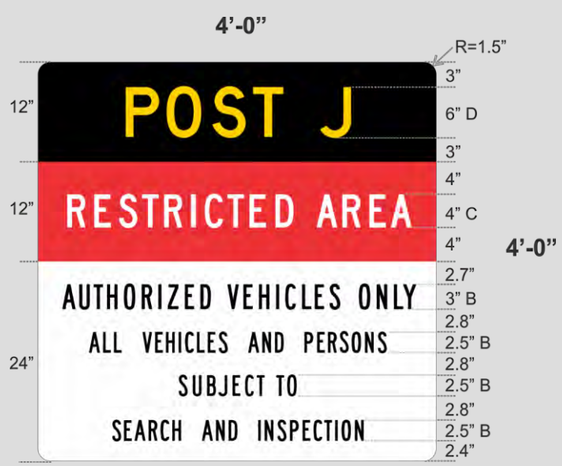


Figure 17-1

- "Barrier Ahead" warning sign with "5 MPH" auxiliary sign, as shown in **Figure 17-2a**, referencing *MUTCD* designations.
- "Stop – Wait here until car ahead exits" regulatory sign, as shown in Section 16, **Figure 16-2c**. This sign is omitted at guard post locations where there is insufficient room for one or more cars to queue behind the vehicle stopped at the guard post.
- "Stop here on red" regulatory sign, as shown in **Figure 17-2b**.

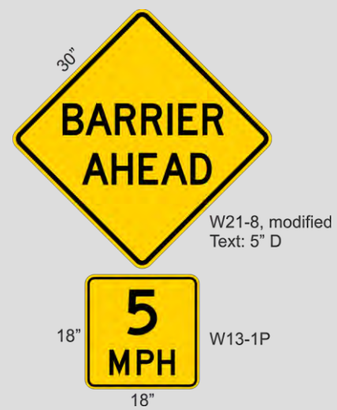


Figure 17-2a

Figure 17-2b

Other signs may be located at specific guard posts with messages or designs particular to that location or facility. These signs may indicate specific restrictions or rules to be observed within the AOA, give instructions to be followed at a specific guard post, or designate lanes for different types of traffic. Examples of these signs are shown in **Figure 17-3**.

Figure 17-3a

Figure 17-3b

17B. Restricted Service Roads

A limited set of signs are used on airside roads, called restricted service roads because they are not open to the public. As per Federal Aviation Administration (FAA) Advisory Circular *AC 150/5340-18*, latest edition or superseding circular, paragraph 11:

- "STOP" signs shall be installed wherever a restricted service road intersects an aircraft roadway (apron, taxiway, or runway). Signs shall be installed at these locations directing drivers to obtain clearance from Traffic Control before proceeding. The only exception is that at crossings in jet blast areas, such as at aprons, it may not be possible to provide mounted signs, so signs may be painted on the pavement as per paragraph 16 of *AC 150/5340-18*.
- Regulatory and warning signs shall adhere to the *MUTCD*.
- Signs shall be mounted at an appropriate height and sized appropriately so as not to interfere with any aircraft using the apron, taxiway, or runway that is intersected. All signs on restricted service roads pertaining to vehicular traffic shall be mounted such that the top of the sign is no higher than 5 feet from the ground.

The Port Authority uses some signs on restricted service roads that are not described in the *MUTCD*. They are shown and dimensioned in **Figure 17-4.**

17C. Aprons, Taxiways, and Runways

Aircraft guide signs are signs on aprons, taxiways, and runways that are intended to be viewed by pilots. These signs are neither designed nor maintained by Port Authority Traffic Engineering. Aircraft guide signs are subject to the FAA, and guidelines and requirements are contained in the FAA's Advisory Circulars:

- The latest edition of *AC 150/5345-44* (or superseding circular) contains the specifications for designing, manufacturing, and testing aircraft guide signs.
- The latest edition of *AC 150/5340-18* (or superseding circular) contains the standards for locating and installing aircraft guide signs.
- The latest edition of *AC 150/5360-12* (or superseding circular) contains guidance on airport sign design, including aircraft guide signs.

All aircraft guide signs shall meet the requirements and should meet the guidelines established by the FAA.

Figure 17-4a

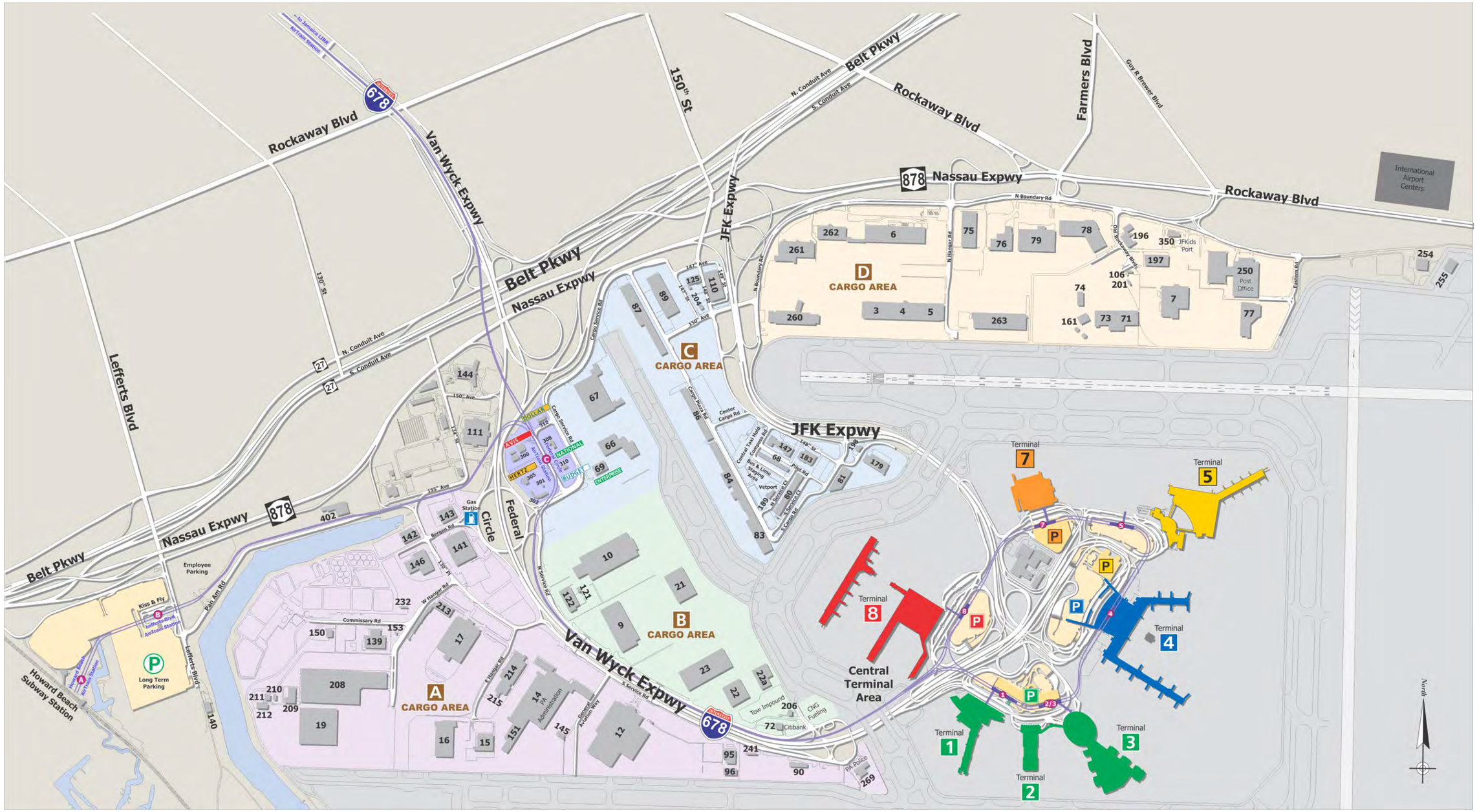
Figure 17-4b

Figure 17-4c

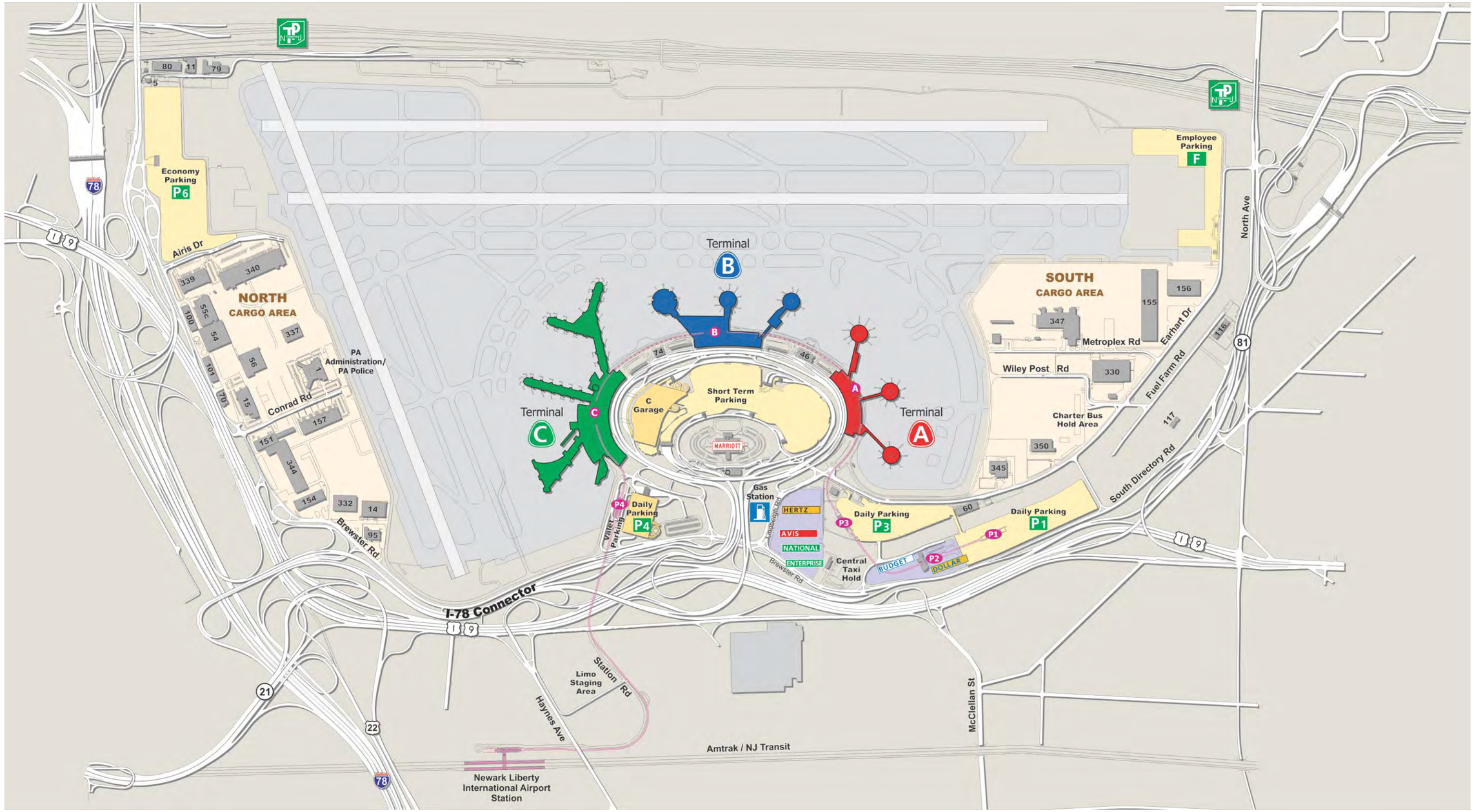
Figure 17-4d

Appendix A – Facility Maps

A1. John F. Kennedy International Airport



A2. Newark Liberty International Airport



A3. LaGuardia Airport

A4. Stewart International Airport

A5. Teterboro Airport

Appendix B – Sign Terminology

Refer to *Section 4A – Terminology* for discussion. This is a list of accepted, standardized terminology to be used in roadway guide sign messages on all Port Authority airport facilities. Terminology to be used on pedestrian signs shall follow the *Manual for Pedestrian Signing & Wayfinding*. Terminology listed in *Section B1.6 – Frontage Signs* is for frontage signs that may be read by motorists.

- Material in parentheses is not part of the terminology but represents related information.
- *MUTCD* standard guide, regulatory, or warning messages such as "Only," "Do Not Enter," etc. are not listed.
- Place names and approved company names may be used where appropriate.

Abbreviations should be avoided whenever possible unless space constraints cannot be overcome by other means such as reducing offsets and inter-letter spacing. They are listed in *Section B3 – Abbreviations*.

B1. Terminology for All Facilities

B1.1 Terminals

Arriving Flights
Departing Flights
Domestic Arriving Flights
Domestic Departing Flights
International Arriving Flights
International Departing Flights
Level (followed by number)
Level (number) Check-in
Other Terminals
Return to Terminal
Return to Terminals
Terminal
Terminals

B1.2 Parking

Airport Parking
Aisle
Aisles
All Parking
Area
Available Spaces
Cash/Credit Card
Closed
Exit
Full
Garage
Level (followed by number)
Levels (followed by numbers)
Lot
Open
Parking
Parking Rates
Premium Reserved Parking
Return to Parking
Row
Rows
Stretch Limos

Specific types of parking facilities are listed in *Section B2 – Terminology at Specific Facilities Only*.

B1.3 Transportation

Bus Hold Area
Bus Lane
Bus Staging
Buses
Central Taxi Hold
Charter Bus Hold Area
Charter Buses
Employee Parking
Limo Staging
Limos
Permittee Hold Area
Permittee Staging
Permittees
Taxi Hold
Taxi Hold Area
Taxi Stand
Taxis

B1.4 Services

Airport Information
Bank
Cell Phone Lot
CNG Fueling
Food
Fuel Farm Facility
Gas
Gas Station
Hotel
Hotels
Kiss & Fly
Medical Center
PA Administration Building
Port Authority Police
Post Office
Rental Car Return (inbound roadways only)
Rental Cars (all other roadways, including within rental area)
Tow Pound
Vetport

B1.5 Cargo

Cargo Area
Cargo Areas

B1.6 Frontages

Alternate Drop Off
Check-in
Curbside Check-in
Departures
Passenger Drop Off
Passenger Pick Up
Shared Ride Services
Shuttle
Shuttles

B1.7 General

Airport Exit
Are You Lost?
Building (may be followed by number)
Buildings (may be followed by number)
General Aviation
Port Authority
Port Authority of NY & NJ

B2. Terminology at Specific Facilities Only

B2.1 JFK Airport

All Cargo Areas
Chef's Orchid
JFK Airport
JFK International Airport
JFK Dentist
JFKids Port
Long Term Parking
Parking (preceded by zone color) (on aisle markers only)
Passenger Terminals (in Cargo Areas only)
Short Term Parking (parking toll rate signs at entry and exit plazas only)
Terminal Parking (parking rate signs on inbound roadways only)

B2.2 LaGuardia Airport

LaGuardia Airport
Long Term Parking
Meter Parking (Terminal A)
Short Term Parking (aisle markers and parking rate signs only)

B2.3 Newark Airport

Daily Parking
Economy Parking
Marriott
Newark Airport Marriott
Newark Airport
Newark International Airport
Newark Liberty International Airport
North Area
Off Airport Hotels
Off Airport Parking (frontage signs only)
Off Airport Rental Cars
Premium Parking
Short Term Parking
South Area
Valet Parking

B2.4 Stewart Airport

Economy Parking
Long Term Parking
Short Term Parking
Stewart Airport
Stewart International Airport

B2.5 Teterboro Airport

Teterboro Airport

B3. Abbreviations

Some of the abbreviations listed below are presented in *MUTCD* Table 1A-1. If an abbreviation in the *MUTCD* is not listed below, it may only be used with the approval of Port Authority Traffic Engineering. A period shall not be used to abbreviate.

(Administration)..... Admin
(Avenue)..... Av, Ave
(Boulevard)..... Blvd
(Building)..... Bldg
(Connecticut)..... CT
(Drive)..... Dr
(East)..... E
(Expressway)..... Expwy
(Highway)..... Hwy
(Information)..... Info
(Interstate)..... I-
(Long Island) LI
(New Jersey) ..... NJ
(New York) ..... NY
(North)..... N
(Parking)..... Pkg
(Parkway) ..... Pkwy
(Place)..... Pl
(Port Authority)..... PA
(Road)..... Rd
(South)..... S
(Street) ..... St
(Terminal)..... Term
(Turnpike)..... Tpk
(West)..... W

Appendix C – Logos and Symbols

Refer to *Section 6 – Graphic Elements* for discussion.

- All logos and symbols in this Manual approved for use on airport roadway signs are available in electronic format from Port Authority Traffic Engineering.
- Layout details of approved logos and symbols not in this Manual may be found in:
  - *MUTCD* (standard symbols)
  - International Organization for Standardization (ISO) (standard symbols)
  - *Manual for Pedestrian Signing & Wayfinding* (customized Port Authority logos and symbols and some ISO symbols)

Figure C-1a: JFK Airport

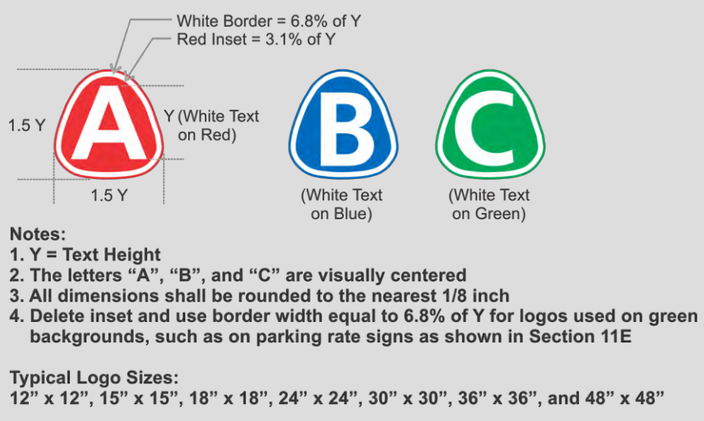


Figure C-1b: Newark Airport

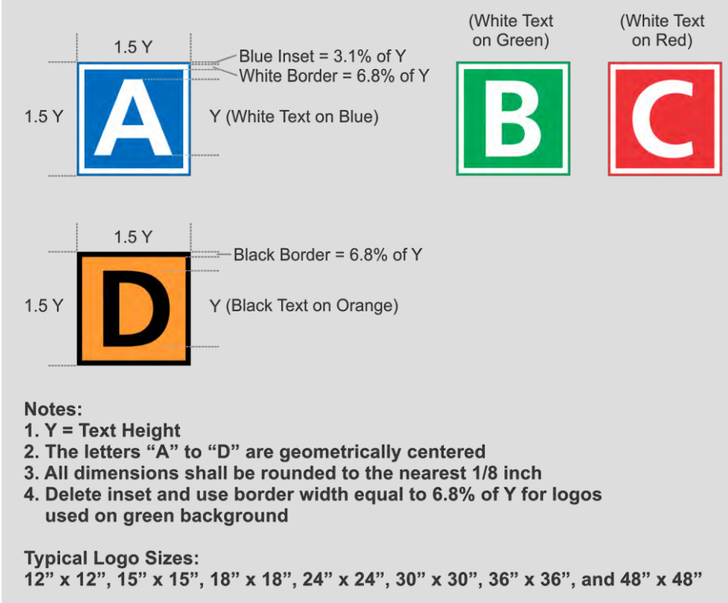
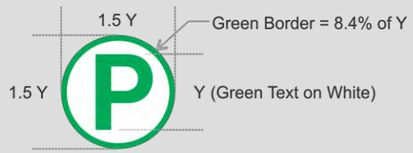


Figure C-1c: LaGuardia Airport

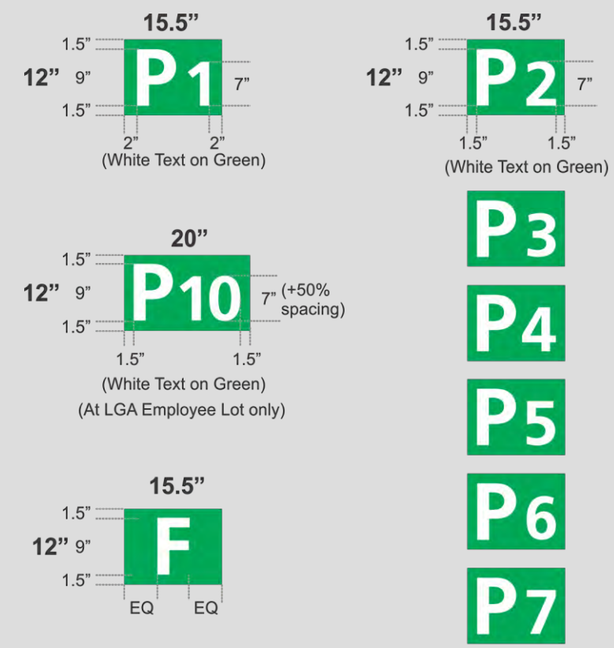
Figure C-1: Terminal Logos



Notes:
1. Y = Text Height
2. The letters "P" is visually centered
3. All dimensions shall be rounded to the nearest 1/8 inch

Typical Logo Sizes:
12" x 12", 15" x 15", 18" x 18", 24" x 24",
30" x 30", 36" x 36", and 48" x 48"

Figure C-2a: JFK Airport Long Term Parking



Notes:
1. To produce logos in sizes other than 12" x 15.5", scale all dimensions proportionally and round to the nearest 1/8". P10 and F shall not be produced in other sizes

2. Use P2 layout for logos P3 through P7

3. Use reverse colors (green text on white) for logos on parking rate signs as shown in Section 11E

Typical Logo Sizes (height x width):
12" x 15.5", 16" x 20.7", 20" x 25.8"

Figure C-2b: Newark, LaGuardia, and Stewart Airports

Figure C-2: Parking Logos

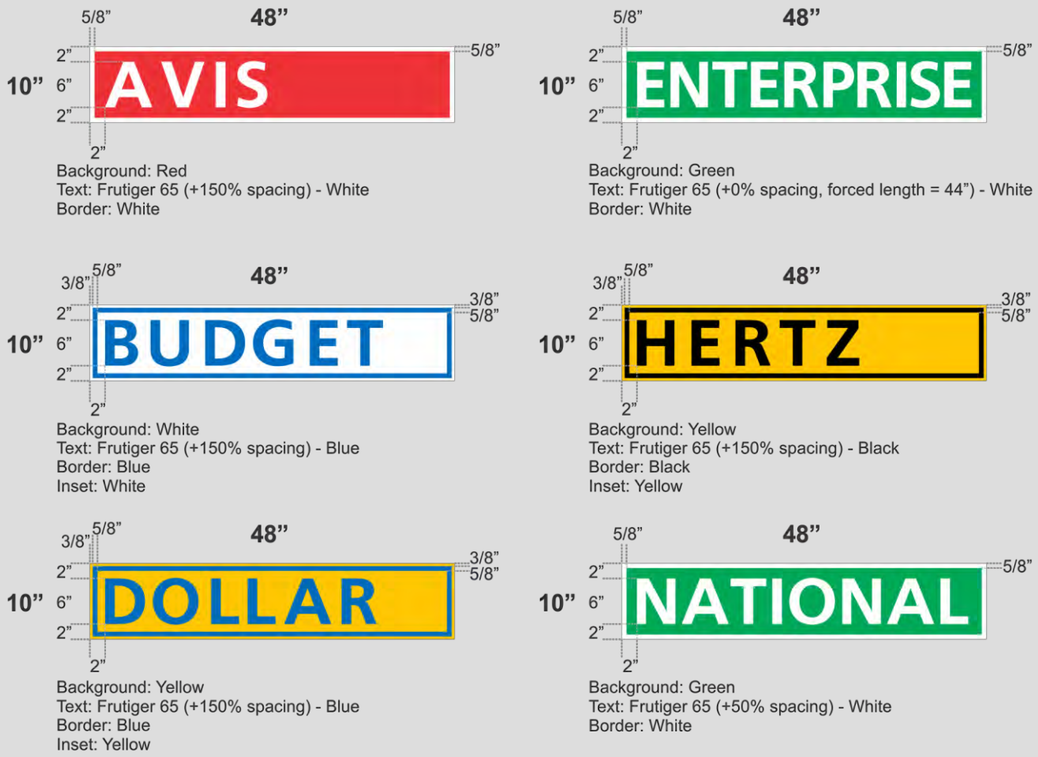


Figure C-3a: Rental Car Nameplates (Standard Size)

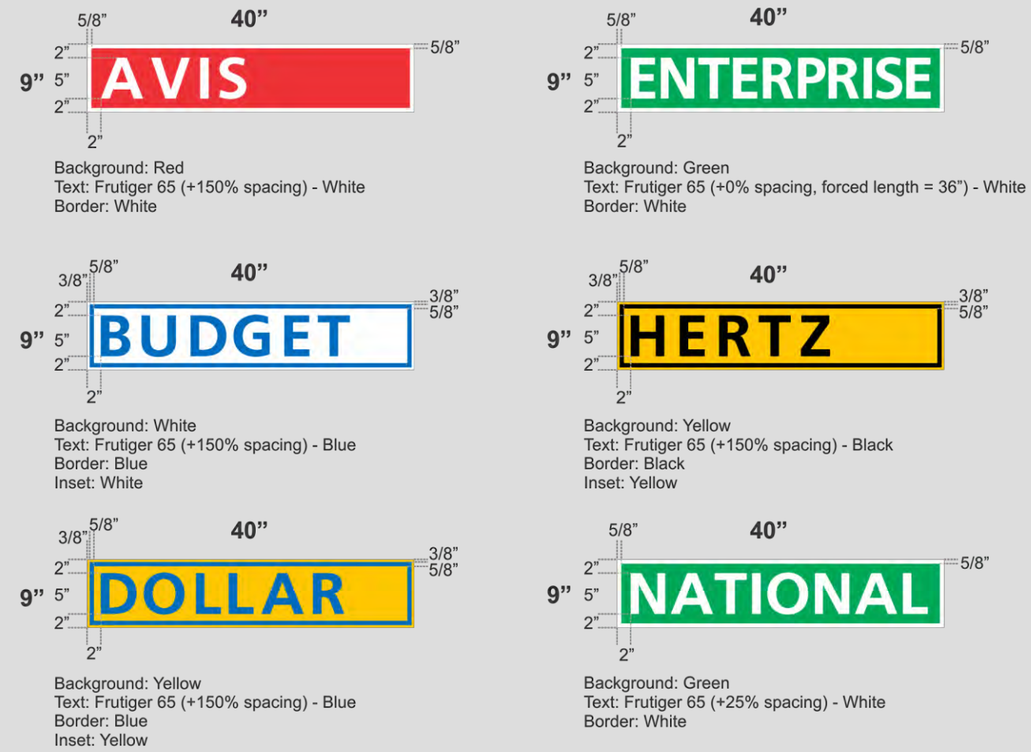
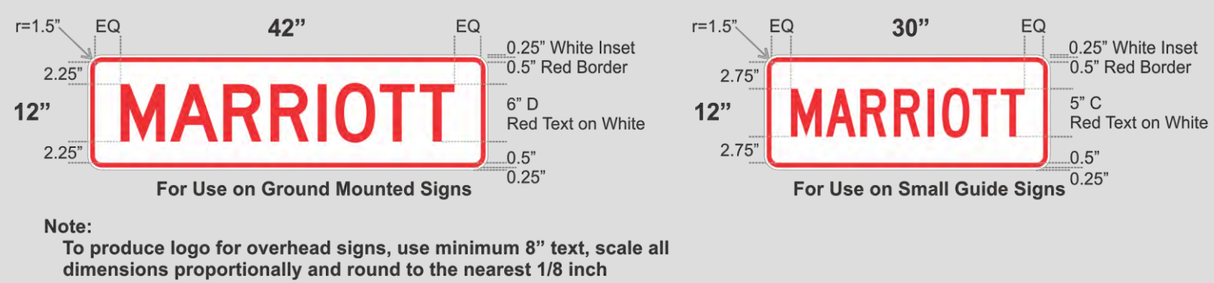


Figure C-3b: Rental Car Nameplates (Reduced Size)



Note:
To produce logo for overhead signs, use minimum 8” text, scale all dimensions proportionally and round to the nearest 1/8 inch

Figure C-3c: Newark Airport Marriott

Figure C-3: Service Logos

Notes:
1. Y = Text Height
2. The letters "A" to "D" are geometrically centered
3. All dimensions shall be rounded to the nearest 1/8 inch

Typical Logo Sizes:
12" x 12", 15" x 15", 18" x 18", 24" x 24", 30" x 30", 36" x 36" and 48" x 48"

Figure C-4: JFK Airport Cargo Area Logos

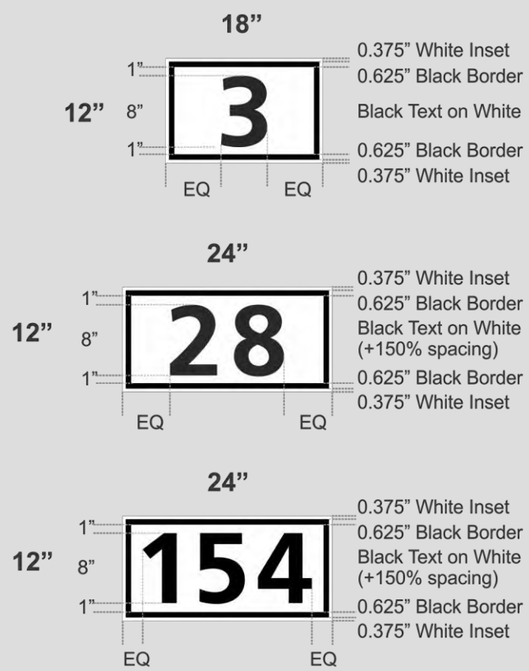


Figure C-5a: Individual Building Numbers

Typical Sizes (height x width):

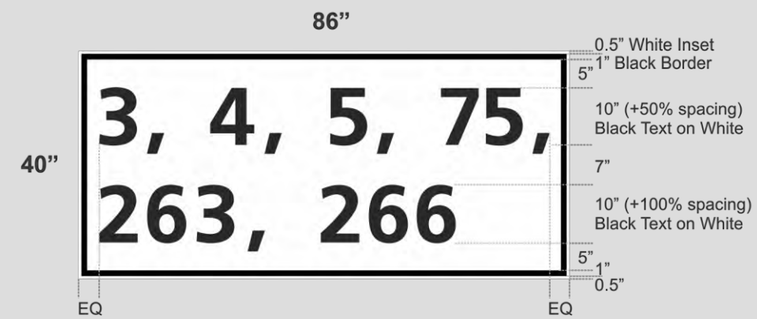
1 Digit Logos:

12" x 18" (8" text)
15" x 22.5" (10" text)
18" x 27" (12" text)

2 or 3 Digit Logos:

12" x 24" (8" text)
15" x 30" (10" text)
18" x 36" (12" text)

Notes:
1. To produce logos in sizes larger than shown here, scale all dimensions proportionally and round to the nearest 1/8 inch
2. For some 3-digit combinations, less than +150% of inter-letter spacing may be used to maintain a minimum 1" offset from the border



Notes:
1. Logo height and width may vary as required by building numbers and sign layout
2. The minimum text height shall be 10" on overhead signs and 6" on ground mounted signs
3. Refer to Section 6G for detailed guidelines
4. Logo design and layout shall be approved by Port Authority Traffic Engineering

Figure C-5b: Multiple Building Numbers

Figure C-5: Building Number Logos on Guide Signs

Appendix D – Aisle and Row Markers

Refer to *Section 15C – Aisle and Row Markers* for discussion.

All text is Frutiger 65. Spacing is +50% unless otherwise noted.

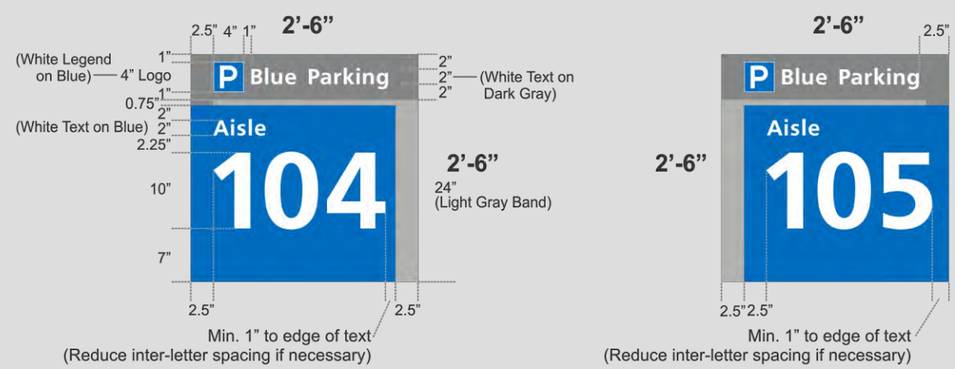


Figure D-1a: Short Term Parking Lots

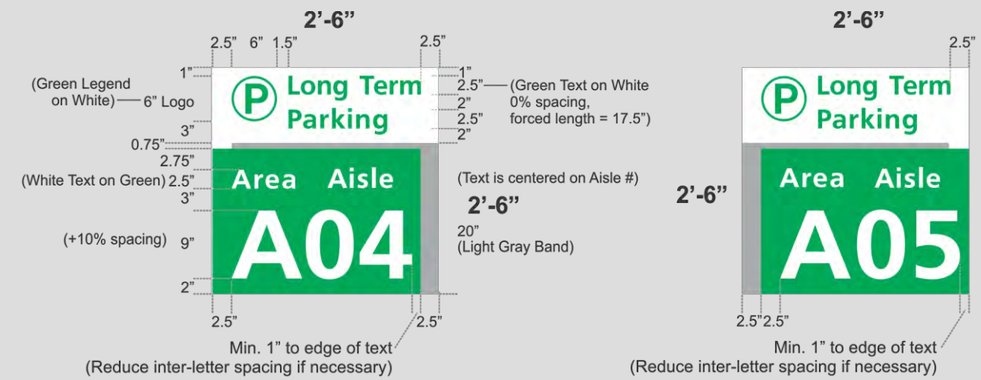


Figure D-1c: Long Term Parking

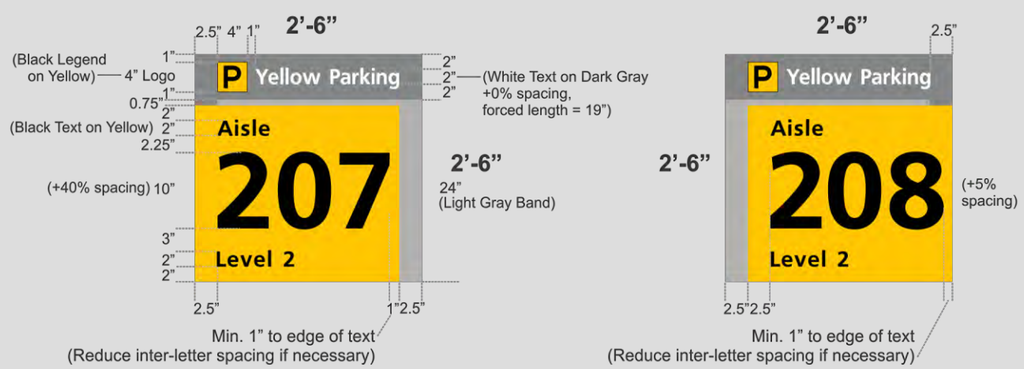


Figure D-1b: Short Term Parking Garages

Figure D-1d: Employee Parking

Figure D-1: JFK Airport Aisle Markers

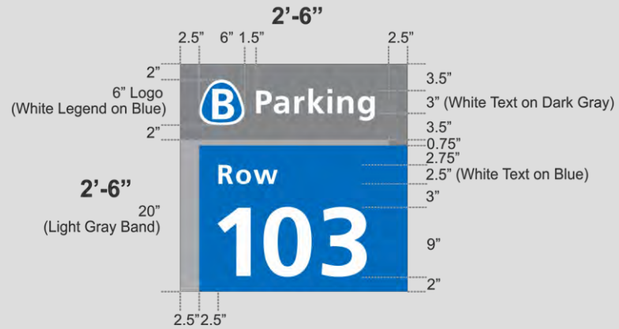


Figure D-2a: Short Term Parking Lots

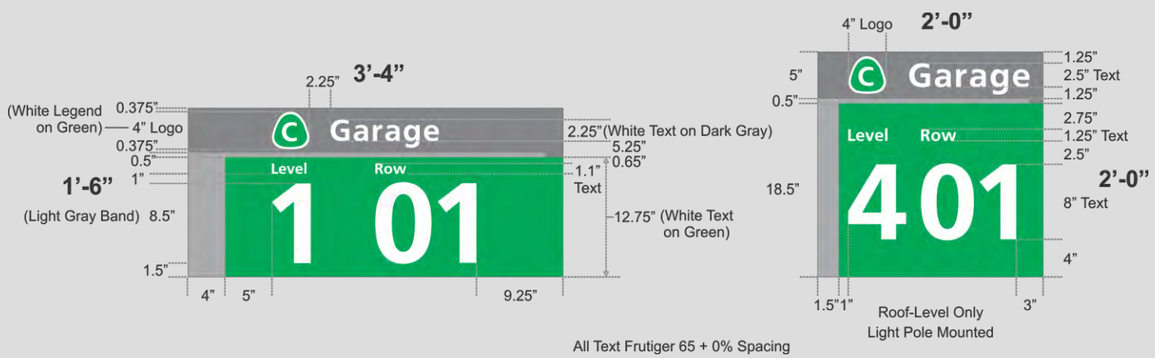


Figure D-2b: Short Term Parking Garage C

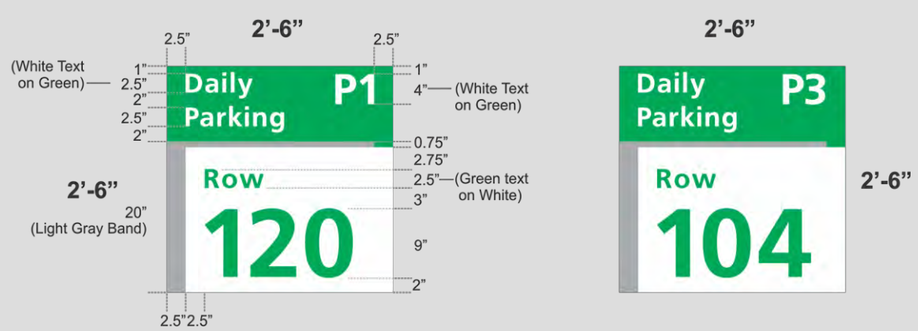


Figure D-2c: Daily Parking Lots

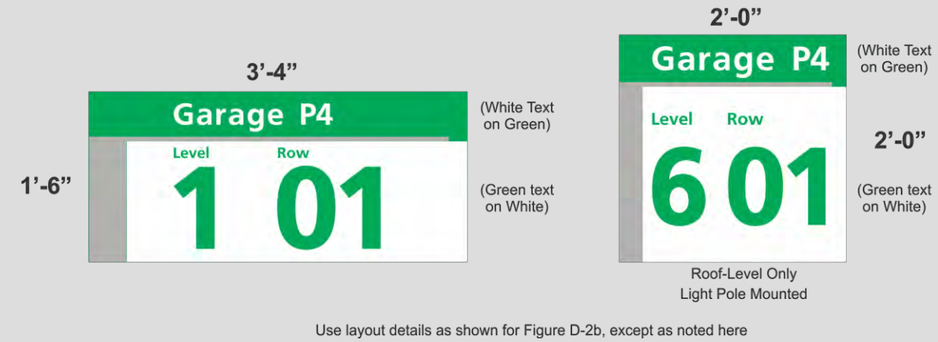


Figure D-2d: Daily Parking Garage P4

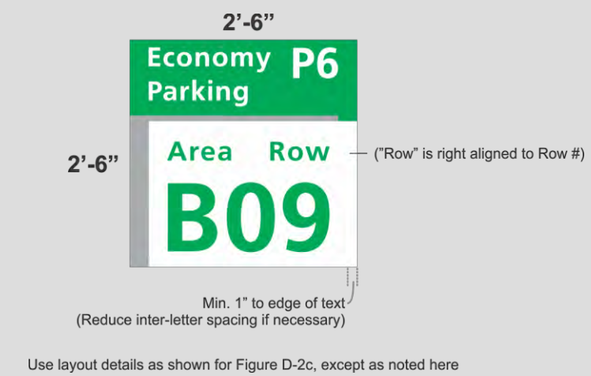


Figure D-2e: Economy Parking

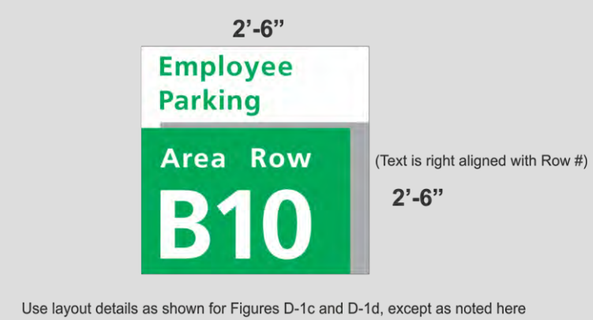


Figure D-2f: Employee Parking

Figure D-2: Newark Airport Row Markers

Figure D-3a: Short Term Parking Lots

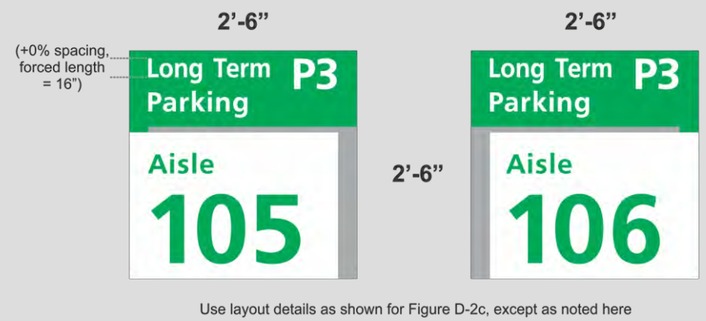


Figure D-3c: Long Term Parking

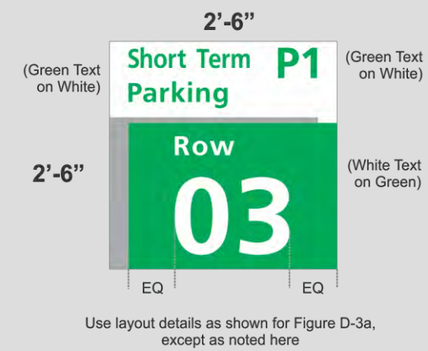


Figure D-4a: Short Term Parking

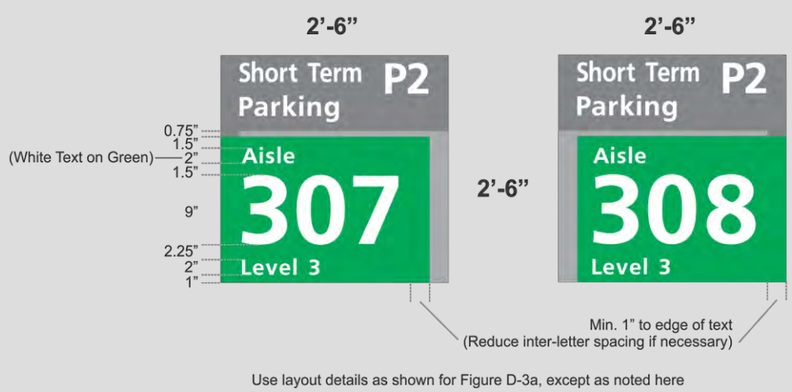


Figure D-3b: Short Term Parking Garage

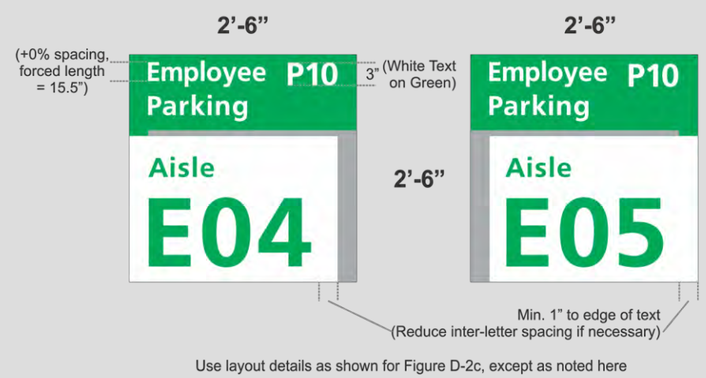


Figure D-3d: Employee Parking

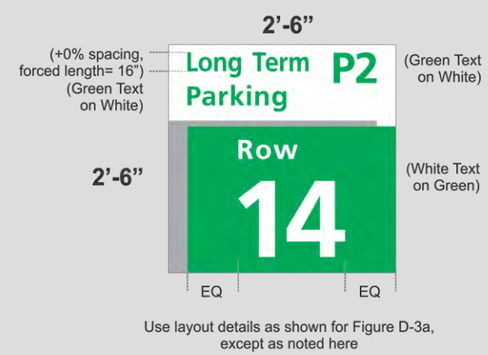


Figure D-4b: Long Term Parking

Figure D-3: LGA Airport Aisle Markers

Figure D-4: Stewart Airport Row Markers

Appendix E – Parking Toll Rate Signs

Refer to *Section 16 – Parking Entry and Exit Plazas* for discussion.

- Note that the rates and rate structures at each airport may change, and each facility should be consulted for the current rates prior to designing the toll rate sign.
- Sign dimensions shown in this Appendix are based on the dimensions of existing sign frames. If new frames with different dimensions are installed, the specified dimensions will be updated to match.
- Signs installed in frames and signs mounted on columns and walls shall be designed with square corners, and all other signs shall be designed with rounded corners.

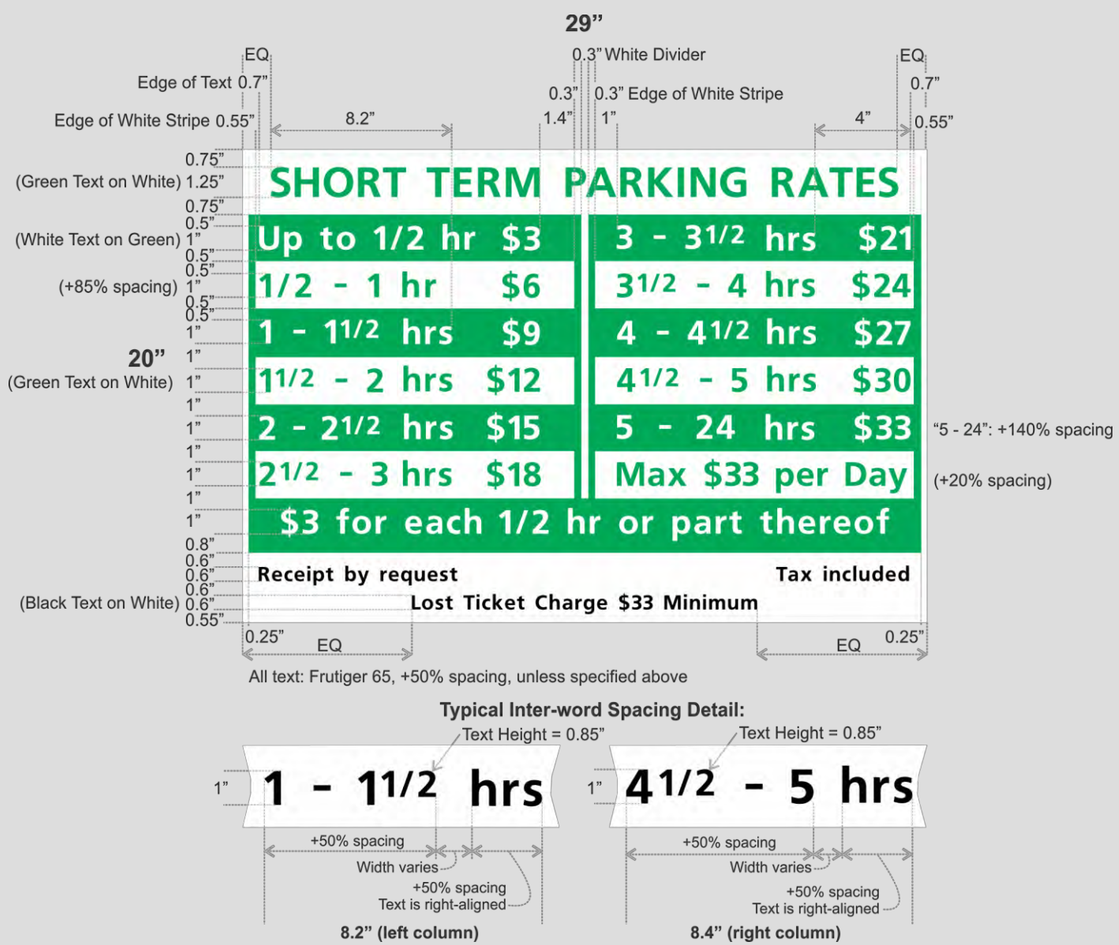


Figure E-1a

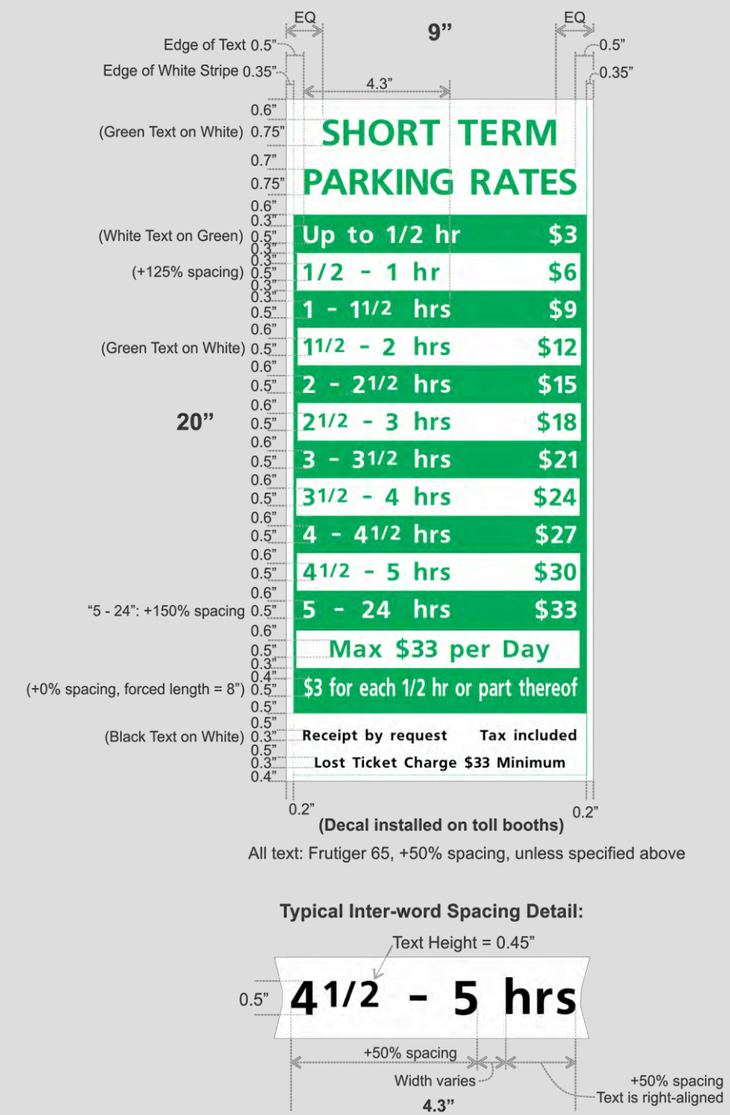


Figure E-1b

Figure E-1: JFK Airport Short Term Parking

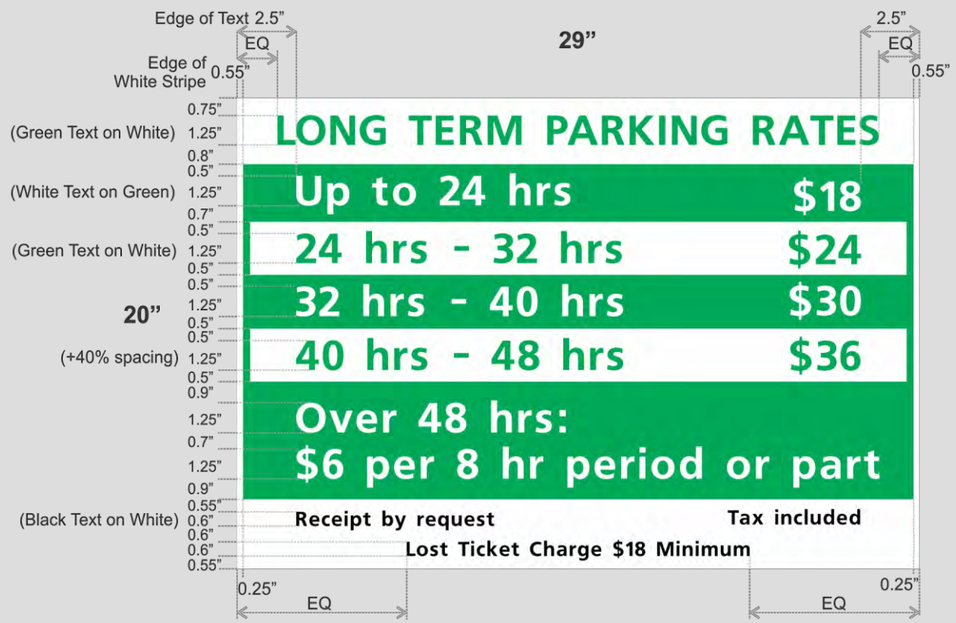


Figure E-2a

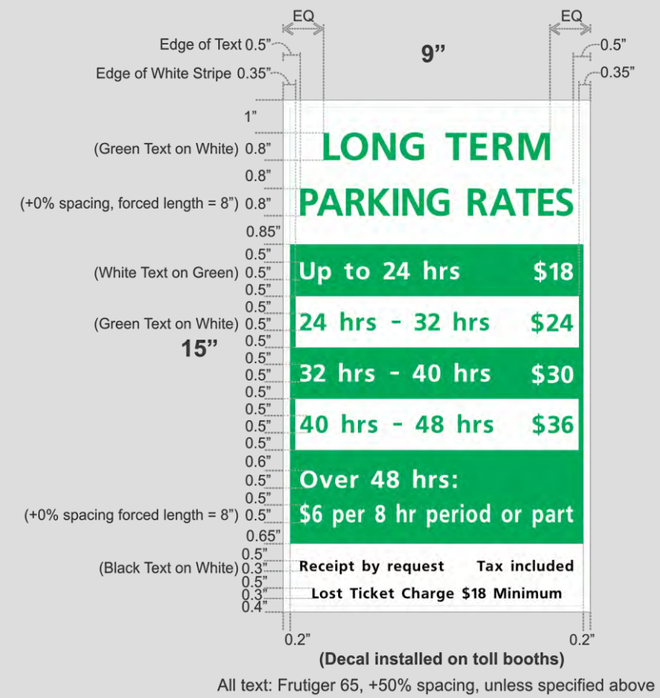


Figure E-2b

Figure E-2: JFK Airport Long Term Parking

Use layout details as shown for Figure E-1a

Figure E-3a

Use layout details as shown for Figure E-2a, except the header is “Economy Parking Rates”

Figure E-3b

(Sign installed inside and on the frontage of AirTrain Station P4)

All text: Frutiger 65, +0% spacing

Valet Parking Logo: 4” x 4”, 2” and 0.5” white text on green, 0.08” white border
(Also refer to *Manual for Pedestrian Signing and Wayfinding*)

Figure E-3c

Figure E-3: Newark Airport Short Term, Economy, and Valet Parking

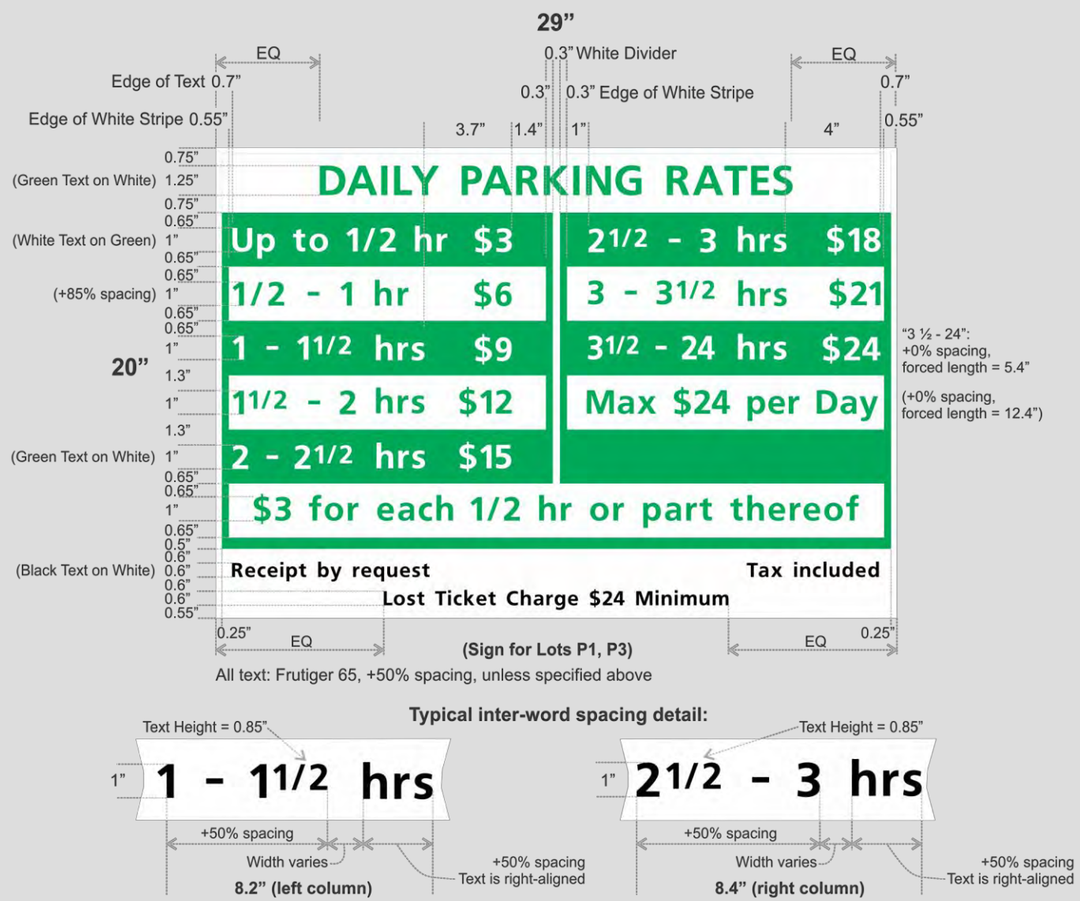


Figure E-4a

Figure E-4b

Figure E-4: Newark Airport Daily Parking

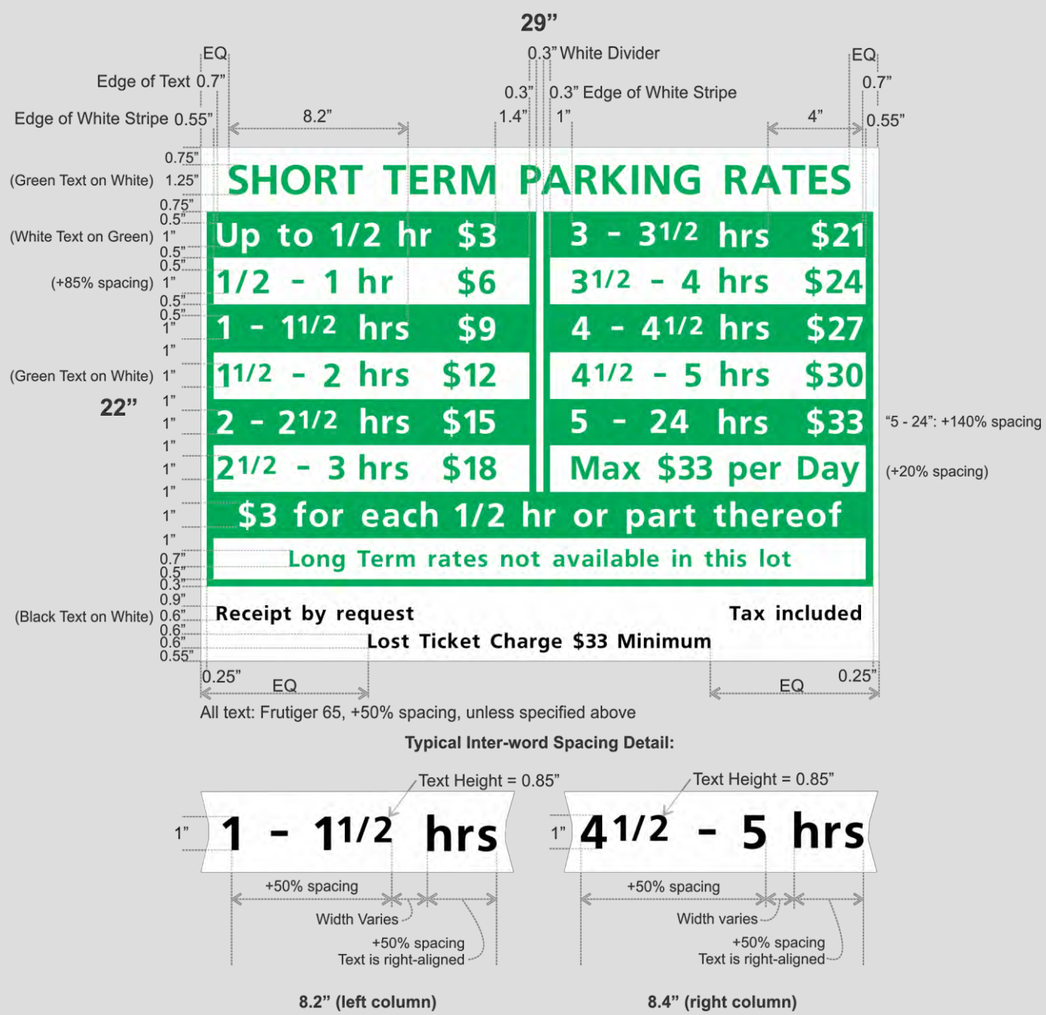


Figure E-5a

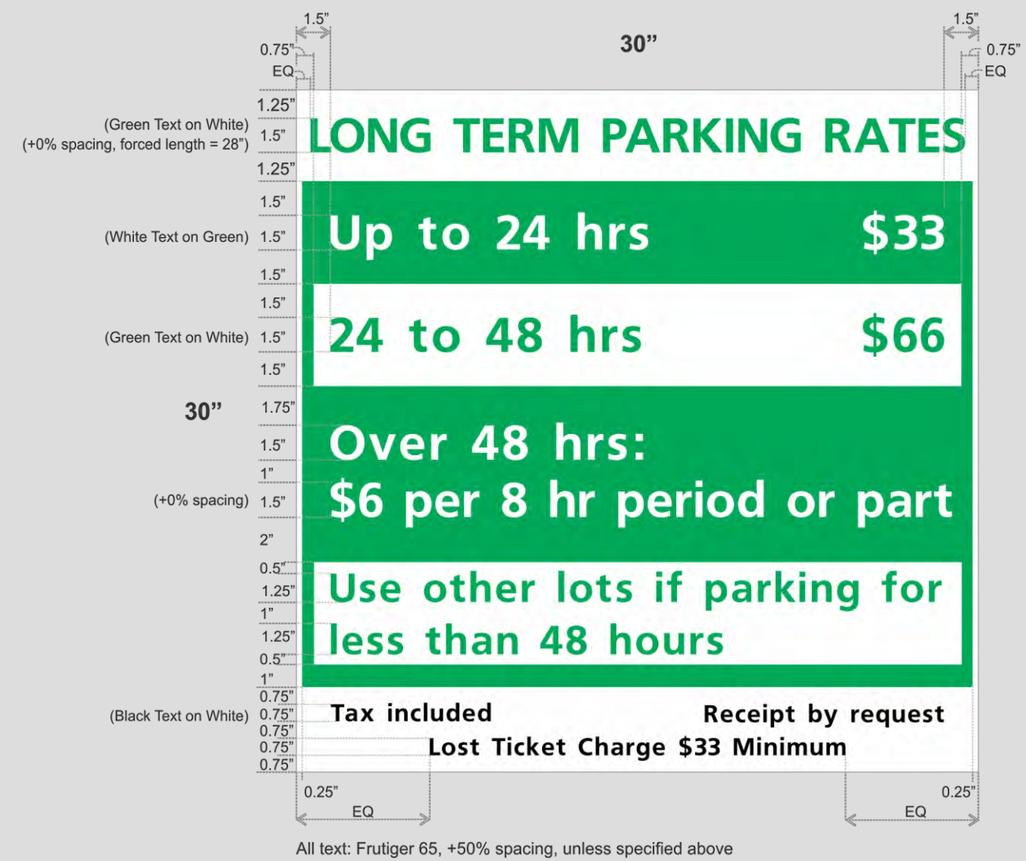


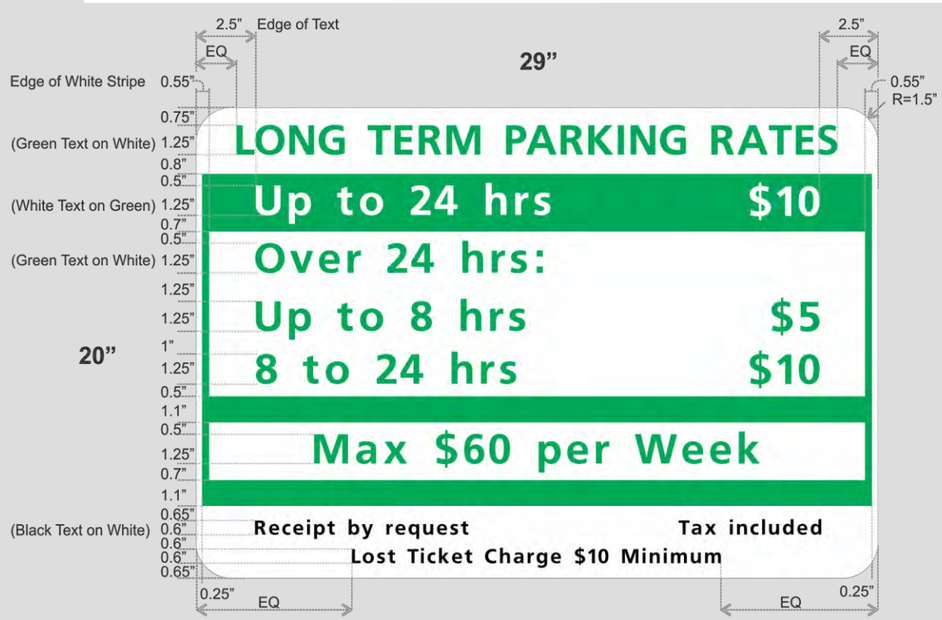
Figure E-5b

Figure E-5: LaGuardia Airport

Use layout details as shown for Figure E-1a, except as noted here

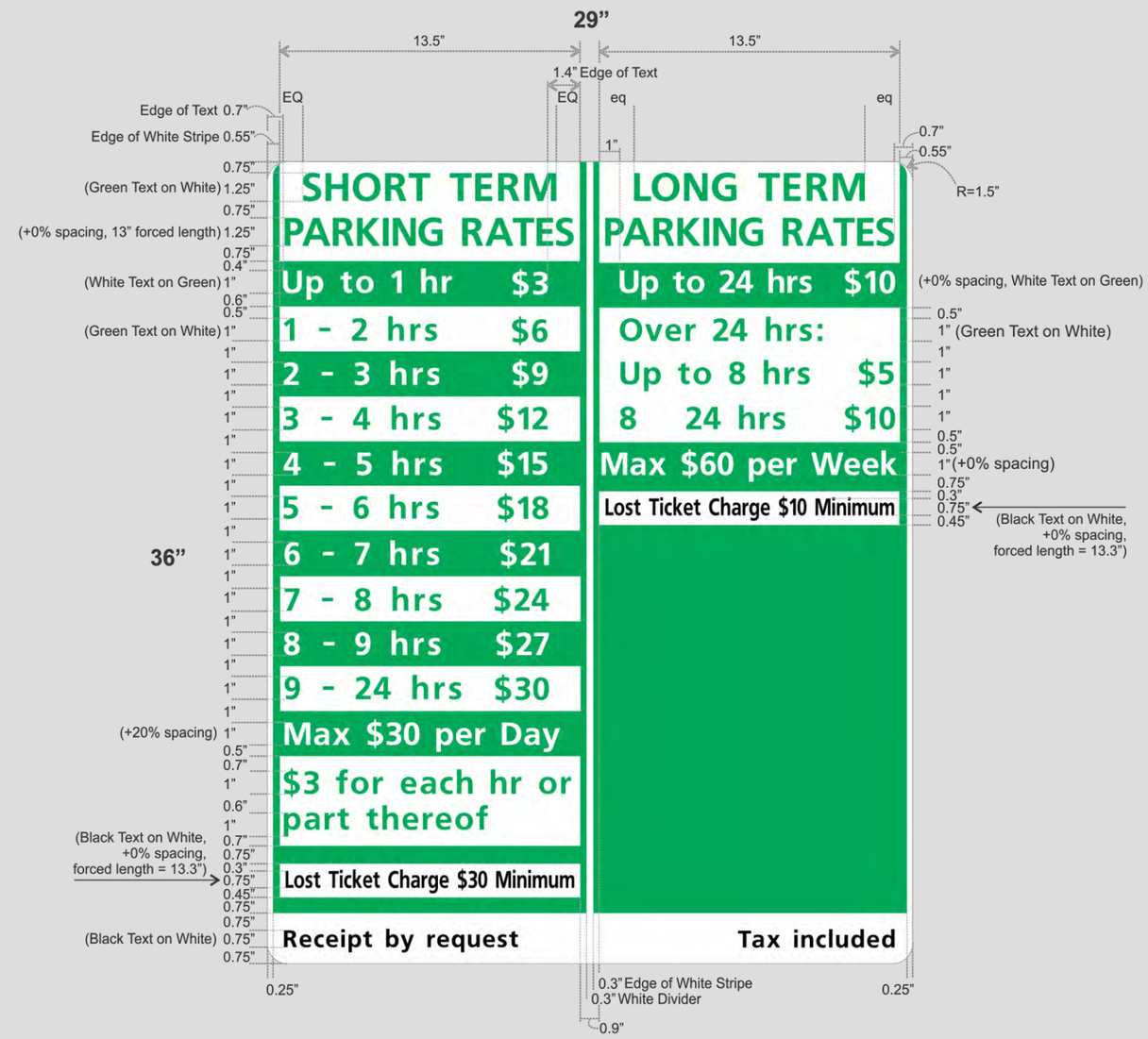
All text: Frutiger 65:
+100% spacing for all text "x - y hrs"
+20% spacing for text "Max $30..."
+50% spacing for all other text

Figure E-6a



All text: Frutiger 65, +100% spacing, except "Long Term Parking Rates" (use +50% spacing)

Figure E-6b



(Use only when traffic combined for both parking types)

All text: Frutiger 65, +50% spacing, unless specified above

Figure E-6c

Figure E-6: Stewart Airport

Appendix F – Color and Material Specifications

Airport guide sign color and material specifications are provided in this Appendix in the interest of keeping a consistent look to on-airport signing. All guide, regulatory, and warning signs shall conform to this section, except the following signs shall conform as indicated to the *Manual for Pedestrian Signing & Wayfinding*:

- Colors and materials for frontage signs, as described in *Section 14 – Frontages*.
- Colors and materials for internally illuminated signs in sign boxes, as described in *Section 14 – Frontages* and *Section 15D – Parking Facilities – Illumination*.
- Colors for pedestrian signs and aisle and row markers in parking facilities, as described in *Section 15B – Parking Facilities – Pedestrian Signing* and *Section 15C – Aisle and Row Markers*.

Except as provided above, all guide sign elements shall conform to the color coordinates and values specified by the *MUTCD*, including backgrounds, text, overlays, logos, symbols, nameplates, arrows and borders. Title 23, Part 655 of the Code of Federal Regulations (23 CFR 655), Appendix to Subpart F lists color coordinates and reflectivity requirements that shall be met.

To meet reflectivity requirements, all reflective guide sign sheeting shall be ASTM D4956-04 Type XI except for Facility Identification signs, which shall be ASTM D4956-07 Type I. This requirement may be met by 3M™ Diamond Grade™ DG³ Reflective Sheeting or approved equal. Non-reflective guide sign sheeting shall only be used for the colors black and gray.

To meet color coordinate requirements, use **Table F-1.** Colors are provided with a "Product to Match," indicating a color and material combination that has already been approved by the Port Authority for roadway signs. See the *Standard Technical Specifications* for production requirements.

Table F-1. Color Specifications

Color Name	Color Specification	Product to Match (Or Approved Equal)
Black	Pantone® Process Black C	3M™ 3650-12 Black
Blue	Pantone® 294 C	3M™ 4095 Blue
Brown	Pantone® 469 C	3M™ 4099 Brown
Burgundy	Pantone® 188 C	
Gray	RGB (70, 71, 72)	Benjamin Moore™ 1631 Midnight Oil
Green	Pantone® 342 C	3M™ 4097 Green
Light Blue	Pantone® 300 C	3M™ 680-76 Light Blue
Orange	Pantone® 152 C	3M™ 4084 Orange
Purple	Pantone® 259 C	3M™ 4058 Purple
Red	Pantone® 187 C	3M™ 4092 Red
White	RGB (255, 255, 255)*	3M™ 4090 White
Yellow	Pantone® 116 C	3M™ 4091 Yellow

* Note that reflective silver material is considered white in accordance with the *MUTCD*.

Appendix G – References

FAA AC 150/5340-18: Standards for Airport Sign Systems.
Published by the U.S. Department of Transportation, Federal Aviation Administration. AC No. 150/5340-18F (8/16/10) or superseding circular.

FAA AC 150/5345-44: Specification for Runway and Taxiway Signs.
Published by the U.S. Department of Transportation, Federal Aviation Administration. AC No. 150/5345-44J (9/29/10) or superseding circular.

FAA AC 150/5360-12: Airport Signing and Graphics.
Published by the U.S. Department of Transportation, Federal Aviation Administration. AC No. 150/5360-12E (9/18/08) or superseding circular.

Manual for Pedestrian Signing & Wayfinding: Airport Standards Manual for Pedestrian Signing and Wayfinding.
Published by the Port Authority of New York & New Jersey, Aviation Department. Fourth (2008) or latest edition.

MUTCD: Manual on Uniform Traffic Control Devices for Streets and Highways.
Published by the U.S. Department of Transportation, Federal Highway Administration. 2009 or latest edition.

Standard Highway Signs:
This booklet is issued as an adjunct to the *MUTCD* to show additional sign details. *Standard Highway Signs* is updated months after the *MUTCD* is updated, so there may be discrepancies between the *MUTCD* and *Standard Highway Signs*. In these cases, the *MUTCD* shall govern.

Standard Technical Specifications:
PANYNJ Engineering Department Standard Technical Specifications.
Published by the Port Authority of New York & New Jersey, Engineering Department. Latest edition.

Traffic Standard Details: PANYNJ Traffic Standard Details.
Published by the Port Authority of New York & New Jersey, Engineering Department, Traffic Engineering. Latest edition.