



# SEATTLE-TACOMA INTERNATIONAL AIRPORT

## SIGNAGE MASTER PLAN

VOLUME 2: Roadways

100% FINAL SET: 4.2.2020



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# 1.0

## **1.0 WAYFINDING APPLICATION & POLICY**

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- 1.5 Graphic Standards and Guidelines
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INTRODUCTION

Airports can be complex and difficult spaces to navigate. Numerous factors affect public perception and levels of customer service with the associated airport. This is particularly true when airport modifications or upgrade programs are undertaken. Older terminals and roadways typically have outdated and inconsistent wayfinding signage systems not reflective of current world principles and standards, and improvement projects create even more challenges for individuals functioning within the airport’s wayfinding processes.

As an airport continues to evolve, it is important that its wayfinding and signage systems be designed to accommodate changes in a holistic manner. It must be understood that regardless of an individual facility’s demarcation, the wayfinding pathways extend to and from the surrounding roadways, parking, curbsides, terminals and concourse areas. Facility architecture, services, functions and amenities, as well as vertical and horizontal routes, must always be carefully considered and viewed as part of the airport’s interconnected and overall wayfinding system. A solid understanding of graphic/visual cues and human behavioral responses to wayfinding processes is paramount, and the established wayfinding system must also function seamlessly, within the built environment, without user hesitation or confusion, regardless of what area of the airport is being navigated.

PURPOSE

This document presents information regarding the general planning and implementation of the Seattle-Tacoma International Airport (SEA) roadway and signage. It presents the exterior wayfinding signage system with regards to wayfinding design approach, general sign location plans and graphic depictions of all messaging per each sign location.

SCOPE

The scope of this document includes the general design intent, criteria and descriptions for the SEA roadway wayfinding signage system. It is intended to support vehicular transportation and work in support of the Manual of Uniform Traffic Control Devcies (MUTCD).

- Signs regulated by this document:
- All in scope SEA roadway wayfinding signage (as shown within this document and within public-use areas only)

- Signs NOT regulated by this document:
- Regulatory, warning, emergency, toll road, preferential or managed lane, general information, tourist-oriented, changeable message, and temporary traffic control signage as identified in the MUTCD
  - ADA related signage
  - Garage/Parking signage
  - Interior terminal/concourse signage
  - Directory map artwork
  - Regulatory or life-safety/egress signs
  - Sign demolition plans/details/etc.
  - Existing/non-updated (older or original) SEA wayfinding signage
  - Signage located within other jurisdictions (WSDOT, City of SeaTac, etc.)

SIGNAGE PROGRAM ELEMENTS

In conjunction with a set of sound wayfinding foundation and basics, a successful wayfinding program should always include a basic set of documentation that is created and organized in the following manner:

Wayfinding Signage Master Plan

- Identifies wayfinding strategy and logic.
- Provides holistic solutions on how to integrate and apply wayfinding into various airport facility zones or areas (i.e. terminal, curbside, ground transportation, parking, roadways, etc).
- It is the “why” behind the airport’s planned wayfinding solutions.
- Includes general sign programming (location plans and message schedules)
- The Wayfinding Signage Master Plan is comprised of the following volumes:
  - Volume 1: Terminal and Concourses
  - Volume 2: Roadways
  - Volume 3: Parking and Ground Transportation

Wayfinding Signage Standards and Guidelines

- Establishes visual consistency among the following elements:
  - Terminology and hierarchy of messages
  - Typography
  - Symbology
  - Arrows (style, placement and usage)
  - Colors
  - Materials
  - Illumination
- Includes all sign types, design intent notes/specifications, detailed face layouts, general mounting detailing, intended sign usage and specific locations for it’s associated project and area of scope.
- The Wayfinding Signage Standards and Guidelines is comprised of the following volumes:
  - Volume 1: Terminal and Concourses
  - Volume 2: Roadways
  - Volume 3: Parking and Ground Transportation

Wayfinding Signage Implementation Plan

- Provides direction on how to apply the principles outlined in the Signage Standards and Guidelines and Master Plan.
- Offers insight and/or scheduling on phasing and implementation priorities.
- Provides the safest, shortest and simplest way to get from point A to B.

Wayfinding Signage Design Intent Documents

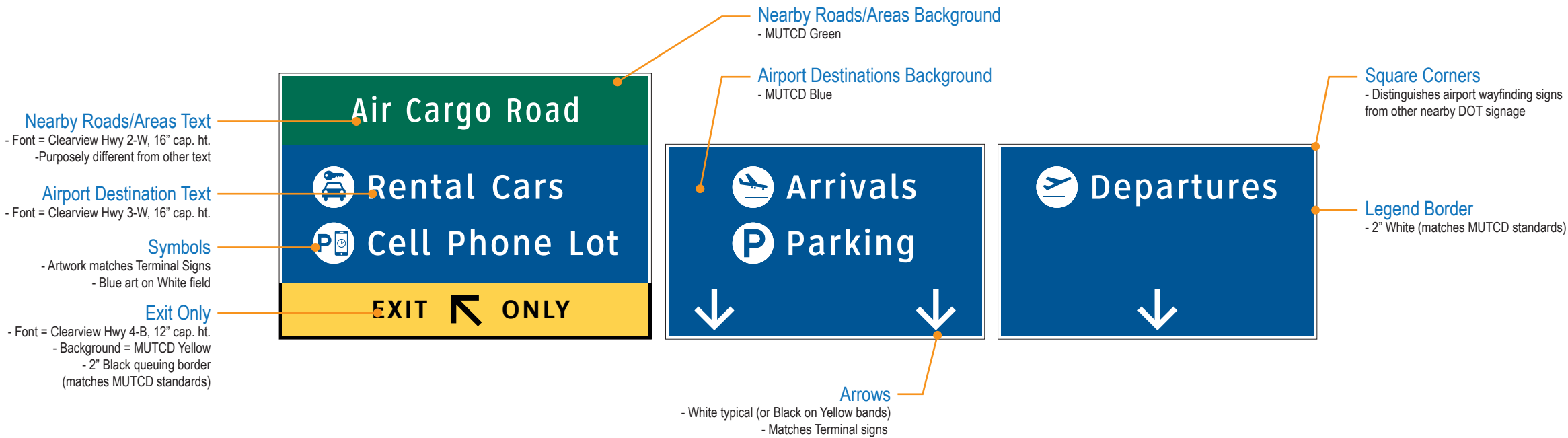
- Provides details for fabrication and implementation within a specific wayfinding signage project.
- Includes all sign types, design intent notes/specifications, detailed face layouts, general mounting detailing, intended sign usage and specific locations for it’s associated project and area of scope.



Chosen Concept: Option 1 - Refresh Existing System  
(SHOWN FOR HISTORICAL REFERENCE ONLY)

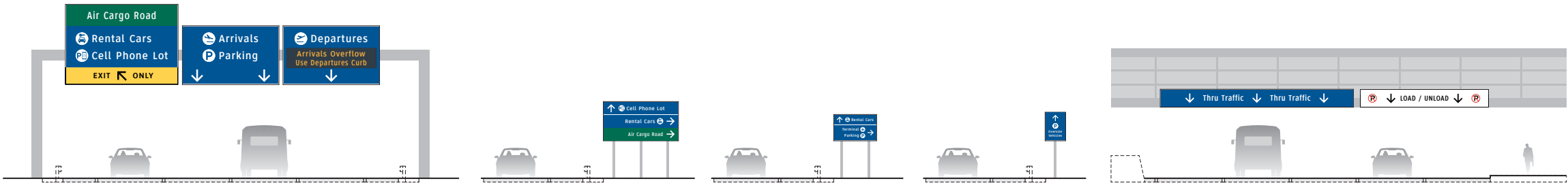
- Uses same DOT background colors as existing system
- Refines text style (Clearview Hwy family), size, formatting
- Introduces high-contrast symbols to visually tie into Terminal signage graphics
- Introduces new arrows (matches Terminal signage)

Design Features, Graphics and Elements:



Typical Sign Roadway/Curbside Sign Types:

Roadway



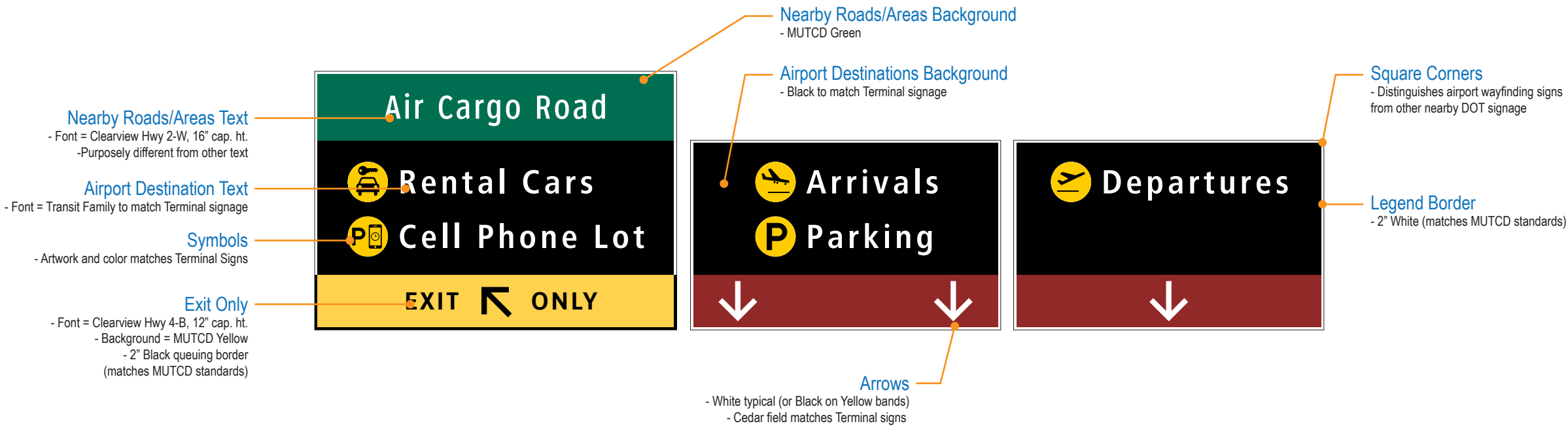
Curbside



Option 2 - Refresh Existing System  
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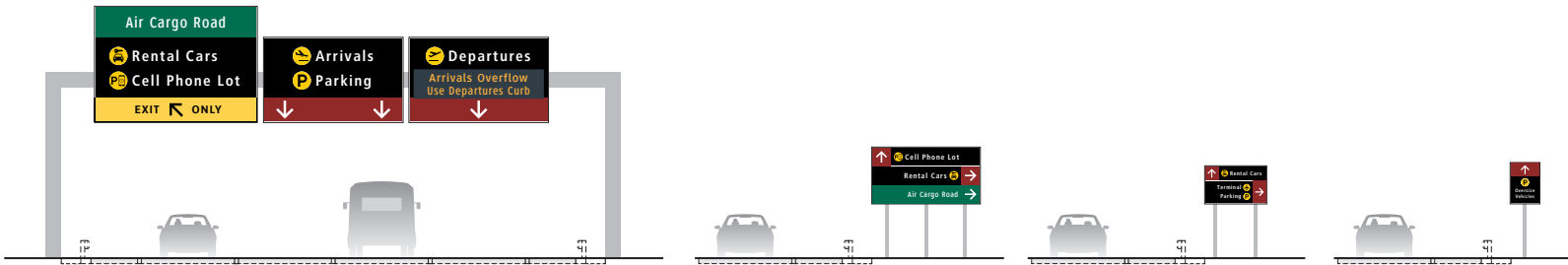
- Similar to Option 1 with the following changes:
- Airport Destinations = Black background (matches Terminal signage)
  - Symbols = Yellow and Black (matches Terminal signage)
  - Font = Transit Family (matches Terminal signage)
  - Arrow Fields = Cedar Red (matches Terminal signage)

Design Features, Graphics and Elements:

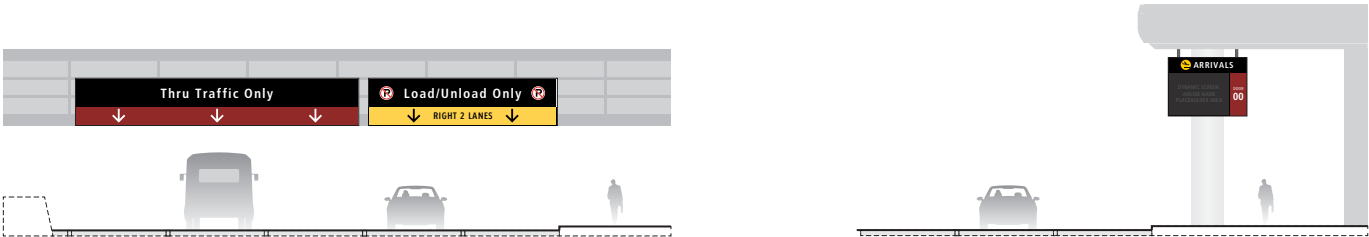


Typical Sign Roadway/Curbside Sign Types:

Roadway



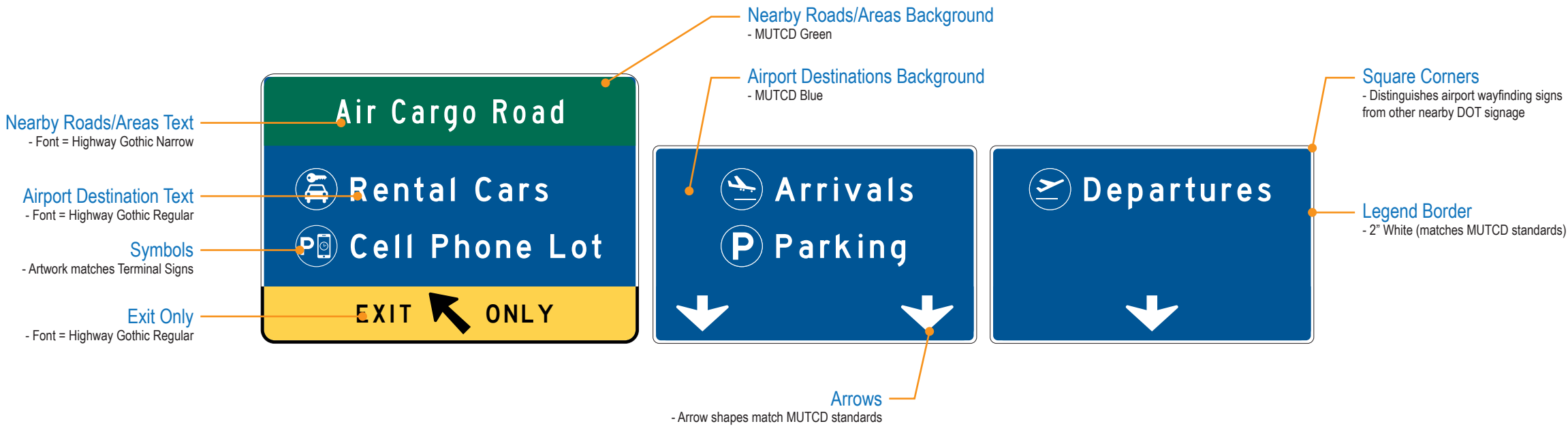
Curbside



Option 3 - Match MUTCD Standards  
(SHOWN FOR HISTORICAL REFERENCE ONLY)

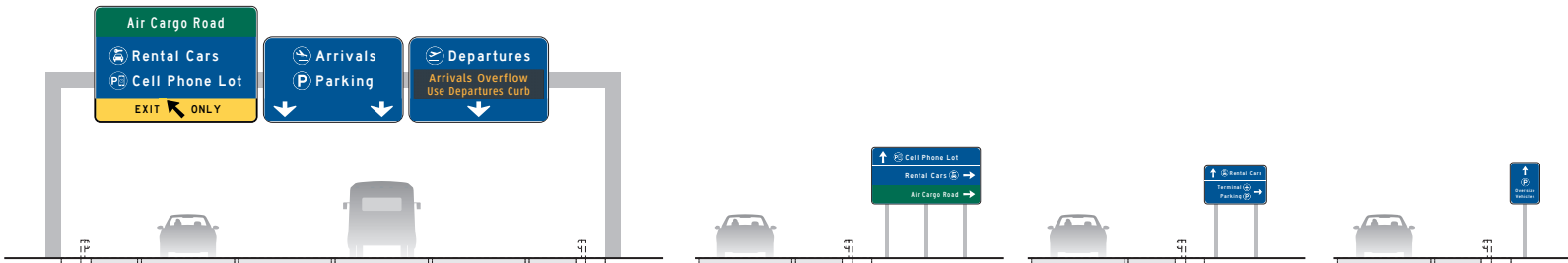
- All fonts, graphics, colors, arrows etc. to match MUTCD standards
- Introduces symbols, but uses White art on MUTCD blue field
- Corners of faces are round to match MUTCD standards

Design Features, Graphics and Elements:

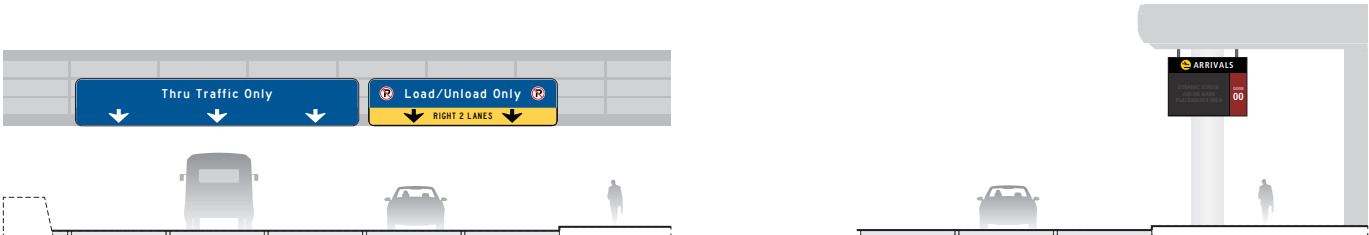


Typical Sign Roadway/Curbside Sign Types:

Roadway



Curbside





WAYFINDING ANALYSIS - GENERAL EVALUATION CRITERIA

Before any wayfinding plans, signage guidelines or recommendations can be developed, it is fundamental to understand the existing wayfinding signage system and methodology. In order to establish a clear direction on how to move forward with SEA’s roadway wayfinding program, the Design Team observed and analyzed existing wayfinding signage in order to assess viable current practices, and to see where enhancements were needed. All relevant plans and documents related to SEA’s wayfinding signage as provided to the Design Team at the time of this document’s publication were reviewed and analyzed. This section summarizes the evaluation criteria that was used during the Design Team’s reviews and analysis processes.

Understanding the needs of the traveling public and how it will react to a system of graphic displays is as much a study of human behavior as it is a study of graphic design. In order to get the desired results from a sign system, a logical method of thinking on the part of airport management, consultants and designers must be employed.

It is important for signs to adhere to a basic guideline of copy styles and sizes, consistent terminology, recognizable and universally acceptable symbols and uniform colors for standard functions. Message content must be in layman’s language, understandable by first-time, as well as frequent travelers.

This section covers a few key elements that impact the effectiveness of a signage system and overall wayfinding at SEA. The project team also used these elements as the criteria by which the signage system (existing and proposed) were evaluated for the purposes of the study.

Signage Philosophy

SEA personnel, being very familiar with their facilities, may occasionally forget that the traveling public is a captive audience in an unfamiliar environment. In order to obtain the desired results from a wayfinding system, a logical method of thinking must be employed by all parties involved in the process. This includes all design consultants, fabricators/contractors, sign maintenance staff and airport administration. In addition, many designers or contractors will create unique sign systems based on their own individual ideas by incorporating unique wayfinding elements, including symbols, colors or decorative letter styles that reduce overall legibility and effectiveness of the wayfinding signage. Wayfinding system elements that compound a traveler’s confusion will eventually lead to mistrust and disregard for the entire wayfinding system, regardless of how graphically attractive it may appear on the surface. Establishing one cohesive overall signage philosophy that encompass all areas of graphic communication (roadways, parking, curbsides, ground transportation, terminals, etc.) is a core issue that must be established and maintained for the duration of a wayfinding system’s existence. Creating an integrated and holistic wayfinding framework will produce a comprehensive signage system that is easily understood, followed and identified by the majority of its users.

Standard Terminology

Message content must be in layman’s language, understandable by both frequent and infrequent travelers. Experiencing the same terms and use of signs from one area to the next will assist the general public in their comprehension and functioning throughout the airport.

Message Hierarchy

A uniform hierarchy of messages and information needs to be established throughout the roadways, terminal and related facilities. Messages may be categorized into three levels: primary, secondary and tertiary. Clear and concise information presented by “primary” and “secondary” sign systems will create improved and efficient passenger flow on the roadways and within the terminal and related facilities.

- 1. Primary – Directional and Identification
- 2. Secondary – Auxiliary services and support functions
- 3. Tertiary – Third level information

Color Coding

Many public facilities rely on basic brown, black or royal blue backgrounds with white lettering for both interior and exterior signing. While a few use the basic “highway” or DOT green signs with white lettering, there can be an unfounded desire to explain the complexity of a facility by the use of multi-colored sign systems.

Many problems can occur with multi-colored sign systems, particularly within complicated roadway systems and airport facilities. Approximately 12 percent of the population is color blind, and cannot distinguish between mixed shades of red and orange, yellow and brown, or black and blue. For this reason, if multiple colors are used it will be necessary to spell out the name of the color on the sign to make it clear to many of these individuals. It should also be noted that light affects color systems, and many colors fade within certain regions of the country due to weather conditions. Therefore, the use of color should be partially evaluated based on the geographic location of the airport.

Additionally, it is important to note that color can have great affect on human behavior and understanding of wayfinding systems. As such, careful consideration should always be made when considering use of a multi-colored sign system.

Symbols

The American Institute of Graphic Arts (AIGA), under contract to the US Department of Transportation, has developed a series of universal symbols in an effort to provide the public with recognizable characters. Today there are more than 46 recognizable symbols available and additional symbols are continually being developed. The following are a few general guidelines in the use of symbols within transportation facilities:

1. The use of short verbal messages along with symbols is more effective than the use of symbols alone.
2. Mixing messages and symbols for relatively minor or secondary terminal functions, activities or tenants with essential public messages and main directional information, weakens the overall communications of the entire system.
3. Too many symbols or arrows at any one location can be counterproductive to the information being provided.

Scale of Copy

Various studies by multiple agencies, authorities and universities have been done with regards to copy size and legibility. Through those studies, practical viewing distances (for a one-inch capital letter) have ranged from 16 to 50 feet, however, the most accepted viewing distance in the industry is 50 feet for a one-inch cap height, under optimal conditions by someone with 20/20 vision.

In a fast paced, often congested environment such as SEA, these optimal conditions do not always exist. In addition, travelers today include those with ability ranges from slightly to severely impaired. Therefore, it is more realistic to use a conservative viewing distance such as 25 feet of viewing distance to each inch of cap letter height. The relationship between capital letter height and lowercase letter height should be from 1:0.67 to 1:0.75 in order to allow lowercase to be read when smaller cap heights are used. Upper and lower case letters with medium stroke width are recommended for better legibility, since words composed of all capitals are much harder to read.

Many transportation departments insist that all state and federal guidelines for roadway signage be followed. Although this is logical in many situations, it is often impossible to achieve. Airport roadways do not always provide adequate lead times and distances between signs to comply with these guidelines. Also, the amount and complexity of airport related messaging on overhead/roadside signage may not always allow for proper fit and formatting of messaging on standard DOT sized panels. Careful evaluation of roadway signage should always be based on messaging requirements, copy heights (based on speed/viewing distance) and location.

Sign Placement

Proper location of signs can dramatically alter the effectiveness of a signage system. Placement of signs at key decision points and/or in the direct line of sight of the traveling public reduces decision times. This will keep pedestrian and vehicular traffic moving efficiently and effectively.

Sign placement should occur at all decision points and places where disorientation may occur due to confusing architectural and/or roadway configurations. Directional signs should also be placed at reassuring intervals within captive pedestrian corridors and/or vehicular traffic areas where wayfinding reinforcement is needed. The environmental conditions and/or competing traffic flow may imply a change in direction, therefore signs may be required to reinforce the intended direction. For pedestrian signage, a reasonable range of approximately 75 to 125 feet between primary overhead directional signs is generally acceptable. Vehicular signage should always be placed based on MUTCD requirements

A general rule for placing wayfinding signage is that a designer visualizes themselves as an average departing or arriving passenger within a given airport environment, while thinking about decision points and required messaging expected at a given location. This guideline is of course very general in context. Other disorienting conditions may occur, which in turn may require placement of additional signage. These typically include:

1. Complex interior environments/roadway configurations
2. Competing wayfinding traffic
3. Nearby visual/environmental distractions
4. Congested corridors/roadways

Conversely, more favorable conditions which typically reduce need for repetitive signage are:

1. Efficient interior environments/roadway configurations
2. Single direction wayfinding traffic flow
3. Ceiling, wall or floor treatments reinforcing single-direction traffic flow
4. Lighting treatments emphasizing travel corridors or other destinations

GENERAL OBSERVATIONS - EXISTING CONDITIONS

Based on the evaluation criteria, general on-site wayfinding surveys were performed to document and analyze the typical existing wayfinding signage conditions along typical curbside and roadway traffic pathways. This chapter summarizes these general observations. In an effort to capture the typical wayfinding system user’s journey and experience, the routes chosen by the team to document included the following processes:

- 1. Arriving Passenger Processes
- 2. Departing Passenger Processes

By understanding SEA’s typical pathways and existing wayfinding signage system, these typical wayfinding journeys were reviewed and analyzed comprehensively. Roadway areas included were:

- Air Cargo Road
- Arrivals Drive
- Airport Expressway
- Departures Drive
- International Blvd
- 160th Street
- 170th Street
- 182nd Street
- Arrivals Drive
- Departures Drive

The following provides a very brief and general overview for typical items as observed by the Design Team within SEA’s existing roadway wayfinding system:

- Existing dynamic units are single matrix color displays and often lack contrast and visibility during daylight or inclement weather conditions.
- Application of DOT style arrows on the roadways is inconsistent; not all overhead sign panels have arrows for directional reinforcement (Figure 1.4.1).
- Roadway signs drastically differ from the interior signage in that they do not currently include any symbols (Figure 1.4.1) and lack symbol-message linkage.
- Multiple layers of information is introduced upon approaching the lower level curbside drive. Drivers are bombarded with airline listings, pick-up zone identifiers, advertising on Skybridge windows, and lane designation signage (Figure 1.4.2).
- Advertising on Skybridges are graphic heavy and overpower wayfinding (Figure 1.4.2)

For additional details and analysis regarding existing wayfinding conditions and issues, please reference the document: *SEA Wayfinding Analysis Report*.

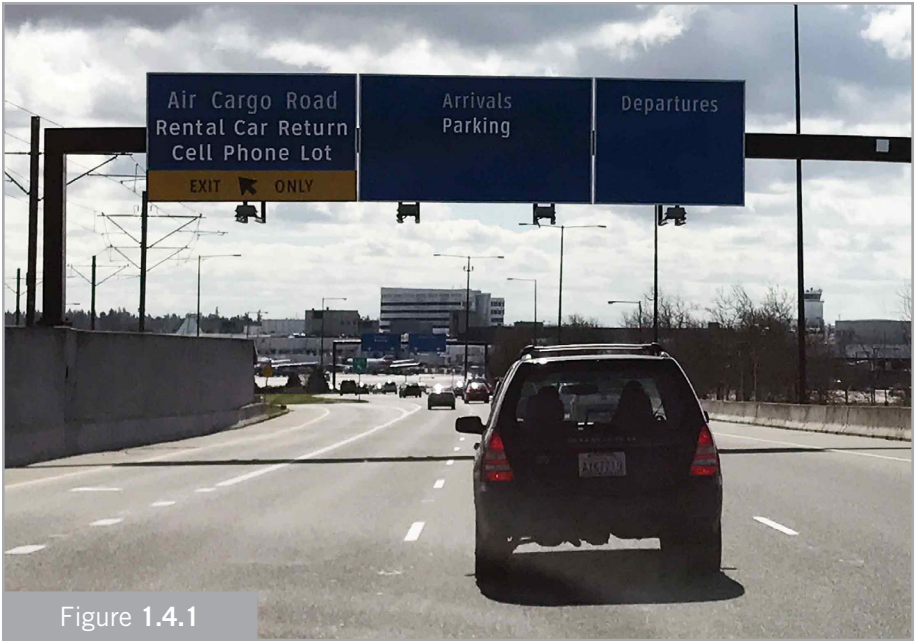


Figure 1.4.1



Figure 1.4.2



GRAPHIC STANDARDS AND GUIDELINES: OVERVIEW

It is important to use and maintain a consistent and universally applied set of graphic standards and guidelines when implementing wayfinding signage. As such, please reference SEA Signage Standards and Guidelines - Volume 2 for roadway design details.

General Design Considerations

The following list of general design considerations shall be used when implementing new and/or updating wayfinding signage:

- Consistency and Standards-Based: Consistent visual/graphic presentation across the entire wayfinding system to include:
  - Graphics/colors/typefaces/arrows/symbols
  - Shapes/proportions/sign types
  - Placement/orientation & rotation philosophy/decision points
- Subscribe to established design standards and requirements:
  - Accessibility (ADA, Washington ADA)
  - MUTCD (vehicular signage)
  - Sustainability (LEED) whenever possible and as required by SEA and local requirements
- Sign Types
  - Configuration, sizing & placement relative to message priority/function
  - Primary destinations = priority overhead
  - Secondary destinations = secondary overhead or wall mount
  - Tertiary destinations = tertiary wall mount
  - Simplicity, de-clutter, less is better
- Color Coding and Application
  - Sign Background = neutral, matching existing SEA wayfinding signage
  - Minimizes confusion with other branded or accent colors (if used)
  - Creates neutral, consistent backdrop for messaging and symbols
- Multi-Color Discipline
  - Accent color, if used, to be neutral supplement only
  - No other colors may be used for SEA wayfinding signage unless otherwise noted and approved by SEA
- Typefaces, Arrows and Symbols
  - The Transit typeface family
    - Established as effective for pedestrian wayfinding use
    - Variety of styles that apply to pedestrian traffic
    - Sized / kerned appropriately for applicable and predicted viewing distances
- Use of modern AIGA and DOT Universal Symbol Systems
  - Reinforces destination text
  - Assists international travelers
- Message Hierarchy
  - Primary – priority destinations (largest, most visible)
  - Secondary – secondary destinations (supplemental)
  - Tertiary – auxiliary/support destinations and functions

- Message Functions
  - Directional – direct to destination point(s)
  - Identification – identify destination point(s)
  - Informational – convey detailed information
  - Regulatory – describe regulations, warnings & requirements
  - Life-Safety/Egress – describe safety and egress related information
  - Interim or Transitional Temporary) – may be any of the above, but used during interim conditions

WAYFINDING APPLICATION

General Sign Placement

Viewer circulation patterns and natural lines of vision are the basis for determining the location of all wayfinding signs. Signs shall be located to precede decision points whenever possible. This will ensure sufficient time for users to react to each sign’s set of messaging/information.

Sign Placement Considerations - Vehicular Signage

Note that disorienting conditions may occur due to the complex nature of airport roadway systems, which in turn may require placement of additional or supplemental signage. These typically include:

- Complex roadway/roadside/site or construction related conditions
- Competing vehicular wayfinding traffic
- Visual environmental distractions
- Congested traffic conditions

Favorable conditions which typically reduce need for repetitive signage are:

- Efficient/simplified roadway/roadside/site conditions
- Efficient sight lines for drivers of varying driving abilities
- Gradual road curves and exit lanes with adequate length
- Signs located with adequate distance and sizing to queue traffic safely and efficiently at posted speed limits

Sign Placement by Sign Type - Vehicular Signage

- Directional signs - placement will be perpendicular to wayfinding traffic, and will occur at all decision points and areas where drivers become disoriented by roadway or environmental site conditions. Directional signs will also be placed at reassuring intervals to reinforce directional messaging to wayfinding traffic. Note that roadway configurations/conditions or competing vehicular traffic flow may also inadvertently imply a change of direction. In these situations, additional directional signs should be used to reinforce the intended direction as needed per MUTCD requirements.
- Identification signs - placement will typically occur at or near all priority destinations and roadway entrances. Identification signs (such as Airline ID signs), will also typically be placed perpendicular to wayfinding traffic.
- Informational signs - placement will typically be located nearest major decision points. Informational signs will be perpendicular to wayfinding traffic, and will typically be located prior to major decision points and/or near entrances to the corresponding area.

Typical Vehicular Sign Placement Intervals - Best Practices

- Placement of signs at/near key decision points and/or in the direct line of sight of the drivers reduces decision times.
- For vehicular traffic, signs should generally be placed at intervals as deemed appropriate for the given condition. The specific distance used will typically depend on the legibility of the vertical height of the lettering at the posted speed limit (see Section 1.3, Figure 1.3.6 for additional information). NOTE: all MUTCD requirements must always be followed.

Scale and Sizing

Scale and sizing for all SEA wayfinding signage will be consistent and designed to the appropriate required viewing distances for a given condition or environment, as well as to the minimum ADA and/or MUTCD requirements. Sign types shown in this document are for typical conditions only and are designed to accommodate minimum ADA and MUTCD requirements. Adjustments to the scale and size of certain sign types may be necessary to maximize visibility and aesthetic harmony within a given wayfinding condition or environment during design development. As such, all wayfinding signage for use at SEA should be reviewed with individual spatial and environmental considerations, and adjustments for scale/size should be made as deemed appropriate.

Dynamic Signage Considerations

Dynamic signage is an effective way to communicate a broad range of information to passengers. Proper implementation of dynamic signage can complement the airport’s wayfinding system and further enhance the customer experience. Benefits of digital signage include reduced maintenance, immediate message changes, real-time information, and flexibility for areas of the airport that are ever-changing.

Variable message signs (VMS) are often used on roadways to alert travellers and provide information about special events. Such events include but are not limited to traffic accidents, congestion, detours, airport security, parking availability, or general traffic guidances. It is crucial that VMS signs be located at key areas and only where necessary. Improper placement of VMS signage can result in ineffectiveness, visual clutter (hindering effectiveness of roadway signage), or a change in vehicular speed due to distraction.

RECOMMENDED ENHANCEMENTS

The following are general recommendations for enhancing SEA's current wayfinding signage system. These general recommendations have been categorized within the following areas:

Roadways

- Reflect strict attention to hierarchy and logical, sequential dissemination of messages
- The dissemination of information on the sign faces is logical and easy-to-follow with clear, concise and consistent nomenclature.
- The sign messages convey simple : “channels” such as parking, arrivals and departures, and are not cluttered with subordinate messages, destinations or descriptions.
- Signs are designed in concert with roadways designs to control speed and facilitate channelization.
- Visual clutter of traffic signs is limited.
- Identifies the distinction between terminals in a logical fashion and treats the terminals equally (for future consideration).
- Assess destination listings, lane designations and include symbols for streamlined and improved wayfinding.
- Reduce visual clutter to increase wayfinding efficiency by removing advertising graphics.
- Standardize arrow style and application.
- Assess frequency and location of existing dynamic units for optimal effectiveness and visibility
- Consider upgrading dynamic units to full matrix display for optimal visibility in all roadway and lighting conditions.

NON-SIGNAGE WAYFINDING ENHANCEMENTS

Wayfinding includes design elements beyond just signage. Features such as architecture, lighting, landscaping, art and technology can work simultaneously and cohesively to create a successful wayfinding program.

Architecture

A building’s design is often the backbone of a wayfinding system and can create a natural circulation flow and rhythm on its own, however sometimes uncertainty emerges in complex spaces. Architectural elements such as color treatments, changes in material, lighting, ceiling heights, or a more prominent, grand entrance can help to gesture and channel traffic in the right direction. Potential considerations to enhance the curbside wayfinding could include column wraps and/or color applications, more distinct entrance treatments via color application or prominent material.

Lighting and Landscape

Lighting and landscape elements work together to direct and provide visual cues to the traveler. On the roadway, lighting and landscaping work together to channel traffic, and create a sense of arrival and pageantry. A broad range of colors, shapes and textures can work in unison to define paths.

Art

Due to its uniqueness and specialization, art can be a beneficial wayfinding enhancer. Placement of art on roadways can create a visual landmark, creating something memorable that becomes a beacon or branding element for the airport. Installation of unique art that contrasts with the background or landscape creates a sense of arrival and serves as an identifier for the airport. The placement of art is only acceptable and encouraged if there is ample space, and it does not visually compete or hinder wayfinding. Placement of art on curbsides is generally not encouraged due to high pedestrian traffic and congestion.



MESSAGE NOMENCLATURE / TERMINOLOGY

SEA must recognize the role it plays in the world-wide transportation network and be certain that the terms it uses to describe its functions and operations will be recognizable to the whole traveling public. To this end the following objectives should be applied to the development of an enhanced airport nomenclature list:

1. Consistency:

Whether it is the name of a part of a building, the name of a function, or the description of a process, when a word is used anywhere in the system it must mean exactly the same thing. Ex. If one of the levels of a parking garage is identified as “Level 3” it should not also be called “Floor 3” elsewhere.

2. Common Usage:

Even in our hi-tech world, the terms used in a wayfinding system must be recognizable in common, everyday usage. They must be understandable to people not familiar with the particular technical or organizational functions of the facility. In the airport setting such terms as “Check-in” and “Ticketing” have found their way into common usage.

3. Reasonable Grammar & Spelling:

Whatever word or phrase is chosen, it must be recognizable as a logical part of English language; nouns represent places or functions, verbs represent actions or processes, adjectives qualify nouns, etc. It would not, for example, be acceptable to say “Ground Transporting” in a case where “Ground Transportation” is more grammatically correct. Simple, direct, declarative statements are best.

4. Punctuation:

Be careful to use capital letters, hyphens, slashes, dashes, apostrophes, and other forms of punctuation in a logical manner. The Modern Language Association can provide some rules, but generally, signage formats use simplified punctuation, such as “10pm” instead of “ 10:00 p.m.” or “Gate A5” instead of “Gate A-5”.

5. Symbols vs. Words:

Care must to be taken not to expect too much from the use of symbols as part of the nomenclature. Although they can play an important role for essential functions such as “Restrooms” or “Information” keep in mind that any system using symbols must rely on the public equity present in each symbol and expect that some populations will not recognize some of the symbols. Symbols work best when supported by clear, understandable words.

6. National Standards:

Most words used in an airport wayfinding system should be consistent with other similar airport facilities in the country, particularly because travelers often see more than one airport. Terms such as “Ticketing/Check-In” and “Baggage Claim” should be maintained as national usage because it improves communications. The inclusion of “Check-In” is more widely used, especially since ticket issuance is not as common but baggage still needs to be checked-in. Regional variations are currently used in some airports, however, as national standards become more specific, it would serve SEA best to utilize standardized terms that are used at other major US airports.

7. Comprehensive System:

A good nomenclature system must address all places and functions to be named. The naming, numbering and general organization of the part of a building is a critical organizational aspect of a Wayfinding Master Plan. Floor numbering, and room numbering all must be carefully considered when preparing message lists for use on signs and when publishing brochures. Clear, logical hierarchies must exist to help users remember and use the nomenclature.

BEST PRACTICE

- Access roadways should consistently maintain terms: Airport, Seattle-Tacoma International Airport.
- Airport entrance(s) use: Seattle-Tacoma International Airport.
- Airport roadways initially use: Terminal, Parking then go more specific to Arrivals, Departures, and Parking.
- Sub-ordinate parking areas should be identified after the decision point for Parking is passed.
- Outbound signage should identify Rental Cars, Return to Terminal, Airport Exit and eventually, major access road exits.

MESSAGE HIERARCHY

This section defines additional guidelines for enhancement to create a more complete and uniform hierarchy of messages that can be used throughout SEA, during current, interim, and future airport conditions.

Clear and concise information presented by a Primary and Secondary signing system ensure efficient passenger circulation. Tertiary signs must be coordinated with primary and secondary signs and interior design elements. This category of signs should be visually distinguished from other signs.

It is important to understand that the same message may fall under a different category depending on its use. For example, a passenger on the roadway approaching the Terminal may find the term “Parking” as the primary messages. However, if that individual is within the Terminal, the same term “Parking,” could be secondary.

In general, emphasis should always be placed on the reduction of signs and sign content where possible. Additionally, the sign system should move from the general to the more specific, (i.e., “Ground Transportation” to “Taxi”) as a passenger traverses the Airport’s facilities.

Critical to the smooth flow of passengers is the need for visual continuity among messages and information of the same hierarchy, thus eliminating any elements, which may interrupt the functional scheme or add confusion. Again, messages should be organized and maintained within three distinct functional categories: Primary, Secondary and Tertiary.

Primary Messages

This information shall be the largest and the most visible information on each sign. Primary information shall include, but not be limited to:

- Exterior direction to and identification of the Terminal(s) and Parking.
- Exterior direction to major vehicular arteries (access roads).

Secondary Messages

This information supplements and reinforces information already conveyed by the primary messages and signs listed above. It usually indicates the auxiliary services and support functions of the facility. Secondary information to include, but not be limited to:

- Exterior direction to and identification of Departures, Arrivals, and specific Parking areas.
- Exterior identification of Rental Cars, Airport Exit etc.

Tertiary Messages

Tertiary sign information supplements both the primary and secondary messages and is usually intended to inform visitors of regulations and warning. All of the regulatory / safety signs are generally considered to be tertiary. Tertiary information is to include, but is not limited to:

- Exterior TSA related messages.
- “No Parking” messages.
- FAA required warning and information.
- Other messages required by code.

Function and Hierarchy Relationships

The relationship between message function and message hierarchy serves to create a foundation for the classification of and determination of basic types. The table on the following page (see Figure 1.8.1 ) illustrate this relationship for the curbside and roadway messages at SEA. These tables provide an organized summary of the message functions versus hierarchy relationship as mentioned before.

Message Listing Order

It is important to understand that the majority of the international population read and decipher information in a prioritized “top-to-bottom” organizational format. The listing of wayfinding destination messaging is typically understood to also be prioritized as the destinations that are most important or in closest proximity are listed first (i.e. top) and listed in order progressively downwards (i.e. next most important or next in order of closest proximity, etc.).

Number of Messages

It should be noted that directional messaging (for both pedestrian and vehicular traffic) tends to be overwhelming when more than three messages are used for a single direction. Limiting the number of messages in a single direction is important for rapid message deciphering and maintaining smooth wayfinding circulation flows. Directional messaging should be limited to two messages for a single direction whenever possible, and typically a maximum of no more than three messages for a single direction should be used. Four messages is not preferred and should be limited whenever possible. If four messages are deemed necessary, they should be limited to secondary or tertiary messaging and/or sign types.

		MESSAGE PRIORITY		
		PRIMARY	SECONDARY	TERTIARY
SIGN USE / FUNCTION	Directional Overhead	Terminal(s) Terminal 1 Terminal 2 Rental Cars Airport Exit Return to Terminal Major surrounding access roads	Departures Arrivals Parking Cell Phone Lot Air Cargo Road International Blvd Commercial Vehicles Only	Airline Names
	Directional Roadside	Terminal Parking Rental Cars Cell Phone Lot	Airport Exit Return to Terminal(s) Oversize Vehicles Air Cargo Rd International Blvd	Airline Names Rental Agency Names
	Identification	Seattle-Tacoma International Airport or SEA Departures Arrivals Parking Airline Names Rental Car Facility	Departures Arrivals Rental Cars Cell Phone Lot Oversize Vehicle Parking	Misc. Building Addresses
	Information/ Orientation	Dynamic Information		
	Regulatory/ Safety	No Parking Fire Lane Caution: Pedestrians Crossing Authorized Personnel Only	Tow Away Zone Do Not Enter All FAA, TSA notices All Airport notices	

Figure 1.8.1

Message Hierarchy / Nomenclature: Roadways

NOTE: This message/terminology list is the most recent at the time of this document's publication; messages/terminology may be expanded and/or change depending on the unique needs. Always verify and obtain the most recent SEA-TAC messaging and terminology list prior to any final design or message specification



COLOR

Effective use of colors for the SEA wayfinding signage system creates a supplemental system that accents and enhances the messaging while limiting the over-use of branded wayfinding related colors. In addition, the intention is to specify colors that maintain good contrast, are distinctive and are widely recognized / clearly identifiable by the majority of users. To be most effective, the recommended color-coding system must be implemented airport-wide (roadways, parking, curbsides, ground transportation areas/facilities, terminals and concourses, etc). However due to MUTCD guidelines, the roadway color palette is unique.

- For roadway signs, white text on a SEA Wayfinding Blue (PMS 294C) background creates high contrast and greater legibility from a distance. This also distinguishes the airport sign system from surrounding city, county or state road sign systems. Additionally, it serves to alert motorists that they are traveling within the airport’s property, and more complex movements will occur in shorter distances. As a means of enhancing the visual queue of leaving the airport property and entering the surrounding city roadway system, roadway directionals nearest Airport exit lanes will utilize DOT green backgrounds.
- Any additional supplemental colors must always be carefully considered during design to determine how they will affect the overall color-coding and wayfinding systems, and must be coordinated with and approved by SEA. These additional colors must also always maintain all legibility and compatibility criteria as mentioned in this section, as well as any applicable ADA and MUTCD requirements.

Roadways

Note: All colors used on roadway signs to be reflective

- Sign Background:
  - Typical Wayfinding Signs: MUTCD Blue
  - Wayfinding Signs nearest Airport exits: DOT Green
    - Note: DOT Yellow may also be used, but only on specific exit / warning info background areas as required by the MUTCD
- Symbol Field: White
- Text / Arrows / Symbol Art & Outline: White
  - Note: Black may be used, but only for exit/warning text/arrows located on DOT Yellow (reflective) backgrounds as required by the MUTCD
- No other color may be used for sign backgrounds, text or symbols (except as approved SEA).
- Exceptions as appropriate/required by and/or MUTCD

Additional Use of Color

- Certain signs may employ the corporate colors of airlines, car rental agencies, concessionaires, and other airport tenants as deemed appropriate by SEA.
- No other color to be used for wayfinding sign or sign hardware at SEA unless approved by SEA.

SYMBOLS

In addition to arrows, a cohesive bank of universal symbols is critical to the creation of a comprehensive wayfinding system. To be most effective, these symbols must work in harmony with the nomenclature, and must be applied with absolute consistency.

Universal symbols should always be used to reinforce and provide visual confirmation of sign messages, especially at the pedestrian level, unless otherwise noted. Through a collaborative effort between the Department of Transportation (DOT) and the American Institute of Graphic Arts (AIGA), standard travel symbol sets were developed for implementation and universal recognition within travel related wayfinding environments. These symbols were developed and selected from this effort for their ability to quickly convey priority messaging, destinations or services to the largest percentage of viewers. For a basic description of roadway symbol artwork elements, see Figure 1.10.1; see Figure 1.10.2 for symbols reserved for roadway use.

The following guidelines shall always be employed on roadway signage:

1. Symbols Supplementing Messaging

The use of universal symbols, in tandem with short verbal messages, is more effective than the use of symbols or messages by themselves. However, note that universal symbols should act as a *supplement* to the messaging, rather than serving as the primary messaging element.

2. Limit Use to Priority Messaging

Mixing universal symbols (and their related messages) for relatively minor or tertiary airport functions / activities or tenants with essential public wayfinding messaging and primary directional information weakens the overall communication of the wayfinding system. By limiting their use to priority airport messaging and destinations, universal symbols help to supplement and graphically highlight the importance of the priority messaging.

3. Less is More

Too many universal symbols, messages or arrows at any one location can be counter-productive to the wayfinding information being provided. An over-abundance of symbol use and messaging in a given direction or at a decision point can result in information overload, which in turn will cause hesitation, confusion and general distrust of the wayfinding system.

The use of the SEA logo and/or literal applications of the logo’s elements within the wayfinding system is not recommended. Using the SEA logo for the purposes of decoration and/or graphic filler creates an additional layer of visual clutter that must also be digested within the deciphering of wayfinding information. When the SEA logo is applied in inconsistent, haphazard and inappropriate ways, it also creates the possibility that SEA’s branding may be viewed in a similarly negative manner, regardless of original intent.

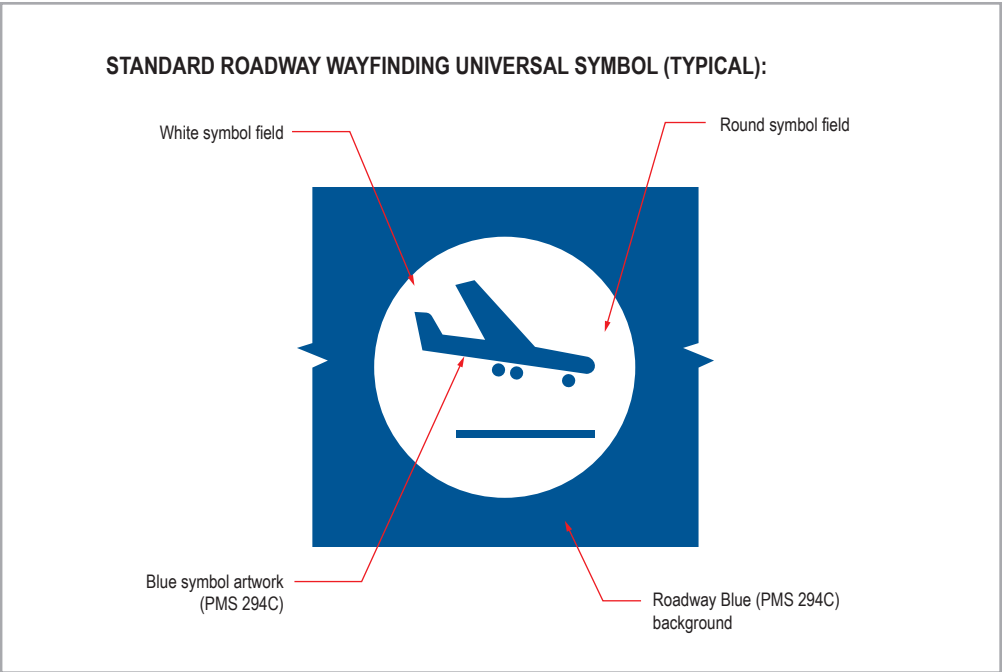


Figure 1.10.1 Universal Symbols: Artwork Element Description

SEA LOGO USAGE

GENERAL ROADWAY SYMBOLS



Airport  
Terminal



Departures



Arrivals



Parking



Overheight Parking



Terminal 1



Terminal 2



Rental Cars



Cell Phone Lot

MUTCD SYMBOLS



Freeway



Freeway



Pacific Hwy



509



518

Figure 1.10.2

Roadway Symbols

ARROWS

Arrow alignment

Similar to factors involving message order or priority, it is also important to understand that the majority of wayfinding traffic read and decipher directional information as being “pulled” by the alignment and placement of an arrow on an overall sign face.

- Vehicular Directionals (see Figure 1.11.1:
  - Overhead vehicular arrows should be centered directly over the corresponding lane in a consistent manner and use rotation angles based on MUTCD standards.
  - Roadside vehicular arrows should be aligned to either the left or right side with alignment justified to the traffic flow.
  - In certain instances, roadside directional signage may be better served with a centered arrow, and should be aligned to the top and centered with message text running below the arrow.
  - Regardless of the edge alignment, arrows should never point into text on roadside signage.

Vehicular Arrow Style

Arrows used within the on-property areas of SEA roadway system currently use variations of the standard directional arrow types as shown in the most recent edition of the MUTCD. The same standard arrow style should be used across vehicular and pedestrian signs (see Figure 1.11.2). This creates a visually unified arrow system that spans across all aspects of the signage, which in turn creates additional trust in the Airport’s wayfinding system.

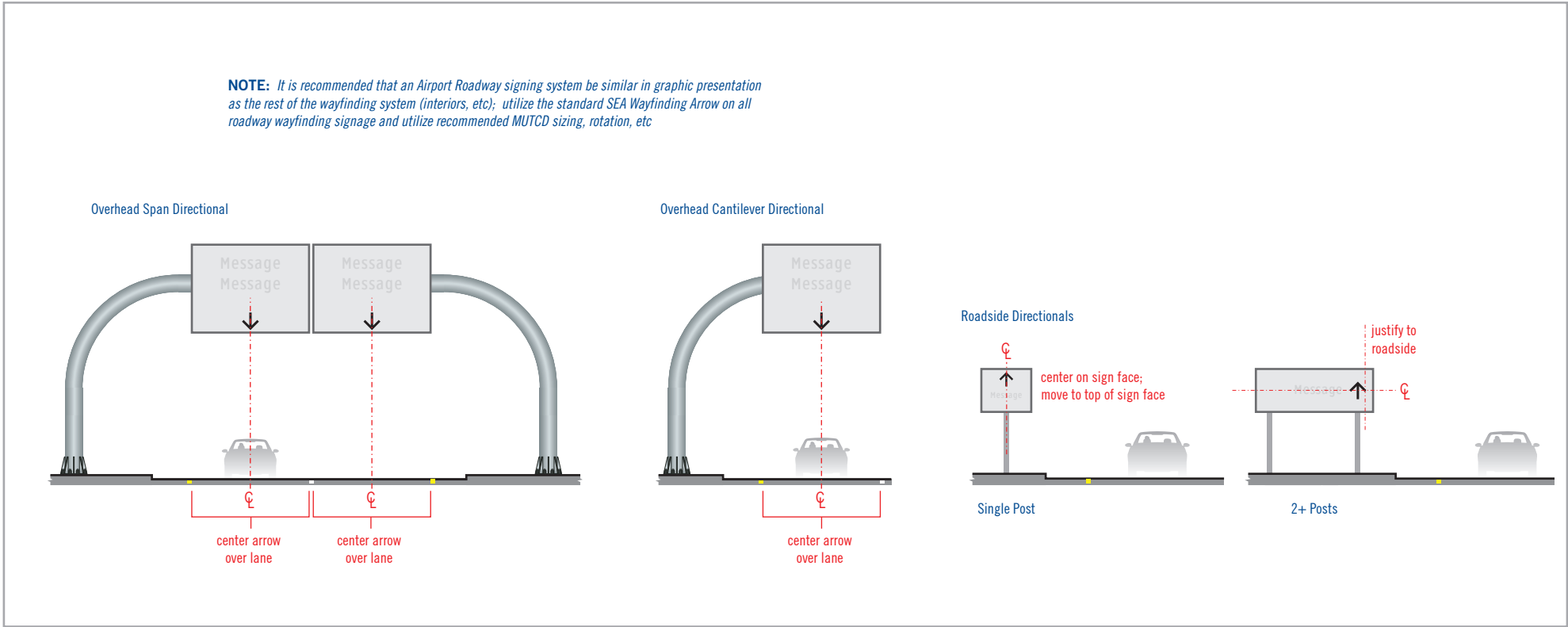
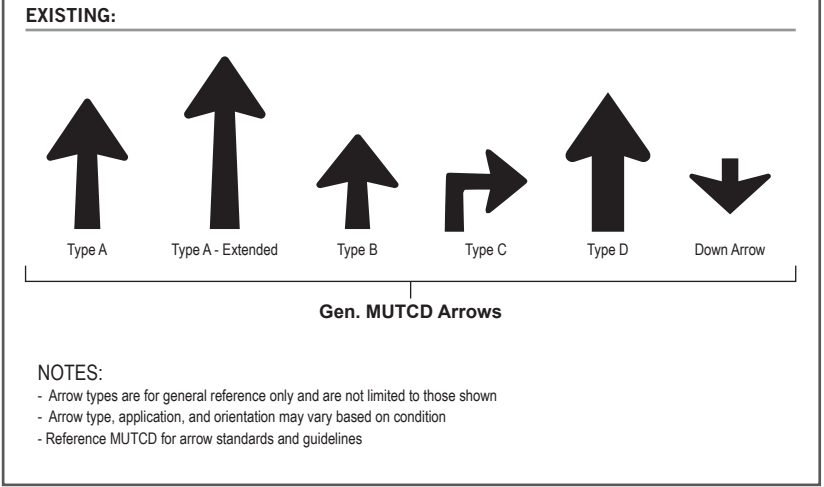
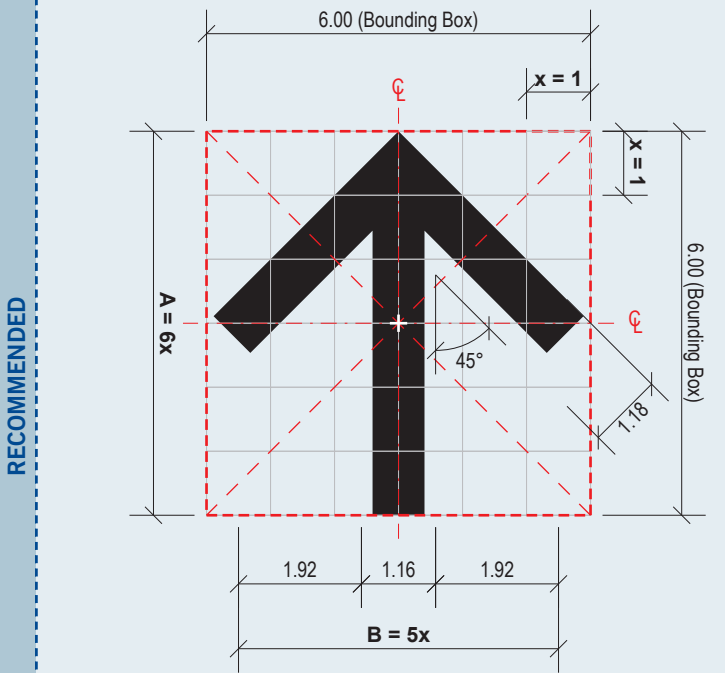


Figure 1.11.1 Wayfinding Arrows: Vehicular Alignment



**NOTE:** It is recommended that an airport roadway signing system be similar in graphic presentation as the rest of the wayfinding system (interiors, etc); utilize the standard SEA Wayfinding Arrow on all roadway wayfinding signage and utilize recommended MUTCD sizing, rotation, etc


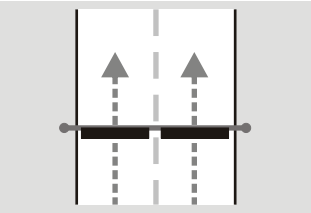

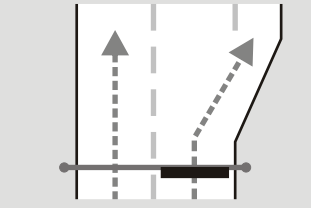

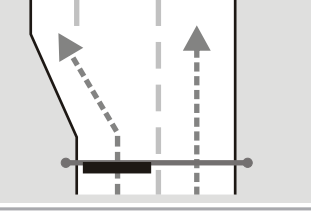

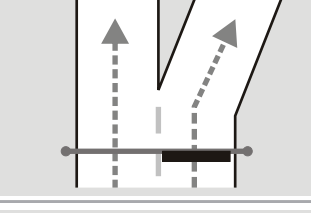

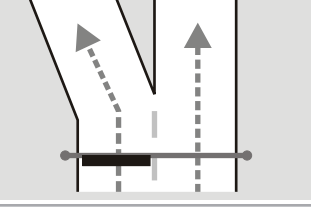


- GENERAL NOTES:**
- Scale = 1:3
  - Standard SEA approved Wayfinding Program arrow shown
  - Re-proportioning, manipulating, and/or use of unspecified artwork not allowed
  - Use only approved rotation angles as shown here
  - Bounding Box always to remain same square proportions/ratios as shown
  - No other artwork/elements to infringe or overlap Bounding Box edges
  - Always rotate arrow at exact center point of Bounding Box
  - Arrow proportion ratio = A:B
    - x = 1; A = 6x; B = 5x


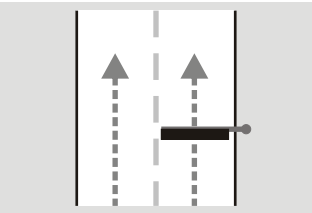

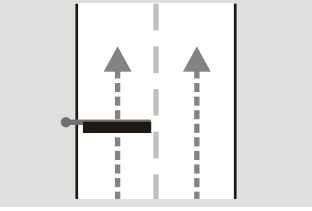

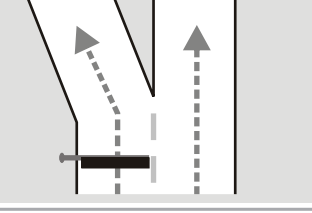

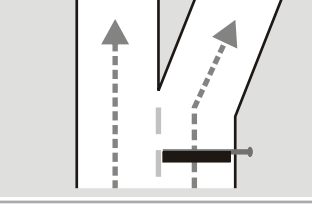
Figure 1.11.2 Standard Wayfinding Arrow


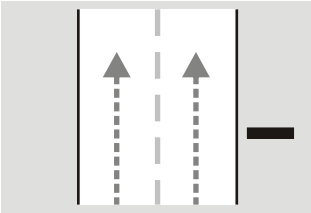

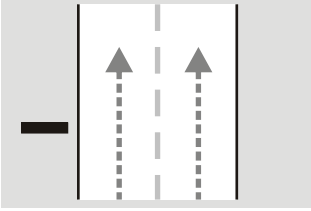

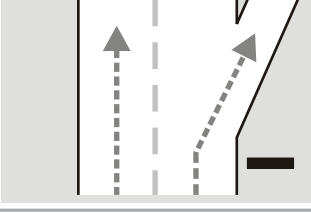

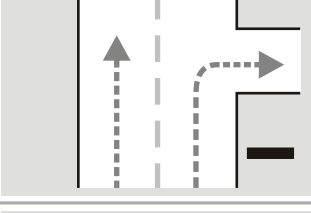

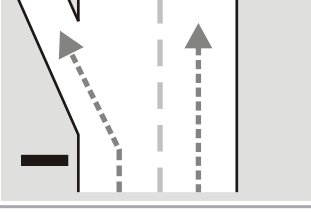

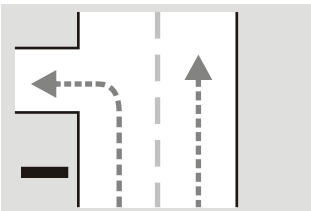


ARROWS: VEHICULAR APPLICATIONS

OVERHEAD Directionals		
ARROW ROTATION	LOCATION PLAN EXAMPLE	MESSAGE CONVEYED
 270° (6 o'clock)		Straight Ahead: Use This Lane Exit Only (Arrow Justified Center)
 315° (4:30)		Down on the Right (Arrow Justified Center)
 225° (7:30)		Down on the Left (Arrow Justified Center)
 45° (1:30)		Exit/Ahead on the Right (Arrow Justified Center)
 135° (10:30)		Exit/Ahead on the Left (Arrow Justified Center)

NOTES:  
- Arrow applications shown are for general reference only  
- Arrow type and application may vary based on condition  
- Reference MUTCD for additional standards and guidelines

CANTILEVER Directionals		
ARROW ROTATION	LOCATION PLAN EXAMPLE	MESSAGE CONVEYED
 270° (6 o'clock)		Straight Ahead: Use This Lane Exit Only (Arrow Justified Center)
 270° (6 o'clock)		Straight Ahead: Use This Lane Exit Only (Arrow Justified Center)
 135° (10:30)		Exit/Ahead on the Left (Arrow Justified Center)
 45° (1:30)		Exit/Up on the Right (Arrow Justified Center)

ROADSIDE Directionals		
ARROW ROTATION	LOCATION PLAN EXAMPLE	MESSAGE CONVEYED
 90° (12 o'clock)		Straight Ahead (Arrow Justified Left)
 90° (12 o'clock)		Straight Ahead (Arrow Justified Right)
 45° (1:30)		Exit/Ahead on the Right (Arrow Justified Right)
 0° (3:00)		To the Right (Arrow Justified Right)
 135° (10:30)		Exit/Ahead on the Left (Arrow Justified Left)
 180° (9 o'clock)		To the Left (Arrow Justified Left)

# 2.0

## **2.0 ROADWAY SIGN SYSTEM OVERVIEW**

- 2.1 Sign Type Numbering
- 2.2 Roadway Sign Type Index

SIGN TYPE INDEX OVERVIEW

This chapter provides specific information regarding the wayfinding sign types applicable for use in the Roadways areas of SEA. It contains a general sign family overview of the specific sign types (i.e. the Sign Type Index section), as well as more specific design/layouts/notes/etc for each individual sign type (i.e. the Sign Types section).

Sign Type Index - Series 4: Roadways

On the following pages the Sign Type Index shows simplified views of each sign type, as well as listings for each sign type’s name, mounting method and basic overall size. Note that the Sign Type Index is intended only as a brief, simple catalog for all of the wayfinding sign types used within the roadways areas of SEA, and is organized in numeric order of their sign type identification numbers (i.e. Directional sign type category: 4-DR.01, 4-DR.02, etc; Identification sign type category: 4-ID.01, 4-ID.02, etc; Informational sign type category: 4-IN.01, 4-IN.02, etc).

Sign Types - Design Intent Drawings

Reference SEA Wayfinding Signage Standards and Guidelines, Volume 2 for design intent drawings of each specific curbisde and roadway wayfinding sign type. Each sheet displays scaled drawings of individual sign types and their basic views (i.e. elevations, plan views, end view, etc), sizing/dimensions, face layouts and general design intent related notes.

Mounting Requirements

Sign mountings shall support signs for optimum visibility, facilitate illumination where required, be fabricated from commonly available materials, be easily maintained, be engineered to established SEA wayfinding system and engineering requirements, and not obstruct or pose any hazard to pedestrians, vehicles or any other entity.

Basic Mounting Types

The basic mounting types used within SEA roadway areas are as follows:

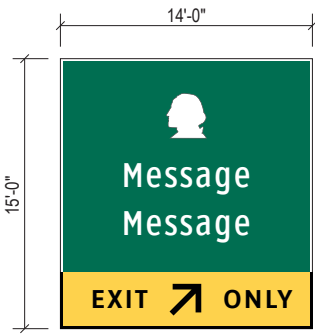
- Large Overhead Signs:
  - Span Structure - sign panel(s) (number/size vary per location and lane configuration) mechanically fastened to a large freestanding two post support structure spanning the entirety of a roadway.
  - Bridge Mount Structure - sign panel(s) (number/size vary per location and lane configuration) with second surface mounted support structure grid mechanically fastened to a bridge’s fascia.
  - Cantilever Structure - sign panel (size varies per location and lane configuration) mechanically fastened to a large freestanding single post support structure and one support arm cantilevered over a roadway.
  - Butterfly (Centered Post) Cantilever Structure - sign panel (size varies per location and lane configuration) mechanically fastened to a large freestanding single post support structure and two support arm cantilevered over roadways flanking both sides of support post.
- Ground Mounted Signs:
  - Large Roadside - sign panels that are mounted to multiple (two or more) vertical posts and located laterally offset to the side of a roadway.
  - Small Roadside - sign panels that are mounted to one vertical post and located laterally offset to the side of a roadway.

General Mounting Restrictions - Vehicular Signs

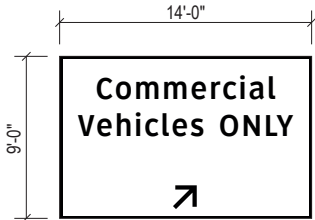
- Vehicular wayfinding signs shall always be mounted perpendicular to vehicular traffic flow.
- Overhead and roadside signs: all mounting, lateral positioning/spacing from edge of roadway and clearances must be reviewed and approved by a traffic engineer licensed in the State of Washington prior to fabrication and installation.
- Overhead and roadside signs: all elements, engineering, fabrication and materials used on roadway sign support structures must be reviewed and approved by a traffic engineer licensed in the State of Texas prior to fabrication and installation.
- Ground-mounted vehicular signs (if used) must be mounted behind crash barriers, use break-away base mounting systems in the event of an accidental vehicular collision and as required by MUTCD.
- Vehicular overhead signs must be mounted with the lowest element of the sign at a minimum of 17’-6” above finished grade unless otherwise indicated.

- Vehicular roadside signs must be mounted with the bottom-most viewable area of the sign at a minimum of 8’-0” above finished grade unless otherwise indicated.
- All vehicular roadway signs will be engineered for environmental conditions that occur at SEA, and will be designed and approved by a licensed engineer within the State of Washington to meet all codes/regulations/requirements.
- Whenever there is a conflict between a requirement listed in this document and another authoritative code or standard, the more stringent one shall be applied.

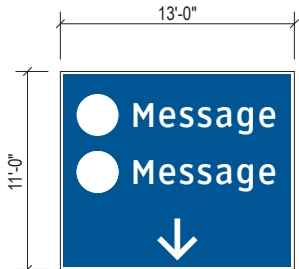
4-DR.01 to 4-DR.09 = OVERHEAD Directional Panels: No Header Panels



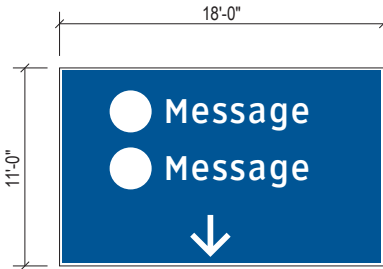
4-DR.01  
1 Lane Panel  
- 1 Arrow  
- 1 to 2 Message Lines



4-DR.02  
1 Lane Panel  
- 1 Arrow  
- 1 to 2 Message Lines



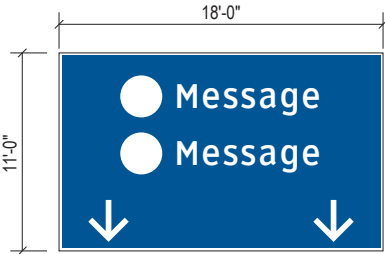
4-DR.03  
1 Lane Panel  
- 1 Arrow  
- 1 to 2 Message Lines



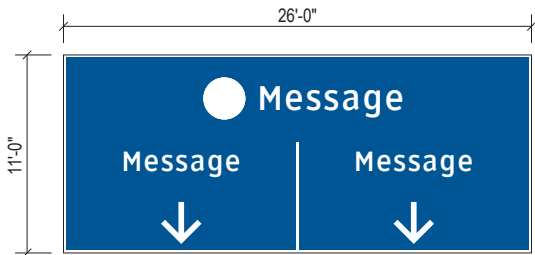
4-DR.04  
1 Lane Panel  
- 1 Arrow  
- 1 to 2 Message Lines



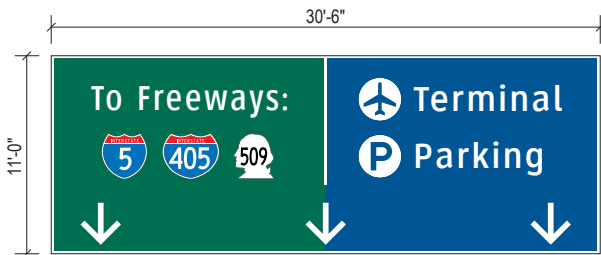
4-DR.04b 1 Lane Panel w/ Digital



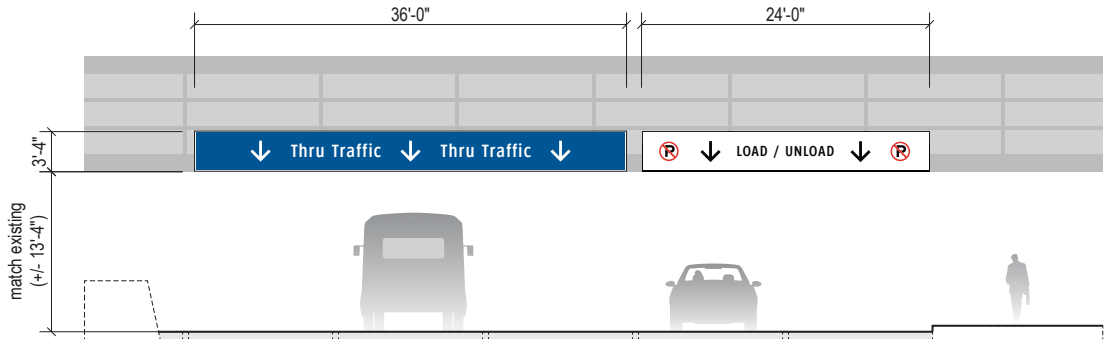
4-DR.05  
2 Lane Panel  
- 2 Arrows  
- 1 to 2 Message Lines



4-DR.06  
2 Lane Panel w/ Divider Line  
- 2 Arrows  
- 1 Primary Message Line; 2 Secondary Messages



4-DR.07  
3 Lane Panel  
- 3 Arrows  
- 1 to 2 Message Lines



4-DR.08  
3 Lane "Thru Traffic" Directional  
- 3 Arrows  
- 1 Message Line

4-DR.09  
2 Lane "Load/Unload" Directional  
- 2 Arrows  
- 1 Message Line



Roadways - Overhead

NOTE: Sizes shown are typical only; roadway conditions vary and may require adjustment for final design of sign type sizing/proportions. Illustrations provided within this document are to outline wayfinding methodology only, and should NOT be used for actual signage design. Reference the most recent edition of the SEA-TAC Signage Standards & Guidelines for the most up-to-date and accurate design reference.

4-DR.10 to 4-DR.19 = OVERHEAD Directional Panels: With Header Panels (Scale: 3/32" = 1'-0")

4-DR.11 1 Lane Panel w/ DOT Header  
- 1 Arrow  
- 1 to 2 Message Lines

4-DR.12 2 Lane Panel w/ DOT Header  
- 2 Arrows  
- 1 to 2 Message Lines

4-DR.13 1 Lane Panel w/ Clearance Footer  
- 1 Arrow  
- 1 Message Line

4-DR.14 2 Lane Panel w/ Clearance Footer  
- 2 Arrows  
- 1 Message Line

4-DR.15 2 Lane Panel w/ Clearance Footer  
- 2 Arrows  
- 1 to 2 Message Lines

Mounting Options (Scale: 1/8" = 1'-0")

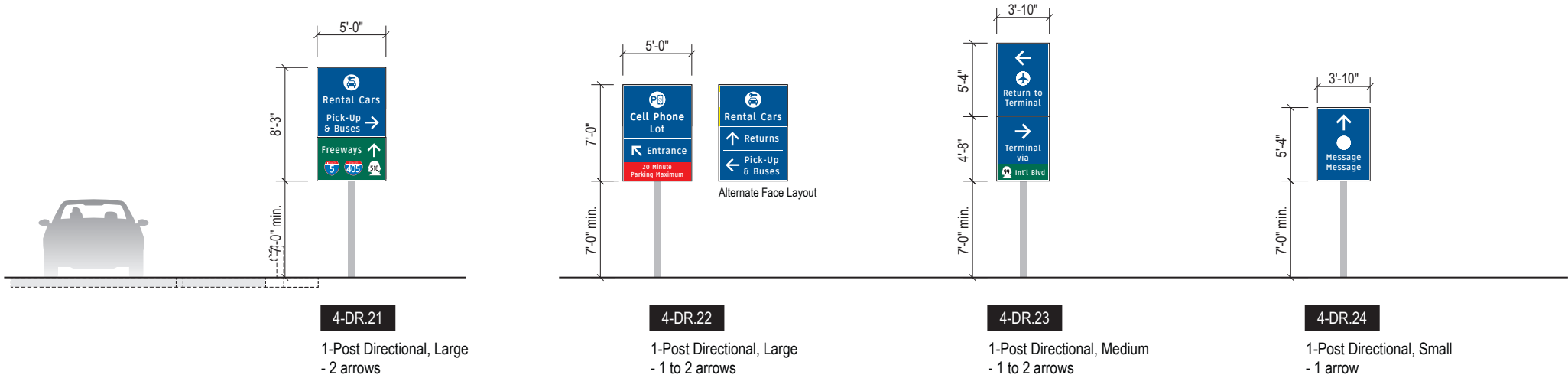
Span Monotube (Overhead Structure)

Cantilever Monotube (Overhead Structure)

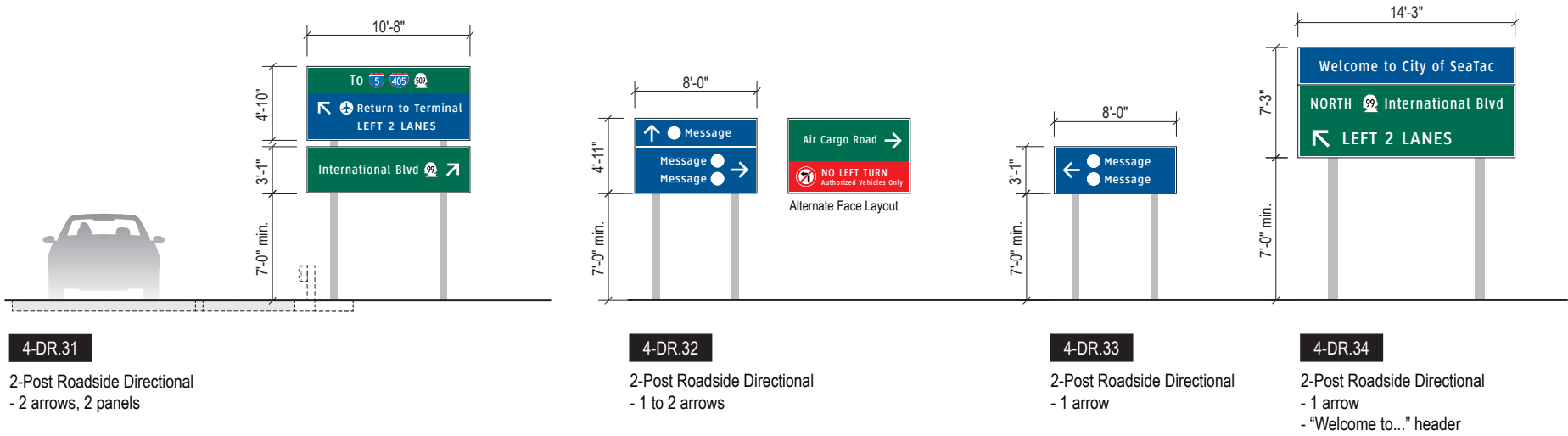
Roadways - Roadside (Scale: 3/32" = 1'-0")

NOTE: Sizes shown are typical only; roadway conditions vary and may require adjustment for final design of sign type sizing/proportions. Illustrations provided within this document are to outline wayfinding methodology only, and should NOT be used for actual signage design. Reference the most recent edition of the SEA-TAC Signage Standards & Guidelines for the most up-to-date and accurate design reference.

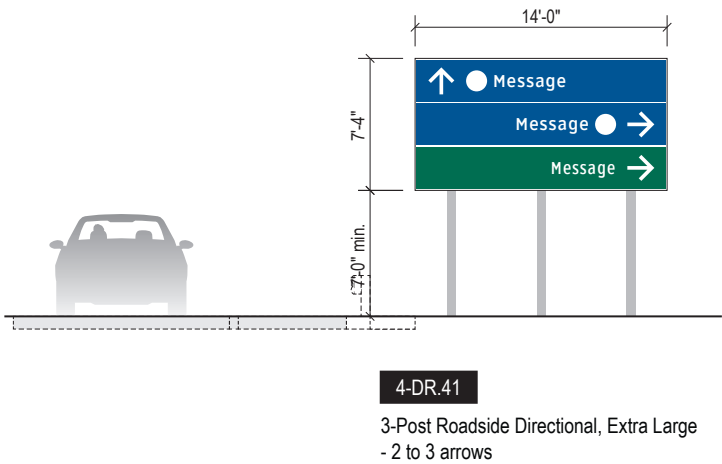
4-DR.20 to 4-DR.29 = ROADSIDE Directionals: 1 Post



4-DR.30 to 4-DR.39 = ROADSIDE Directionals: 2 Posts



4-DR.40 to 4-DR.49 = ROADSIDE Directionals: 3 Posts



# 3.0

## **3.0 WAYFINDING PROGRAMMING**

- 3.1 Wayfinding Planning - Overview
- 3.2 General Sign Placement
- 3.3 Sign Type Numbering
- 3.4 Roadway Sign Location Plan
- 3.5 Roadway Sign Location Plan - Arrivals Level
- 3.6 Roadway Sign Location Plan - Departures Level
- 3.7 Message Schedule - Airport Expressway
- 3.8 Message Schedule - Arrivals Drive
- 3.9 Message Schedule - Departures Drive
- 3.10 Message Schedule - Air Cargo Road
- 3.11 Message Schedule - 160th Street
- 3.12 Message Schedule - 170th Street
- 3.13 Message Schedule - 182nd Street
- 3.14 Message Schedule - International Blvd
- 3.15 Message Schedule - Arrivals Level
- 3.16 Message Schedule - Departures Level

WAYFINDING PLANNING - OVERVIEW

The ability to orient and navigate one’s way through the varying environments as found at SEA is of fundamental importance. Wayfinding planning using graphic diagrams establishes the analysis of spatial relationships and traffic circulation. All designers are required to utilize similar planning processes as shown here when designing signage for use at SEA.

This chapter contains general recommendations regarding possible ways to improve SEA’s existing roadway wayfinding system.

Circulation Analysis

During design development, incoming and outgoing circulation for major user groups (i.e. pedestrians, vehicular, etc.) shall be analyzed and documented by the designer. Points of origin and destination will be referenced as the basis for identifying critical decision points and message/information/signage requirements.

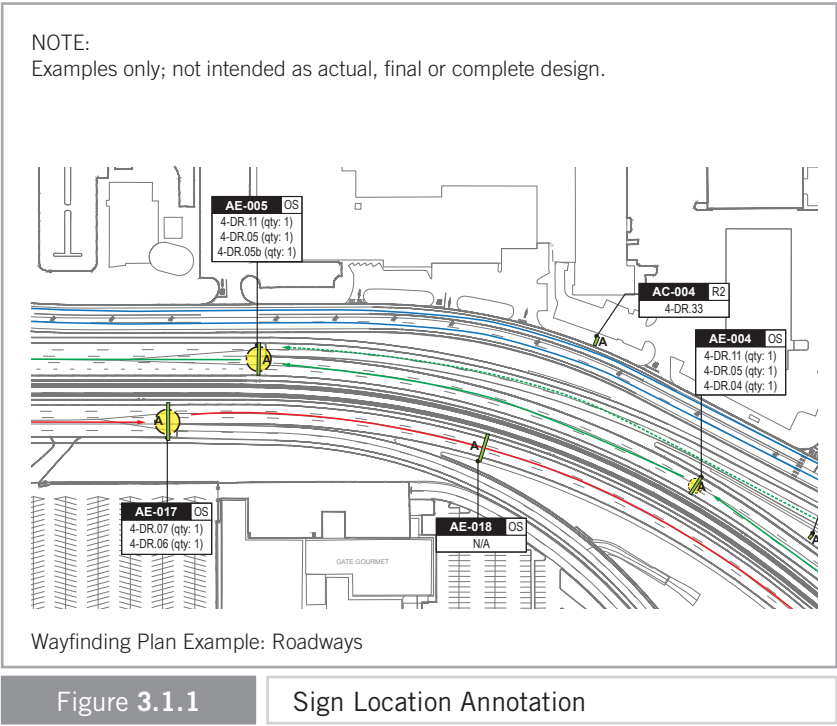
Primary user circulation routes are depicted as solid-lines with end arrows, pointing in the direction of the individual traffic flow. Dotted lines with end-arrows depict possible alternate circulation routes occurring at direction changes (see Figure 3.1.1).

Wayfinding Planning: Identification of Decision Points

Decision points along user circulation routes are to be located at required direction changes, and points where the user encounters alternative choices. Decision point locations should be shown as larger yellow dotted-line circles at primary traffic-change intersections; in addition, areas where reinforcement is needed (i.e. longer corridors without a change in traffic direction) should be indicated by smaller yellow dotted-line circles (see Figure 3.1.1). These areas are indicated as the most optimal location for placing directional signs that inform the user of the nearest existing and alternative wayfinding pathways for consideration.

Determining Required Information at Decision Points

Upon review of an area’s wayfinding conditions, the required messaging/ information and signage needed for a given decision point should be determined by the designer using logical thinking and the established standards in this document. The selection of messages identifying wayfinding destinations, as well as the selection of proper sign types should be determined by using the established SEA wayfinding message hierarchy, arrows, universal symbols and wayfinding sign types as listed in this document. In the event that custom wayfinding messaging or signage conditions occur, the designer will utilize this document’s standards and coordinate the recommended solutions with SEA for review and approval.



Identification of Sign Locations

Plans, cross sections and elevation views of related project facility/site spaces shall be analyzed by the designer to make determinations of optimal wayfinding sign locations. Following review of the architectural/environmental/site conditions, scaled plans will be generated with sign location “bars” (i.e. plan/ top view representational boxes indicating the sign’s basic size/shape that are scaled to match the floor plan, and are oriented/rotated as the sign would be in “real world” conditions). Differing and/or multiple sides of each sign should be indicated with a unique alpha designation (such as A, B, etc.) per sign location, and must coincide precisely with the specific sign type and related sign message schedule. Note that *all* signs will be given a *unique* sign location annotation box, and will always be accompanied with a leader line extending from each annotation box to its associated sign location bar.

Also note that all overhead sign locations must be coordinated with architectural reflected ceiling plans (RCP’s) to ensure that no interferences occur with established and/or new architectural/environmental elements. Sign locations will be located in sensible areas nearest to its associated decision point, and in conjunction with existing or planned facility/site structural support elements whenever possible.

Sign Location Annotation

The SEA sign location annotation system established in this document is to be used to identify sign locations on all SEA wayfinding signage related documentation. Within terminal facility related areas (i.e. curbside/ground transportation areas and parking garages), each sign shall be given a designation of location as shown on the following page in Figure 3.2.1. Within SEA property roadway areas, each sign shall be given a designation of location as shown on the following page in Figure 3.2.1.

Message Schedules

All SEA wayfinding signage related projects will include a message schedule, preferably in a graphic format showing examples of actual scaled sign face artwork. Message schedules will always coincide with, and precisely match, their corresponding sign location plan(s), and will account for every sign that is a part of the associated signage project’s predetermined scope. It will always include (at a minimum) the following elements/information:

- Unique Sign Location Number (i.e. “L2-001,” etc.)
- Sign Type Identification Number (i.e. “ID-35,” etc.)
- General description of the sign type (i.e. “Wall Mount Overhead Restroom Entry ID,” etc.)
- Side listings (i.e. “Side A,” “Side B,” etc.)
- Messages shown per side (i.e. graphic depiction of the actual sign face artwork, per each individual sign face side)
- Remarks/Notes (if needed for description of special circumstances, etc.)



GENERAL SIGN PLACEMENT

Viewer circulation patterns and natural lines of vision are the basis for determining the location of all wayfinding signs. Signs shall be located to precede decision points whenever possible. This will ensure sufficient time for users to react to each sign's set of messaging/information.

Sign Placement Considerations - Vehicular Signage

Note that disorienting conditions may occur due to the complex nature of roadway systems, which in turn may require placement of additional or supplemental signage. These typically include:

- Complex roadway/roadside/site or construction related conditions
- Competing vehicular wayfinding traffic
- Visual environmental distractions
- Congested traffic conditions

Favorable conditions which reduce the need for repetitive signage are:

- Efficient/simplified roadway/roadside/site conditions
- Efficient sight lines for drivers of varying driving abilities
- Gradual road curves and exit lanes with adequate length
- Signs located with adequate distance and sizing to queue traffic safely and efficiently at posted speed limits

Sign Placement by Sign Type - Vehicular Signage

- Directional signs - placement will be perpendicular to wayfinding traffic, and will occur at all decision points and areas where drivers become disoriented by roadway or environmental site conditions. Directional signs will also be placed at reassuring intervals to reinforce directional messaging to wayfinding traffic. Note that roadway configurations/conditions or competing vehicular traffic flow may also inadvertently imply a change of direction. In these situations, additional directional signs should be used to reinforce the intended direction as needed per MUTCD requirements.
- Identification signs - placement will typically occur at or near all priority destinations and roadway entrances. Identification signs (such as Terminal/ Curbside ID signs), will also typically be placed perpendicular to wayfinding traffic.
- Informational signs - placement will typically be located nearest major decision points. Informational signs will be perpendicular to wayfinding traffic, and will typically be located prior to major decision points and/or near entrances to the corresponding area.

Typical Vehicular Sign Placement Intervals - Best Practices

- Placement of signs at/near key decision points and/or in the direct line of sight of the drivers reduces decision times.
- For vehicular traffic, signs should generally be placed at intervals as deemed appropriate for the given condition. The specific distance used will typically depend on the legibility of the vertical height of the lettering at the posted speed limit (see SEA Wayfinding Standards and Guidelines, Volume 2 for additional information).

- NOTE: all MUTCD requirements must always be strictly followed for all roadway signage.

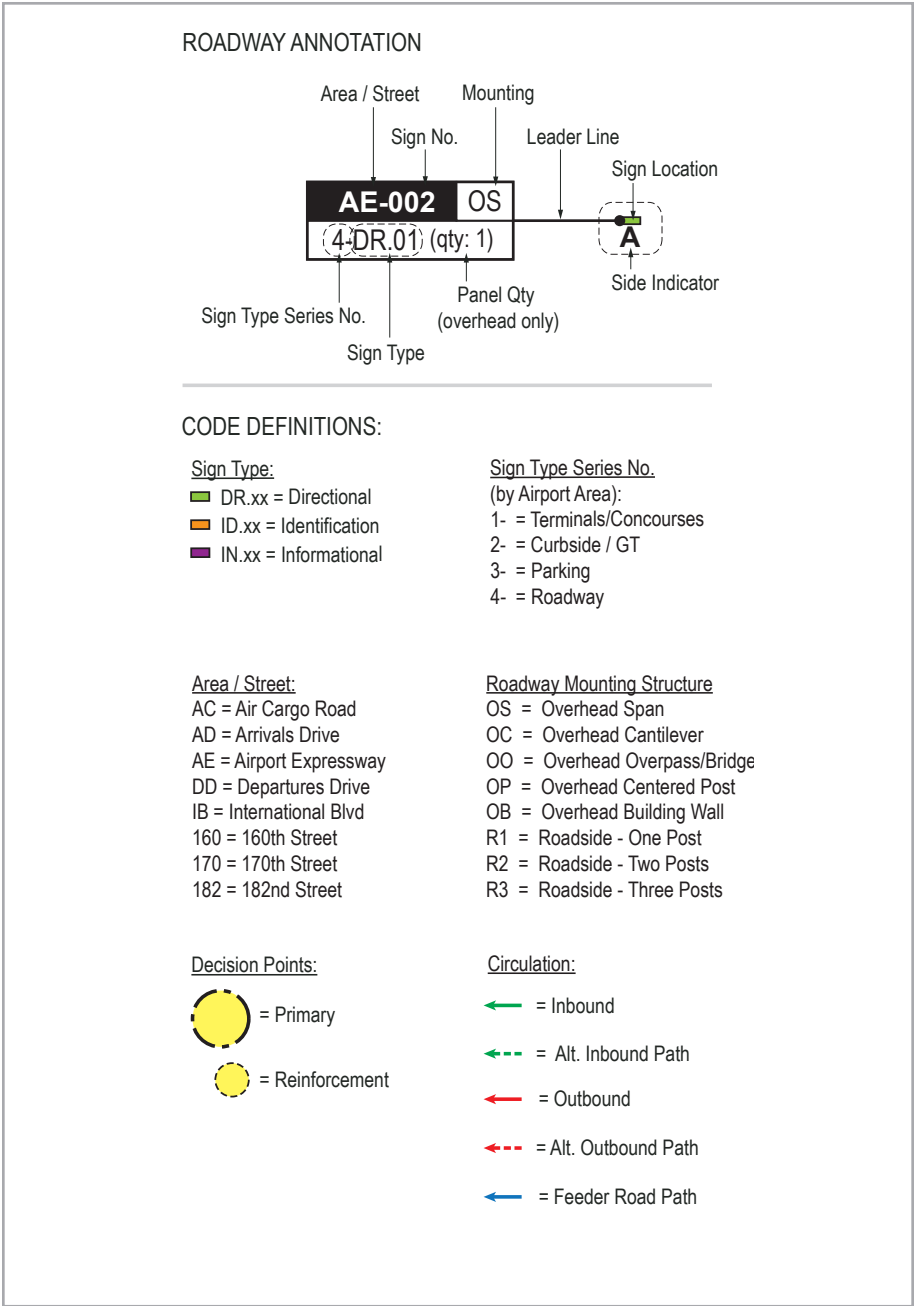


Figure 3.2.1 Sign Location Annotation

SIGN TYPE NUMBERING SYSTEM

The vast amount of differing architectural and site conditions at SEA, combined with the need to meet requirements for pedestrian and vehicular wayfinding visibility, creates a need for a comprehensive and holistic sign identification system. This system will always maintain standardization, flexibility and ease-of-understanding for the majority of individuals specifying and programming updated and new wayfinding signage at SEA. All wayfinding signage is to be grouped into the following categories:

- Pedestrian Signs (\*NOTE: Certain vehicular signs also fall within these Series numbers)
  - Series 1: Terminals / Concourses: Includes: All public-accessible Terminal and Concourse related areas
  - \*Series 2: Curbside / Ground Transportation: Includes: All Curbside and Ground Transportation related areas
  - \*Series 3: Parking: Includes: All on-property public-accessible garages and surface lots
- Vehicular Signs
  - Series 4: Roadways: Includes: All on-property public-accessible roads
- Other Areas
  - Series 6 (and above): Are to be assigned as needed and based on unique requirements of individual projects. Note that all expanded series numbering and categorization must be coordinated with SEA for final approval.

Pedestrian vs. Vehicular Sign Identification Systems

Pedestrian and vehicular wayfinding signage will always use similar sign type numbering and categorization methods to maintain a holistic identification system across the entire wayfinding program (see Figure 3.3.1). However, each traffic type also has unique requirements and/or mounting configurations associated with them. As such, the sign identification system is more effective when supplemental designators are applied to their respective systems as needed.

Roadway Signage - Unique Mounting Designator

See Figure 3.2.1, “Sign Location Annotation” for a general description of the unique designator that is to be applied to all SEA roadway wayfinding signage, as well as how to use it for roadway signage identification.

Variant/Option Designator

When a sign type requires a variant or option (due to sizing variations, directional end-facing, etc.), a unique designator using a lowercase letter at the end of the sign number shall be used. For example, a directional sign type “4-DR.21” could have an additional layout option and an alternate designator of “4-DR.21a”.

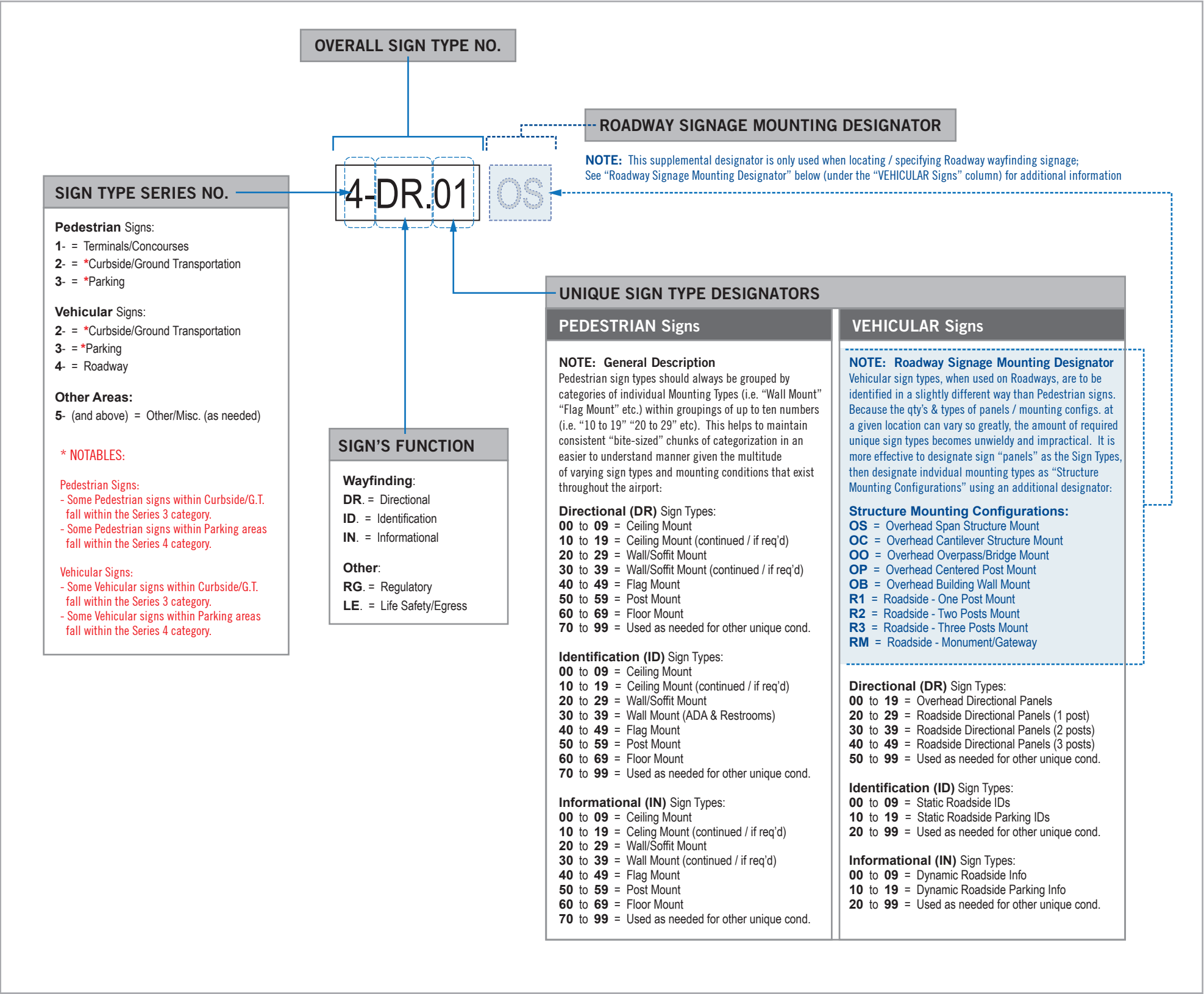
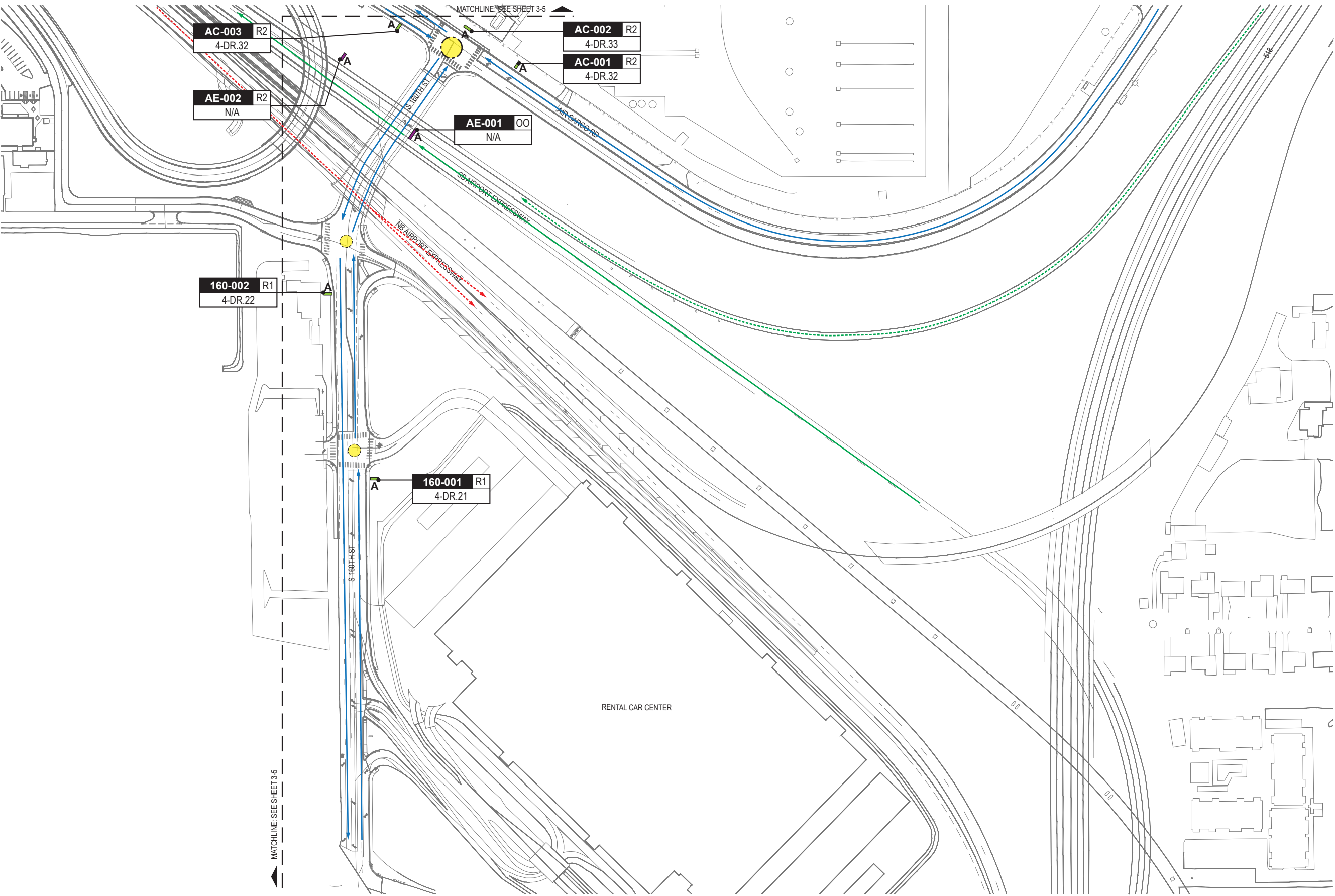


Figure 3.3.1

SEA Wayfinding Sign Type Identification System

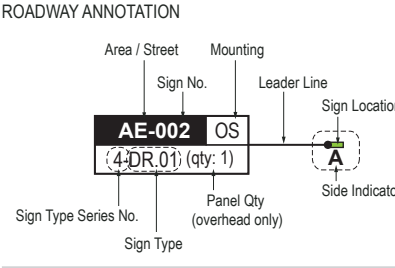


GENERAL NOTES

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- All final install locations must be marked and verified in the field for proper structural integrity, adequate line of sight, utilities / property-line / other existing signage interferences & must be in complete compliance with all local, state and national codes prior to fabrication or installation.
- Adjustments to the sign locations shown in these drawings must be documented by the Fabricator/Installer, and provided to SEA staff & wayfinding design consultants for final approval.

**NOTE:** Only wayfinding signage & locations as shown in this package are in scope. All other regulatory, tertiary and misc. non-wayfinding specific signage are NOT in scope.

SIGN LOCATION ANNOTATION LEGEND

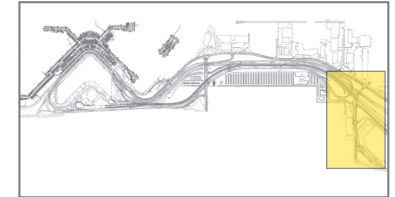


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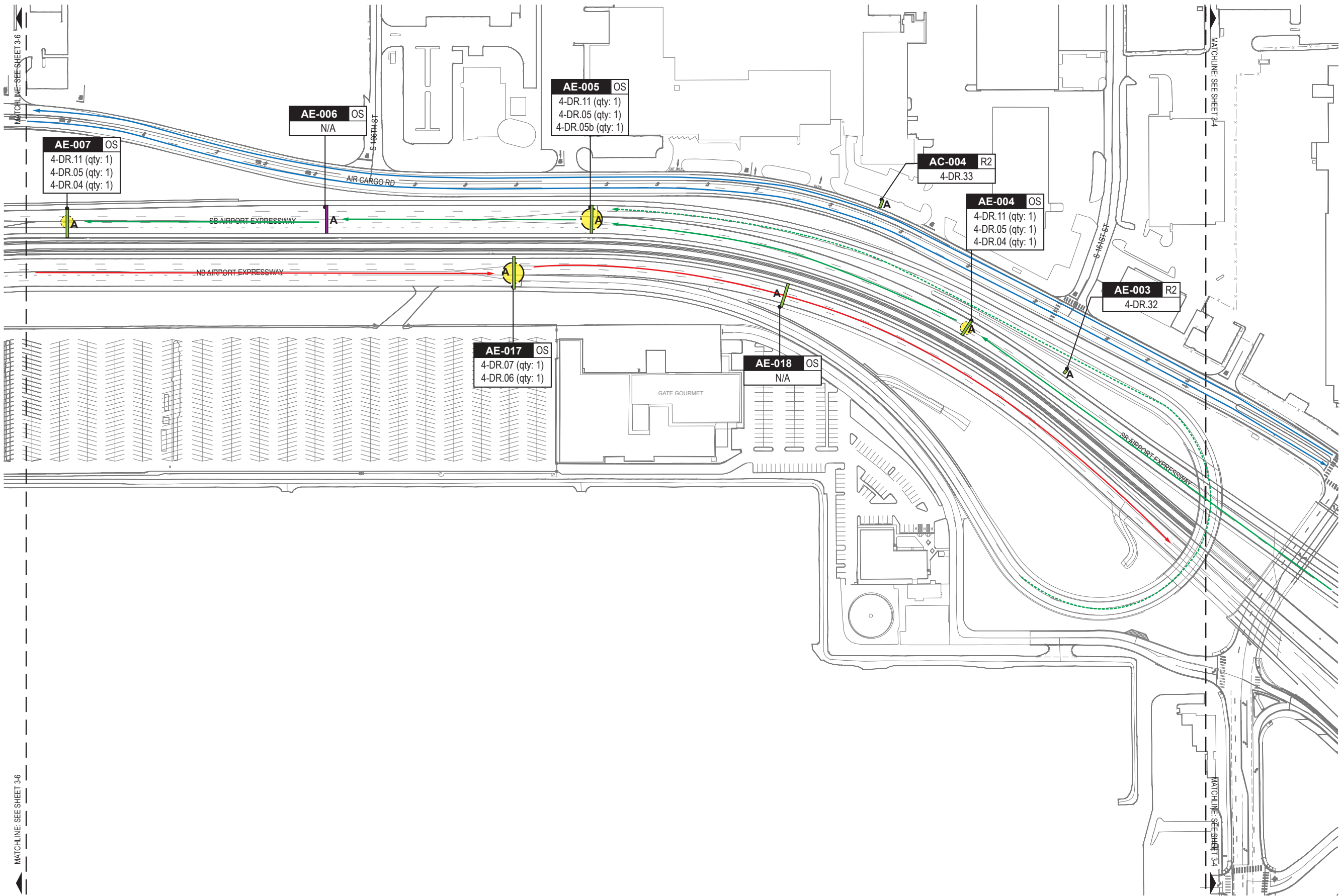
- Sign Type:**
- DR.xx = Directional
  - ID.xx = Identification
  - IN.xx = Informational
- Sign Type Series No. (by Airport Area):**
- 1- = Terminals/Concourses
  - 2- = Curbside / GT
  - 3- = Parking
  - 4- = Roadway
- Area / Street:**
- AC = Air Cargo Road
  - AD = Arrivals Drive
  - AE = Airport Expressway
  - DD = Departures Drive
  - IB = International Blvd
  - 160 = 160th Street
  - 170 = 170th Street
  - 182 = 182nd Street
- Roadway Mounting Structure:**
- OS = Overhead Span
  - OC = Overhead Cantilever
  - OO = Overhead Overpass/Bridge
  - OP = Overhead Centered Post
  - OB = Overhead Building Wall
  - R1 = Roadside - One Post
  - R2 = Roadside - Two Posts
  - R3 = Roadside - Three Posts

- Decision Points:**
- Primary
  - Reinforcement
- Circulation:**
- Inbound
  - Alt. Inbound Path
  - Outbound
  - Alt. Outbound Path
  - Feeder Road Path

KEY PLAN







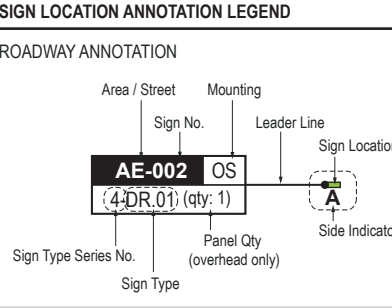
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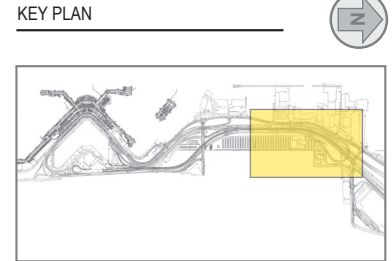
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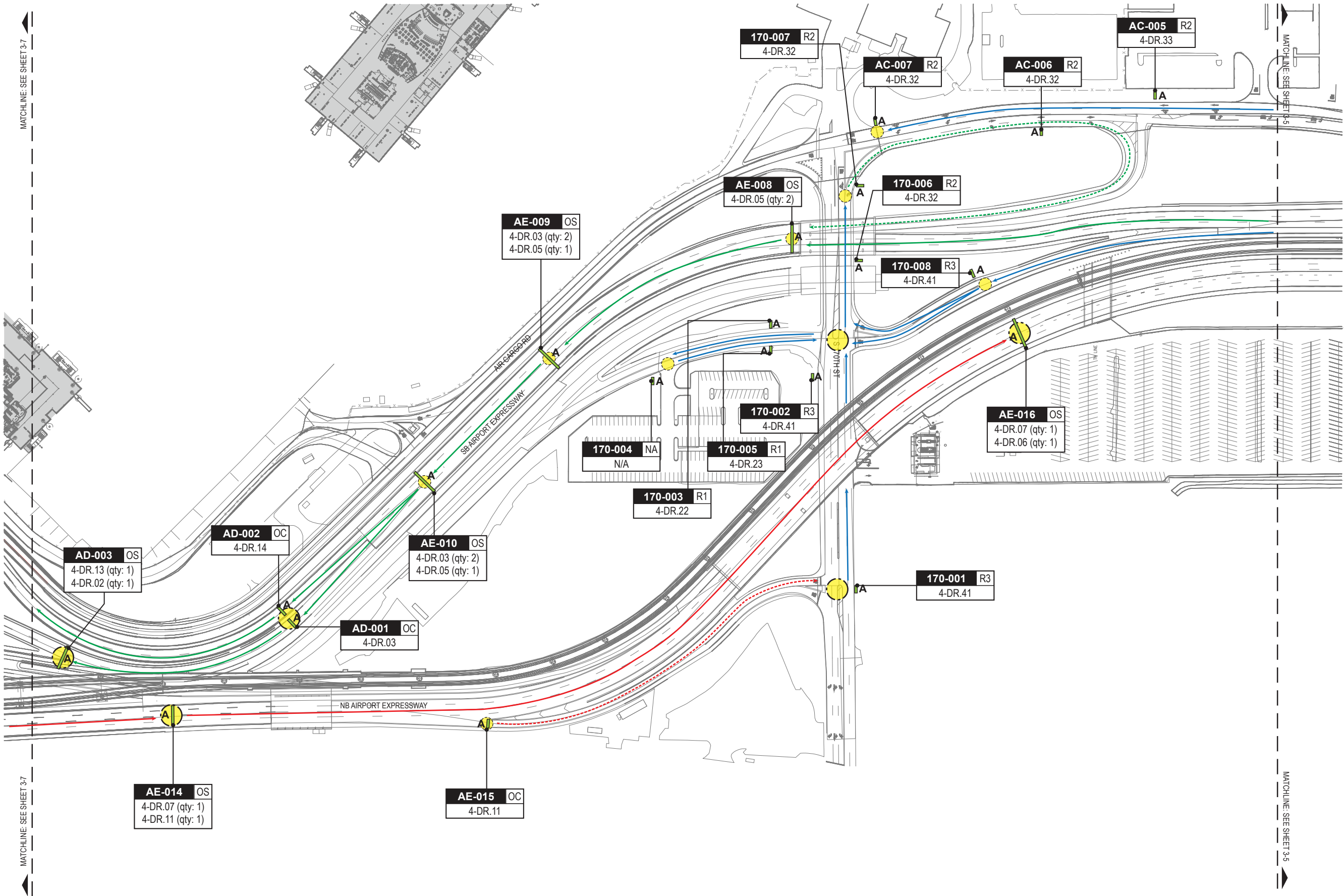
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  - Reinforcement
- Circulation:**
- Inbound
  - Alt. Inbound Path
  - Outbound
  - Alt. Outbound Path
  - Feeder Road Path





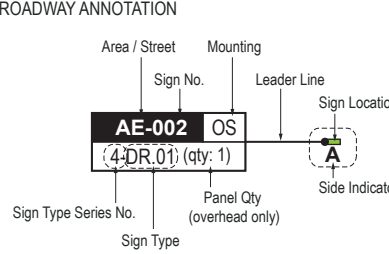


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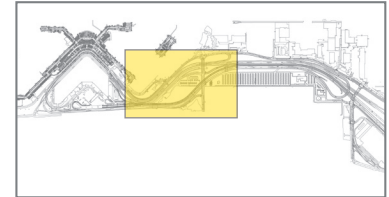
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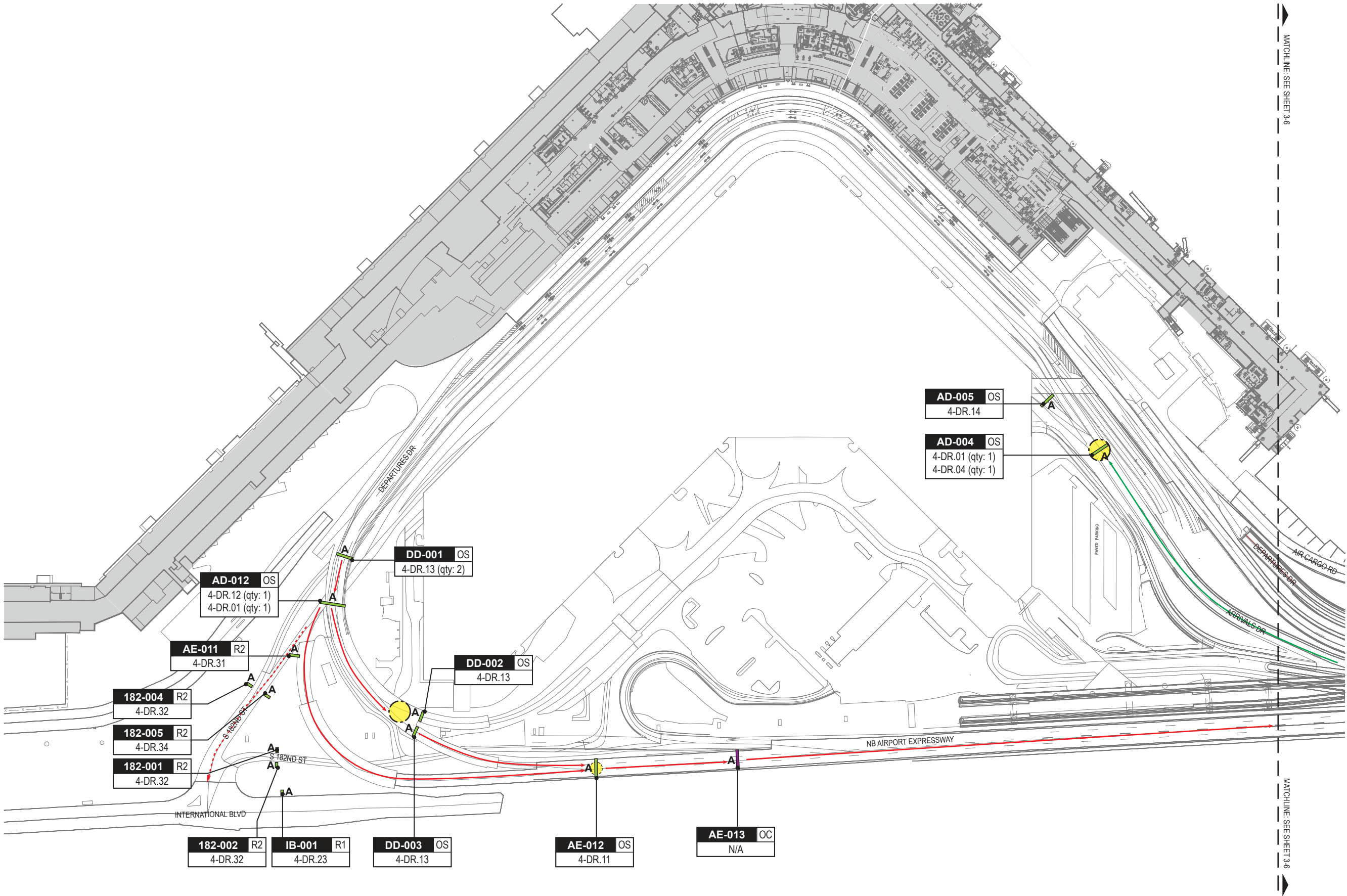
Sign Type:	Sign Type Series No. (by Airport Area):
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ID.xx = Identification	2- = Curbside / GT
IN.xx = Informational	3- = Parking
	4- = Roadway

Area / Street:	Roadway Mounting Structure
AC = Air Cargo Road	OS = Overhead Span
AD = Arrivals Drive	OC = Overhead Cantilever
AE = Airport Expressway	OO = Overhead Overpass/Bridge
DD = Departures Drive	OP = Overhead Centered Post
IB = International Blvd	OB = Overhead Building Wall
160 = 160th Street	R1 = Roadside - One Post
170 = 170th Street	R2 = Roadside - Two Posts
182 = 182nd Street	R3 = Roadside - Three Posts

Decision Points:	Circulation:
= Primary	= Inbound
= Reinforcement	= Alt. Inbound Path
	= Outbound
	= Alt. Outbound Path
	= Feeder Road Path

KEY PLAN



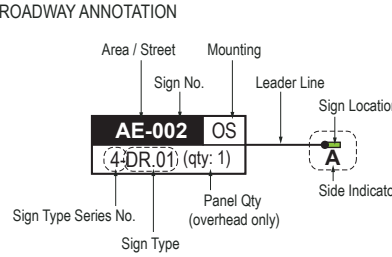


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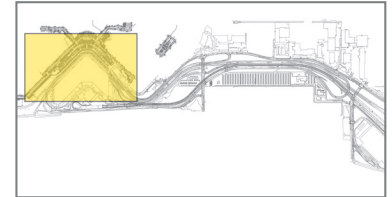
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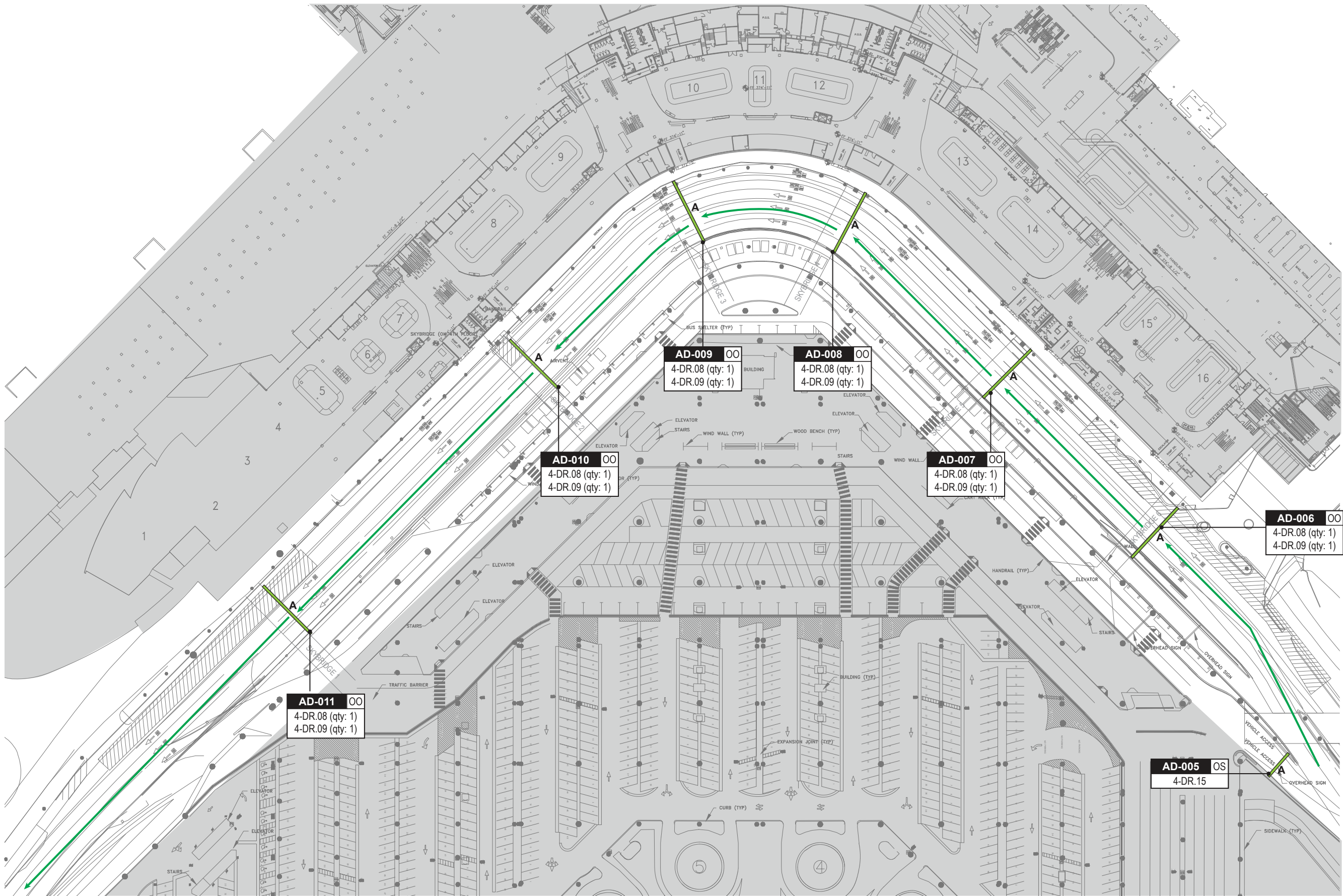
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  - R1 = Roadside - One Post
  - R2 = Roadside - Two Posts
  - R3 = Roadside - Three Posts

- Decision Points:**
- Primary
  - Reinforcement
- Circulation:**
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  - Alt. Inbound Path
  - Outbound
  - Alt. Outbound Path
  - Feeder Road Path

KEY PLAN







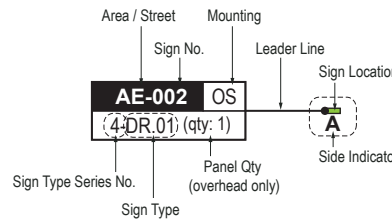
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SIGN LOCATION ANNOTATION LEGEND

ROADWAY ANNOTATION



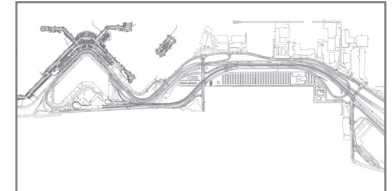
CODE DEFINITIONS:

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  - R3 = Roadside - Three Posts

- Decision Points:**
- Primary
  - Reinforcement
- Circulation:**
- Inbound
  - Alt. Inbound Path
  - Outbound
  - Alt. Outbound Path
  - Feeder Road Path

KEY PLAN



AE-001

NA

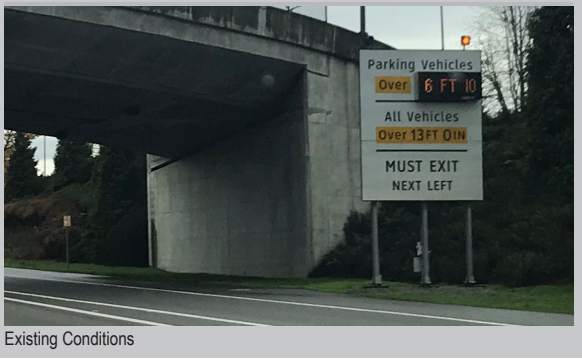
**Recommended Action:**  
- For reference only; will be removed per  
SEA landscape masterplan



AE-002

R2

**Recommended Action:**  
- Leave as-is



AE-003

R2

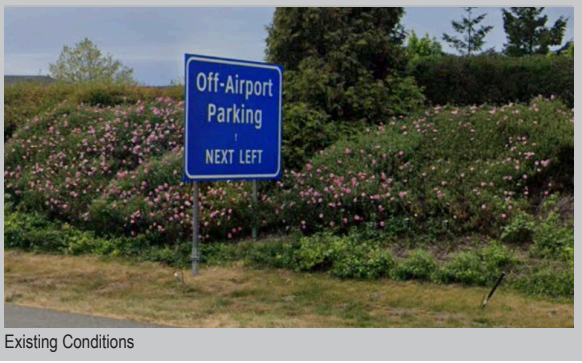
NOTES:

SIDE A



4-DR.32

**Recommended Action:**  
- Remove existing sign  
- Replace with new sign





SIDE A

Air Cargo Road

Rental Cars

Cell Phone Lot

EXIT NEXT LEFT

4-DR.11

Arrivals

Parking

4-DR.05

Departures

4-DR.04

**Recommended Action:**

- Remove existing panels
- Replace with new panels (verify existing structure engineering)
- Option: Consider structure replacement



SIDE A

Air Cargo Road

Rental Cars

Cell Phone Lot

EXIT ↓ ONLY

4-DR.11

Arrivals

Parking

4-DR.05

Departures

Arrivals Overflow  
Use Departures Curb

4-DR.03b

**Recommended Action:**

- Remove existing panels
- Replace with new panels (verify existing structure engineering)
- Option: Consider structure replacement



**Recommended Action:**

- Leave as-is
- Consider replacing with full matrix dynamic unit in the future
- Potential location for airline listings in future if desired by SEA-TAC





SIDE A

Air Cargo Road

Rental Cars

Cell Phone Lot

EXIT ONLY

Arrivals

Parking

Departures

4-DR.11

4-DR.05

4-DR.04

- Recommended Action:**
- Remove existing panels
  - Replace with new panels (verify existing structure engineering)
  - Option: Consider structure replacement



SIDE A

Arrivals

Parking

Departures

4-DR.05

4-DR.05

- Recommended Action:**
- Remove existing panels
  - Replace with new panels (verify existing structure engineering)
  - Option: Consider structure replacement



SIDE A

Arrivals

Parking

Arrivals

Departures

4-DR.03

4-DR.03

4-DR.05

- Recommended Action:**
- Remove existing panels
  - Replace with new panels (verify existing structure engineering)
  - Option: Consider structure replacement



AE-010 OS

SIDE A



4-DR.03

4-DR.03

4-DR.05

**Recommended Action:**

- Remove existing panels
- Replace with new panels (verify existing structure engineering)
- Option: Consider structure replacement



## Existing Conditions

AE-011 R2

SIDE A



4-DR.31

**Recommended Action:**

- Remove existing sign
- Replace with new sign



### Existing Conditions

**AE-012** OS

SIDE A



4-DR.11

**Recommended Action:**

- Remove existing panels
- Replace with new panels (verify existing structure engineering)
- Option: Consider structure replacement



### Existing Conditions



Labozan  
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These documents are intended to illustrate design intent, and should only be used as a general guideline. No information contained here should be construed as engineered elements. The fabricator/contractor shall be responsible for all engineering and specifications with regard to structural, electrical, mechanical, foundation and installation. Information and illustrations contained here are part of an original unpublished design by Labozan Associates, Inc. Detailing and information contained on these pages shall not be reproduced, copied or utilized in any way except for the specific project for which they were created without previous written authorization from Labozan Associates, Inc.

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SEA Seattle-Tacoma  
International  
Airport

SIGNAGE MASTER PLAN VOLUME 2: Roadways

100% FINAL SET

Issue Date: 04.2.2020

REV.  :REV. 2:

REV.  $\triangle 3$  :  
REV.  $\triangle 4$  :

### 3.6 MESSAGE SCHEDULE - AIRPORT EXPRESSWAY

(4 of 6)

Sheet: 3-12

**Recommended Action:**

- Leave as-is
- Consider replacing with full matrix dynamic unit in the future



Existing Conditions

SIDE A

To Freeways

↓

Terminal Parking

↓

99 International Blvd

Rental Cars

Cell Phone Lot

EXIT NEXT RIGHT

4-DR.07

4-DR.11

**Recommended Action:**

- Remove existing panels
- Replace with new panels (verify existing structure engineering)
- Option: Consider structure replacement



Existing Conditions

SIDE A

99 International Blvd

Rental Cars

Cell Phone Lot

EXIT ONLY

4-DR.11

**Recommended Action:**

- Remove existing panels
- Replace with new panels (verify existing structure engineering)
- Option: Consider structure replacement



Existing Conditions



SIDE A



4-DR.07



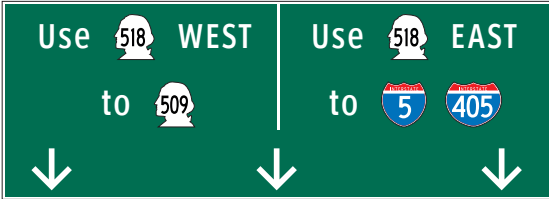
4-DR.06

- Recommended Action:**
- Remove existing panels
  - Replace with new panels (verify existing structure engineering)
  - Option: Consider structure replacement



Existing Conditions

SIDE A

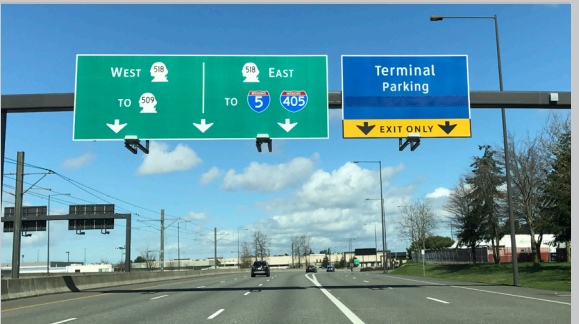


4-DR.07



4-DR.06

- Recommended Action:**
- Remove existing panels
  - Replace with new panels (verify existing structure engineering)
  - Option: Consider structure replacement



Existing Conditions

- Recommended Action:**
- Leave as-is
  - Consider replacing with full matrix dynamic unit in the future



Existing Conditions

AD-001OC

SIDE A



4-DR.03

- Recommended Action:**
- Remove existing panel
  - Replace with new panel (verify existing structure engineering)
  - Option: Consider structure replacement



Existing Conditions

AD-002OC

SIDE A



4-DR.14

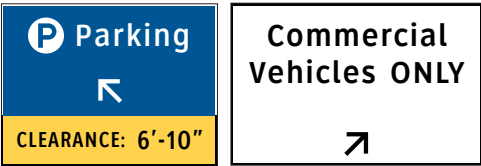
- Recommended Action:**
- Remove existing panel
  - Replace with new panel (verify existing structure engineering)
  - Option: Consider structure replacement



Existing Conditions

AD-003OS

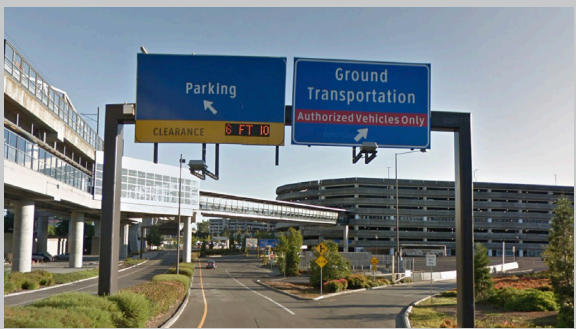
SIDE A



4-DR.13

4-DR.02

- Recommended Action:**
- Remove existing panels
  - Replace with new panels (verify existing structure engineering)
  - Option: Consider structure replacement



Existing Conditions



AD-004OS

SIDE A

Commercial Vehicles ONLY

NEXT LEFT

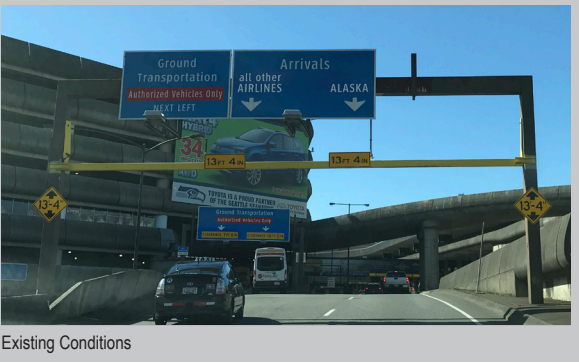
4-DR.02

Arrivals

All AirlinesAlaska Only

4-DR.05

- Recommended Action:
- Remove existing panels
  - Replace with new panel (verify existing structure engineering)
  - Option: Consider structure replacement



AD-005OS

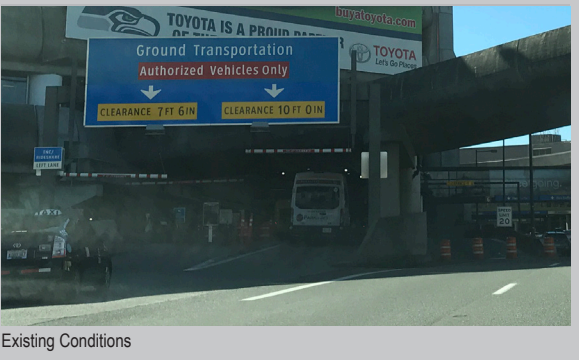
SIDE A

Commercial Vehicles ONLY

CLEARANCE: 7'-6"      CLEARANCE: 10'-0"

4-DR.15

- Recommended Action:
- Remove existing panel
  - Replace with new panel (verify existing structure engineering)
  - Option: Consider structure replacement



AD-006OO

SIDE A

↓ Thru Traffic ↓ Thru Traffic ↓

4-DR.08

LOAD / UNLOAD

4-DR.09

- Recommended Action:
- Remove existing panels
  - Replace with new panels



AD-00700

SIDE A



4-DR.08



4-DR.09

Recommended Action:  
- Remove existing panels  
- Replace with new panels



Existing Conditions

AD-00800

SIDE A



4-DR.08



4-DR.09

Recommended Action:  
- Remove existing panels  
- Replace with new panels



Existing Conditions

AD-00900

SIDE A



4-DR.08



4-DR.09

Recommended Action:  
- Remove existing panels  
- Replace with new panels



Existing Conditions

AD-01000

SIDE A



4-DR.08



4-DR.09

Recommended Action:  
- Remove existing panels  
- Replace with new panels



Existing Conditions

AD-01100

SIDE A



4-DR.08



4-DR.09

Recommended Action:  
- Remove existing panels  
- Replace with new panels



Existing Conditions

AD-0120S

SIDE A



4-DR.12



4-DR.01

Recommended Action:  
- Remove existing panels  
- Replace with new panels (verify existing structure engineering)  
- Option: Consider structure replacement



Existing Conditions



SIDE A



4-DR.13



4-DR.13

- Recommended Action:**
- Remove existing panels
  - Replace with new panels (verify existing structure engineering)
  - Option: Consider structure replacement



Existing Conditions

SIDE A



4-DR.13

- Recommended Action:**
- Remove existing panel
  - Replace with new panel (verify existing structure engineering)
  - Option: Consider structure replacement



Existing Conditions

SIDE A



4-DR.13

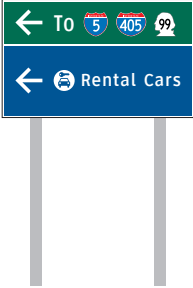
- Recommended Action:**
- Remove existing panel
  - Replace with new panel (verify existing structure engineering)
  - Option: Consider structure replacement



Existing Conditions

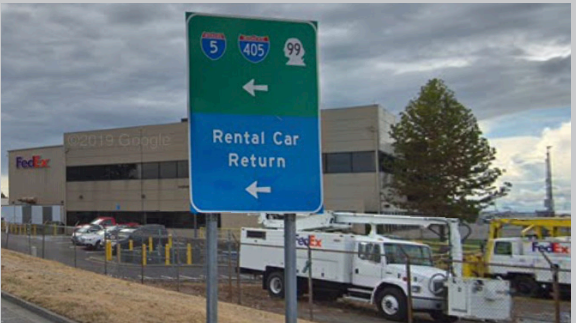
AC-001R2

SIDE A



4-DR.32

- Recommended Action:**
- Remove existing sign
  - Replace with new sign



Existing Conditions

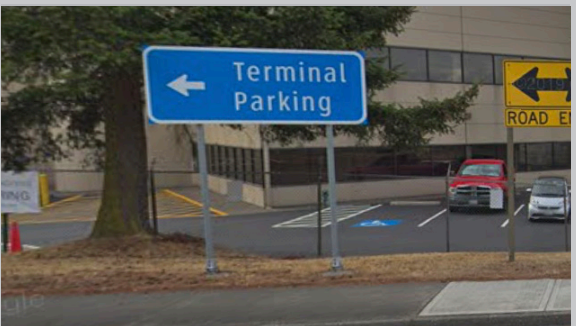
AC-002R2

SIDE A



4-DR.33

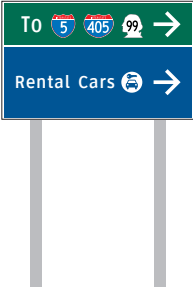
- Recommended Action:**
- Remove existing sign
  - Replace with new sign



Existing Conditions

AC-003R2

SIDE A



4-DR.32

- Recommended Action:**
- Remove existing sign
  - Replace with new sign



Existing Conditions



AC-004R2

SIDE A



4-DR.33

- Recommended Action:**
- Remove existing sign
  - Replace with new sign



Existing Conditions

AC-005R2

SIDE A



4-DR.33

- Recommended Action:**
- Remove existing sign
  - Replace with new sign



Existing Conditions

AC-006R2

SIDE A



4-DR.32

- Recommended Action:**
- Remove existing sign
  - Replace with new sign



Existing Conditions

SIDE A



4-DR.32

**Recommended Action:**  
- Remove existing sign  
- Replace with new sign



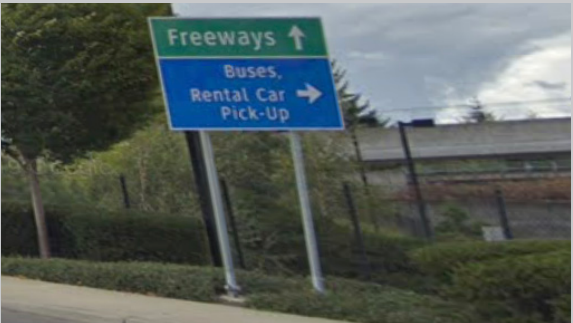
Existing Conditions

SIDE A



4-DR.21

- Recommended Action:**
- Remove existing sign
  - Replace with new sign



Existing Conditions

SIDE A



4-DR.22

- Recommended Action:**
- Remove existing sign
  - Replace with new sign



Existing Conditions

SIDE A



4-DR.41

**Recommended Action:**  
- Remove existing sign  
- Replace with new sign



Existing Conditions

SIDE A



4-DR.41

**Recommended Action:**  
- Remove existing sign  
- Replace with new sign



Existing Conditions

SIDE A



4-DR.22

**Recommended Action:**  
- Remove existing sign  
- Replace with new sign



Existing Conditions



170-004N/A

- Recommended Action:**
- Location shown for reference only
  - New entry pylon to be installed by SEA



Existing Conditions

170-005R1

SIDE A



- Recommended Action:**
- Remove existing sign
  - Replace with new sign



Existing Conditions

4-DR.23

170-006R2

SIDE A



- Recommended Action:**
- Remove existing sign
  - Replace with new sign



Existing Conditions

4-DR.32



SIDE A



**Recommended Action:**  
- Remove existing sign  
- Replace with new sign



SIDE A



**Recommended Action:**  
- Remove existing sign  
- Replace with new sign



182-001R2

SIDE A



4-DR.32

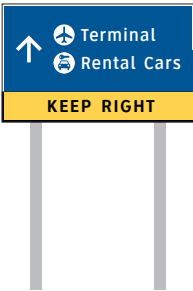
- Recommended Action:**
- Remove existing sign
  - Replace with new sign



Existing Conditions

182-002R2

SIDE A



4-DR.32

- Recommended Action:**
- Remove existing sign
  - Replace with new sign



Existing Conditions

182-003R2

SIDE A



4-DR.32

- Recommended Action:**
- Remove existing sign
  - Replace with new sign



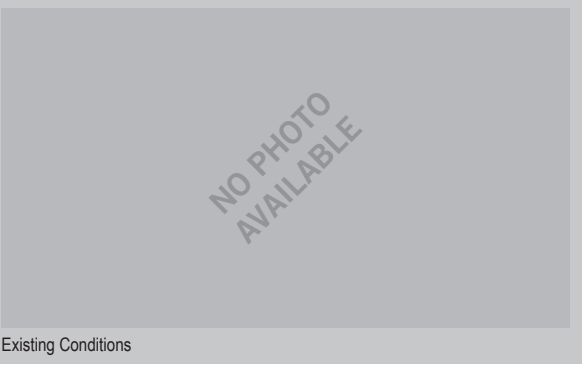
Existing Conditions

SIDE A



4-DR.34

**Recommended Action:**  
- Remove existing sign  
- Replace with new sign



SIDE A



4-DR.34

**Recommended Action:**  
- Remove existing sign  
- Replace with new sign

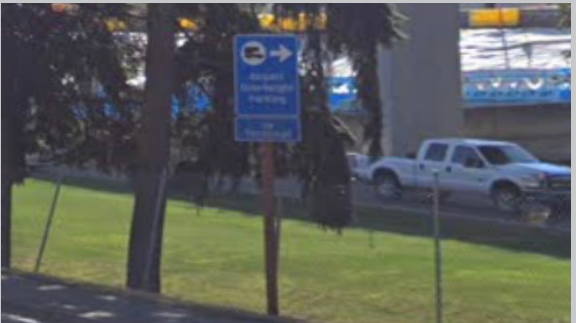


SIDE A



4-DR.23

**Recommended Action:**  
- Remove existing sign  
- Replace with new sign



Existing Conditions