



Van Nuys

Los Angeles World Airports

***MOTOR VEHICLE
OPERATING PERMIT
PROGRAM
(MVOP)***

STUDY GUIDE



PRODUCED BY
VAN NUYS AIRPORT OPERATIONS

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Introduction

In an effort to provide the safest and most efficient operating environment for tenants and users of the Van Nuys Airport (VNY), Los Angeles World Airports (LAWA) has recognized the benefit of providing a training program to all personnel who have an operational need to operate a vehicle on the service roads at VNY. The Motor Vehicle Operating Program (MVOP) will provide familiarization with the layout of the runways and taxiways at VNY, airport signage, marking and lighting, and general procedures for operating vehicles on the airport. A written examination is included as part of the MVOP to assist in ensuring the information provided has been thoroughly understood and retained. As such, the MVOP presents guidelines and procedures designed to enhance safety and efficiency of all vehicle operations.

Additionally, the implementation of this program is intended to assist in the elimination of runway incursions and surface incidents with the goal of increasing overall safety and efficiency.

A ***surface incident*** is defined as any entry or movement on the movement area (other than a runway) by a vehicle or pedestrian that has not been authorized by the Air Traffic Control Tower.

A ***runway incursion*** is defined as any occurrence at an airport involving an aircraft, vehicle, person or object on the ground, that enters a protected area of a runway without authorization.

These events can result in an aircraft collision. Such collisions are often deadly and always expensive.

In order to minimize the risk of a runway incursion or a surface incident, it is extremely important that all persons who will operate a vehicle on the airport service roads have a thorough understanding of the runway and airfield layout at the VNY.

The objectives of this training program are:

- To identify proper methods and procedures for safe vehicle operations at VNY.
- To provide vehicle operators with familiarization and knowledge of acceptable driving practices.
- To test for knowledge and ensure that all personnel who operate vehicles on the service road at VNY have a basic understanding of acceptable procedures.

Participation in this program and successful completion of the written examination is mandatory for all individuals who require service road access at VNY. Successful completion of the MVOP will result in the issuance of a VNY Driver's Permit with "Service Road Only" Privileges. Only individuals who have successfully completed the MVOP will be permitted to operate a vehicle on the service road at VNY.

This study guide contains basic information that will be elaborated on during the MVOP video presentation. This guide has been provided to you as a supplement to the MVOP video and should be thoroughly understood *prior* to taking the written examination administered by VNY Airport Operations.

As it is the responsibility of all tenants and other airport users to be familiar with the VNY Rules and Regulations, it is highly recommended that you also review that document, especially Section 4, Motor Vehicle Operations, prior to taking the MVOP written examination.

DO NOT HESITATE TO ASK QUESTIONS IF THERE IS ANYTHING THAT YOU DO NOT THOROUGHLY UNDERSTAND.

Definitions

The following terms are defined as indicated in this section for the purpose of this Ground Vehicle Operation Training Manual.

Accident—a collision between one aircraft or vehicle and another aircraft, vehicle, person, or object that results in property damage, personal injury, or death.

Airport Traffic Control Tower (ATCT)—a service operated by an appropriate authority to promote the safe, orderly, and expeditious flow of air traffic.

Aircraft—a device that is used or intended to be used for flight in the air.

Apron or Ramp—a defined area on an airport intended to accommodate aircraft for the purposes of parking, loading and unloading passengers or cargo, refueling, or maintenance.

Fixed-Based Operator (FBO)—a person, firm, or organization engaged in a business that provides a range of basic services to general aviation. Services may include the sale and dispensing of fuel, line services, aircraft parking and tie-down, pilot and passenger facilities, airframe and power plant maintenance, aircraft sales and rental, and pilot instruction.

Foreign Object Debris (FOD)—debris that can cause damage to aircraft engines, tires, or skin from rocks, trash, or the debris found on runways, taxiways, and aprons.

Ground Vehicle—all conveyances, except aircraft, used on the ground to transport persons, cargo, fuel, or equipment.

ILS Critical Area—an area provided to protect the signals of the localizer and glideslope.

Jet Blast—jet engine exhaust or propeller wash (thrust stream turbulence).

Movement Area—the runways, taxiways, and other areas of an airport that aircraft use for taxiing, takeoff, and landing, exclusive of loading ramps and parking areas, and that are under the control of an air traffic control tower.

Non-movement Areas—aprons, service roads, taxilanes, and other areas not under the control of air traffic or at airports without an operating airport traffic control tower.

Operator—any person who is in actual physical control of an aircraft or a motor vehicle.

Owner—a person who holds the legal title of an aircraft or a motor vehicle.

Definitions

Runway—a defined, rectangular, paved surface on an airport designed for the landing or takeoff of aircraft.

Runway Incursion—any occurrence at an airport involving an aircraft, vehicle, person, or object on the ground that creates a collision hazard or results in loss of separation with an aircraft taking off, intending to take off, landing, or intending to land.

Runway in Use or **Active Runway**—any runway or runways currently being used for takeoff or landing. When multiple runways are used, they are all considered active runways.

Safety Area—a defined surface surrounding the taxiway or runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the taxiway or runway.

Taxiways—those parts of the airside designated for the surface maneuvering of aircraft to and from the runways and aircraft parking areas.

Vehicle Service Road—a designated roadway for vehicles in a non-movement area.

Airfield Familiarization

Non-Movement Area

A *non-movement area* is an area that is not under the control of the air traffic control tower. Aircraft and vehicle operations on a non-movement area are done so at the operator's own risk.

At VNY, the following areas are considered non-movement areas:

Ramp/Apron—a paved surface which is designed for the parking of aircraft for the purposes of loading, unloading, fueling, and servicing.

Taxilane—a paved surface that is not under the control of the air traffic control tower, taxilanes connect ramp/apron areas to the main taxiways.

The diagram to the right shows the locations and designations of the taxilanes at VNY.



Airfield Familiarization

Movement Area

The *movement area* consists of the runways, taxiways and other areas on the airport, which are used for taxiing, takeoff and landing of aircraft, and that are under the control of the air traffic control tower.

The following are the types of movement areas found on the airfield at VNY.

Runway—a defined, rectangular, paved surface on an airport designed for the landing or takeoff of aircraft.

Taxiway—a paved surface designed for the movement of aircraft from one part of an airport to another, including to and from the runways.

The movement area at VNY includes all areas on the runway side of the service road and is shown in the diagram to the right as the area within the boundary of the red line.



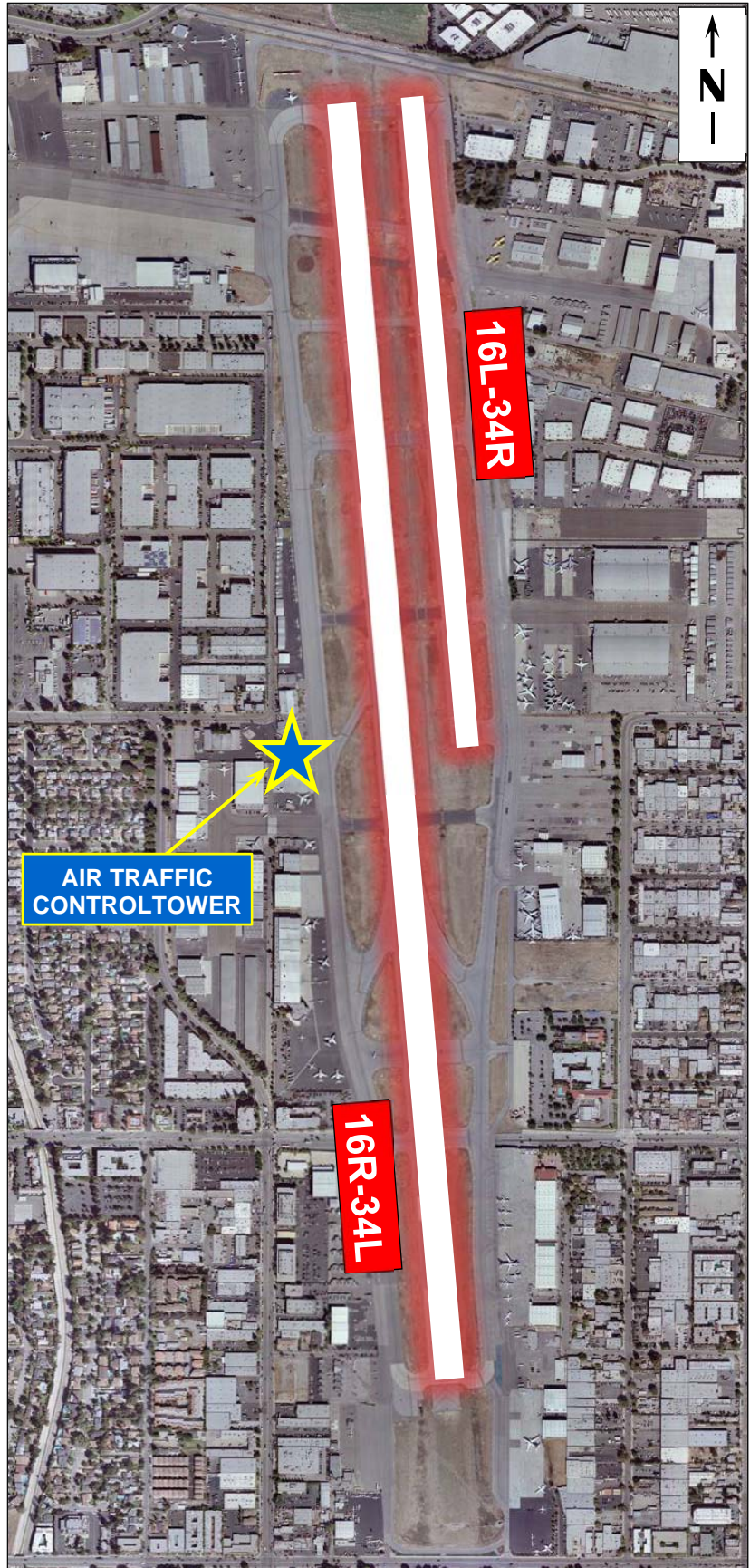
Airfield Familiarization

Van Nuys Airport Runway Layout

VNY has two parallel runways as shown in the diagram to the right.

The primary runway, which is the longer of the two, is designated Runway 16 Right/34 Left. This runway is used by both propeller and jet aircraft, with jet aircraft having the majority of operations.

The utility runway, or short runway, is designated Runway 16 Left/ 34 Right. This runway is mostly used by smaller propeller aircraft.



Airfield Familiarization

Safety Areas

A *safety area* is the surface surrounding the runway and/or taxiway which is prepared to be suitable for the occasional passage of an aircraft without undue risk of damage to the aircraft. Ground vehicles are prohibited from entering the safety area.

At VNY the safety areas are the dirt and grass infield areas between the runways and taxiways as depicted in the diagram to the right.

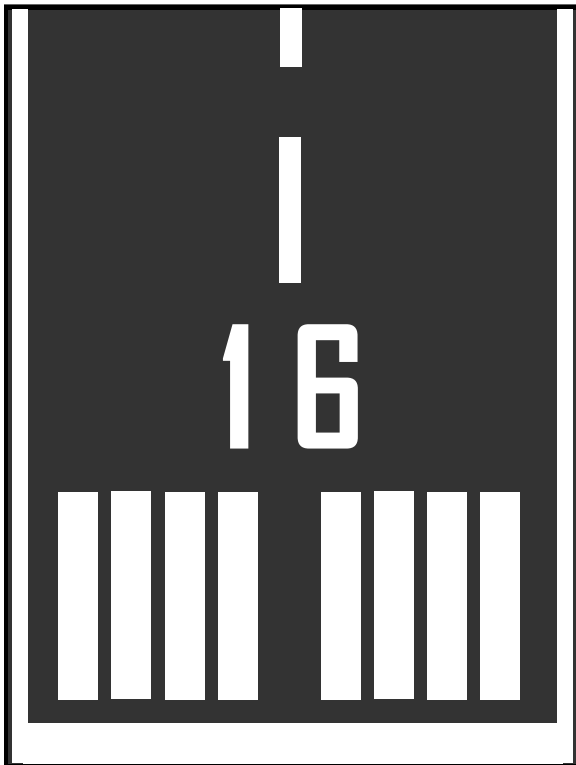


Airfield Familiarization

Runway Surface Markings

Surface painting markings that denote a runway are **white**.

Runway surface markings include **centerline stripes**, **edge-lines**, **threshold markings** and **runway designation markings**. (See images below)



Airfield Familiarization

Runway Lighting

Runway Edge Lights are **white**.

Runway End/Threshold Lights are split lenses that are red / green.

Runway lighting at VNY consists of edge lighting only, there are no runway centerline lights. These edge lights exist in two different forms as pictured below.



Elevated Runway Edge Light Fixture



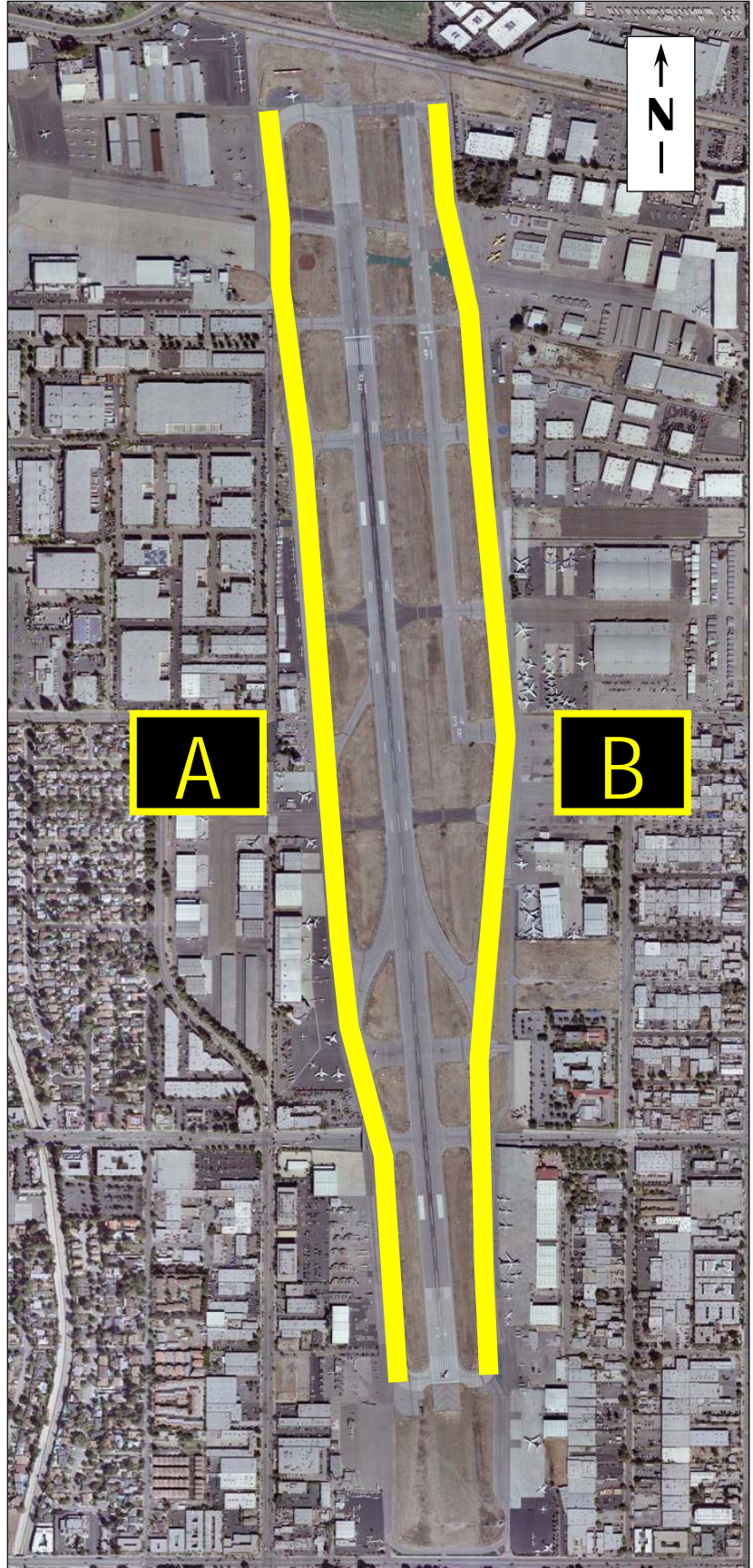
Flush-mounted Runway Light Fixture

Airfield Familiarization

Taxiways

VNY has two main taxiways which are north-south oriented and run parallel to the runway. These taxiways are designated Alpha (A) and Bravo (B).

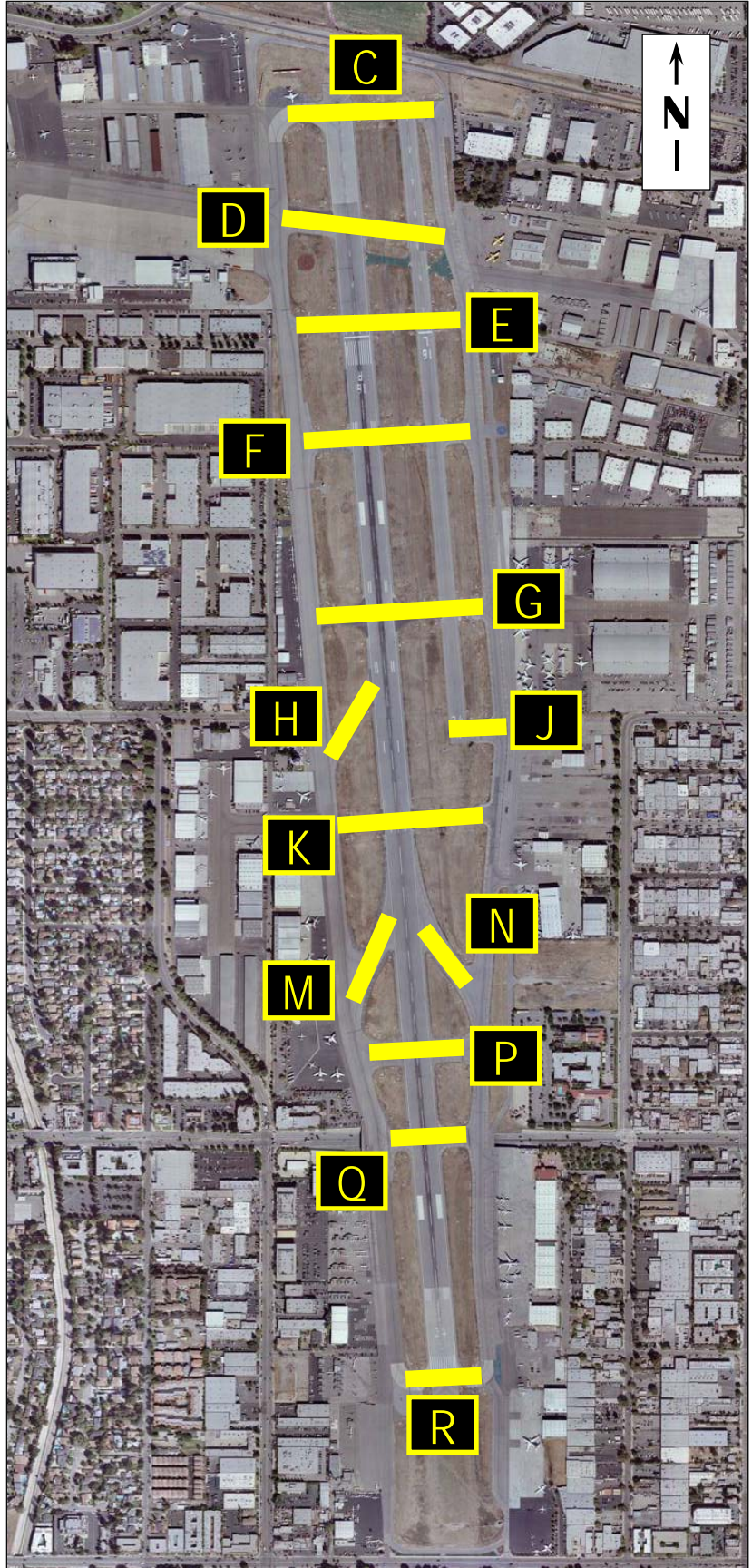
Taxiway Alpha is located on the west side of the runways. Taxiway Bravo is located on the east side of the runways.



Airfield Familiarization

Connector Taxiways (Tie-ins)

The taxiways that cross the runways are known as **connector taxiways** or “tie-ins”. They are used by aircraft to taxi on, off, or across the runways. The image to the right shows the designations and locations of the connector taxiways found at VNY.



Airfield Familiarization

Taxiway Surface Markings

Taxiway surface markings are **yellow**. Markings include the **single solid yellow centerline**, the **double solid yellow edge line** (may be broken double yellow), and **taxiway shoulder markings**.

Green or unpainted areas beyond the **solid** double yellow edge lines may not be full-strength pavement and are not intended for aircraft use.



Taxiway Centerline—a solid yellow line used to denote the center of the taxiway and provide alignment and guidance for aircraft.



Taxiway Edge Line—a solid double yellow line defines the edge of the full-strength pavement.

Taxiway Shoulder Markings—wide stripes extending from the edge line at a right angle which denote areas of pavement not intended for aircraft use.

DO NOT CROSS A SOLID DOUBLE EDGE LINE



Dashed Taxiway Edge Line—a dashed double yellow line indicating operators **may** cross the line as there is full strength pavement on both sides of the line. Usually found where a taxiway is directly adjacent to ramp/apron area.

Airfield Familiarization

Runway Holding Position Markings

At the intersection where a taxiway meets a runway, markings called **Runway Holding Position Markings** (hold lines or hold bars) are located across each taxiway that leads directly onto a runway. These markings are made up of **two solid and two dashed yellow**



lines and denote a runway holding position. These markings are always co-located with a Mandatory Instruction Sign (mandatory sign). When approaching this marking from the solid side, an operator may NOT cross without first obtaining clearance from the air traffic control tower. When approaching this marking from the broken side of the line, the aircraft/vehicle MUST cross the solid lines to be clear of the runway.

NOTE: AT VAN NUYS AIRPORT, DRIVING A VEHICLE OR TOWING AN AIRCRAFT ACROSS THE RUNWAYS IS NOT ALLOWED UNLESS YOU ARE BEING ESCORTED BY AIRPORT OPERATIONS.



Airfield Familiarization

Taxiway Lighting

Taxiways have **blue** edge lights and **green** centerline lights.



Taxiway Edge Light (elevated)



Taxiway Edge Light (in-pavement)



In-pavement Runway Guard Lights



Taxiway Centerline Lights

On the high-speed exit taxiways *Mike* and *November* the Runway Holding Positions are augmented with **runway guard lights**. The runway guard lights are **amber** in color and flush mounted into the pavement surface so they are visible from the taxiway side of the runway holding position marking.

Ramp/Apron Area Markings and Lighting

Ramp/Apron areas are maintained by individual tenants. Surface markings and lighting on ramp/apron areas are the responsibility of the tenant and should be similar to that of a taxiway.

Airfield Familiarization

Airfield Signage

Airfield signs are visual aids designed to guide operations on the movement areas. The colors and inscriptions of the signs are significant to the meaning of the information the sign conveys.



Mandatory Instruction Signs have a red background with white inscriptions. These signs denote the entrance to a runway (or other critical area). Mandatory instruction signs are often co-located with location signs.



Location Signs have a black background with yellow inscriptions and a yellow border. Location signs identify the taxiway an operator is currently on. Location signs are often co-located with other types of signs.



Direction Signs have a yellow background with black inscriptions and always include arrows. Direction Signs indicate the name and direction of the taxiway(s) an operator is approaching. Direction signs are often co-located with location signs.

Airfield Familiarization



Information Signs have a yellow background with black inscriptions. Information Signs provide various types of general advisory information.

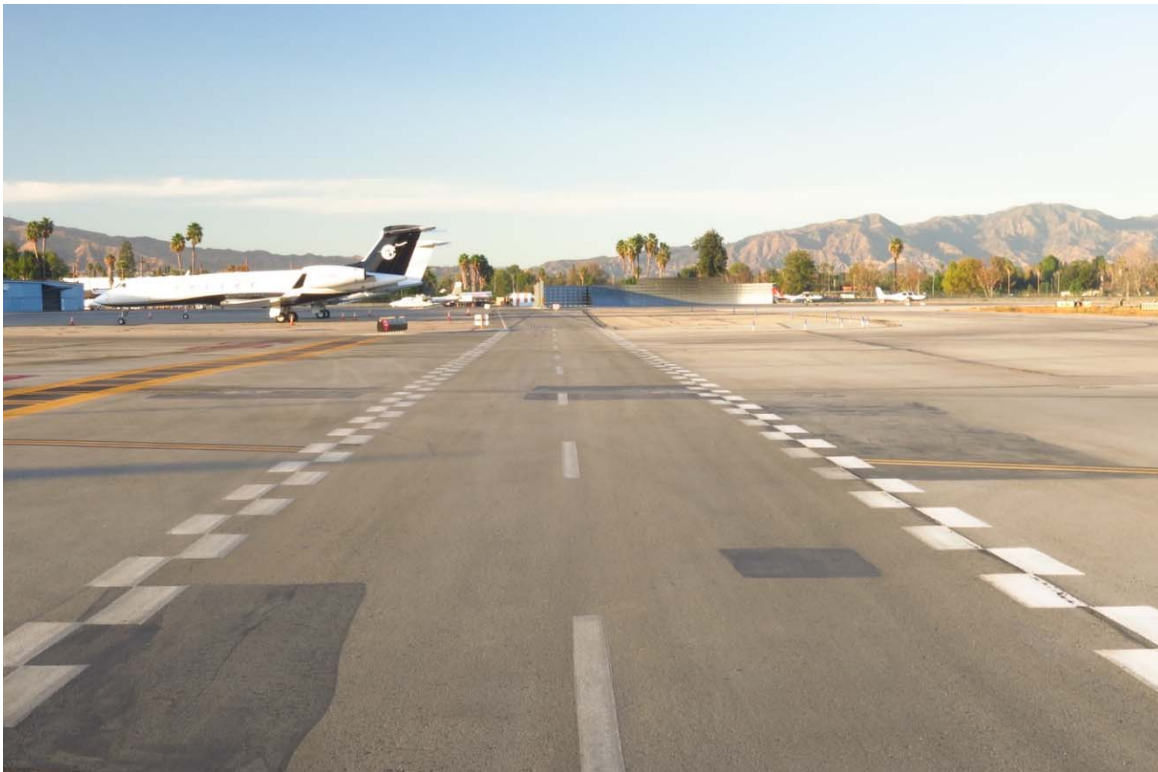


Runway Distance Remaining Signs have a black background with white inscriptions. Runway Distance Remaining Signs provide distance remaining information to pilots during takeoff and landing operations. The number on the sign provides the remaining runway length in 1,000-foot increments.

Airfield Familiarization

Airport Service Road Markings

At Van Nuys Airport the Vehicle Service Road is delineated with white, zipper style edge stripes in certain areas. The zipper style edge stripes are used to indicate that vehicles may encounter aircraft crossing the service road in that area, such as a designated aircraft ramp access point off the taxiway, or, in the absence of an aircraft access point, the portion of the Service Road that is within the FAA defined Taxiway Object Free Area (OFA) where aircraft and vehicle clearance distance is less than the standard 93 feet. In these areas of less than standard clearance, vehicles must give right of way to oncoming aircraft by either maintaining a safe distance ahead or behind the aircraft or by exiting the OFA to let the aircraft pass.



Vehicle Service Road “Zipper Style” Edges Stripes

Guidelines for Vehicle Operations on the Airfield

Vehicle Operator Requirements

1. Prior to taking the written exam, *new driver applicants* must complete four (4) hours of employer provided airfield driver training.
2. All applicants must pass the written exam with a grade of at least 90 percent. Applicants who do not pass the written exam may retake the exam in five (5) days. If the applicant does not pass the written exam on the second attempt, the applicant must wait one month before re-taking the exam. A third attempt for a written exam can be administered in sixty (60) days and then every six (6) months.
3. No vehicle shall be operated on the airside unless—
 - a. The driver has a valid Driver license in their personal possession.
 - b. The driver properly displays an approved, airport-issued ID card with the Authorized Driver designation (*if applicable*).
4. No person operating or driving a vehicle on any aircraft ramp shall exceed a speed greater than 5 miles per hour. Factors including, but not limited to, weather and visibility shall be taken into consideration when determining safe operating speed.
5. No person operating or driving a vehicle on the portion of the service road behind the Blast Fence shall exceed a speed greater than 10 miles per hour. Factors including, but not limited to, weather and visibility shall be taken into consideration when determining safe operating speed.
6. No person operating or driving a vehicle on the service road shall exceed a speed greater than 20 miles per hour. Factors including, but not limited to, weather and visibility shall be taken into consideration when determining safe operating speed.
7. No vehicle shall pass another ground vehicle in a designated vehicle roadway.
8. Moving aircraft and passengers enplaning or deplaning aircraft shall have the right-of-way at all times over vehicular traffic. Vehicle drivers must yield the right-of-way.
9. No vehicle operator shall enter the airside unless authorized by VNY Airport Operations or unless the vehicle is properly escorted.

Guidelines for Vehicle Operations on the Airfield

- 10.** No person shall operate any motor vehicle that is in such physical or mechanical condition as to endanger persons or property or that the VNY Airport Operations or Airport Police considers an endangerment.
- 11.** No person shall—
 - a.** Operate any vehicle that is overloaded or carrying more passengers than for which the vehicle was designed.
 - b.** Ride on the running board or stand up in the body of a moving vehicle.
 - c.** Ride with arms or legs protruding from the body of a vehicle except when the vehicle was designed for such use.
- 12.** A vehicle guide person is required whenever the vision of the vehicle operator is restricted.
- 13.** No fuel truck shall be brought into, stored, or parked within 50 feet of a building. Fuel trucks must not be parked within 10 feet from other vehicles.
- 14.** No person shall park a vehicle in an aircraft parking area, safety area, or grass area or in a manner that obstructs or interferes with operations in the aircraft movement area or apron area.
- 15.** No person shall park, or leave unattended, vehicles or other equipment that interfere with the use of a facility by others or prevent movement or passage of aircraft, emergency vehicles, or other motor vehicles or equipment.
- 16.** No person shall park a vehicle or equipment within 15 feet of a fire hydrant or in a manner that prohibits a vehicle from accessing the fire hydrant.
- 17.** No person shall operate a vehicle or other equipment within the airside under the influence of alcohol or any drug that impairs, or may impair, the operator's abilities.
- 18.** Each vehicle operator using an airport perimeter (security) gate shall ensure the gate closes behind the vehicle prior to leaving the vicinity of the gate. The vehicle operator shall also ensure no unauthorized vehicles or persons gain access to the airside while the gate is open.
- 19.** Vehicle operators shall not operate vehicles in a reckless or careless manner. A reckless or careless manner is one that intentionally or through negligence threatens the life or safety of any person or threatens damage or destruction to property.

Guidelines for Vehicle Operations on the Airfield

20. Vehicles shall not enter the movement area unless the operator of the vehicle has received required training and authorization from the VNY Airport Operations to operate on the movement area. Whenever possible, all airport vehicles shall utilize the airport perimeter and service roads to transition between areas on the airport.
21. Each vehicle operator is responsible for the activities of each vehicle passenger on the airside of the airport.

Vehicle Regulations

1. No vehicle shall be operated on the airside unless it has valid California vehicle registration and license plates or is a qualified aircraft service vehicle that is not normally operated on public streets.
2. All vehicles operated on the airside must have vehicle liability insurance, as required by Los Angeles World Airports.
3. Tenant vehicles operated on the service road must display a LAWA MVOP decal sticker (aircraft tugs are exempt)
4. All vehicles operated on airport must be clearly identified with a company logo that is at least 18 inches in diameter, or company name utilizing letters measuring no less than 3 inches in height, on both sides of the vehicle. Painted logos or magnetic placards are acceptable.
5. Carts or pieces of equipment being towed or carried after darkness must have side and rear reflectors or rear lights.
6. No vehicle shall be permitted on the airside unless—
 - a. It is in sound mechanical condition with unobstructed forward and side vision from the driver's seat.
 - b. It has operable headlamps and brake lights.

Driving

Operating within the ramp areas requires the vehicle driver to exercise extreme caution as aircraft are always moving, aircraft passengers may be walking from an aircraft to the gate, and noise levels are high.

Guidelines for Vehicle Operations on the Airfield

Vehicle drivers should—

- Never drive between safety cones or across delineated passenger walkways.
- Watch cockpit blind spots—pilots typically cannot see behind or below the aircraft.
- Avoid jet blast or prop wash, which can blow debris or overturn vehicles.
- Be aware and avoid moving propellers that can cause damage, injury, or death.
- Be aware of other vehicle movements—you may not hear them approaching due to aircraft engine noise.
- Yield to aircraft, passengers, and emergency vehicles, which ALWAYS have the right-of-way on any portion of the airport.

When traveling on the apron, always use designated vehicle service roads. Driving close to buildings, around vehicles, or aircraft is prohibited. This policy helps to establish a predictable order to vehicle movements in congested areas and helps to ensure their visibility to aircraft and other vehicles.

Aircraft Engine Hazards

Parked aircraft may still have their engines running, so be aware of the hazards of jet blast or prop wash, which may overturn vehicles. Before an aircraft engine is started, the aircraft's red flashing beacon must be on. In some instances, propellers and engine spinners are marked to indicate when the engine is operating. A pilot's ability to maneuver quickly on the ground is limited. Propellers and jet engines can cause significant damage and injury to personnel. In addition, cockpit visibility prohibits the pilot from seeing under the nose or behind the aircraft and limits the pilot's ability to avoid ground vehicles.

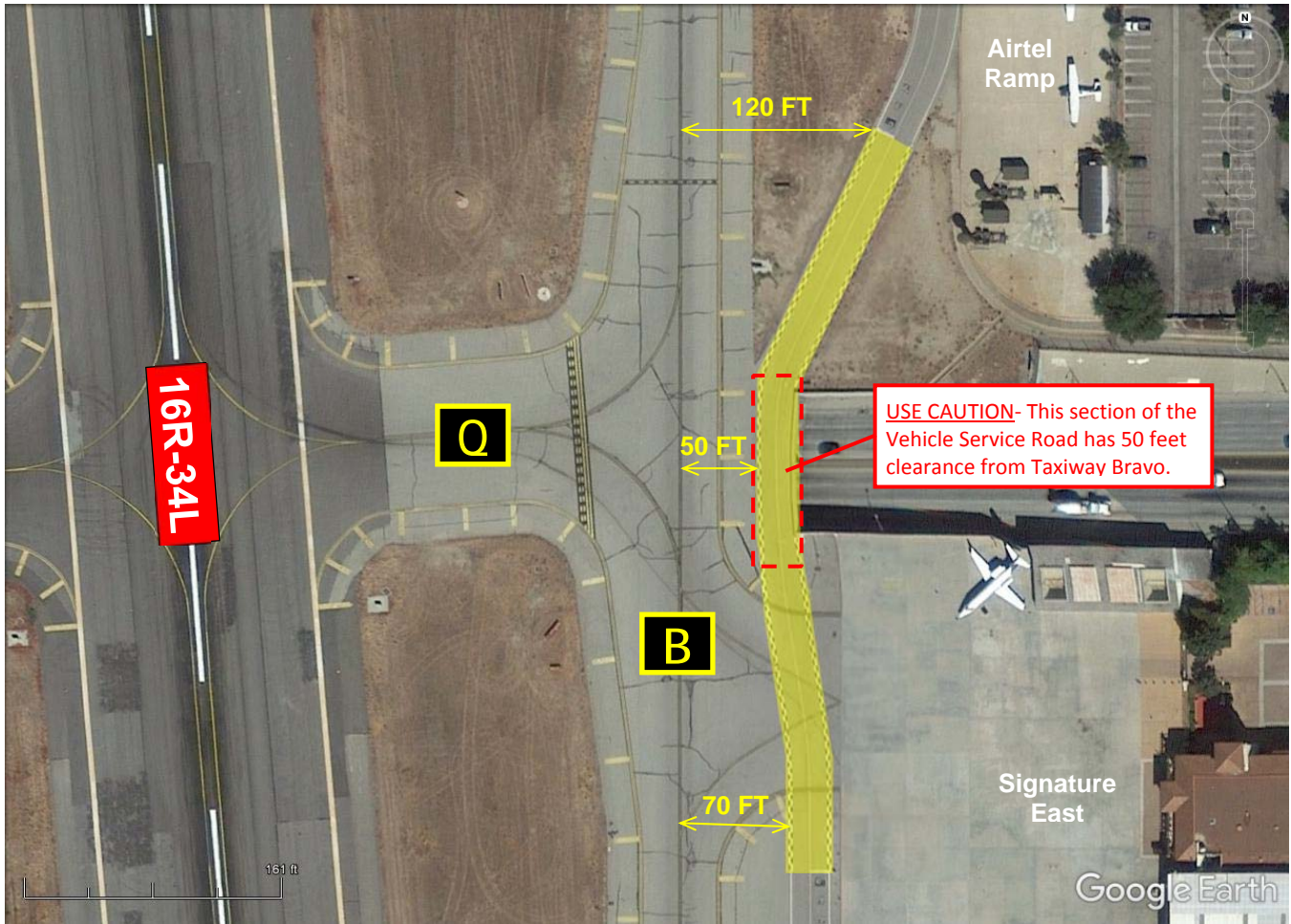
Nighttime and Poor Weather Driving Conditions

Poor weather conditions (snow, fog, rain, etc.) might obscure visual cues, roadway markings, and airport signs. Vehicle operators should remain vigilant of their surroundings and operating boundaries. Watch out for other vehicles and aircraft operating in the vicinity under low-visibility conditions. There are additional risks present under these conditions.

Guidelines for Vehicle Operations on the Airfield

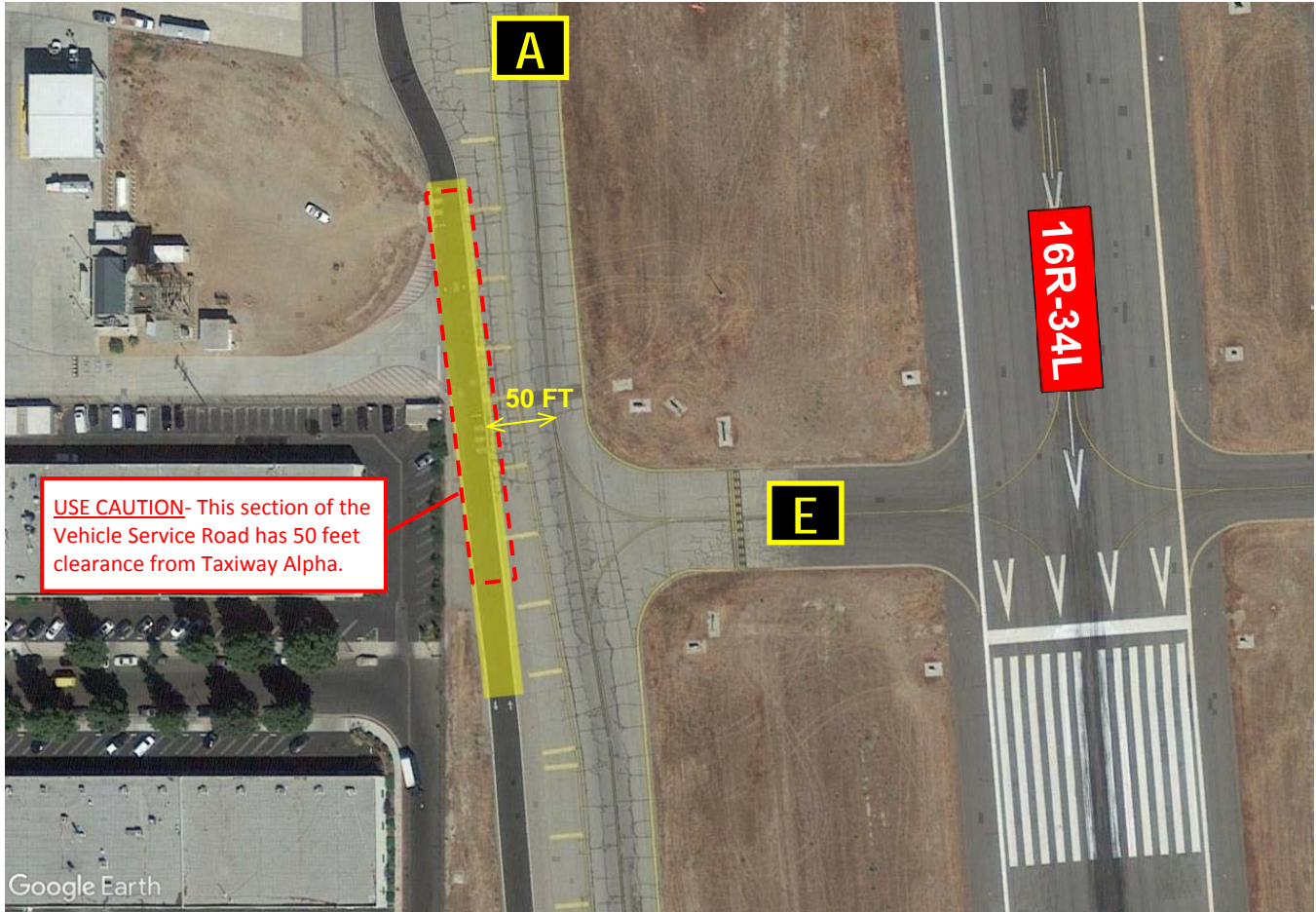
Aircraft Separation Requirements on the Service Roads

Most of the Service Roads at Van Nuys Airport are located within the FAA defined Taxiway Object Free Area (OFA). Standard clearance between aircraft and vehicles is 93 feet. The clearance at VNY between aircraft and vehicles is typically 70 feet and in some areas, 50 feet. All drivers operating on the Service Roads must use extreme caution, primarily while aircraft with wingspans of 79 feet or larger (roughly the size of a Gulfstream G-IV) are operating on the adjacent taxiways to ensure adequate separation exists between aircraft and vehicles.



Service Road to Taxiway Centerline Separation

Guidelines for Vehicle Operations on the Airfield



Service Road to Taxiway Centerline Separation

Guidelines for Vehicle Operations on the Airfield

Vehicular Accidents

Operators of vehicles involved in an accident on the airport that results in injury to a person or damage to an aircraft, airport property, or another vehicle shall—

- 1.** Immediately stop and remain at the scene of the accident in a safe location until released by Airport Operations.
- 2.** Render reasonable assistance, if capable, to any person injured in the accident.
- 3.** Report the accident immediately to VNY Airport Operations at (818)-442-6506.
- 4.** Provide and surrender the following to any responding Airport Operations or Airport Police personnel: name and address, airport MVOP driver permit, state driver's license, and any information such personnel need to complete a motor vehicle accident report.
- 5.** Vehicles involved in an accident that also involves an aircraft in any way shall not be moved from the scene of the accident until approved by VNY Airport Operations
- 6.** Vehicles involved in an accident that does not involve an aircraft in any way shall not be moved from the scene of the accident until approved by VNY Airport Police.