

TRUCKEE TAHOE AIRPORT DISTRICT

GROUND VEHICLE OPERATIONS TRAINING MANUAL

Purpose: Those with vehicular access to operate on the airside of the airport must have an appropriate level of knowledge of airport rules and regulations. This program is designed to provide vehicle operators with the level of training necessary for their positions or needs, so they are capable of operating safely on the airside of the airfield.

Applicability: There are four Sections in this training manual.

Sections 1 & 2 are mandatory for all vehicle operators on the airside of the airport.

Sections 3 & 4 are only mandatory for those who have an operational necessity to operate in the Movement area (taxiways and runways).

- Section 1: Airport Driving Rules & Regulations
- Section 2: Driving on the Non-Movement Area
- Section 3: Driving on the Movement Area
- Section 4: Communications

Access to the airfield can be found under SPI 150.0 Access Control of the Airport Operations Area (AOA)

Section 1. Airport Driving Rules and Regulations

1.1 Authority for Implementation of Rules and Regulations. The authority to adopt any policy, standard, rule, regulation or directive is delegated to the Truckee Tahoe Airport District (TTAD) by the State of California, through California PUC section 21001 et seq., otherwise known as the State Aeronautics Act and the California Code of Regulations (CCR), Title 21, Sections 3525-3560, Airports and Heliports.

1.2 Applicability. This regulation applies to all users of, and persons on any portion of, the property owned or controlled by the TTAD. No persons are exempt from airport operating training requirements for operating a vehicle on the airside of an airport. Tenant organizations shall be responsible for the dissemination of, accessibility to, and compliance with these rules and regulations by their employees.

These Rules and Regulations may be amended, changed, or modified by TTAD, as necessary.

1.3 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.

Airside – the protected side of the airport that supports aircraft activities.

Airport Operating Area (AOA) – The portion of the airport designated and used for aircraft including Movement areas, aircraft parking areas, loading ramps, aircraft hangars and safety areas in which security measures specified in Title 49 of the Code of Federal Regulations are carried out.

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.

Airport - Truckee Tahoe Airport (KTRK), owned and operated by TTAD, including all improvements and equipment existing or to be developed.

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

Common Traffic Advisory Frequency (CTAF) - radio frequency designed for the purpose of carrying out airport advisory practices while operating to or from an airport without an operating ATCT or when the tower is closed.

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 actual debris found on runways, taxiways, and aprons.

General Aviation (GA) - that portion of civil aviation that encompasses all facets of aviation except air carriers holding a certificate of public convenience and necessity.

Ground Transportation Company (GTC) – Any taxi, limo, courtesy van, airport, hotel or H.O.A shuttle, rental car, ride share company.

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

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 separation with an aircraft taking off, intending to take off, landing, or intending to land.

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

Law Enforcement Officer (LEO) - any person vested with police power of arrest under Federal, state, county, or city authority and identifiable by uniform, badge, and other indication of authority.

Light Gun - a hand-held, directional light-signaling device that emits a bright narrow beam of white, green, or red light, as selected by the tower controller. The color and type of light transmitted can be used to approve or disapprove anticipated pilot or vehicle actions where radio communication is not available. The light gun is used for controlling traffic operating in the vicinity of the airport and on the airport Movement area.

Mobile Fueller - a vehicle owned and/or operated by authorized agents to pump and dispense Jet A and 100 LL fuel at (AIRPORT). This may include fuel tankers, in-to-plane fueling pumpers, and hydrant carts.

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. Clearance is required prior to entering the Movement area.

Non-Movement Areas - taxiways, ramps, 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.

Restricted Areas - areas of the airport posted to prohibit or limit entry or access by the general public. All areas other than public areas.

Runway - a defined rectangular area on a land airport prepared for the landing and takeoff run of aircraft along its length.

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.

Runway Safety Area (RSA) - a defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway.

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

Tie Down/Transient Area - an area used for securing aircraft to the ground, typically those aircraft that do not have a hangar.

Uncontrolled Airport - an airport without an operating airport traffic control tower or when airport traffic control tower is not operating.

UNICOM - a non-Federal communication facility that may provide airport information at certain airports. Locations and frequencies of UNICOMs are shown on aeronautical charts and publications.

Vehicle Service Road - a designated roadway for vehicles in a Non-Movement area.

1.4 Severability. If any section, subsection, subdivision, paragraph, sentence, clause, or phrase of these Rules and Regulations or any part thereof is for any reason held to be unconstitutional, invalid, or ineffective by any court of competent jurisdiction or other competent agency, such decision will not affect the validity or effectiveness of the remaining portions of these Rules and Regulations.

1.5 Violation of Rules - Penalties and Suspension of Driving Privileges. Any person who does not comply with any of the provisions of these Rules and Regulations, or any lawful order issued pursuant thereto, will be subject to progressive penalties for repeat violations. These penalties may include denied use of the Airport by TTAD in addition to the penalties described pursuant to Federal, state, or local authorities.

Penalties for failure to comply with the Airside Vehicular Traffic Regulations shall consist of warnings, suspension of airside driving privileges, and/or revocation of airside driving privileges.

Based on an evaluation of the circumstances or the severity of a particular incident or incidents, the TTAD reserves the exclusive right to assess any penalty it deems appropriate at any time to any individual authorized to operate a vehicle on the airside without regard to prior operating history.

The TTAD may require any individual involved in a runway incursion or other vehicle incident to complete remedial airfield driver training.

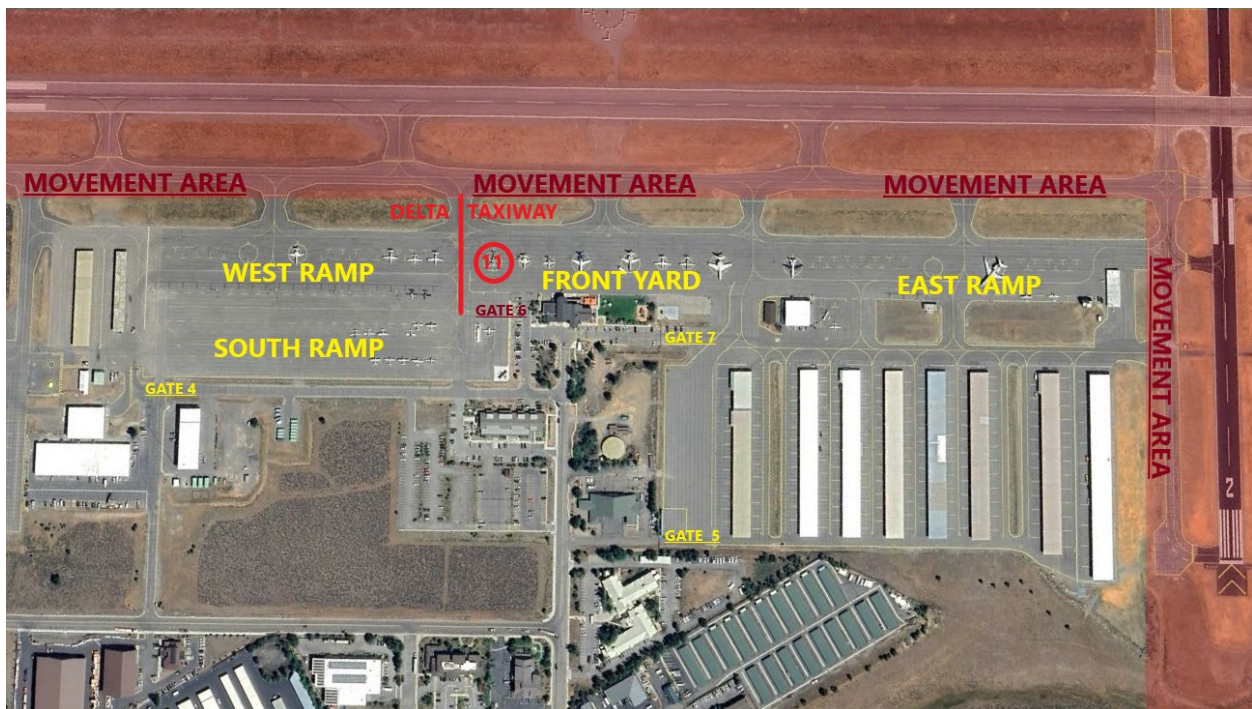
1.7 Driver Regulations on the Airside of an Airport.

1.7.1. Vehicle Operator Requirements.

1. 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.
2. No vehicle shall be operated on the airside unless—
 - a. The driver is authorized to operate the class of vehicle by an appropriate state-licensing agency or by the driver's employer through a company training/certification program.
 - b. The driver possesses an approved, airport-issued vehicle access card.
3. Airport access cards are non-transferable.
4. Refer to SPI 150.0 Access Control of the Airport Operating Area (AOA)
 - a. No vehicle operator shall enter the airside unless authorized by TTAD or unless the vehicle is properly escorted.
 - b. Every vehicle operator shall ensure the security 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. Report tailgating to a TTAD employee.
 - c. Gate 4 shall be used to access aircraft parked in the West/South Ramp or Hangar Rows J-P. Use extreme vigilance in the hangar row area. You will

- be driving near the Air Ambulance helicopter pad and on an active hangar ramp with aircraft taxiing.
- d. Gate 5 shall be used to access Hangar Rows A-H. Enter and exit your hangar row using the road south of the hangar rows. Avoid driving on Taxiway R (Romeo). If necessary to do so, use extreme vigilance for taxiing aircraft.
 - e. Gate 7 shall be used for aircraft parked in the Main or East Ramp.
 - i. GTC vehicles may park in the designated waiting area located on the east side of the playground.
5. All applicants must satisfactorily complete the applicable driver's training before receiving an airside vehicle access card.
 6. All applicants who are required to take a written test must pass with a grade of at least 80 percent. Applicants who do not pass the written test may retake the test after additional study and a 24-hour period.
 7. Applicants for Movement Area driving privileges additionally shall be required to successfully complete an airside practical driving test by a designated safety representative of TTAD.
 8. No person operating or driving a vehicle on any aircraft ramp shall exceed a speed greater than 15 miles per hour. Factors including, but not limited to, weather and visibility shall be taken into consideration when determining safe operating speed.
 9. Do not drive closer than 25 feet from any wing or tail section of a parked or staged aircraft.
 10. 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.
 11. 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.
 12. Except for TTAD employees, Vehicles shall not drive past the Delta Taxiway line which extends into the self-serve fuel island; immediately west of Circle 11. Chandelle Road shall be used to transit between the east and west sides of the airport.
 13. Vehicle operators shall not park vehicles on the airside in front of the terminal building or grass area.
 14. Vehicles shall park in designated parking lots or as directed by TTAD employees.
 15. Vehicle operators are responsible for the activities of their vehicle passenger on the airside of the airport.
 16. There is NO Smoking on the airside of the airport. This includes inside vehicles that are on any ramp or hangar row area.
 17. 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.
18. A vehicle guide person is required whenever the vision of the vehicle operator is restricted.
19. No person shall park a vehicle in an aircraft parking area, ramp, or safety area in a manner that obstructs or interferes with airport or aircraft operations.
20. 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.
21. 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.



1.7.2. Vehicle Regulations.

1. All vehicles shall meet the State of California licensing and registration requirements. Vehicle Operators must have a valid Operator's license and evidence of insurance as required by State of California law.
2. All vehicles operated on the airside must have vehicle liability insurance, as required by the TTAD.
3. No person shall operate any motor vehicle that is in such physical or mechanical condition as to endanger persons or property or that the TTAD considers an endangerment.
4. No vehicle shall be permitted on the airside unless—

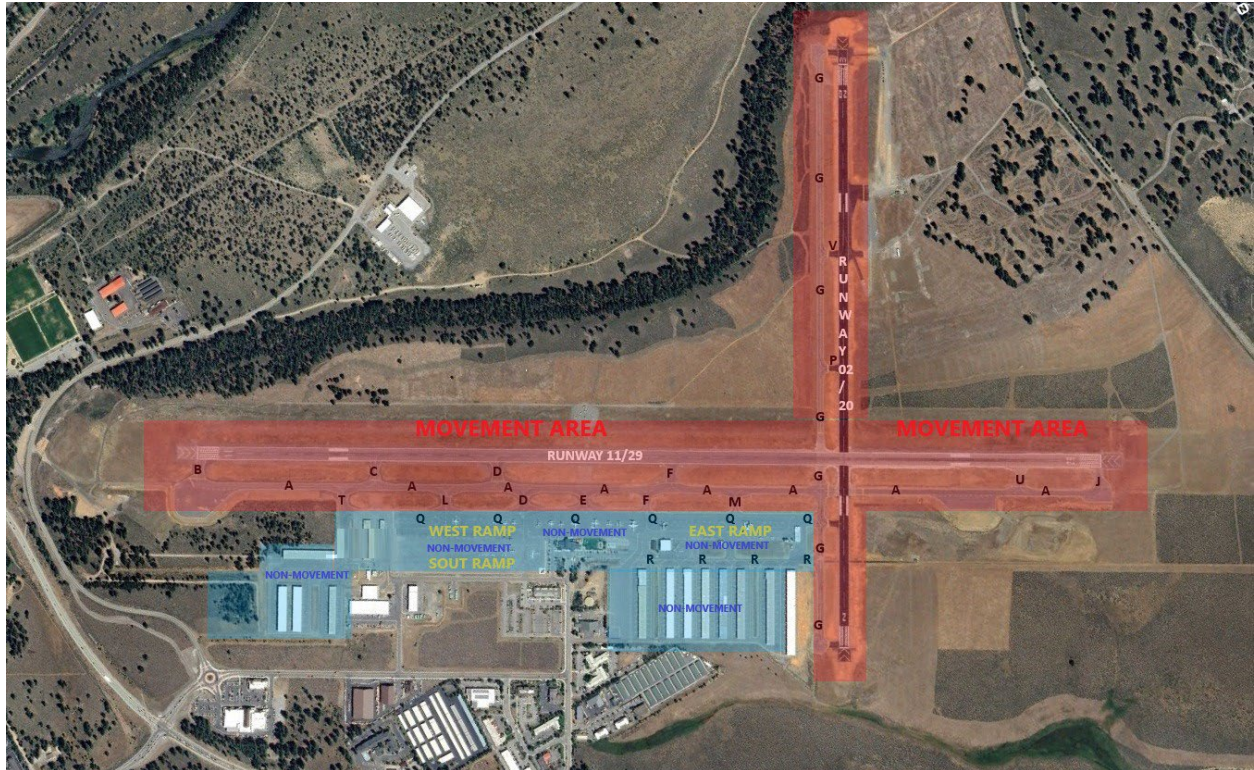
- a. It is in sound mechanical condition with unobstructed forward and side vision from the driver's seat.
 - b. It has operable headlamps and brake lights.
 - c. It is free of FOD
- 5. Vehicles operating on the Movement Area shall be equipped with a two-way radio for communications with ACTC/CTAF and an operating amber rotating beacon or equivalent.
- 6. All aircraft refueling vehicles and any other vehicle 8-foot or more in width shall be equipped with a flashing amber beacon and flashing front, tail, and clearance lights that are activated at all times when operating on the airside.

1.7.3. Vehicular Accidents.

- 1. 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—
 - a. Immediately stop and remain at the scene of the accident.
 - b. Render reasonable assistance, if capable, to any person injured in the accident.
 - c. Report the accident immediately to the Law Enforcement and the TTAD.
 - d. The Driver must remain on scene until Law Enforcement Officer and/or Truckee Fire Protection District takes a full report.
- 2. Provide and surrender the following to any responding TTAD personnel: name and address, airport identification card, state driver's license, and any information such personnel need to complete a motor vehicle accident report.

Section 2. Driving on the Non-Movement Areas

2.1. Non-Movement areas include ramps, hangar rows, taxiways Quebec, Romeo and Tango and other areas not under control of the ATCT. Anyone authorized to operate a motorized vehicle on the airside may do so on the Non-Movement areas without being in positive radio contact with the ATCT.



2.2. 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.

Vehicle drivers should—

1. Yield to aircraft, passengers, airport vehicles, and emergency vehicles, which ALWAYS have the right-of-way on any portion of the airport.
2. Watch cockpit blind spots—pilots typically cannot see behind or below the aircraft.
3. Avoid jet blast or prop wash, which can blow debris or overturn vehicles.
4. Be aware and avoid moving propellers that can cause damage, injury, or death.
5. Be aware of other vehicle movements—you may not hear them approaching due to aircraft engine noise.

6. When traveling on the front ramp, always drive slowly and close to the terminal building and park area. Be very aware of passengers walking to and from the building and aircraft movements.
7. Do not drive around or behind an aircraft's wing to load baggage.
8. Do not drive on Taxiway Q (Quebec).
9. Do not drop off passengers at an aircraft that is being fueled.
10. Parked aircraft may still have their engines running, so maintain situational awareness. Before an aircraft engine is started, the aircraft's red flashing beacons must be turned on.
11. Do not approach an aircraft until it is stopped, chocked, and the red flashing beacons lights are off.
12. A pilot's ability to maneuver quickly on the ground is limited.
13. 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.
14. 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 snow removal equipment and aircraft operating in the vicinity under low-visibility conditions. There are additional risks present under these conditions.

Section 3. Driving on the Movement Areas

3.1. Drivers who are authorized to drive on the Movement area require more training and vigilance since there are dangers associated with this area that are not present on Non-Movement areas. In addition to the principals for driving on the Non-Movement area, drivers who have access to the Movement area must be cognizant of the meaning of airfield signs, markings, and lighting configurations. Furthermore, they must be able to communicate with air traffic control tower (ATCT) and be able to follow ATC directions.

3.2. ATCT Control. Movement areas are defined as the runways, taxiways, and other areas of the airport that are used for taxiing, hover taxiing, air taxiing, and takeoff and landing of aircraft, exclusive of ramps and aircraft parking areas. Movement areas are considered “positive control,” meaning that all vehicle operators will need permission from ATC before entering the area.

3.3. Vehicles shall not enter the Movement area or cross runways unless the operator of the vehicle has received required training and authorization from the Truckee Tahoe Airport 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.

3.4 Vehicles entering the Movement area shall-

1. Be equipped with a two-way radio to communication with ATCT or on CTAF,
2. Have clearance from ATC to enter the Movement area,
3. Be equipped with an approved and fully operational amber (or red for Emergency Vehicles only) rotating flashing beacon on the roof or uppermost point of the vehicle providing a 360-degree view.

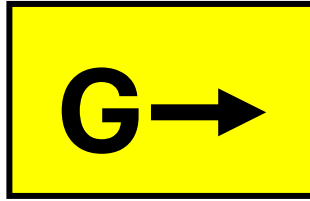
If any of the above are absent, the vehicle must be escorted by an appropriately equipped Truckee Tahoe Airport District vehicle under control of a trained employee and the escorted vehicle shall remain under the control of the escort vehicle at all times.

For construction vehicles, see Vehicles Rules and Regulation in the Primary Management Compliance Documents (PMCD).

3.5. Taxiways.

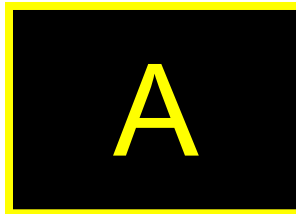
1. **Designations.** Aircraft use taxiways to move to and from the ramp and the runways. Taxiways are designated by letters such as A, B, or G.
2. **Lighting.** Taxiways are lighted with **blue** edge lighting and/or reflectors.
3. **Signs.** The signs used on taxiways are direction, destination, location, and taxiway ending marker signs.

Direction and Designation Signs have **black lettering** and a **directional arrow** on a **yellow background**. The arrow indicates the direction to that taxiway, runway, or destination.



Taxiway Directional Sign

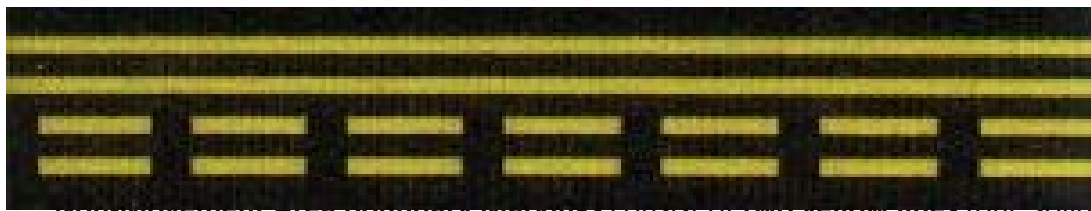
Location Signs have **yellow lettering** on a **black background**. The location sign below indicates that the operator of the vehicle/equipment is located on the Alpha taxiway.



Taxiway Location Sign

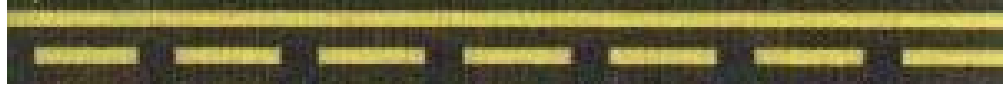
4. **Markings.** Pavement markings on taxiways are always **yellow**. The taxiway centerline is painted on all taxiways. On the edges of some taxiways, there is a solid, double yellow line or double-dashed line. If pavements are usable on both sides of the line, the lines will be dashed; if not, the lines will be solid.

Runway Holding Position Markings are located across each taxiway that leads directly onto a runway. These markings are made up of **two solid lines** and **two broken yellow lines** and denote runway holding position markings. These markings are always co-located with a Runway Holding Position Sign. A vehicle operator must not cross from the solid-line side of the marking without first obtaining clearance.



Non-Movement Area Boundary Markings consist of **two yellow lines** (one solid and one dashed). The solid line is located on the Non-Movement area side, while the dashed yellow line is located on the Movement area side. A vehicle operator

is not to cross from the solid-line side without first contacting the ATCT and obtaining a clearance to operate on the Movement area.



Non-Movement Area Boundary Marking

3.4. Runways (11/29 and 2/20).

1. **Designations.** Runways are areas where aircraft land and take off. Runways are always designated by a number such as 11 or 29, indicating the compass heading of the runway. An aircraft taking off on runway 11 is headed 110 degrees.

2. **Lighting.** Runways are lighted with a variety of colored lights.

Runway Edge-lights are **white**. If the runway has an instrument approach, the last 2,000 feet of the runway will be yellow in color.

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

3. Signs.

Mandatory Holding Position Signs for Runways have **white numbering/lettering** on a **red background with a white border**. These are located at each entrance to a runway and at the edge of the runway safety area/obstacle-free zone and are co-located with runway holding position markings. **Do not proceed beyond these signs until clearance is given by the ATCT to enter onto the runway.**



Runway Hold Sign

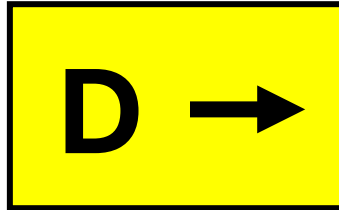
Runway Distance Remaining Signs provide distance remaining information to pilots during takeoff and landing operations. They have **white numbering** on a



black background. The number on the sign provides the remaining runway length in 1,000-foot increments.

Runway Distance Remaining Signs

Runway Exit Sign is a destination sign located prior to the runway/taxiway intersection on the side and in the direction of the runway where the aircraft is expected to exit. This sign has **black lettering** and a **directional arrow** on a **yellow background**.



Runway Exit Sign

4. Markings.

Pavement markings on a runway are white. Runway Threshold Markings and Runway Threshold Bars, Runway Aiming Point Markings, Runway Designation Markings, Runway Touchdown Zone Markings, Runway Centerline Markings, Runway Side Stripes, and Displaced Threshold Markings are white. The only nonwhite lines on a runway are yellow lead-in/-off lines that extend from the runway centerline and holdlines for a specific operation known as land and hold short.

Section 4. Communications

4.1. Any vehicle driving on the **Movement areas (runways and taxiways)** must be in contact with the ATCT or capable of monitoring and transmitting on CTAF. Vehicle operators must always monitor the appropriate radio frequency when in the Movement areas on controlled airports. Permission must be requested and clearance given prior to driving on a Movement area.

A vehicle that is equipped with a radio may escort vehicles without radios.

When a Movement area is closed for construction, vehicles may traverse that area without ATCT contact but must be escorted if their travels require them to cross an active Movement area.

4.2. The ATCT controller may use separate or common radio frequency to control all ground traffic, vehicle and aircraft, on the Movement areas. The frequency is only to be used to get clearance onto and off the Movement areas. When the ATCT is closed, the CTAF should be used to announce a driver's intentions when operating within the Movement area.

4.3. Phraseology. Vehicle operators must contact the ATCT ground controller each and every time they proceed onto or leave the Movement area. When proceeding onto a Movement area, vehicle operators must tell the controller three things: **WHO you are, WHERE you are, and WHAT your intentions are.**

Vehicle operators must always acknowledge all communication so ground control and other persons know that the message was received. **Vehicle operators must always give aircraft and ground control transmissions priority unless an emergency exists.** Very high frequency frequencies are for the primary use of aircraft and ATCT personnel. Some typical transmissions are as follows:

- Driver: Truckee ground, Ops 1 at Foxtrot. Request permission to Runway 11 Runup
- ATC: Ops 1, Truckee ground, proceed via Alpha taxiway to the 11 Run up.
- Driver: Ops 1, left on alpha to the 11 Runup.

- Driver: Truckee ground, Ops 3 at Bravo. Request clearance on runway 11 for a full-length inspection."
- ATC: Ops 3, Hold short of runway 11.
- Driver: Ops 3 holding short of runway 11.
- ATC: Ops 3, proceed onto runway 11, cross runway 20, report clear.
- Driver: Ops 3 cleared onto runway 11, will report clear.
- Driver: Ground, Ops 3 is clear of runway 11.
-

Reply transmissions from ATC may have additional requirements-

- ATC: Ops 3 expedite, landing aircraft on a 10-mile final for runway 11.
- Driver: Ops 3 will expedite.

NOTE: If you are unsure what the controller has said, or if you don't understand an instruction, you should ask the controller to repeat it. Good communications only occur when each party knows and understands what the other is saying.

4.4. Common Use Phrases.

What Is Said:	What It Means:
Acknowledge	Let me know you have received and understand this message.
Advise Intentions	Let me know what you plan to do.
Affirmative	Yes.
Correction	An error has been made in the transmission, and the correct version follows.
Go Ahead	Proceed with your message only.
Hold/Hold Short	Phrase used during ground operations to keep a vehicle or aircraft within a specified area or at a specified point while awaiting further clearance from air traffic control.
How do you hear?	Question relating to the quality of the transmission or to determine how well the transmission is being received.
Immediately or without delay	Phrase used by ATC when such action compliance is required to avoid an imminent situation.
Negative	"No" or "permission not granted" or "that is not correct."
Out	The radio conversation is ended, and no response is expected.
Over	My radio transmission is ended, and I expect a response.
Read Back	Repeat my message to me.
Roger	I have received all of your last transmission.

Stand By	Means the controller or pilot must pause for a few seconds, usually to attend to other duties of a higher priority. Also means to wait as in "stand by for clearance." The caller should reestablish contact if a delay is lengthy.
Unable	Indicates inability to comply with a specific instruction, request, or clearance.
Verify	Request confirmation of information.
Wilco	I have received your message, understand it, and will comply with it.

4.5. Phonetic Aviation Alphabet. Because some letters have similar sounds, like B and P, the international aviation industry uses the following words to reduce confusion. For example; Taxiway B would be referred to as Taxiway Bravo on the radio.

A	ALFA	N	NOVEMBER
B	BRAVO	O	OSCAR
C	CHARLIE	P	PAPA
D	DELTA	Q	QUEBEC
E	ECHO	R	ROMEO
F	FOX-TROT	S	SIERRA
G	GOLF	T	TANGO
H	HOTEL	U	UNIFORM
I	INDIA	V	VICTOR
J	JULIET	W	WHISKEY
K	KILO	X	X-RAY
L	LIMA	Y	YANKEE
M	MIKE	Z	ZULU

4.6. ATCT Light Gun Signals. Air traffic controllers have a backup system for communicating with aircraft or ground vehicles if their radios stop working. The controller has a light gun in the tower that can send out different colored lights to tell the pilot or driver what to do. If a vehicle operator experiences a radio failure on a runway or taxiway, the operator should vacate the runway as quickly and safely as possible and contact the ATCT by other means, such as a cellular telephone, and advise the ATCT of the situation. If this is not practical, then the driver, after vacating the runway, should turn the vehicle toward the tower and start flashing the vehicle headlights and wait for the controller to signal with the light gun.

Light gun signals, and their meaning, are as follows:

Steady Green	OK to cross runway or taxiway.
Steady Red	STOP!
Flashing Red	Move off the runway or taxiway.
Flashing White	Go back to where you started.
Alternating Red and Green	Use extreme caution.

4.7. Safety.

The FAA defines **Runway Incursion** as “Any occurrence at an airport involving the incorrect presence of an aircraft, vehicle, person, on the protected area of a surface designated for the landing and takeoff of aircraft.”

Runway incursions are primarily caused by error in one or more of the following areas:

- Pilot/ground vehicle/controller communications
- Airport familiarity
- Loss of situational awareness

The FAA defines a **Surface Incident** as “An unauthorized or unapproved movement within the designated Movement area (excluding runway incursions) or an occurrence in that same area associated with the operation of an aircraft that affects or could affect the safety of flight.



