

# **DRIVER TRAINING MANUAL**

## **Movement Area**



## **MidAmerica St. Louis Airport**

**05 June 2024**

## Table of Contents

<b>INTRODUCTION.....</b>	<b>4</b>
<b>1. Applicability .....</b>	<b>5</b>
<b>2. Definitions .....</b>	<b>5</b>
<b>3. Severability .....</b>	<b>8</b>
<b>4. Violation of Rules .....</b>	<b>8</b>
<b>5. Driver Privileges Training and Testing Requirements .....</b>	<b>8</b>
<b>5.1. Training Requirements .....</b>	<b>8</b>
<b>5.2. Testing Requirements .....</b>	<b>8</b>
<b>5.3. Initial Testing Procedure .....</b>	<b>9</b>
<b>5.4. Annual Testing Procedure .....</b>	<b>9</b>
<b>6. Driver Privileges Regulations.....</b>	<b>10</b>
<b>6.1. Vehicle Operator Requirements .....</b>	<b>10</b>
<b>6.2. Vehicle Regulations.....</b>	<b>12</b>
<b>6.3. Vehicular Accidents.....</b>	<b>13</b>
<b>7. Non-Movement Areas.....</b>	<b>13</b>
<b>7.1. Perimeter Roads .....</b>	<b>13</b>
<b>7.2. Some Taxiways .....</b>	<b>13</b>
<b>7.3. Aprons .....</b>	<b>13</b>
<b>8. Driving .....</b>	<b>13</b>
<b>9. Nighttime and Poor Weather Driving Conditions.....</b>	<b>14</b>
<b>10. Driving on the Movement Areas.....</b>	<b>14</b>
<b>11. ATCT Control Movement Areas.....</b>	<b>14</b>
<b>11.1. Movement Area/Safety Area Access Points .....</b>	<b>15</b>
<b>12. Authorized Vehicles .....</b>	<b>15</b>
<b>13. Taxiways .....</b>	<b>15</b>
<b>13.1. Designations .....</b>	<b>15</b>
<b>13.2. Lighting.....</b>	<b>15</b>
<b>13.3. Signs .....</b>	<b>15</b>
<b>13.4. Markings .....</b>	<b>16</b>
<b>14. Runway.....</b>	<b>17</b>

- 14.1. Designations ..... 17
- 14.2. Lighting..... 17
- 14.3. Signs ..... 17
- 14.4. Markings ..... 18
- 15. Communications ..... 18
- 16. Radio Frequency ..... 18
- 17. Phraseology..... 18
- 18. Common Use Phrases ..... 19
- 19. Phonetic Aviation Alphabet..... 20
- 20. ATCT Light Gun Signals ..... 21
- 21. Safety..... 22
  - 21.1. Runway Incursions ..... 22
  - 21.2. Hot Spots ..... 22
  - 21.3. Right-of-Way..... 22
- Appendix A ..... 23
- References ..... 24

## INTRODUCTION

**Authority for Implementation of Rules and Regulations.** The MidAmerica St. Louis Airport (BLV) operates under the authority of Public Building Commission of St. Clair County, Illinois.

### Objectives

- To understand BLV's Movement Area driving privileges
- To become familiar with BLV's Air Operations Area (AOA)
- To promote safety and increase situational awareness
- To define airport terminology

### Contact Info

- Airport Operations Center (Public Safety) 618-566-5227
- Airport Operations Specialist 618-566-5257

The airport environment is unique and poses many challenges for vehicle operators. Operating a vehicle safely and efficiently on the aircraft loading aprons, taxiways, and runways is paramount. Included in the unique challenges of operating a vehicle on the airport's aprons, taxiways and runways is learning and understanding airport pavement markings, airport signage, and communication procedures with Air Traffic Control. Procedures for driving on an airport differ drastically from operating a vehicle on public roadways.

Federal Aviation Regulation Part 139.329, Pedestrians and Ground Vehicles, requires that the Airport Operator must establish procedures for the safe and orderly access to, and operation in, Movement Areas and Safety Areas by pedestrians and ground vehicles. This Movement Area driver's training manual, the online training course, and the practical training sessions are designed to provide vehicle operators the knowledge and experience of operating a vehicle safely and efficiently on the Movement Areas and Safety Areas of MidAmerica St. Louis Airport.

Ground vehicle operations on MidAmerica St. Louis Airport shall be conducted in accordance with this Training Manual, FAR Part 139, Airport Rules and Regulations, and any other federal, state, or local regulations. Participants are encouraged to use this Training Manual as a study guide for the testing process, and after training is completed, this manual should be kept for future review.

1. **Applicability.** This regulation applies to all users of, and persons on any portion of, the property controlled by BLV. No persons are exempt from airport operating training requirements for operating a vehicle on the airside of an airport. Employers operating at the airport are responsible for the dissemination, training, and compliance with these rules and regulations by their employees.

These rules and regulations may be amended, changed, or modified by BLV as necessary. The current version of these rules and regulations may be found at [flymidamerica.com](http://flymidamerica.com) under the business tab on the ID Badging page.

2. **Definitions.** The following terms are defined as indicated in this section for the purpose of this Driver Training Manual.
  - 2.1. **Accident**—a collision between one aircraft or vehicle and another aircraft, vehicle, person, or object that results in property damage, personal injury, or death.
  - 2.2. **Air Operations Area (AOA)**—Any area of the airport used or intended to be used for the landing, takeoff, or surface maneuvering of aircraft. An Air Operations Area includes such paved or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runways, taxiways, or aprons.
  - 2.3. **Airport Traffic Control Tower (ATCT)**—operated by the Federal Aviation Administration and manned by Scott AFB personnel to promote the safe, orderly, and expeditious flow of air traffic.
  - 2.4. **Aircraft**—a device that is used or intended to be used for flight in the air.
  - 2.5. **Airport**—MidAmerica St. Louis Airport Facility, including all improvements and equipment existing or to be developed.
  - 2.6. **Apron**—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. Also known as a ramp.
  - 2.7. **Fixed-Based Operator (FBO)**—a person, firm, or organization engaged in a business that provides a range of basic services. 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.
  - 2.8. **Foreign Object Debris (FOD)**— Any object, substance or material that may be considered a potential hazard to stationary or moving aircraft, and other equipment or persons. FOD may be of any size and may include but is not limited to mud, rocks, gravel, tools, or equipment.
  - 2.9. **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.

- 2.10. Ground Vehicle**—all conveyances, and aircraft not operated for the purpose of flight, used on the ground to reposition or test aircraft, transport persons, cargo, fuel, or equipment.
- 2.11. ILS Critical Area**—an area provided to protect the signals of the localizer and glideslope.
- 2.12. Jet Blast**—jet engine exhaust or propeller wash (thrust stream turbulence).
- 2.13. 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.
- 2.14. 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.
- 2.15. Mobile Fueler**—a vehicle owned and/or operated by authorized agents to pump and dispense Jet A and 100 LL fuel. This may include fuel tankers, in-to-plane fueling pumpers, and hydrant carts.
- 2.16. Movement Area**—the runways, taxiways, and other areas of an airport that aircraft use for taxiing, takeoff, and landing, exclusive of loading aprons and aircraft parking areas.
- 2.17. Non-Movement Area**—the area, other than that described as the Movement Area, used for the loading, unloading, parking, and movement of aircraft on the airside of the airport (including apron areas).
- 2.18. Operator**—any person who is in actual physical control of an aircraft or a motor vehicle.
- 2.19. Protected Area**—the protected area of a surface intended for landing or takeoff includes the area inside the runway hold position markings (e.g., hold line) on paved taxiways or bridges and the designated Runway Safety Area.
- 2.20. Restricted Areas**—areas of the airport posted to prohibit or limit entry or access by the general public. All areas other than public areas.
- 2.21. Runway**—An area designated for the sole and specific purpose of landing or takeoff of aircraft.
- 2.22. Runway Incursion**—any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and take-off of aircraft.
- 2.23. 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.

- 2.24. Runway Safety Area**—a defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes (typically 250 feet off the runway centerline and 1,000 feet off each end or as required) in the event of an excursion, overshoot, or undershoot from the runway.
- 2.25. Surface Incident**—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.
- 2.26. Taxiways**—those parts of the airside designated for the surface maneuvering of aircraft to and from the runways and aircraft parking areas. Taxiways can be part of the Movement Area or Non-Movement Area.
- 2.27. Terminal Apron**—an apron for air carriers, military and government operated aircraft. Only authorized personnel and vehicles may operate on this apron. Private vehicles and aircraft are prohibited from operating on it.
- 2.28. Tie Down Area**—an area used for securing aircraft to the ground.
- 2.29. Vehicle or Pedestrian Deviation (V/PD)**—any entry or movement on the airport Movement area or Safety Area by a vehicle operator or pedestrian that has not been authorized by air traffic control (includes surface incidents involving aircraft operated by non-pilots, such as mechanics).
- 2.30. Vehicle Service Road**—a designated roadway for vehicles in a Non-Movement Area.
- 2.31. Wake Turbulence**—phenomenon resulting from the passage of an aircraft through the atmosphere. The term includes vortices, thrust stream turbulence, jet blast, jet wash, propeller wash, and rotor wash both on the ground and in the air.

- 3. 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.
- 4. Violation of Rules— Penalties and Suspension of Driving Privileges.** Any person who does not comply with any of the provisions of this Driver Training Manual, Airport Rules and Regulations Ordinance, or any lawful order issued pursuant thereto, will be subject to progressive penalties for repeat violations. These penalties may include being denied use of the Airport in addition to the penalties described pursuant to Federal, state, or local authorities.
  - 4.1.** Based on an evaluation of the circumstances or the severity of a particular incident or incidents, the Airport 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.

## **5. Driver Privileges Training and Testing Requirements**

### **5.1. Training Requirements**

- 5.1.1.** The Movement Area Driver Training aims to ensure all individuals accessing the Movement Area are adequately trained and can perform the duties of a vehicle driver in a competent manner.
- 5.1.2.** Upon application for Movement Area driver privileges, or upon annual recertification, the Airport will provide the applicant with the Movement Area Driver Training Manual and a link for web-based Movement Area driver training. Upon completion of the web-based training, an applicant will be required to complete a computer-based examination.

### **5.2. Testing Requirements**

- 5.2.1.** All persons who operate or escort vehicles in the movement portions of the airport must present a valid state issued driver's license at the time of the practical portion of testing, and pass a Color Vision Test.
- 5.2.2.** All persons who operate or escort vehicles in the movement portions of the airport must successfully complete the airport's testing requirements listed in this section and have their airport ID badge properly endorsed.
- 5.2.3.** Successful completion of testing requirements is defined as passing the movement drivers test with a grade of ninety percent (90%) or greater. Should an applicant not receive a passing score on the first attempt they may elect to retake the test up to two more times. Upon a third unsuccessful attempt, the applicant may retest after additional study and a

one (1) day period.

- 5.2.4.** All persons who operate or escort vehicles in the movement portions of the airport must successfully complete initial testing, as well as, successful completion of **annual** testing.
- 5.2.5.** Annual testing requirements are calculated as twelve (12) consecutive calendar months.
- 5.2.6.** Any person who does not successfully complete annual testing will have their driving privileges and badge access suspended until which time successful testing has occurred.
- 5.2.7.** Employers and employees bear the responsibility to ensure they have complied with the annual testing requirements.

### **5.3. Initial Testing Procedure**

- 5.3.1.** Initial testing for Movement Area driving privileges consists of two parts: a computer-based test and a practical ride along. In order to exercise unescorted Movement Area privileges, all drivers must pass both tests.
- 5.3.2.** Prior to exercising unescorted Movement area privileges all drivers must successfully complete a Movement Area driving practical test (“ride along”). The practical is completed with Airport Operations. Appointments are scheduled on the Airport website at [www.flymidamerica.com](http://www.flymidamerica.com).
- 5.3.3.** The practical test takes anywhere from 30-60 minutes depending on how well the employee demonstrates airfield knowledge.
- 5.3.4.** Movement Area driving practical tests may only be conducted after successful completion of the computer-based Movement Area initial test.
- 5.3.5.** Employers and employees are responsible for ensuring completion of the driving practical test

### **5.4. Annual Testing Procedure**

- 5.4.1.** Annual testing is conducted online.
- 5.4.2.** Employers and employees are responsible for tracking when annual testing is due.
- 5.4.3.** Testing does not replace the requirement of the employer to ensure training of all persons who operate or escort vehicles in the Movement Area.

## 6. Driver Privileges Regulations

### 6.1. Vehicle Operator Requirements.

**6.1.1.** No vehicle may be operated on the airside unless—

- 6.1.1.1.** 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.
- 6.1.1.2.** The driver properly displays an approved, airport-issued ID badge with the Authorized Driver designation.
- 6.1.1.3.** No person operating or driving a vehicle may exceed the following speeds: Airport Service Road – 25 miles per hour; any aircraft apron – 15 miles per hour (5 miles per hour within 25 feet of an aircraft). Factors including, but not limited to, type of vehicle, weather, and visibility must be taken into consideration when determining safe operating speed.
- 6.1.1.4.** No vehicle may pass another ground vehicle in a designated vehicle roadway unless, the roadway is marked as a passing area. Anyone passing another vehicle must do so in a safe manner.
- 6.1.1.5.** No vehicle may pass between an aircraft and passenger terminal or passenger lane when the aircraft is parked at a gate position except those vehicles servicing the aircraft. All other vehicles must drive to the rear and maintain a safe distance from the aircraft.
- 6.1.1.6.** Moving aircraft and passengers enplaning or deplaning aircraft have the right-of-way at all times over vehicular traffic. Vehicle drivers must yield the right-of-way.
- 6.1.1.7.** No vehicle operator may enter the airside unless authorized by the Airport or unless the vehicle is properly escorted. The vehicle must meet requirements in Section 6.2 – Vehicle Regulations.
- 6.1.1.8.** No person may operate any motor vehicle that is in such physical or mechanical condition as to endanger persons or property or that the Airport considers an endangerment.
- 6.1.1.9.** No person may—
  - Operate any vehicle that is overloaded or carrying more passengers than for which the vehicle was designed.

- Ride on the running board or stand up in the body of a moving vehicle.
  - Ride with arms or legs protruding from the body of a vehicle except when the vehicle was designed for such use.
- 6.1.1.10.** A vehicle guide person is required whenever the vision of the vehicle operator is restricted.
- 6.1.1.11.** No fuel truck may be brought into, stored, or parked within 50 feet of a building. Fuel trucks must not be parked within 10 feet from other vehicles.
- 6.1.1.12.** Container carriers and tugs may tow no more carts, pods, or containers than are practical, under control, tracking properly, and safe.
- 6.1.1.13.** When not serving aircraft or undertaking their intended functions, apron vehicles and equipment must be parked in approved areas in such a manner as to not block or restrict the operation or movement of other vehicles and equipment.
- 6.1.1.14.** Vehicle operators must not operate or park vehicles under any passenger loading bridge. Except on a designated marking.
- 6.1.1.15.** No person may park a vehicle in an aircraft parking area, safety area, or in a manner that obstructs or interferes with operations in the aircraft Movement Area or apron area.
- 6.1.1.16.** No person may 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.
- 6.1.1.17.** No person may park a vehicle or equipment in a manner that prohibits an emergency vehicle from accessing any fire hydrant.
- 6.1.1.18.** No person may 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.
- 6.1.1.19.** Each vehicle operator using an airport perimeter (security) gate must ensure the gate closes behind the vehicle prior to leaving the vicinity of the gate. The vehicle operator must also ensure no unauthorized vehicles or persons gain access to the airside while the gate is open.

- 6.1.1.20.** Vehicle operators must 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.
- 6.1.1.21.** Vehicles must not enter the Movement Area or cross runways unless the operator of the vehicle has received required training and authorization from the Airport to operate on the Movement Area. All airport vehicles must utilize the airport perimeter and service roads to transition between areas on the airport. In emergency situations, please contact Airport Operations for a Movement Area escort.
- 6.1.1.22.** Each vehicle operator is responsible for the activities of each vehicle passenger on the airside of the airport.
- 6.1.1.23.** When operating a vehicle at night avoid directing the vehicle's headlights at aircraft, specifically the cockpit.

## **6.2. Vehicle Regulations.**

- 6.2.1.** No vehicle may be operated on the airside unless it has proper registration with the State or is a qualified off-road vehicle that is not normally operated on public streets but has received the approval of the Airport.
- 6.2.2.** All vehicles operated on the airside must have vehicle liability insurance, as required by the Airport.
- 6.2.3.** The Airport must approve tenant vehicles operated on the Movement and Non-Movement Areas. These vehicles must display an airport-approved company logo, and must utilize a flashing yellow beacon in the Movement Area and a steady yellow beacon in the Non-Movement Area mounted on the uppermost part of the vehicle.
- 6.2.4.** Carts or pieces of equipment being towed or carried after darkness must have side and rear reflectors or rear lights.
- 6.2.5.** No vehicle may be permitted on the airside unless—
  - It is in sound mechanical condition with unobstructed forward and side vision from the driver's seat.
  - It has the appropriately rated and inspected fire extinguishers (service vehicles and fuel trucks).
  - It has operable headlamps and brake lights.

**6.3. 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 a vehicle must—

**6.3.1.** Immediately stop and remain in a safe place at the scene of the accident.

**6.3.2.** Render reasonable assistance, if capable, to any person injured in the accident.

**6.3.3.** Report the accident immediately to the Airport's Public Safety Department before leaving the scene.

**6.3.4.** Provide and surrender the following to any responding Airport personnel: name and address, SIDA badge, state driver's license, and any information such personnel need to complete a motor vehicle accident report.

**7. Non-Movement Areas.** Includes aprons, some taxiways, 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. These areas include—

- Perimeter/Service Roads
- Terminal Apron
- Cargo Apron
- Golf Apron
- Portions of Taxiways G, K3, K4 and L

**7.1. Perimeter Roads** (Reserved for future use)

**7.2. Some Taxiways** (See Appendix A)

**7.3. Aprons** (See Appendix A)

**8. Driving.** Operating within the apron 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.

**8.1.** The Non-Movement Area Boundary Line separates the Non-Movement Area (not controlled by the ATCT) and the Movement Area (controlled by the ATCT). The solid line is located on the Non-Movement side while the dashed line is located on the Movement side. Vehicle operators may **ONLY** cross the Non-Movement Area Boundary Line when permission is granted by the ATCT, operators meet Movement Area testing requirements, and privileges are current.



**Non-Movement Area Boundary Line**

## 8.2. Vehicle drivers must—

- 8.2.1. Always follow the speed limit of 15 mph on all aprons
- 8.2.2. Never drive between safety cones or across delineated passenger walkways.
- 8.2.3. Watch cockpit blind spots—pilots typically cannot see behind or below the aircraft.
- 8.2.4. Avoid jet blast or prop wash, which can blow debris or overturn vehicles.
- 8.2.5. Be aware and avoid moving propellers that can cause damage, injury, or death.
- 8.2.6. Be aware of other vehicle movements—you may not hear them approaching due to aircraft engine noise.
- 8.2.7. Yield to aircraft, passengers, and emergency vehicles, which **ALWAYS** have the right-of-way on the Air Operations Area of the Airport.

8.3. 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 beacons 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.

**9. Nighttime and Poor Weather Driving Conditions.** Poor weather conditions (snow, fog, rain, etc.) might obscure visual cues, roadway markings, airport signs, and the ability of the ATCT to see you. Vehicle operators must remain vigilant of their surroundings and operating boundaries. Watch out for snow removal equipment and aircraft operating in the vicinity under low-visibility conditions.

**10. Driving on the Movement Areas** Drivers who are authorized to operate 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 that have access to the Movement Area must be cognizant of the meaning of airfield signs, markings, and lighting configurations. Also, they must be able to communicate with the Air Traffic Control Tower (ATCT) and be able to follow ATCT directions.

**11. 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 loading aprons and aircraft parking areas. Movement Areas are considered "positive control," meaning that all vehicle or aircraft operators will need permission from the ATCT before entering the area.

**11.1. Movement Area/Safety Area Access Points.** There are 9 access points:

- Taxiways G, K3, K4 and L
- ARFF Access Road
- North Localizer Road
- South Localizer Road
- North Glideslope Road
- South Glideslope Road

**12. Authorized Vehicles** Only those vehicles necessary for airport operations may enter a Movement Area. Therefore, fuel trucks, ground maintenance vehicles, tugs, catering trucks, and other nonessential vehicles are not permitted to enter these areas. Exceptions include BLV-authorized vehicles with appropriately trained personnel. Airport Operations must coordinate all other vehicle operations within the Movement Areas.

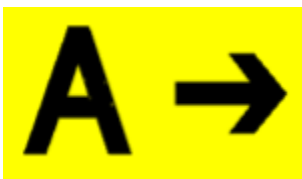
### 13. Taxiways.

**13.1. Designations.** Aircraft use taxiways to move to and from the aprons and the runways. Taxiways are designated by letters or by a letter/number combination such as G, K, or K1.

**13.2. Lighting.** Taxiways are lighted with **blue** edge lighting and/or reflectors.

**13.3. Signs.** The signs used on taxiways are direction, destination, location, and taxiway ending marker signs.

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



**Taxiway Direction Sign**

**13.3.2. 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 named taxiway or runway.



**Taxiway Location Sign**

**13.4. 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.

**13.4.1. Enhanced Taxiway Centerline Markings** provides supplemental visual cues to alert pilots of an upcoming runway holding position marking for minimizing the potential for runway incursions. To reinforce situational awareness before entering a runway, this safety enhancement is only used on those taxiways that directly enter a runway.



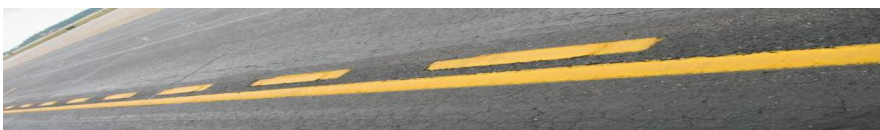
**Enhanced Taxiway Centerline Marking**

**13.4.2. 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 from ATC.



**Runway Holding Position Marking**

**13.4.3. 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**

## 14. Runway (See Appendix A)

**14.1. Designations.** Runways are areas where aircraft land and take off. Runways are always designated by a number such as 14 or 32. The number indicates the magnetic compass heading of the runway. An aircraft taking off on runway 32 is headed 320 degrees. Runway 14L/32R is 10,000 feet long and 150 feet wide.

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

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

**14.2.2. Runway Centerline Lights** are **white** except for the last 3,000 feet of the runway, where they begin to alternate **red** and **white**. For the last 1,000 feet of runway the centerline lights are all **red**.

**14.2.3. Runway Touchdown Zone Lights** are **white**.

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

### 14.3. Signs

**14.3.1. Mandatory Holding Position Signs for Runways** have **white numbering/lettering** on a **red background**. 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

**14.3.2. 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 Sign

## 14.4. Markings.

**14.4.1. 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.

**15. Communications.** Any vehicle driving on the **Movement Area (runways and taxiways) must** be in contact with the ATCT. Vehicle operators must always monitor the appropriate radio frequency when in the Movement Area 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 and a driver who is Movement Area qualified may escort vehicles without radios, these vehicles must always stay under the control of the escort.

**16. Radio Frequency.** The ATCT broadcasts on Tower Talk Group / Tower Net (MAA MCA). All non-aircraft transmissions use this channel.

**17. Phraseology.** Vehicle operators must contact the ATCT controller each time they proceed onto or leave the Movement Area. Prior to proceeding onto a Movement Area, vehicle operators must tell the controller four things: **WHO you are calling, WHO you are, WHERE you are, and WHAT your intentions are.** Vehicle operators must always acknowledge all communications with ATC phraseology, i.e., read back the clearance with their vehicle identification so the controller and other persons know that the message was received. **Vehicle operators must always give aircraft and controller transmissions priority unless specifically instructed otherwise by ATCT.** A typical transmission follows:

ATCT Communication with a contractor

- Contractor: "Scott Tower, Survey 1."
- ATCT: "Survey 1, Scott Tower."
- Contractor: "Scott Tower, Survey 1 at Taxiway Golf, would like to proceed onto Golf and Runway 14L."
- ATCT: "Survey 1, Scott Tower, proceed on Runway 14L from Taxiway Golf."
- Contractor: "Proceed on Runway 14L from Taxiway Golf, Survey 1."

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

## 18. Common Use Phrases







What Is Said:	What It Means:
Acknowledge	Let me know you have received and understand this message.
Advise/Say 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 me?	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."
Read Back/Say again	Repeat my message to me.
Roger	I have received all 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.

**19. 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. Highlighted below are Taxiway designations at MidAmerica St. Louis Airport.

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

**20. 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 must 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, must turn the vehicle toward the tower and start flashing the headlights and wait for the controller to signal with the light gun.

ATCT Light Signals, and their meaning, are as follows:

Color and Type of Signal	Movement of Vehicles, Equipment and Personnel
<b>Steady green</b> 	Cleared to cross, proceed or go
<b>Flashing green</b> 	Not applicable
<b>Steady red</b> 	Stop
<b>Flashing red</b> 	Clear the taxiway/runway
<b>Flashing white</b> 	Return to starting point on airport
<b>Alternating red and green</b> 	Exercise extreme caution!!!!

**21. Safety. The FAA defines runway incursion as any occurrence at an airport involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and takeoff of aircraft.**

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

- Pilot/Mechanic taxiing or towing an aircraft /ground vehicle/controller communication
- Airport unfamiliarity
- Loss of situational awareness and not using a current airport diagram

An example of an incursion is a vehicle at an airport with an operating ATCT straying onto a runway in front of an aircraft causing the pilot to take an action to avoid a collision.

**21.2.Hot Spots.** A location on an airport Movement Area with a history or potential risk of collision or runway incursion, and where heightened attention by pilots and drivers is necessary. (See Appendix A)

**21.3.Right-of-Way.** When driving on the airfield, vehicle operators and mechanics taxiing or towing an aircraft need to always be aware of their location and the meaning of all pavement markings, lights, and signs. When on the aprons and taxiways, stay away and steer clear of aircraft. **Aircraft always have the right-of-way.**



## References

United States. Federal Aviation Administration. Department of Transportation. Advisory Circular 150/5210-20A.

MidAmerica St. Louis Airport. Airport Regulations 2-4-7.