



SUPPORTING BURNING MAN

RADICAL LOGISTICS FOR A RADICAL EVENT

Photo: National Renewable Energy Lab

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Above: The Burning Man Festival is a small city—with an airport and other infrastructure—that appears in the middle of the Nevada desert each August to celebrate art, music, and community.

Each summer, tens of thousands of people journey to the Nevada desert by land and by air to participate in a unique event. For one week, the volume of traffic on nearby desert roads and at an otherwise sleepy airport rivals the operational volume at some of the largest highways and commercial airports in the country. A modern-day Brigadoon—the mythical Scottish town that magically appears and disappears once every 100 years—the event is known as the Burning Man Festival in Nevada.

What Is Burning Man?

Perhaps its questionable reputation precedes this article. The event’s website provides some insight, starting with a “Welcome Home” message presented in multiple languages (1). Burning Man is an art festival, a music venue, a community, and is located in the desert—but what is it, really?

Burning Man is an experimental art community event held annually in late August and early September on the Black

Rock Desert playa in Nevada. A group of friends held the first event in 1986 on a beach outside San Francisco, California, intending it as a means of expressing youthful angst by burning a wooden effigy, the “Man,” as a symbol of release—physical, mental, emotional, and spiritual. Attendees spontaneously sang, danced, and told stories.

Today, Burning Man is based on principles that support a community organized on the idea that all art activities, transportation, food, clothing, and shelter are provided by the individual participants. Within the greater community of Burning Man are thousands of individuals who pool resources and assemble at themed camps or in groups sharing common interests or modes of expression.

Burning Man brings people together from all over the world to challenge their traditional realities through art, entertainment, and other activities. The event has grown to include 80,000 annual participants, or “Burners,” on the Black Rock Desert playa (see Figure 1, page 18) near



Photo: Rusty Blazenhoff, Flickr



Photo: Duncan Rawlinson.co

A small aircraft arrives at the Burning Man encampment.

Traffic to and from the event can cause a 10-hour drive through the playa.

the northwest Nevada town of Gerlach, population 206 (2). This area is part of the High Rock Canyon national conservation area and is managed by the Bureau of Land Management (3). Although not the most hospitable of places, it is the site of Burning Man's annually established community, Black Rock City, which brings life to the area for one week in late summer.

Far from being disorganized and haphazardly assembled, Black Rock City is formed within a pentagon-shaped boundary. Living areas are arranged in a circular layout that stretches across the 2 miles of

the city. Streets, avenues, art—everything is carefully organized for easy navigation. The incongruence of its painstaking organization with its brief existence offers many lessons—especially from the creation, management, and removal of Black Rock City Municipal Airport.

Preparing for Burning Man

Because the festival is in such a remote place, travel to and from the event is an experience in itself. Vehicle traffic on opening day and exit weekend is so heavy that car travelers can easily exceed 8 to 10 hours in line just to leave the playa—this in addition to the drive down Nevada SR-447 through Gerlach, across the Pyramid Lake area, and back to civilization. These roads were never intended to handle the volume of traffic that they now see before and after the event. Consequently, a considerable amount of planning and organization is needed to prepare for such traffic volume.

For most people, Burning Man festival is nine days in the desert, but the Burning Man organization recruits hundreds of volunteers and spends thousands of hours over the entire year reviewing feedback and adjusting the design of Black Rock City for the next year's event. Paved highways lead to the entrance of the playa, but although the asphalt ends there, the drive does not. Ten surveyed lanes, marked with traffic cones and flag tape, stretch across 5 miles of playa dust, funneling the cars, buses, recreational vehicles, and cargo vehicles to the front gate entrance. Volun-

teers begin installing these lanes and other needed infrastructure as early as June, after the seasonal flood waters on the playa subside. Many work weekends are spent planning for and moving massive amounts of equipment, supplies, building materials, heavy construction equipment, and storage or sleep containers into place.

Upon arrival at the festival, passengers in every vehicle are greeted by a gate attendant with a warm hug, a "welcome home," and the opportunity to ring a bell after making a dust angel on the ground—an introductory rite proclaiming an attendee's first participation in the event. Attendants also ensure arrivals have tickets for each occupant of the vehicle, along with sufficient provisions of food, clothing, shelter, and water. Each participant receives a guidebook with key information, from location of medical facilities to yoga session times to where to get the perfect cup of Oolong tea at 2 p.m. each day.

Black Rock City Airport

In adherence to the principles of Burning Man, Burners who are pilots historically sought to reduce their travel time by flying in and out of the event, using open space on the playa to land and store their aircraft. Over time, this mode of transportation attracted additional attendees. What started as a self-reliant travel method evolved into a regional airport that now serves the more than 4,000 Burners who use some form of air travel to get to the festival.

The airport is just one part of the transportation network that continually



FIGURE 1 Black Rock Desert Playa.



Photo: Rusty Blazenhoff, Flickr

More than 4,000 travelers arrive at Burning Man by plane.



Photo: Duncan Rawlinson.co

Airport runways, taxiway access, and ramp spaces are designed months before the event, using traffic cones, temporary fencing, or flags.

recreates itself each year. Located 1.5 miles from Black Rock City, Black Rock City Municipal Airport (assigned the international airport code K88NV) consists of more than 100 general aviation aircraft, hundreds of volunteers, three runways, four heliports, and multiple fuel farms, as well as charter operations and medical services. The airport is staffed by a team of volunteers who manage the operations and handle all related safety and medical logistics. Many of these Burners work in the aviation industry and collectively possess the skills, knowledge, and ability for the Burning Man community to operate an airport.

WORK OF THE AIRPORT TEAM

The airport team is hard at work as soon as the previous year's festival ends. The airport team meets to collect feedback, identify what did not work, and strategize on best practices. The airport staff core team shares feedback through online options—many Burning Man participants are from Silicon Valley, so technology is a ready solution—as well as biweekly staff meeting calls and quarterly face-to-face retreats. Most of the costs to participate in the festival are borne by attendees on an individual basis, and this encourages creative approaches—necessity oftentimes being the mother of invention.

During the June work weekends, professional surveyors volunteer to laser survey the runway alignments and ramp spaces, using specific measurements for length, width, and taxiway access, along with short- and long-term parking for large and small aircraft of all types. All of these

areas are clearly marked with traffic cones, temporary fencing, or flag ribbons. Other teams arrive in trucks bearing sheds; building materials; and storage containers filled with tools, supplies, electric generators, and disassembled structures that need to be placed, reconstructed, and powered.

Overshadowing everything the airport team must deal with before, during, and after Burning Man is the issue of rising dust from continuous impact by vehicle and aircraft tires, propellers, and rotor



Photo: Rusty Blazenhoff, Flickr

Rising dust from the desert is a constant challenge for pilots and organizers.

blades. Water trucks during the event help keep the dust down; afternoon wind and dust storms are common on the playa.

CONTROL TOWER

A temporary air traffic control tower is constructed and staffed by professional air traffic controllers and trained volunteers. Because of the concentration of aircraft arriving, departing, and transiting the area, flight procedures have been established that all pilots using the airport must use. They are required to study, be tested on, and understand the procedures before arrival.

Three separate radio frequencies for arrivals and departures, the tower, and the ground are used to track all aircraft in the area associated with Burning Man. Airport staff also must track aircraft that are not part of the event, including those using the adjacent military airspace and curious onlookers in overflying aircraft. These nonparticipants must be identified quickly and their whereabouts communicated to all Burner-related air traffic.

Burner Express

For Burners who wish to travel by air rather than by land, Burner Express is a contract charter air transportation service that transports Burners from the California cities of Burbank, San Carlos, and Oakland and from the Nevada cities of Reno and Las Vegas. Burner Express facilitates the flight bookings for passengers for an additional fee, one not included in the Burning Man ticket price. Aside from being a faster form of transportation, air travel reduces traffic on the already-congested roadways to Black Rock City.



Photo: Duncan Rawlinson.co

Temporary control towers are constructed and staffed by professional air traffic controllers and trained volunteers.



Photo: Duncan Rawlinson.co

Despite the temporary nature of the airport, passengers still go through gate security to ensure safety.

All participants understand that the complexity of this situation, if managed poorly, can result in very serious consequences.

Black Rock City Municipal Airport is included in the Federal Aviation Administration (FAA) Klamath Falls aeronautical sectional chart as a private airport. It is actively overseen by FAA's Reno and Oakland Flight Standards District Offices, as well as the Oakland Air Route Traffic Control Center, which controls the overlying airspace. Permission to land at the airport requires pilots to pass a knowledge

test online in advance. These pilots then receive an authorization code and, when landing, present this code over the arrival frequency with their intent to land.

Once cleared to continue flying in, pilots announce their position using the assigned radio frequency and follow standardized arrival procedures described during the online test. These procedures ensure adequate spacing for inbound and outbound traffic, larger and smaller aircraft, and scenic tours that may be flying around the city at any time.

RUNWAYS

Two professionally surveyed runways are used during the event—one for large aircraft and the other for small aircraft. The airport is operated under general aviation and air charter rules (no commercial airline service is provided) and can accommodate a range of operations, including scenic flights, medical flights, unmanned aerial vehicles, ultralight aircraft, parachute jumping, and overflying military aircraft. As at many airports in the United States, 24-hour ramp and gate security ensure the safety both of aircraft and of the participants.

Black Rock City Municipal Airport also has a designated area reserved for chartered flights, a ticketing and customs area, and a waiting area for those wishing to take scenic flights being offered by fellow Burners. Transportation to and from the airport is provided during the week by volunteer art car drivers. Passengers never know if they will be picked up in a vehicle resembling a land yacht or trolley car—or by a driver sporting a space alien head covered in fur. Bicycles—the primary means of transportation at Burning Man—are available free of charge, on a “use as needed” rack.

Records show that more than 3,600 arrival and departure operations occurred during the 2018 Burning Man event, even though the airport only operated during the day and in good weather conditions. Additionally, more than 5,800 passengers used the Burner Express, representing more than 7% of the total Black Rock City population for that year.



Image: FAA

The FAA Klamath Falls aeronautical sectional chart displays Black Rock City Municipal Airport as a private airport. It is situated within the Reno military operations area, or MOA, airspace.

Principles of Burning Man Festival

The following is a summarization of the 10 principles as written by the Burning Man founder Larry Harvey in 2004:

1. Radical inclusion means that all people are welcome, regardless of different backgrounds.
2. Giving reflects the intent both to give and to receive freely. Gifts can be virtually anything, from a hug of encouragement to a meal.
3. Radical self-reliance means that each Burner is responsible for their own food, clothing, shelter, medical supplies, water, sunscreen, decisions about activities, and safety.
4. Decommmodification strips away the commercialization, branding, and monetizing of everything. The only things that money buys at Burning Man are coffee and ice, which are available at Center Camp.
5. Radical self-expression encourages participants to be and express themselves as they are. Self-expression can be a challenge to new Burners, who may see the event as a spectator sport instead of as a participation event.
6. Communal effort means that everything is a collective effort. “No man is an island” takes on real significance in a community bound together for its collective existence.
7. Civic responsibility ensures that each community member assumes responsibility for their community. Participants should lead by example and behave according to local, state, and federal laws.
8. “Leave no trace” means that, once complete, the event disappears into the desert without any indication that a very large community had been established and had thrived there for more than a week.
9. Participation invites all Burners to engage in work and play. The community grows, with each participant contributing.
10. Immediacy means engagement in daily activities, along with being fully present and connected to other Burners in the moment.

The original text can be viewed at <https://burningman.org/culture/philosophical-center/10-principles>.

Comparative data for commercial airline service airports in Nevada the same week in 2018 (for both day and night operations and in all weather conditions) show that Las Vegas had 12,966 operations, North Las Vegas had 4,722 operations, and Reno had 3,686 operations (4).

Leaving No Trace

All good things eventually must end, and the end of the festival occurs with the burning of the Man. So who cleans up? Given the festival’s impact on the playa, the neighboring towns of Gerlach and Pyramid Lake, and nearby highways, Burning Man event organizers partner with local areas and the Bureau of Land Management to ensure that the playa is restored to its former state. The goal is that the only traces of the event remain in photos and in the minds of the attendees. Clean-up requires another group of volunteer Burners, who help maintain the balance with the communities that share the playa as a resource.

At the airport, specific volunteers—some of whom have now spent a month or more on the playa—lead the deconstruction of the event. These individuals see to it that every aspect of the “leave no trace” principle is fulfilled. Teams walk the length of the runways to remove any debris generated from aircraft landing or caused by aviation operations. The fences come down, the buildings and structures are disassembled, and the traffic cones are picked up. Everything is organized into storage containers that will once again be hauled offsite, where they will wait to be reopened, accounted for, and reconstructed for another Burn.

This article is adapted from a presentation by the author at the 98th TRB Annual Meeting in January 2019. For more information, visit <https://annualmeeting.mytrb.org/interactiveprogram/Details/10940>.

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