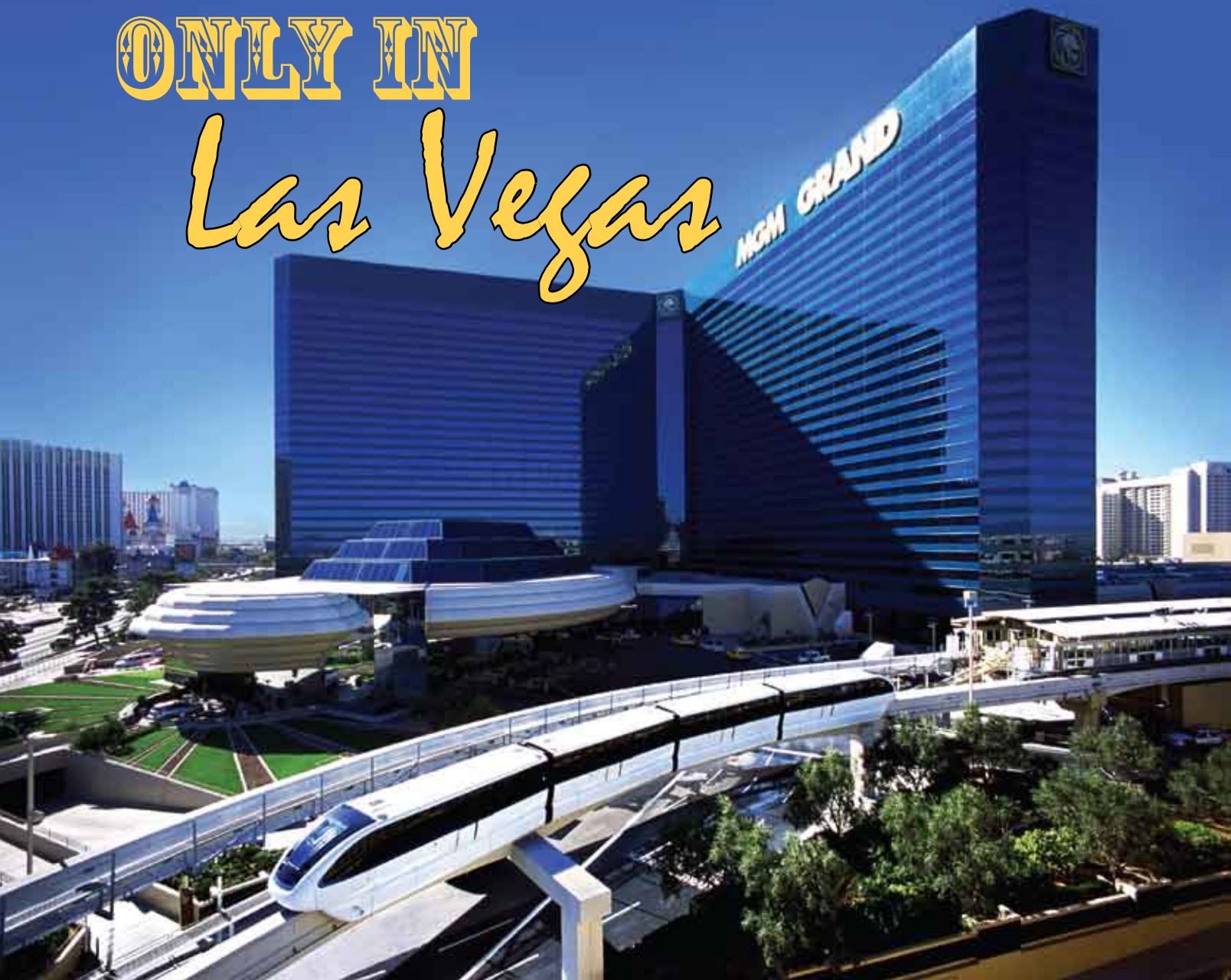


# ONLY IN Las Vegas



By Rich Sampson

With its string of lavishly illuminated hotels, casinos and other entertainment trappings coloring the Nevada desert, Las Vegas is like no place else. Befitting its host region, the sleek-nosed trains plying the single-beam trackway of the Las Vegas Monorail is like no other public transit system.

The privately-funded, constructed and operated Monorail is the only example of a full-fledged monorail providing regular transit service in

The Las Vegas Monorail swings along the MGM-Grand hotel, one of the two originators of monorail service in 1997.

North America. It is also the only passenger rail operation where station signs are emblazoned in Star Trek-themed fonts and passengers can enjoy a refreshing field of mist as they journey from the station to their destination. Like the city it serves, the Monorail assaults your senses with its style and flair, but girding its operation is a complex and innovative set of technologies, procedures and personnel that make the spectacle possible.

## Emerging in the Desert

Similar to most American cities and communities, Las Vegas was initially established by the railroad. The San Pedro, Los Angeles and Salt Lake Railroad – a predecessor to the eventual Southern Pacific and owned by Montana Senator William A. Clark – sold off more than 100 acres of its property in what was then the largely unoccupied arid Mojave Desert floor east of the Spring Mountains. However, the region remained a

sleepy outpost until Benjamin “Bugsy” Sigel opened the Flamingo Hotel on December 26, 1946 as a stopover point for post-war travelers heading to and from California. Although gambling had been legalized in Nevada in 1931, Las Vegas emergence as a resort destination was spurred by Sigel’s legendary facility. When billionaire Howard Hughes arrived on Thanksgiving Day, 1966 – interestingly, not by plane but by train – the legitimization of Vegas hotels and casinos began.

Over the next half-century, Las Vegas grew rapidly in population and commerce, as its entertainment industry drew tens of millions of annual visitors and attracted a large base of new residents to work at the hotels, casinos and the ancillary economy they supported. By the end of the century, the local road network became so engorged by taxis, limos and rental cars that executives at area hotels and casinos began searching

for a better way to connect their vibrant attractions. In 1995, a unique collaboration between the competing MGM-Grand and Bally’s hotel casinos produced Las Vegas’ first rail transit operation: a less-than one mile monorail connecting the two venues.

The partnership settled on the use of the rare technology for a few reasons. Since the operation would be constructed entirely on private property, it could not cross-city streets at-grade. If their route needed to be elevated, project designers determined they might as well deploy the more novel monorail technology, which had already demonstrated its value in similar attraction-laden applications such as Disney Land and Walt Disney World and the Seattle World’s Fair. The futuristic style marked an attraction in itself, and meshed nicely with Vegas’ preference for the dramatic. In fact, the MGM-Grand/Bally’s partnership struck a deal with Walt Disney World to purchase two retired

monorail trainsets, which were then rehabilitated.

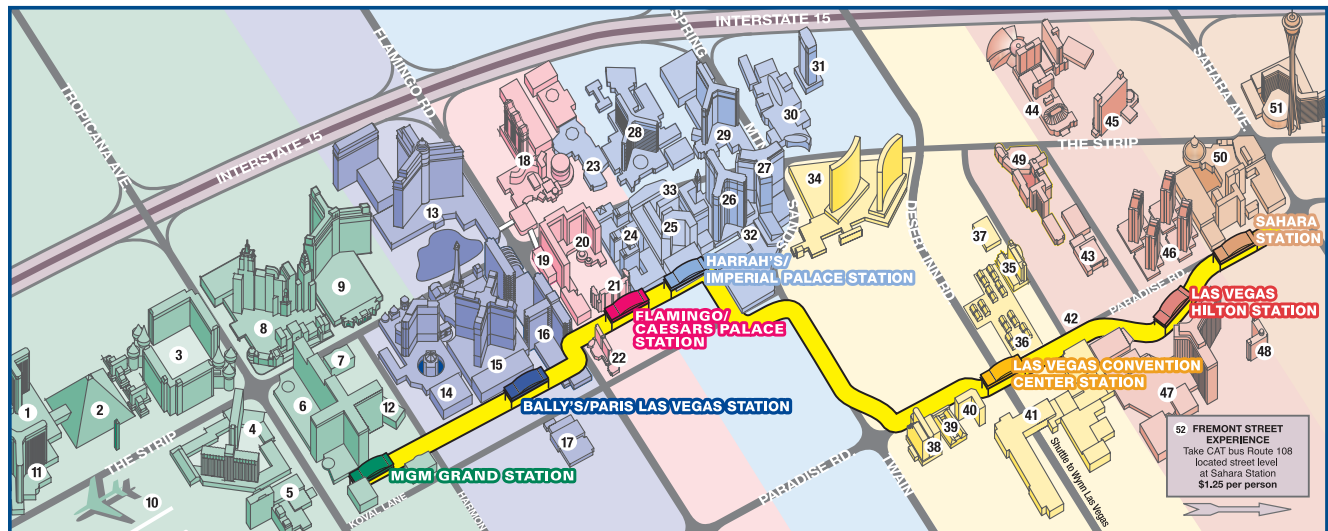
*(For more information on Disney Land’s monorail operations, see RAIL #3 – ed)*

The MGM-Grand/Bally’s Monorail opened for service in June 1995 and quickly attracted a following among visitors and locals alike as a quick and enjoyable connection between the two hotels, unencumbered by the chaotic bustle of people and vehicles along Las Vegas Boulevard, more commonly known as the Strip. The two hotels also noted an uptick in business for both of their establishments, as gamblers and hotel guests found expanded opportunities to access the entertainment offered at both locations. Between 1995 and 2002, over 40 million passengers traveled aboard the monorail.

### Viva La Monorail

With the short, two-stop rail link

The Monorail’s seven stations each serve a group of hotels and entertainment options within walking distance.



MGM GRAND STATION	BALLY'S/ PARIS LAS VEGAS STATION	FLAMINGO/ CAESARS PALACE STATION	HARRAH'S/ IMPERIAL PALACE STATION	LAS VEGAS CONVENTION CENTER STATION	LAS VEGAS HILTON STATION	SAHARA STATION
<b>Access to:</b> 1-Mandalay Bay Mandalay Bay Convention Center 2-Luxor 3-Excalibur 4-Tropicana 5-Hooters Casino Hotel 6-MGM Grand Fashion Outlets of Las Vegas Shoppers' Shuttle 7-Showcase Mall 8-New York-New York 9-Monte Carlo 10-McCarran Int'l Airport 11-Four Seasons 12-Marriott's Grand Chateau	<b>Access to:</b> 13-Bellagio 14-Planet Hollywood Miracle Mile Shops at Planet Hollywood 15-Paris Las Vegas 16-Bally's Las Vegas 17-Elis Island	<b>Access to:</b> 18-Caesars Palace 19-Bill's Gambling Hall & Saloon 20-Flamingo Las Vegas 21-Hilton Grand Vacations 22-Westin Casuarina Battista's Hole in the Wall Restaurant	<b>Access to:</b> 23-Forum Shops at Caesars 24-Imperial Palace Hotel & Casino 25-Harrah's Las Vegas Rio (via Harrah's Shuttle) 26-The Venetian/Grand Canal Shoppes 27-The Palazzo/Barneys New York 28-Mirage Las Vegas 29-TI (Treasure Island) 30-Fashion Show 31-Trump International Hotel & Tower Las Vegas 32-Sands Expo 33-Casino Royale	<b>Access to:</b> 34-Wynn Las Vegas (via Wynn Shuttle, 8 a.m. – 8 p.m.) 35-Marriott-Residence Inn 36-Courtyard by Marriott 37-Greek Isles 38-Embassy Suites 39-Best Western Mardi Gras 40-Renaissance Las Vegas 41-Las Vegas Convention Center 42-Visitor Information Center	<b>Access to:</b> 43-Marriott Suites 44-Circus Circus 45-Hilton Grand Vacations (on Strip) (Stirling Club) 46-Turnberry Place (Stirling Club) 47-Las Vegas Hilton 48-Hilton Grand Vacations (at Las Vegas Hilton) 49-Riviera	<b>Access to:</b> 50-Sahara Hotel & Casino Sahara NASCAR Cafe 51-Stratosphere 52-Fremont Street Experience (via CAT bus Route 108)

Map courtesy of the Las Vegas Monorail

Photo courtesy of the Las Vegas Monorail





The Monorail's four, completely automated, Bombardier trainsets allow frequencies as low as two minutes, at more than 99 percent reliability.

between the MGM-Grand and Bally's establishing a strong niche in the Las Vegas scene, the larger business in the region began to take notice. If two nearby rivals could cooperate so successfully to build something as substantial as a private rail operation, why couldn't that partnership be expanded to bring the monorail to a larger swath of Las Vegas?

A group of executives and business planners from the hotels and casinos along the Strip began gathering in the late 90s to consider whether the existing monorail could be expanded. The process discovered that Nevada law prohibited a multiple-stop, publically-available transit operation to be owned by a private entity. The regulation stemmed from the historical trend of the private transit companies that existed in the first half of the century to abandon service as routes became unprofitable. The group successfully argued that given the scope of financial and infrastructure commitment inherent in a monorail

project, it was unlikely that abandonment would occur, and Nevada passed new legislation in 1997 that allowed a privately-owned monorail transit service.

With legislative hurdles cleared, the group began plotting-out the characteristics of an expanded monorail network. The initial MGM-Grand/Bally's segment would be retained and upgraded as new monorail beams stretched north from the existing track, towards another cluster of hotels including Caesar's Palace, Harrah's, Imperial Palace, and the legendary Flamingo, before turning east to ultimately reach the Las Vegas Convention Center, the Hilton and the Sahara. All told, the expanded route would travel about four miles, roughly paralleling the traffic-clogged Strip.

Having established a vision for the enhanced route, the informal group planning the project needed to formalize their relationship to merge their investment and begin construction. Building upon the model created by the

MGM-Grand and Bally's, several private firms, including the initial two hotels, established the Las Vegas Monorail Company in 2000. The new company would be a non-profit organization chartered only to plan, construct and operate the new Las Vegas Monorail, overseen by a three-member board of directors elected by the company's stakeholders.

The Company culled together over \$650 million in investment, and hired a set of outside firms with transportation and construction experience to build its monorail. Nevada-based firm Gensler designed the system, while Las-Vegas' own Carter-Burgess conducted its engineering work. Granite Construction of California oversaw the contracting effort for the project, and Bombardier Transportation was retained to implement its monorail vehicles and operations technology that it had previously installed for Disney. Construction got underway in August of 2001 and the Las

Vegas Monorail opened to passengers through seven stations on July 15, 2004.

### What Happens in Las Vegas...

The debut of the monorail inaugurated the nation's first new privately-owned and operated transit in service in decades. It also introduced a series of unique elements to distinguish it as a truly Vegas-style system. The Monorail Company established a fare collection process that was simple and affordable – \$5 per ride and \$12 for a day pass. Although the Company leveraged its members' contributions to support the capital costs of design and construction, its leaders required that it cover a substantial portion of its operating costs.

Meanwhile, each Monorail station was imbued with its own identity matching the venues that it served. Corporate design professionals usually tasked with choosing hallway décor and customizing blackjack tables turned their attention to depots which would be many visitors' first impression of their facility. At the Harrah's/Imperial Palace station, architects and decorators installed a walkway that would keep Monorail-arriving guests cool on their walk from

the station under a cloud of fine mist. Meanwhile, Las Vegas Hilton personnel determined their stop should tie-in closely with their premier attraction at the time: the Star Trek Experience. As a result, a Ferengi was stationed to welcome Monorail riders, while the unmistakable Star Trek font was featured on the station's signage. On board, the trains, a pleasant-voiced announcer relays upcoming events in town, while also offering trivia and clever one-liners to entertain passengers during their trip.

The result of this distinctive branding and identity for the new rail service has been instrumental in attracting a strong ridership base. Around 21,000 riders travel on the system every day, making the Monorail one of the highest-utilized rail systems per mile in the nation. Additionally, the operation operates from 7:00 a.m. to 2 a.m. every day, and continues until 3 a.m. on Fridays through Sundays. During its service hours, the Monorail operates frequently – usually no longer than a four-to-10-minute wait for a train at any hour of the day.

“The Las Vegas Monorail provides a unique transportation experience, connecting thousands of visitors each day to the city's glitz and glamour of world-class resorts, restaurants, attractions, tours, entertainment

and shopping,” says Curtis Myles, President and CEO for the Las Vegas Monorail Company. “The Monorail provides fast, convenient and reliable transportation along the Las Vegas Strip.

### Making it Work

The 2004 opening of the Las Vegas Monorail represented a key moment not just for transportation options in the region, but also for monorails as a viable passenger transit mode. Although monorails at the Disney locations and connecting downtown Seattle to the former World's Fair site had been in service for several decades, their utility largely had been limited to shuttling visitors to attractions at a single location. The Las Vegas Monorail was designed and built to function as a high-capacity public transportation operation with many stops and frequent service in a dense urban area, featuring an entirely automated and driverless train system.

Tasked to respond to this distinct challenge was Bombardier Transportation and its vehicles and system operation technology. The company not only was the only North American company with experience building monorail vehicles, it also was involved with the automated operations systems which coordinated train movements in Vancouver and JFK and Newark Airports, among other worldwide locations. As a result, Bombardier was well-positioned to ensure that the railroading operations for the new monorail would meet the quality service requirements demanded of any public transit operation.

“We have a good deal of experience building, implementing and operating monorails and automated rail systems,” explains Stephen Stowe, Bombardier's Director of Operations for the Las Vegas Monorail. “We knew how important it was to get things right and deliver a good product that the Company and the area could be proud of.”

Bombardier's nine Mark MVI monorail trains – comprised of four non-articulated cars each – serve the system, while its automated control system orchestrates the movement

An overhead stream of mist offers Monorail passengers comfort as they travel from the station to the Harrah's and Imperial Palace hotels.





Each Monorail station features distinctive decor, such as the MGM-Grand's modern facade or the Star Trek-themed entrance at the Las Vegas Hilton.

of all vehicles on the system and to the maintenance shops just beyond the Sahara station. The automation mechanism allows short headways – as little as two minutes if required – as well as a high level of reliability. Since its opening, the Monorail has averaged a more than 99 percent in-service rate, and nearly all delays or malfunctions are doors obstructed by passengers or weather-related elements. For Bombardier, the system's high level of performance is a badge of honor.

"We take our work very seriously, and it shows in the service that is delivered," says Stowe. "It's a complex system, but we focus on safety, reliability and service in our training to make sure we achieve the results that are expected."

### The Odds on the Future

After almost five years of service, the Monorail is hitting its stride as a public transportation operation. However, as nothing in Las Vegas is ever at a standstill, neither are its plans for the Monorail. The Company is developing plans to double the length of the system through a connection to McCarran International Airport, around four miles to the south from the current MGM-Grand terminus. Like the existing system, the capital costs for the project will again come from private sources. Recognizing the momentum built by the high ridership levels and the Company's plans to reach the airport, Clark County commissioners approved the expansion on December 7, 2006. While no dates have been announced for the initiation of construction, Las Vegas Monorail officials expect the service to take about three years.

Beyond expanding Monorail

service to the airport are proposals to bring the system closer to the west side of the Strip and downtown Las Vegas. Plans for the initial expansion included options to continue the route along Main Street for 2.3 miles to connect to Las Vegas' central business district. However, as this segment was planned to be supported through public funds, the more lengthy and stringent transportation planning process necessary to utilize governmental investment has delayed the project for the time being.

Although potential additions to the Monorail are still on the distant horizon, the success of the service continues to cultivate momentum and support from the community and its leaders to move forward.

"Since its inception, the Monorail has carried more than 35 million

passengers and in 2008 alone, removed an estimated 3.4 million vehicles miles from area roads and reduced greenhouse gas emissions by more than 61 tons," says Myles. "The Las Vegas Monorail remains committed to its community and continues to work toward mobility in one of the most congested corridors in the United States. **R**

Bombardier's Stephen Stowe (right) and Maintenance Manager Henry Dufresne oversee the Monorail's control center operations, which orchestrates a driverless system providing nearly flawless service.

