Supporting our theme park and hotel clients to implement programs and solutions associated with a safe return to operations.
Theme parks around the world are facing major challenges due to the threat of SARS-CoV-2, the coronavirus that causes the disease COVID-19. The true impact of SARS-CoV-2 is yet to be determined but some of the changes we make to fight its spread will be permanent. Future leisure and themed environments must take into consideration new guidelines and regulations.

A successful return will rely on addressing individual and group behaviors as well as culture. Leisure and themed entertainment facilities should take immediate steps to create a safer environment as they return to operation. These steps are based on examples of practices that could be implemented based on CDC and WHO guidelines.
A NEW SET OF GUIDELINES FOR A SAFE RETURN TO LEISURE

Return to Service: Leisure

/ Social Distancing
/ Environmental
/ Technology + Security
/ Pedestrian Modeling
/ Supporting Programs + Uses
/ Transportation
/ Economic Impact + Revenue Optimization
Socially Distanced Reopening

Reopening the leisure sector at a time when social distancing is the new normal presents multiple challenges to safe and profitable reopening everywhere, from art galleries to theme parks:

- Reservations/scheduling and planning
- Reduced capacity
- Disinfection of attractions
- Increased spatial constraints
- Reduced amenity capacities
- One-way/directional path of travel
- Hand washing stations
SARS-CoV-2 moves through the air and may be emitted from the nose and mouth with mucous. To prevent infection and to slow transmission of SARS-CoV-2, which can lead to COVID-19, everyone must act responsibly to combat this virus. When a confirmed case of COVID-19 is identified in a leisure or entertainment venue, CDC recommends that the person should be taken to an isolation area for prompt risk evaluation. Similar action shall be taken with employees and vendors that support these venues. Facilities should also:

- Train employees on best hygiene, work space disinfection, social distancing, and self-monitoring practices to mitigate spread of the virus
- Focus on disinfecting all frequently touched surfaces including queue rails, ride vehicles, and restroom fixtures
- Train employees to follow the standard operating procedures

Material selection choices and disinfection opportunities will be evaluated. SARS-CoV-2 has been detected in:

- Aerosolized intact SARS-CoV-2 for three hours or longer
- Copper up to four hours
- Cardboard up to 24 hours
- Plastic up to 2-3 days
- Stainless steel up to 2-3 days
Technology Solutions

Theme parks throughout the world are dedicated to keeping guests safe. AECOM stands as an ideal partner to objectively integrate strategies, approaches, and new technologies to help create safe environments. We incorporate technology through:

- Reservation systems
- Signage and graphics
- Entry and high-level screening
- Real-time occupancy monitoring
- Masks, gloves, disinfecting and sanitizer stations
- Touchless point-of-sale transactions, minimal cash management, and wristbands
- Security screening
- Health screening
- Heat mapping
- Prescreening medium to large groups
- Management and response to emergency situations
Pedestrian Modeling
We are challenged to navigate the new normal and return to densely populated environments such as theme parks, water parks, theaters, and other venues. The following are ideas may be considered based on the particular venue and its specific conditions in creating a safe environment.

Traditional Capacity (Without Proper Distancing)
- Up to 400 customers queuing at main attraction
- Approximately 200m²/2,000sf used for queuing
- Attraction throughput of approximately 960 users per hour

Socially Distanced Capacity Queues
- Up to 135 customers queuing at main attraction
- Approximately 675m²/7,300 sf used for queuing (more than three times the space for one-third as many occupants)
- Attraction throughput dramatically reduced to approximately 480 users per hour

Socially Distanced Entrance Queues
- Spatial Requirements outside attractions
  - Entrance
  - Toilets
  - Exit retail/souvenir shops
- Waiting area
- Group arrival
- Guest services
- Peak days and weekends flow
- Organized queuing at areas previously operating as free flow
Pedestrian

Using automatic pedestrian counts to actively manage pinch points

Pedestrian Modeling
- Identify pinch points
- Model mitigation scenarios

Automatic Pedestrian Counts
- Notify operations personnel when capacities are reached
- Create consistent response to real-time conditions
- Increase park capacity on three-day weekends
- Model-validated strategies to mitigate crowds exiting shows or events

Example scenario:
1. The newest part of this park is very popular, but it is identified as a pinch point in the model.
2. Model managed directional traffic with physical barriers scenario. Result: pinch point remains.
3. A permanent bypass is undesirable due to back-of-house impacts. Automatic pedestrian counters track occupancy of pinch point.
4. Bypass that is only used as needed would allow social distancing and not impact back-of-house operations.
Attractions

Park operators need to keep their guests spaced appropriately to reduce the spread of COVID-19. This applies to attractions, exhibits, and rides where close proximity is the norm. The following are observations and ideas to help maintain a pleasant guest experience along with social distancing.

Base Model:
- No social distancing measures
- Higher park attendance
- Full ride capacity

Socially Distanced Model:
- 2m/6ft distancing in queues
- Reduced park attendance
- Attractions reduced potentially to 50% capacity (use every other seat)
- Customers assumed to queue in groups of two
- Bluetooth technology wristbands worn by guests to continuously monitor social distancing
- Free-standing touchless hand sanitizer stations
- Masks, gloves, disinfecting, and sanitization
Retail, Carts + Gaming

It is extremely important to help provide a safe place for guests to shop and engage in gaming environments. Creating such environments requires effective control of customer flow and access into your stores and venues. The following are ideas that may be considerations for a safe environment.

- Order via apps and pick up
- Signage and graphics
- Touchless point-of-sale transactions, minimal cash management
- Masks, gloves, and plexiglass shields
- Circulation and social distancing
- Managing returns and exchanges
- HVAC air filtration and disinfection
- UV disinfection of HVAC static filters and their support frames
- Source reduction standalone units with HEPA filters
- Evaluate kitchen operations – sanitize facilities and equipment
- Implementing regulatory requirements and applicable guidance by counties or states
Restaurants, Walk-Up, and Food Carts

Restaurants and free-standing food carts are greatly affected by COVID-19. The following ideas could be implemented to help provide an enjoyable dining experience while maintaining social distancing and adherence to health and safety guidelines.

- Order via apps and pick up
- Signage and graphics
- Sanitized kitchen and food serving operations
- Touchless point-of-sale transactions, minimal cash management
- Masks, gloves, and plexiglass shields
- Reconfiguring indoor and outdoor tables and chairs
- HVAC air filtration and disinfection
- UV disinfection of HVAC static filters and their support frames
- Source reduction standalone units with HEPA filters
- Implementing regulatory requirements and applicable guidance by counties or states
Area Restroom and Back-of-House Support

Restrooms are unfortunately ideal for the transmission of SARS-CoV-2. They are often poorly ventilated, urinals and sinks are crowded together, and partitions in most cases do not extend upward to shield one’s face. Although toilet stalls are isolated, droplets will continue to linger several minutes after the last user. Restrooms also have numerous high-touch surfaces including sinks, door handles, countertops, door frames, partitions next to toilets, and dispensers for toilet tissue, seat covers, towels, and soap that CDC recommends to be addressed. Similar consideration has to be provided to back-of-house facilities and functions to protect cast members and employees.

- Signage and wayfinding
- Hand washing, disinfecting, and sanitizing stations
- Proper material choices and health science
- HVAC air filtration and disinfection
- Quarantine isolation space and first aid

Back of House
- Signage & graphics
- No-contact automated thermometer and clock-in
- Hand washing, disinfecting and sanitizing stations
- Masks, gloves, plexiglass shields
- Security, scheduled deliveries
Characters, Parades and Fireworks

To help ensure safety inside parks, direct contact with characters will no longer be possible. However, guests can still capture that perfect photo along a parade route or interact with characters perched on a properly distanced balcony or mobile platform.

- Signage and graphics
- Social distancing and limiting interaction with characters
- Wider viewing area for events and shows
- Disperse crowds over a greater area
- Portable seating in compliance with social distancing
Determine Capacity Implications of Physical Mitigation Strategies

- Directional/one-way travel
- Physical barriers
- Ground markers
- Bypass corridors
- Timed return tickets for pinch point areas
- Revisions to queue layouts

Targeted Virtual Queuing

- Virtual queues accommodate long lines for rides that do not have adequate social distancing queue space
- Virtual queues may increase sales and improve guest experience. However, using virtual queues for everything may lower overall park capacity
Hotels

Most hotels have rolled out cleaning and safety programs that utilize best practices, including social distancing and required face coverings in public spaces, to create an even safer environment for everyone. These practices include:

- Reserve space and order food via apps and pick up
- Touchless check-in and transactions, minimal cash management
- Signage and graphics
- No-contact automated thermometer and clock-in
- Masks, gloves, and plexiglass shields
- Circulation and social distancing
- HVAC air filtration and disinfection
- UV disinfection of HVAC static filters and their support frames
- Source reduction standalone units with HEPA filters
- Sanitize food preparation and dispensing areas
- Grab-and-go food service
- Evaluate housekeeping operations – disinfect laundry room
- Sanitize room furnishings
- Contactless room service delivery
- Revised room cleaning schedules
- Disinfection of TV remote controls and other high-touch surfaces
- Implementing regulatory requirements and applicable guidance by counties or states
Transportation

All public transportation systems are potential sources of exposure to COVID-19. They pose the risk of close contact with infected passengers or contact with surfaces touched or handled by infected passengers. The following are ideas that may be considered in creating a safer environment.

− Touchless ticketing, entry, and transactions
− Touchless temperature screening prior to travel to the venue
− Pre-booking arrival times to manage crowding
− Real-time location data to evaluate and manage demand
− Dynamic and static signage to communicate path of travel and cleaning status
− Sequential and staggered alighting to maintain distancing

The Passenger Journey — A Day in the Life of a Transit Rider

Addressing the entire passenger journey with AECOM’s Transportation Resilient Integrated Passenger Solution (TRIPS)
Economic Impact + Revenue Optimization

Theme Park Example
Increasing the maximum safe venue capacity/attendance is expected to have a direct increase on aggregate revenues.

Pedestrian modeling can provide evidence to support an increased safe operating capacity

Average spend of $68 per person per visit* at theme parks (admission, parking, souvenirs, amenities, and food and beverage)

Meaning for every 100 additional customers per day, this generates:
$6,800 per day
$204,000 per month or $1.224M per six months.

Small increases pay large dividends

*Source: IAAPA
AECOM Services

Architecture
- Attractions
- Resorts
- Entertainment
- Tourism Planning
- Mixed Use
- Cultural
- Hospitality

Engineering
- Site Engineering
- High Performance Buildings
- Structural Design
- LEED Consulting
- MEP Engineering
- Energy Generation
- Acoustical Engineering
- Water Systems

Urbanism + Planning
- Master Planning
- Sustainable Communities
- Urban Design Guidelines
- Urban Regeneration
- Resort + Tourism
- Campus Planning
- Infrastructure Planning
- Urban Mobility
- Climate Change Mitigation
- Landscape Architecture
- Public Realm
- Open Space and Parks
- Streetscape
- Community
- Waterfronts
- Retail + Mixed-Use
- Economics
- Market Analysis + Research
- Feasibility Analysis
- Financial Analysis

Program, Cost, Consultancy
- Cost Management
- Sustainability Consulting
- Project Management
- Life Cycle Cost Analysis (LCCA)
- Risk/Value Management
- Total Cost of Ownership (TCO)
- Project/Loan Monitoring
- Portfolio + Asset Management
- Lenders Technical Advisor (P3)
- Scheduling

Interior Design / Strategy Plus
- Pre-Design
- Research + Design
- Strategic Planning
- Stakeholder Engagement
- Facility Analysis
- Quantitative Research + Perimeter Scan
- Workplace Strategies
- Programming
- Qualitative Visioning
- Space Planning
- Ethnographic Work
- Graphic Design
- Synthesis + Gap Analysis
- Art Selection
- Validation + Co-Creation
- Furniture Selection and Design
- Implementation: Prototype
- Goal Setting
- Build and Roll-Out

Construction Services
- Construction Management
- Scheduling
- Design-build
- Cost Engineering
- Consulting Services
- Risk Management
- Sustainability
- Safety
- Estimating
- Community Relations
- Purchasing

Pedestrian Modeling Capabilities
- Demand + Design Day Analysis
- Advising on Safe Maximum Capacities
- Development of Queue and Flow Management
- Identifying Physical and Operational Pinch Points
- Journey Time Analysis
- Density Mapping
- Peak and Off Peak

Environmental
- Risk Assessment
- Industrial Hygiene Consulting
- Engineering Control Assessments
- Ventilation Assessments
- Disinfection Chemical Evaluation
- Equipment Evaluation
- Sustainable Materials Selection
- Program Evaluation and Authoring
- SOP Development
- Decontamination Oversight
- Contingency Planning

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