

# Understanding, Measuring and Managing Tourism's Impacts

Before knowing where you want to get to and how, it's also critically important that you have an understanding of where you are right now. Do you have the right information around which to make informed decisions? Are you dealing with issues like overcrowding, or stretched infrastructure, on a proactive or reactive basis? Is tourism really bringing genuine and equitable benefits to your community?

## The Role Of Data In Measuring And Monitoring Impacts

While you will already have an idea of the main issues affecting your community and organization, up to date data is helpful for understanding the current situation and making informed decisions about which destination stewardship actions are most required to build resilience. Data can be primary and sourced from community members via surveys you may conduct yourself, as well as secondary and sourced from agencies that collect data in your region. Establishing a baseline plus ongoing measuring and monitoring are all essential activities for assessing whether your plan is working and also as a basis for communicating the impacts of tourism in your community. Some of the data you require is likely to already exist; therefore, before investing in your own primary data, it is worth seeking out available data from other sources such as through local government agencies.

### What data should you be sourcing and tracking on a regular basis?

Depending on the size of your organization and what might be feasible for you, you may want to invest directly in a system that will help to monitor and measure impacts to help inform future management needs. Monitoring and measuring will be covered in more detail in the final section on action planning; however, some data sources

are listed here as an introduction to what sources would be useful and what might be needed in the future.

- Visitor satisfaction
- Booking trends and revenues by source market
- Visitor flows, volumes and behavior patterns
- Visitor spend data by type and location of business, on existing and new products e.g., small businesses' revenues
- Economic development indicators
- Resident satisfaction with the impacts of tourism and their level of engagement in tourism decision-making
- Public health/wellbeing and services indicators e.g., accessing of services, emergency response
- Environmental indicators e.g., air and water quality, health of habitats, species populations, energy use, waste generation, greenhouse gas emissions, etc.

Each of these will be more easily obtained via collaborative structures and networks. Based on the experience of the Travel Foundation, this requires understanding the importance of data sharing among community members and businesses alike. It is also important that the mechanisms for sharing data are simple to use. Communication around impact management, i.e., the importance of understanding impacts, and need for data, should be part of the process, in order to facilitate buy-in for data collection (and responses) from all sources, and to lead to effective impact monitoring.

### Balancing the positives and negatives

As introduced during this section of the guide, any course of action is likely to have both negative and positive outcomes and therefore engagement with a broad range of community groups is vital for ensuring that these are understood. This will help to raise areas of concern which can then inform the development and adaptation of impact management tactics.

### What data is most critical to building destination resilience?

Data requirements can be categorized into two types: situational and resilience. It is recommended that data covering both are used to conduct a situational analysis.

## Future of Tourism Guiding Principle #6 Reduce Tourism's Burden



Account for all tourism costs in terms of local tax burdens, environmental and social impacts, and objectively verifiable disruption. Ensure investments are linked to optimizing net-positive impacts for communities and the environment.

# SEDONA

## ARIZONA

Sedona Arizona's Sustainable Tourism Plan includes tactical and dynamic metrics. Tactical metrics are measures for every tactic in the sustainable tourism plan, monitored and reported by the sustainable tourism action team. Dynamic metrics include perceptions of sustainability from three audiences: visitors, businesses, and residents. These are based on the four pillars of the plan including Environment, Resident Quality of Life, Quality of the Economy and visitor Experience. [Learn More](#)



**Situational** – Data needed to understand where the positive and negative impacts of tourism have been greatest



**Resilience** – Data needed to understand changing market needs and how to best adapt for the future

### Situational Data

Understanding the current situation in your destination can benefit from investigating the scale of impacts through various data sources. Once data sources have been identified it will be easier to conduct measuring and monitoring activities in the future. The framework below is designed to help you to consider the impact areas and various lines of data inquiry that could be pursued.

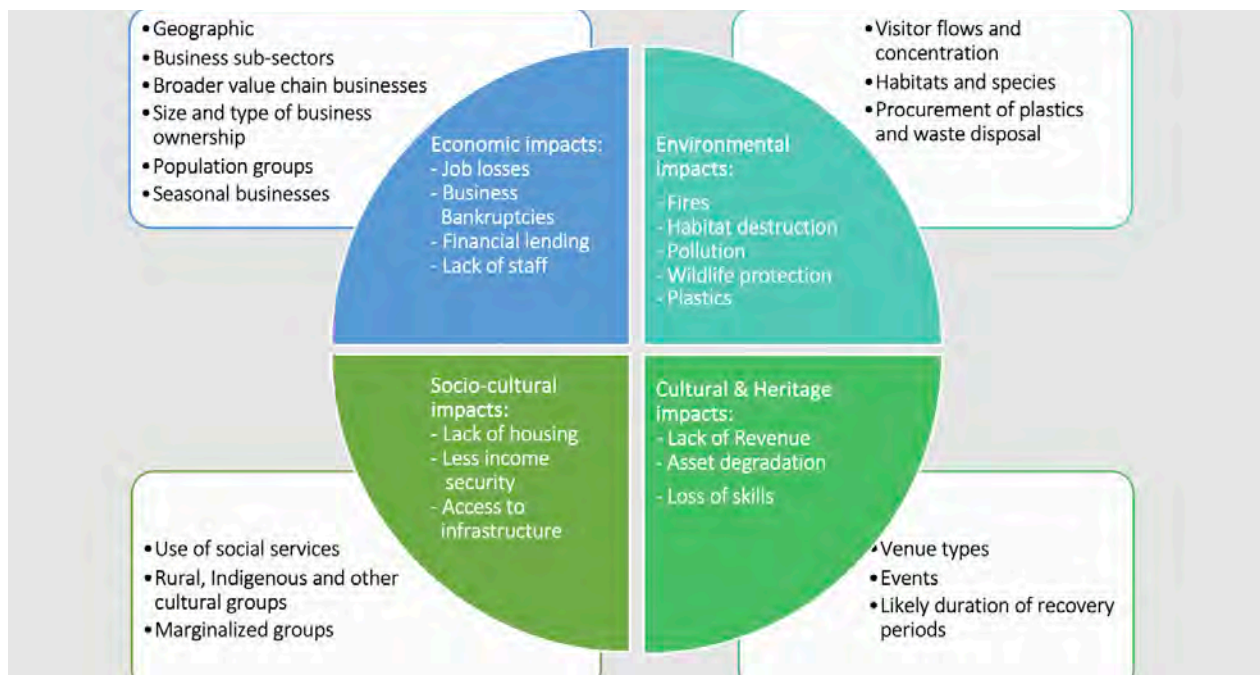
The following list of questions and considerations is not exhaustive but does illustrate the types of inquiries that will help to ensure that a range of impacts are identified. Gathering evidence of impacts will help you to prioritize your actions and targets.

### Economic Impacts

- **What is the current distribution of visitor arrivals in your region?** Was this impacted by the pandemic? Has it changed since? For example, destinations

most dependent on international and out-of-state markets, especially urban ones, may have experienced a significant decrease in arrivals, while more remote and rural destinations and natural areas may have experienced episodic increases in visitors. And currently you may be undergoing another shift in volume patterns.

The economic impacts of existing and evolving visitor numbers and revenue should be analyzed not just from the perspective of businesses that provide a direct



**It is not possible to make sound decisions without data. Basing a plan on assumptions is likely to result in the inefficient and/or ineffective allocation of resources and it will not be possible to monitor the results of your actions.**

tourism service but also those along the supply chain who provide supplies or complementary services to tourism businesses, and often depend on tourism for their survival.

- **Which types of businesses are likely to require more support for sustainability and resilience-planning in the short vs. medium vs. longer term?**

For example, were destinations whose tourism product is more tailored to non-local markets (including theme parks, souvenir shops, accommodations, remote activities & experience providers, etc.) hit harder by the pandemic? Did they require more immediate support to pivot their marketing in order to be able to attract a more diverse group of visitors that will help build their resilience against future shocks? Equally, some businesses in rural areas may also have experienced an economic downturn, despite increases in visitor numbers, due to changing tourist profiles and spending e.g., day trippers spending less.

**Consider seasonality or sudden changes in visitor flows: Businesses that are constrained by seasonality may not be able to recover costs until the next season if they are impacted by external shocks such as extreme weather events.** For example; coastal, lakeside and/or mountain destinations with a high dependency on seasonal visitation as well as dependency on a reliable climate may be most vulnerable and require more resilience planning.



## Environmental Impacts

- **What are the biggest environmental impacts from tourism across your community? How does tourism impact carbon emissions or waste generation?** During the extreme lockdown period of the pandemic there was a reduction in tourism-related carbon emissions, as well as reports of habitat/species recovery in previously overcrowded tourist areas, leading to the assumption that the pandemic lockdown had been good for the environment. However, many rural areas globally, including in Washington, experienced the opposite; visitor behavior patterns evolved and transferred many problems such as overcrowding to rural areas, especially protected ones, as people moved away from urban experiences to outdoor and rural ones.
- **Where are the carbon emission hotspots?** What is the main transport infrastructure used by visitors in your destination? Is it dependent on fossil fuels? Are there alternative, more sustainable forms of transport that could serve the tourism sector? Do tourism businesses prioritize sourcing local supplies of food and drink? Sourcing local food is not only appealing to visitors but is also likely to result in a lower carbon footprint as the storage requirements and transportation distances will be greatly reduced.
- **Has there been an increase in visitor flows?** Increased visitation to natural and protected areas has led in cases to carrying capacities being exceeded and infrastructure being inadequate to manage these visitors.
- **What impact does tourism have on waste generation in your community?** How many businesses are using reusable, recyclable or compostable products rather than single-use items that go to landfill? Is there sufficient capacity to respond to changing visitor flows or potential future shocks? Did COVID-related health and safety protocols lead to an increase in waste generation? For example, some businesses increased the use of single-use plastic items and chemicals from cleaning and sanitizing, leading to increased land and water pollution.
- **What evidence exists of changes to environmental/conservation practices?** Visitor behavior, especially from an influx of visitors to rural areas, or simply visitation that exceeds the infrastructure capacity, may damage fragile environments and habitats. For example, increases in illegal camping, human and dog

waste, unauthorized use of walking and cycling trails, fires, etc., have been experienced in many destinations.

## Socio-Cultural Impacts

- **What are the socio-cultural impacts of tourism within the community?**

Are there tensions between residents and visitors? Does tourism impact negatively on residents' ability to access or enjoy public spaces, services, amenities, natural areas, etc.?

- **Are the benefits of tourism felt equitably across the population?**

Are BIPOC (Black, Indigenous, People of Color) and women-owned businesses integrated into the tourism value chain? Do they have equal opportunities to access the tourism market?

- **What is the impact of tourism on housing availability and affordability for residents?** Have residents been impacted by an increase in cost of living, short-term rentals, and potential decrease in available housing?

- **Are specific segments of the population disproportionately impacted by extreme events?** Marginalized members of the population are likely to have been severely impacted by the pandemic, particularly if they lack access to resources and support mechanisms. This is typically the case in economic recessions as well as other weather-related closures such as due to wildfire smoke.



## Culture & Heritage Impacts

- **What proportion of tourism in your destination is linked to Culture and Heritage attractions and experiences?** Culture and heritage were likely to have been severely impacted by the pandemic. This sub-sector of the tourism economy faced many of the harshest operating constraints (particularly in relation to events and indoor experiences) and the lack of revenue was an issue for a longer period then. The pandemic was particularly hard on Indigenous communities and businesses, especially in more rural areas with less health infrastructure. Many were challenged with seeking a balance between protecting elders and continuing to accept visitors from outside the community.
- **Which sub-sectors are at high-risk for sustained periods?** The rise in remote working looks set to be a more fundamental and more permanent shift in working patterns beyond the impact of the pandemic. While there has already been some recovery, the meetings, incentives, conferences and events (MICE) market is still reduced as more work continues to take place remotely and as more businesses reduce their travel budgets in line with carbon reduction commitments. This is likely to affect both hotels and conference venues as well as the broader value chain, e.g., catering services.

## Impacts To Tribal Rights And Indigenous Cultural Resources

- **Are Indigenous peoples and lands in your region adversely impacted by tourism? What is the impact on Indigenous lands and waters, including wildlife habitats in your region, from events, tourism activities and developments? What is the impact on Indigenous cultural traditions by tourism in your community?**

Tribal governments are often not consulted for their perspectives on tourism development, activities, and events in the regions near and even on, their lands or lands that are important for their communities to conduct cultural activities and traditions. Events can impede access to lands, wildlife, and waters and development can affect habitats important to Indigenous ways of life. It's important to be proactive to understand the potential harm that could be caused, as well as the potential benefits that could be realized, by engaging with Tribal governments and Indigenous community leaders around tourism management.

## Reflections

- **What insights do you already have on the environmental, social and cultural impacts of tourism in your destination?**
- **How were these affected by the pandemic?**
- **How might they be impacted by climate change and extreme weather events?**
- **What existing data is available to better understand these impacts?**



## Impact Management

Understanding previous impacts of tourism in your community and planning for the implications of changes ahead in visitor flows, behavior and spend, as well as unpredictable shocks due to climate change, will be key to determining the right impact management techniques for you. This section of the handbook will highlight the

various considerations and techniques available for increasing the spread of positive benefits and mitigating negative impacts.

Understanding the negative impacts that tourism has in your community is a key part of moving forward so that the same mistakes are avoided. This will involve collating, and potentially gathering, data as outlined in the previous section – including ensuring resident satisfaction is monitored. It is important to acknowledge that some negative impacts of tourism are inevitable, and that tourism development is always a trade-off between benefits and costs. What you should be aiming for is an optimization of the benefits and effective management (or mitigation) of costs or negative impacts to enhance the sustainability and resilience of your destination or business.

Destination weaknesses and vulnerabilities, likely to have been exacerbated by the pandemic and coupled with new and worsening threats such as climate change and economic instability, must be considered.

- The past few years have exposed the fragility of the tourism sector to global shocks and highlighted the speed at which situations can change on a local and global level. This underlines the importance of collecting ongoing 'real time' data on impacts to be able to respond to a constantly evolving situation so that everyone has a clear picture of the issues.
- Impacts - including degradation - can happen at short notice and over the long term. Disasters that lead to closures of transportation corridors or borders (as seen during the pandemic) or changes to source markets, leading to closures of businesses and dispersal of visitors to different areas, need to be quickly managed. Not everything can be forecasted but planning ahead based on knowledge of evolving trends and visitor patterns will help manage impacts as they arise, as well as to be proactive to prevent degradation over time.



### Visitor Management Techniques

Techniques to manage visitor flows are increasingly used to manage visitor peaks including:

- Caps on visitor numbers for given periods and group sizes
- Allocated visitation timeslots
- QR codes to access and register attendance, place orders for goods and services
- Contactless payments
- Real-time visitation dashboards including web-cams
- Odd/Even car registration plate entry restriction
- GEO location targeted advertising and messaging to visitors in real-time
- Increased resources for visitor information centres to help disperse visitors

## Managing Changes In Visitor Spend And Behavior Patterns

### Visitor flows and behavior

Domestic visitors are more likely to have visited popular attractions before, may be looking for experiences in less visited places and are likely to self-drive which can create congestion, overcrowding, pollution and degradation in new areas. Ironically, visitors looking to escape the crowds sometimes end up in more crowded spaces that are unable to cope with a spike in demand.

- Dispersal and timing strategies that encourage a more widespread flow of visitors as well as temporary infrastructure could help address this.
- Developing more walking and cycling routes may help to alleviate the impacts of congestion and would also result in lower carbon emissions, positively supporting your destination to reach net zero.

### New and evolving market segments

Ongoing and increasing demand for new outdoor experiences and visitation to protected areas means that more visitors from new market segments are attracted to these areas.

- Safety and conduct protocols and communication mechanisms may urgently be required to manage the risks to environmental and wildlife safety.

While day visitors may be less likely to spend money in local communities, overall increased demand for rural areas may also create opportunities for local food, beverage and accommodation providers.

- Targeted investment in building up the local supply



### Loving Nature to Death

Yellowstone National Park, USA reopened and was overrun with visitors.

- ‘Newbies’ to nature flocked to outdoor public spaces across Wyoming.
- Camping demand soared and exceeded capacity resulting in illegal campgrounds, dangerous campfires, and a disregard for ‘leave no trace’ principles.
- Physical distancing was difficult to achieve and not observed by many visitors.

(Sources: [The Guardian, 2020](#); [National Park Service, 2020](#))

## Norway’s Bold Plan to Tackle Crowding

### The problem:

- How to protect natural communities suffering from littering, human waste and “overzealous Instagrammers” due to exponential tourism growth, while preserving the ‘freedom to roam’ concept?
- For example, Trolltunga (pictured above), had 90,000 visitors in 2018, up from just 1,000 a decade ago meaning a sharp contrast between the Instagram illusion and the reality of a 2hr queue.

### The solutions:

- Investments to strengthen existing trails and build new ones to supply increased visitor numbers.
- Development of Innovation Norway: a sustainable destination national standard (covering 6 sustainability themes, 45 criteria and 108 indicators –GSTC recognized).
- Each destination creates a plan, including energy-saving initiatives, projects that promote local food and culture and building infrastructure. Upgrades are monitored before receiving accreditation.



**“Earning a sustainable grade through the accreditation process isn’t about being sustainable. It’s that you’ve taken responsibility as a destination to address sustainability issues, everything from social well-being to nature and climate to the economic well-being of businesses.”**

**– Ronny Brunvoll, tourism adviser**

(Source : [Outside Online, 2019](#))

chain of tourism enterprises could also help attract and retain these market segments who will continue to boost the livelihoods of rural business owners.

- Data on booking trends and visitor behavior will be key to managing this and specific licensing and regulation may be required. For example, Amsterdam limits vacation rental hosts to renting 30 days per year.

### Increased demand for 'common pool' resources

Growing preferences for private, self-catering accommodation can place additional pressure on services designed for residents, cause undesirable living conditions, push up the costs of living and cause housing shortages.

## Tackling the Housing Issue in Cornwall

Cornwall's residents have experienced a lack of affordable housing for years. This is partly due to the increase of second homes and short-term rentals.

### *Solution 1: Principal-residence policy*

- In May 2016, in a referendum, residents of St Ives voted to introduce a 'principal-residence policy', which prevented newly built houses in the town from being used as second homes. Many other towns followed suit.
- As a result, demand has decreased and house prices are 13% lower than they were projected to be at the normal growth rate. However, there has also been a slump in the construction of new homes.



During the 'urban flight' (people moving from cities to towns/villages during the pandemic), landlords started to evict tenants to sell houses. This led to many families being forced to leave the county as they could no longer afford to live there. The number of people needing urgent housing in Cornwall doubled.

### *Solution 2: Short-term: purchase of temporary homes*

- During the pandemic, vacant hotels were used as temporary housing
- Since tourism re-opened, the council began purchasing park homes and self-contained cabins to be located on pop-up sites to provide temporary housing.

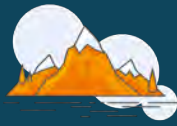
### *Solution 3: Medium-term: Regulation and planning laws*

Local tourism authorities and councils are currently considering further measures including

- Declaring a housing emergency and urgently re-allocating funds to build affordable homes
- Planning restrictions for Airbnb and similar companies (in line with traditional accommodation)
- Increased tax collection for Airbnb and similar (in line with traditional accommodation)

(Sources: [Cornish Stuff](#) and [BBC](#), 2021)

**Future of Tourism**  
**Guiding Principle #10**



**Contains Tourism's Land Use**

Limit high-occupancy resort tourism to concentrated areas. Discourage resort sprawl from taking over coasts, islands, and mountain areas, so as to retain geographical character, a diverse economy, local access, and critical ecosystems.



Snowshoeing, Carina Skrobecki Swain, Courtesy of State of Washington Tourism

**Planning Impact Management Responses**

The following table summarizes some common changes in visitor behavior and spending, associated impacts and potential management techniques.

Potential changes in visitor, flows, behavior and spending patterns	Potential positive (+) and negative (-) impacts of changes	Potential management techniques
<p>New and evolving market segments + Increased demand for rural and protected areas</p>	<p>Overcrowding, damage to the environment,</p>	<ul style="list-style-type: none"> <li>• Management of flows (e.g., increase start/finish points, manage entry, use of Wi-Fi/Bluetooth monitoring, ticketing according to capacity)</li> <li>• Dispersal to less popular areas (e.g., combined tickets to complementary attractions)</li> <li>• Create supporting experiences (e.g., Stonehenge's visitor center reduces pressure on the stone circle)</li> <li>• Information for visitors (e.g., temporary information desks, maps, signage, real time crowd data, routes for different visitor-types)</li> <li>• Investment in infrastructure (e.g., free park and ride bus schemes, portable toilets, trash cans)</li> <li>• Regulate as part of holistic solution (e.g., % of tourist vs local homes, parking for locals, quiet zones, curfews, rent protection for local small businesses)</li> </ul>



Potential changes in visitor, flows, behavior and spending patterns	Potential positive (+) and negative (-) impacts of changes	Potential management techniques
New and evolving market segments + Increased demand for rural and protected areas	- Negative resident sentiment	<ul style="list-style-type: none"> <li>• Consult residents (e.g., listen to and investigate concerns to understand facts – who is impacted, how, why, how much, etc.?)</li> <li>• Take quick action (e.g., look for quick wins and simple solutions that can be acted upon immediately)</li> <li>• Put a strategy in place (e.g., develop tourism in a way that benefits the community, respects and empowers local people)</li> <li>• Invest in the community (e.g., through tourism taxes/donations)</li> </ul>
	+ Demand for new products	<ul style="list-style-type: none"> <li>• Product development (e.g., walking and cycling routes, glamping accommodation)</li> </ul>
Increased demand for ‘common pool’ resources such as increases in private rental accommodation	- Resident dissatisfaction, gentrification effect, unsuitable locations	<ul style="list-style-type: none"> <li>• Licensing and regulation</li> <li>• Communication with residents and visitors</li> <li>• Invest in affordable housing in rural communities (e.g., Moab, Utah Housing Task Force)</li> </ul>
	+ Increased tourist footfall and spend in quieter, lesser-known areas	<ul style="list-style-type: none"> <li>• Product development (e.g., walking and cycling routes, glamping accommodation)</li> <li>• Support linkages with local businesses (e.g., development of rural tourism directory on website)</li> </ul>
	+ Increased revenue and tax contributions	<ul style="list-style-type: none"> <li>• Communicate the benefits</li> <li>• Invest tax revenues to reduce negative impacts of tourism in the community</li> </ul>



Behavior-Smart is an organization dedicated to helping solve large, complex challenges using behavior science and The First Mile™ approach which starts by changing defaults in destinations to facilitate desirable behaviors and outcomes. For example, what if the front desk staff of a hotel can make 10% of the guests walk instead of taking a taxi to places of interest simply by changing the way they make recommendations? And what if a tour operator can nudge its guests to go for local food options simply by adjusting its itineraries and pricing tactics? [Read More](#)

## Reflections

- **What are the main negative visitor impacts in your community? Do you have any strategies to minimize these impacts?**
- **Do you have tools in place for tracking the flow of visitors in your community?**

