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National Tourism Infrastructure Assessment

Tourism Industry Aotearoa

April 2017

Contents

Executive Summary 3
1 Introduction 10
2 The framework 13
3 Application of the framework 17
4 Coordinating investment in practice 33
5 Key learnings 37

Executive Summary

Executive Summary

Tourism is a major contributor to New Zealand's economic prosperity. It is the nation's largest export sector and has been responsible for one fifth of the growth in New Zealand's gross domestic product (GDP) observed since 2011[1]. Over the last two years alone, the size of the sector has grown 24%. Growth of this magnitude brings with it vast economic opportunity. But it can also present challenges – capacity can be stretched and the ability to consistently offer a high quality tourism experience that delivers on New Zealand's brand promise can be compromised, as can community support for tourism. These pressures can be particularly acute when it comes to tourism infrastructure and, as such, the adequacy and appropriateness of tourism investment is critical to the industry's continued growth.

A number of unique characteristics of tourism as an industry make the concept of tourism infrastructure investment particularly complex. At the same time, these characteristics give rise to an important role for governments and for industry.

1. Tourists interact with a vast array of infrastructure types, from airports to cycle paths.
2. Many of the infrastructure classes that visitors utilise have residents as their primary user.
3. The intensity of tourism – and hence infrastructure utilisation – is variable: it is dynamic, with seasonal and geographic peaks.
4. The economic beneficiaries of tourism are widely diffused (across many individual businesses, across sub-sectors and, in many cases, regions).

These unique characteristics make determining the investments most critical to the sector's future growth challenging – that is, prioritisation must be multi-faceted in its approach. At the same time, the commercial incentives that drive market activity are often insufficient in a tourism sector context to ensure that an appropriate level of fit-for-purpose tourism infrastructure investment takes place. Accordingly, a level of coordination is required to support the optimisation of investment decisions.

This coordination involves national and local governments working with industry to plan, stage and manage tourism infrastructure investment. This coordination must recognise and align the interests of residents and visitors, the perspectives of inter-related regions and the diverse group of businesses which count visitors as customers. Government, both central and local, in partnership with industry, is uniquely placed to support the navigation of these considerations.

Against this backdrop, TIA engaged Deloitte New Zealand, in partnership with Australia's Deloitte Access Economics, to conduct an assessment of New Zealand's tourism infrastructure priorities. The study comprises a number of work streams, including a survey of 340 tourism operators and local governments, 25 in-depth interviews, and comprehensive analysis of visitor activity and tourism infrastructure data.

Core objectives

The core objectives of this work were to establish and apply a framework for prioritising tourism infrastructure investment to the Tourism 2025 horizon and beyond. This framework is developed at the infrastructure type level – as opposed to individual projects – and is principally applied nationally, to determine infrastructure investment priorities for New Zealand tourism. That said, it is conceptually applicable – and, where data permits, is practically applied – at the regional level.

Upon the establishment of a ranking of priorities, the work outlines major practical considerations associated with coordinating investment for tourism infrastructure, before exploring the key lessons for industry and policymakers.

[1] Calculated based on analysis of the National Accounts and Tourism Satellite Account produced by Statistics New Zealand

Prioritisation process

The underpinning principle of prioritisation is to ensure that infrastructure investment takes place in a way which maximises the sustainable contribution of tourism to New Zealand and its communities. This requires answering two questions:

1. What forms of infrastructure will generate the greatest tourism impact, given NZ's current infrastructure stock and the demand profile of visitors?
2. How likely is this infrastructure to be provided to sufficient scale and suitable standard in the absence of intervention or coordination between stakeholders?

Accordingly, the framework formulated for this study identifies areas of investment need based on these two dimensions. First, the **impact** in terms of the tourism value that is generated through the investment: this is a function of infrastructure's visitor pulling power; its ability to relieve an existing constraint; and its capacity to target high value/high growth travellers. Second, it identifies how pivotal the role for government and/or industry is to supporting the achievement of optimal investment outcomes. The **need for coordination** is proxied by the share of value that could be captured by the investor, the depth of the existing market, and the lead times/approval processes that may impede individual investors. The areas of infrastructure that rank highly against both these dimensions will be the ones for which coordinated investment will provide the largest impact to tourism value in New Zealand.

The **impact** dimension is developed taking into account a number of interrelated considerations: the degree to which current infrastructure is constrained; the volume of tourism activity that engages with a given infrastructure type; and the role that infrastructure has in affecting travellers' decisions to visit and stay. The **need for coordination** dimension is developed based on a qualitative assessment of the abovementioned components. The assessment against these dimensions relies on a combination of industry survey data, underlying activity and supply/demand data, and multi-criteria analysis.

Application of the prioritisation framework: Public toilet facilities

Taking public toilet facilities as an example, the determination of infrastructure priorities is established through an analytical methodology comprising six steps:

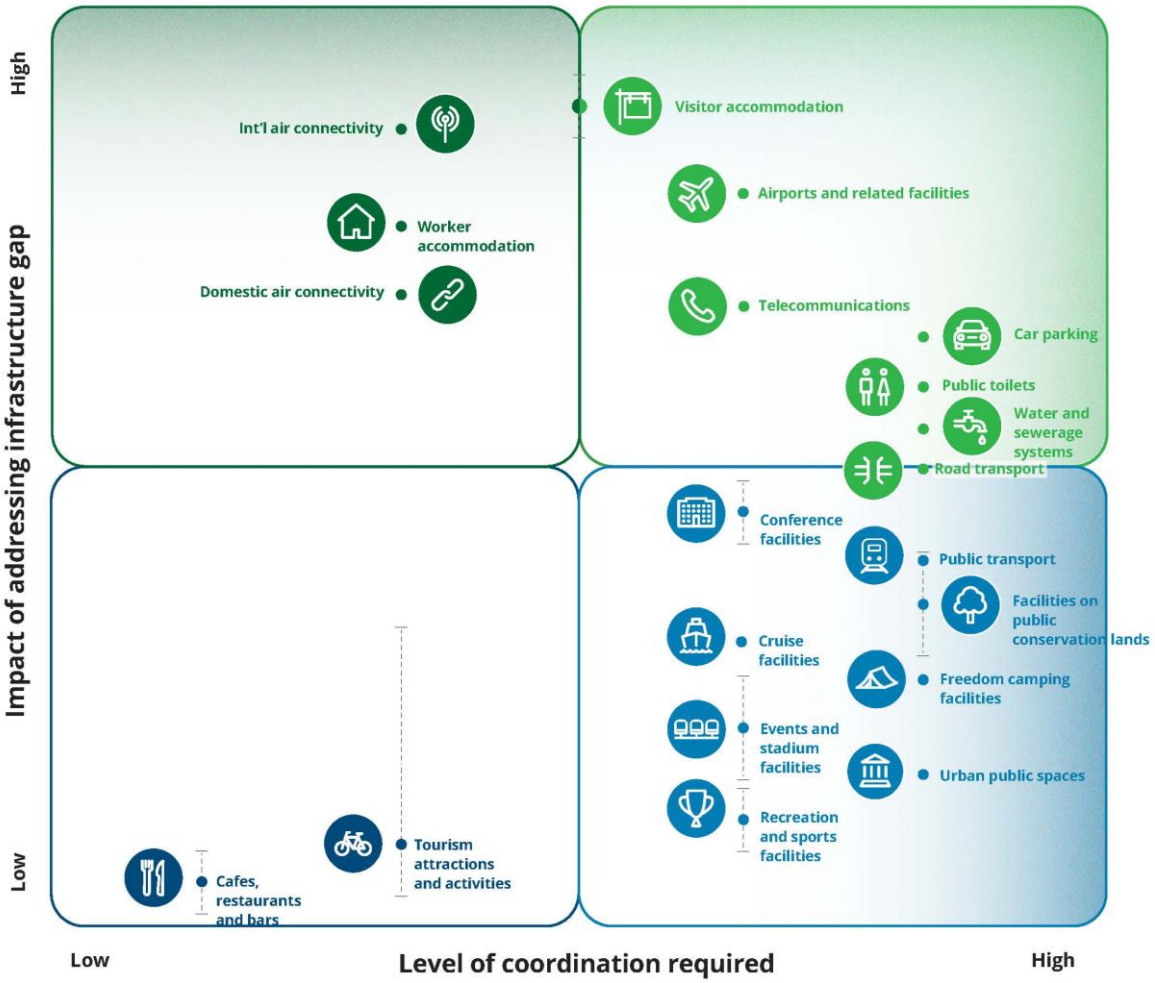
1. **Relative constraint:** Sector survey data indicate that six regions, including Mackenzie, Coromandel and Queenstown, are experiencing constraints in public toilet infrastructure.
2. **Base level of activity:** most travellers are likely to use a public toilet at some point during their trip, so the entire base of tourism activity will be exposed to constraints in public toilet facilities where they exist.
3. **Gap analysis:** the gap analysis is the product of the relative constraint and the base level of activity. This indicates the volume of tourist activity that is currently exposed to or affected by a shortfall in infrastructure. For instance, while McKenzie has a small base level of tourism activity, it identified the highest relative constraint for public toilets. In contrast, Queenstown has a larger base of tourism activity and lower relative constraint. Consequently, these two regions respectively ranked 2nd and 1st overall in tourism impact.
4. **Tourism impact weighting:** per the three components noted above, public toilets is ranked 16th out of 20 infrastructure types against this criterion: as a category, it has no discernible ability to attract visitors – travellers are not attracted to a destination because it has public toilet facilities. However, having more public toilets in areas of constraint will indirectly support additional tourism activity in the region, by improving the amenity (or removing disamenity) of a visit. Finally, public toilets do not preferentially promote high-value, high-growth visitation.
5. **Overall tourism impact:** this is a derivative of the gap analysis and the tourism impact weighting. Despite ranking 16th in terms of the impact weighting, the current gap in public toilets is sufficiently large (ranked seventh), such that public toilets ranks eighth in terms of overall impact.
6. **Coordination weighting:** Investment in public toilet infrastructure is generally associated with short term timescales, and one or two government agencies for approval (such as DOC and local government). However, there is no commercial value uplift associated with public toilets: they are predominantly not user-pays. Hence, the incentives faced by commercial investors are relatively weak, and the need for coordination relatively strong compared with other tourism infrastructure categories, such as visitor accommodation.
7. **Infrastructure Prioritisation:** This assessment places public toilets in the top-right quadrant of the prioritisation map, characterised as "Coordinated action required with relative urgency".

Prioritisation outcomes

The analysis was conducted across 31 regions, and 20 categories of tourism infrastructure. The results of this prioritisation process at a national level are illustrated in the prioritisation map in Figure i below.

Certain infrastructure items involve a larger degree of uncertainty on their tourism impact. This is a result of degree of variability around these infrastructure types attracting additional visitors in their own right. In particular, certain tourism attractions and activities have the potential to draw in tourists, with perhaps the most cited example being the Hobbiton Movie Set in Waikato. These categories with greater uncertainty are hence presented with vertical bounds of variation.

Figure i: Infrastructure prioritisation – all New Zealand



The results place visitor accommodation as the top ranked infrastructure priority across the nation, implying that if the current constraint in visitor accommodation was addressed, this would generate more additional tourism activity for New Zealand than if any other category was prioritised. Focussing on those areas where the need for coordination is relatively greatest, the highest infrastructure priorities at the whole-of-country level include:

- Visitor accommodation;
- Airports and related facilities;
- Telecommunications;
- Car-parking;
- Water and sewerage systems;
- Public toilets; and
- Road transport.

These infrastructure types are assessed as having the greatest impact on tourism activity overall, and also require coordinated effort at the government and industry levels, to ensure existing gaps are resolved, and a sufficient level of infrastructure is provided. While this assessment takes into account existing infrastructure gaps, the ability of each infrastructure type to impact tourism activity, and the need for active coordination, it does not consider the level of investment required to resolve infrastructure gaps, nor where such funding would be sourced from.

Along with air connectivity, worker accommodation is registered as an area which, if addressed, will have a significant impact on tourism activity, but where market resolution is more likely. However, for worker accommodation, it is noted that this sits within the context of a broader housing affordability issue in New Zealand's major cities.

When regional issues are explored, the analysis reveals that some infrastructure issues are broadly observed across the nation, while some are more narrowly felt. Visitor and worker accommodation are broad based issues – they are assessed as issues for 19 and 18 regions, respectively (out of the total 31). Priorities in other infrastructure types are more localised. For example, road transport is primarily an issue in Auckland, similarly, cruise facilities were primarily identified as an issue in Christchurch. Public transport and events/stadium facility infrastructure issues are more concentrated in the South Island (for the former, nine of 15 regions in the South Island, versus three of 17 regions in the North Island). There appear to be some differences between infrastructure issues in metropolitan regions (regions defined as tourism gateway regions by MBIE), and regional areas.

These results provide a comprehensive national and regional picture of key areas of tourism investment priority, distinguishing those likely to be resolved via market incentives and those requiring coordination to support the achievement of appropriate investment outcomes. Beyond the considerations captured in this analytical framework and its prioritisation outcomes a number of further factors need to weigh into final prioritisation decisions. Among these are: cost, maintenance of a social licence to operate, environmental sustainability, seasonal/regional dispersal, and cultural/social inclusion.

Barriers and mitigations

Engagement with industry throughout the course of this project identified a number of considerations that the industry viewed as critical to the successful facilitation of tourism investment:

- **Regulatory complexity and compliance costs** – there are many local and central government processes and requirements that need to be satisfied to progress infrastructure developments (e.g. RMA, geotechnical and earthquake, health and safety, and various concessions and licences), which may increase the coordination burden for some infrastructure projects.
- **Capacity and capability to manage and coordinate infrastructure development** – there is a perceived concern with the capacity and capability of councils or industry to coordinate infrastructure developments which may inhibit the ability to advance projects within the existing processes.
- **Communication of long term tourism infrastructure strategy and vision** – the development, coordination and communication of long term strategies and vision (between government and industry) plays a role in the development of solutions to infrastructure gaps. The lack of such a strategy may make the priorities for development less clear to all stakeholders.
- **Lack of partnering options or incentives –** there is a perceived lack of partnering options and incentives in relation to developing infrastructure. More partnering options (i.e. relationships between local government, central government and private investors) may help lower the coordination burden in relation to infrastructure development.
- **Public resistance to developments –** in some instances, the ability of affected parties to challenge tourism infrastructure projects may be impeding their progress.

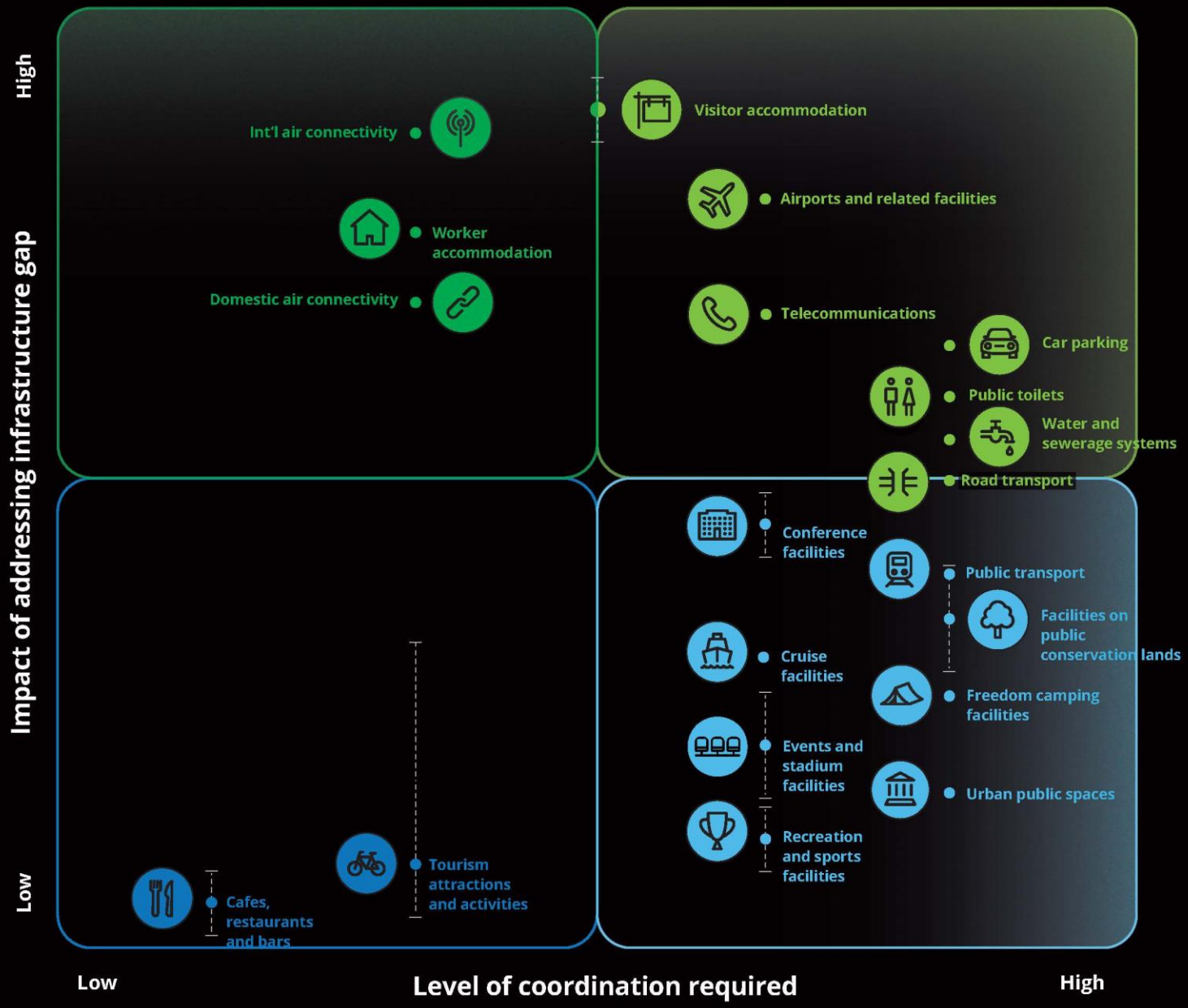
Next steps

These factors presented above are considerations that any future projects within the identified priority infrastructure areas should be mindful of as they progress through the development processes. Along with the practical challenges, a variety of potential solutions arose though sector consultations. Developing national solutions to a series of localised problems, leveraging other projects, increased use of technology and smart partnering, are some examples. These will help address the priority infrastructure issues identified, and help to drive the efficiency of tourism infrastructure investment.

Ultimately, investment in the identified infrastructure priority areas will be essential to New Zealand sustaining the remarkable growth that the tourism industry has exhibited over recent years, and to achieving the $41 billion annual tourism revenue target set out in the Tourism 2025 Growth Framework.

Meeting these priorities and delivering the projects that New Zealand tourism needs to support its continued growth will require systematically navigating both the commercial considerations (such as funding, financing and feasibility) and the development and approvals processes that any investment confronts. While this study has not gauged the overall economic impact that could be achieved by addressing all of the identified infrastructure priorities, it is apparent that the economic opportunity is a significant one and one that warrants endeavours to support developers and investors in overcoming the hurdles that projects of this nature commonly face (and that the industry has identified through the course of this study as critical to future investment outcomes).

National prioritisation map



Interpreting the quadrants of the prioritisation map

Impact of addressing infrastructure gap

Infrastructure falling in this quadrant has high impact, but requires less coordination. While additional infrastructure will serve to underpin tourism growth, the market is expected to resolve these constraints due to higher potential commercial incentives. These include worker accommodation, and both international and domestic air connectivity.	Telecommunications, airport facilities, car parking, water and sewerage, road transport and visitor accommodation are assessed as high tourist impact. These require coordination from industry and government to resolve gaps in infrastructure provision. If these gaps are addressed, this would have a significant impact on aggregate tourism value in New Zealand.
Low impact-low coordination infrastructure types are not a priority for government and industry coordination. In general these infrastructure types would have less impact, as demand constraints are less acute. Where these gaps exist, the market is expected to provide sufficient incentives for investors. These include tourism attractions and activities, and cafes, restaurants and bars. Note the degree of uncertainty around these types, e.g. destination winery restaurants can have significant visitor 'pulling power'.	A number of infrastructure types are assessed to be low-impact, but requiring high degrees of coordination. This includes areas such as public urban spaces, which would not hold strong commercial incentives for potential investors. For others such as cruise and conference facilities, these may have considerable impact in certain regions, but less so at a national level. Coordination may be required for these, as substantial investment is required while returns may be uncertain in timing and scale.

Level of coordination required

= Denotes the degree of uncertainty in tourism impact, as individual projects can vary in their visitor 'pulling power'.

Tourism Infrastructure Requirements in New Zealand

1 Introduction

Background

Tourism is a $34.7 billion industry in New Zealand. The New Zealand Tourism Satellite Account shows that in the year ended March 2016, tourism directly contributed 5.6% of GDP and 20.7% of New Zealand's total export earnings. With tourism playing such a significant role in the New Zealand economy, it is of national importance that it is managed effectively to sustainably optimise its contribution.

The industry-led *Tourism 2025 Growth Framework* that was released in 2014 established the aspirational goal of tourism reaching $41 billion annual revenue in 2025, representing cumulative growth of 46% over 10 years. In practice, the industry has grown by 24% over the subsequent two years, at a rate that will likely see the aspirational goal achieved years earlier than 2025.

This rate of growth is a remarkable success story for New Zealand tourism. However challenges of growth remain. To capture the maximum benefit from sustainable tourism growth while maintaining community support, all aspects of the industry and the infrastructure that supports it, need to scale up accordingly. Businesses need to invest in new capacity, products and services, just as the providers of infrastructure need to increase the capacity and quality of their offer.

This project has been established by Tourism Industry Aotearoa (TIA) with the objective of ensuring that all parts of the tourism system are ready for the growth that is coming and to establish evidence to enable prioritisation of the infrastructure types that are most important to support this growth.

Tourism Infrastructure and Investment Project

TIA engaged Deloitte New Zealand, in partnership with Deloitte Access Economics, to conduct an assessment of the nation's tourism infrastructure priorities. The study comprised a number of work streams:

- Surveys of the industry, including the tourism operator survey that was sent to a list of TIA members (around 1,500), and the local government survey that was sent to a New Zealand-wide list of district and regional councils. Across the two surveys, a total of 340 responses were received.
- 25 in-depth consultations, including a mixture of tourism operators, local government and chambers of commerce, as well as pan-industry groups.
- Analysis of applicable data for each infrastructure type: this includes tourism activity, infrastructure demand, and infrastructure supply where the data were available.
- Development of a framework of tourism infrastructure investment prioritisation, using the evidence base developed through the surveys, consultations, and data analysis.

This report presents the findings of the study. The body of the report focusses on the outcomes of the tourism investment infrastructure prioritisation process, as well as the reported barriers to tourism investment, and options to mitigate those barriers.

The nature of tourism investment, and purpose of prioritisation

As an industry, tourism is unique in how it is defined. It is the nature of consumption rather than production which defines tourism as an industry. The 'basket' of goods and services that visitors experience ultimately determines the definition of the tourism industry. Similarly, the infrastructure required to support the provision of this 'basket' of goods and services - either directly or indirectly - ultimately determines the definition of *tourism infrastructure*. Hence, tourism infrastructure can take a variety of forms: from classic tourism infrastructure like hotels and airports, to shared transport infrastructure like roads and ports, and supporting infrastructure like utilities.

The unique features that characterise tourism as an industry mean that investment considerations are particularly complex. Certainly, all sectors must weigh up alternative investment priorities and determine those which offer the greatest return. However, the task of investment prioritisation in tourism is made more challenging by the fact that:

- **A wider array of potential investments is under consideration.** Prioritisation in tourism must weigh up the relative merits of investments ranging from short stay accommodation, to attractions, transport, and civil infrastructure. Any framework for prioritisation must therefore be sufficiently flexible to accommodate investments that can take very different forms and that generate benefits in very different ways.
- **Users of infrastructure are often a mix of visitors and residents.** Some types of infrastructure, such as visitor accommodation or freedom camping facilities, are used predominantly by visitors, so the framework for investment prioritisation can be entirely tourism-focussed. Other types of infrastructure, including car parking and urban public spaces, are used by both visitors and residents. The framework for investment prioritisation in these 'mixed-use' developments requires some regard for residents' need and use of this infrastructure.
- **The beneficiaries of tourism investment are generally not confined to the would-be investor.** The commercial incentives for investment can therefore often be weaker than those required to achieve optimal levels of investment. Any framework therefore needs to be mindful that, for a given level of priority, there is a varying level of likelihood of an infrastructure deficit being rectified simply via the commercial incentives that industry participants face.
- **The nature of tourism, and its infrastructure needs, varies widely from region to region.** New Zealand has a broad array of experiences and destinations on offer for visitors. Successful investment builds on the comparative strengths of the region. Further, the commercial incentives for tourism investment vary between urban and non-urban settings, as well as between major tourism centres and the country more generally.

The purpose of investment prioritisation in tourism is therefore to appropriately assess the relative importance of different investment types and projects to the future growth of the sector. That is, to identify those investment areas which will be most instrumental to the future growth of the sector. This is required at both a national and sub-national level.

In this sense, the purpose of infrastructure investment prioritisation in tourism is not unique, but its realisation is made especially challenging by the unique features of the tourism industry. While different types of infrastructure investment underpin tourism activity in different ways, the additional tourism expenditure created is the ultimate goal of all investment, underpinned by the Tourism 2025 Growth Framework.

Along with the primary purpose of maximising sustainable growth, the secondary objective of the prioritisation framework is to determine the likelihood that coordinated activity is required to address the infrastructure deficit. That is, the likelihood that commercial incentives alone are not sufficient to induce investment in a manner and to a level that optimally supports the future growth of the industry. This second dimension represents a test for when the active involvement of government, industry and organisations like TIA is warranted to address the infrastructure priority.

There is an important temporal dimension in the degree to which commercial incentives will act. The focus here is not on resolving short-term pinch-points since many otherwise well-functioning markets observe temporary shortages in investment. Instead, the collective resources of government – which in itself is not a single integrated entity - and the private sector must be focussed on the medium to long term infrastructure issues, which will continue to persist in the absence of coordinated action.

In light of these challenges and this overarching purpose, the role of the infrastructure investment prioritisation framework is to bring structure, rigour and an evidence-based approach to identifying investment priorities. Such attributes are desirable in any investment decision, however they are particularly necessary when public resources are being committed. In doing so, the framework provides confidence that the areas of focus for the tourism sector are those with the greatest long term upside, and the strategic response is appropriate given the prevailing investment conditions.

Objectives

The core objective of this work is to establish and apply a framework for prioritising tourism infrastructure investment. At a national level, the results of this framework will inform the national agenda for tourism infrastructure investment, including NZ-wide policy responses by government. The regional level findings will inform strategic planning decisions by local economic development agencies, such as ATEED. The infrastructure-specific findings will be relevant to industry bodies such as Cruise New Zealand, in their policy engagement activities. Ultimately, individual infrastructure proposal business cases will need to be conducted and evaluated before funds are committed, whether they be public or private funds. This framework is not intended to replace, but rather complement the business case process. It is designed to be applicable at the earlier stages of issue identification and scaling, and then support the project level business case.

Beyond the prioritisation framework, this work also addresses the major practical issues with coordinating investment for tourism investment, then draws together the key lessons for industry and policymakers. The work also presents the evidence bases gathered in developing the prioritisation framework, being the survey results, consultation findings and underlying data sources relevant for specific infrastructure categories. It is important to note that infrastructure planning is an ongoing area of study for TIA, in particular understanding the likely cost of different types of infrastructure at different scales.

2 The framework

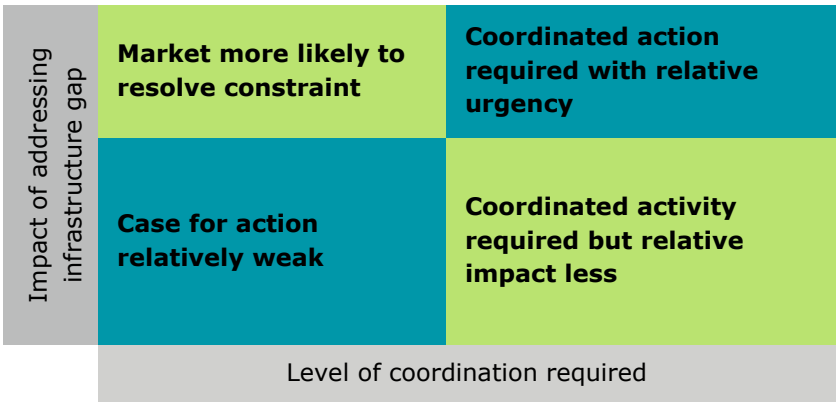
A framework to establish priorities of tourism investment

In consultation with New Zealand tourism stakeholders including local government, TIA, and other subject matter experts, Deloitte has devised a framework to prioritise and classify tourism infrastructure. This framework reflects the guiding principle that investment should seek to stimulate the most sustainable growth in tourism expenditure, while focussing on those areas that would not be delivered by market forces alone. This principle leads to the following two dimensions:

- The impact on tourism expenditure in addressing any gaps in infrastructure
- The need for coordinated effort to address these infrastructure gaps

These dimensions are not readily combined into a single measure for the purpose of determining infrastructure prioritisation. In some respects, there is greater value in understanding each separately. Accordingly, the approach taken here is to organise infrastructure types along the two dimensions, as set out in Figure 2.1.

Figure 2.1: Dimensions of the tourism infrastructure investment prioritisation framework



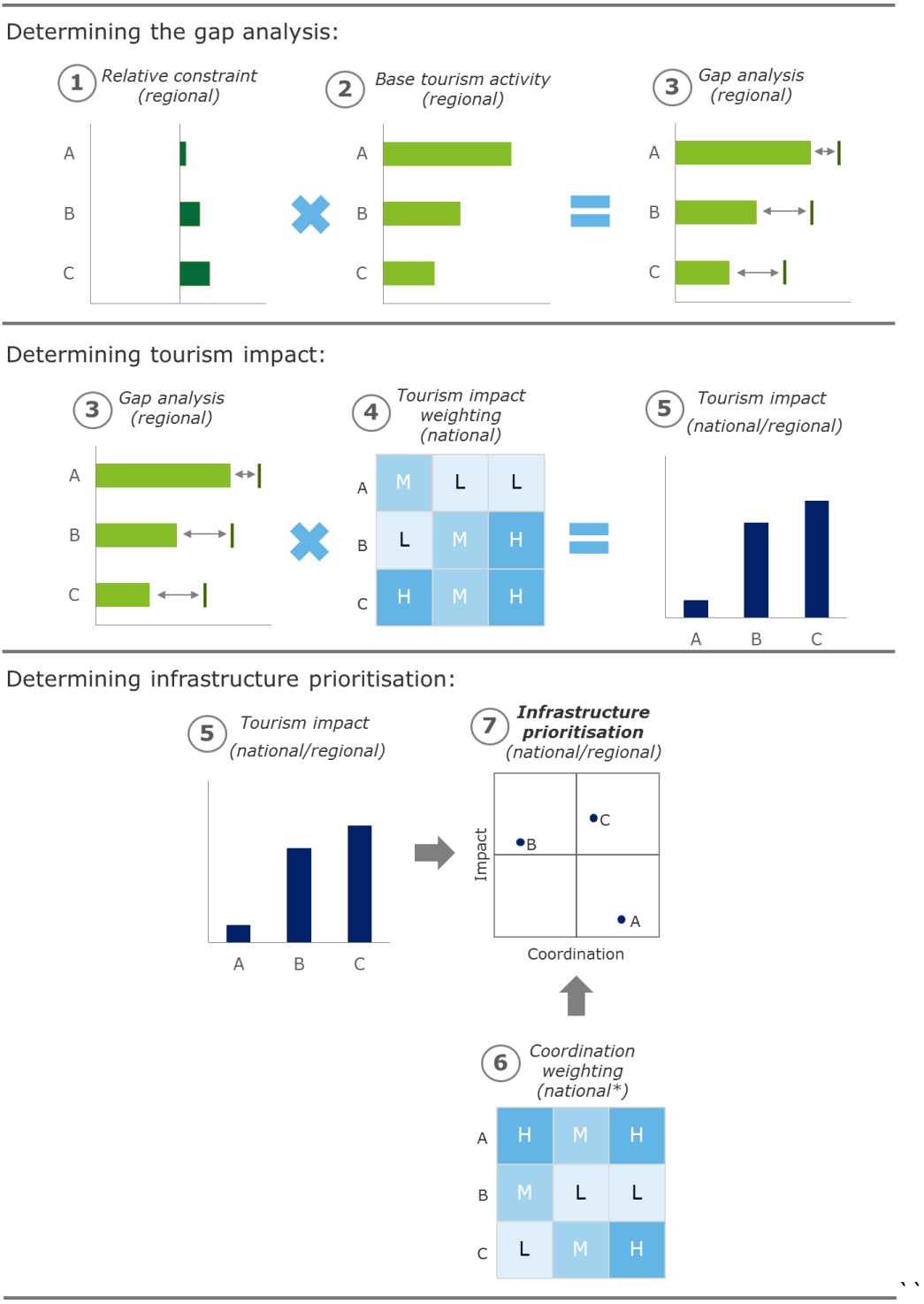
Each of the quadrants in the prioritisation map have distinct interpretations:

- Those with a higher level of tourism impact (that is, the greatest potential to generate additional tourism expenditure) and higher level of coordinated effort required - that is, a low likelihood that commercial incentives alone will see the priority addressed - are seen as the highest priority from a whole-of-industry perspective. These are located in the top-right quadrant shown in Figure 2.2.
- Those with a higher level of tourism activity impact but a lower level of coordinated effort required (top-left of diagram) are projects of higher importance to the industry's future growth but can be considered lower priorities from a strategic perspective given commercial conditions favour investment.
- Those with a lower level of tourism activity impact but a higher level of coordinated effort required (bottom-right of diagram) are projects that will require a significant degree of coordinated resources from government and/or the industry, but that will have a relatively smaller impact on national-level tourism growth.
- Those with a lower level of tourism activity impact and low level of coordinated effort required (bottom-left of diagram) are both less critical to the future growth of the industry and more likely to be resolved by market forces. Hence, some monitoring by a coordinating agency may be useful, but investments classified in this fashion are typically of a lower priority.

Developing a picture of investment priorities

Putting numbers to a framework for investment prioritisation that spans a range of infrastructure types and across all of New Zealand's tourism regions requires a variety of considerations. Figure 2.2 illustrates the seven key components of this process.

Figure 2.2: Mapping the dimensions of the framework together to complete the prioritisation



Each of these steps is outlined in turn:

1. **Relative constraint:** The relative constraint of a given type of infrastructure, in a given region. This is drawn from survey data, in response to the following question: *For the types of infrastructure that your customers currently use, could you please indicate the available infrastructure capacity at peak times: No capacity/Limited capacity/Some capacity/Significant capacity.* These responses are translated into a net score of all responses, cross-referenced with alternative data sources. Where more direct measures of constraint are observable (e.g. occupancy rates) these are used at a regional level, to mitigate sample limitations of the survey.

2. **Base tourism activity:** The base level of tourism activity in a given region that relies upon a given type of infrastructure. This distinguishes those infrastructure types that are used by a broad base of individuals (e.g. road networks) from those that are used by a narrower group (e.g. cruise ship facilities). These measures are developed from a range of sources, but most notably the International Visitor Survey (IVS) and the Domestic Traveller Survey (DTS). Category specific data sources are used for 17 infrastructure types, with the remaining 3 categories referencing visitor nights overall. This base measure also incorporates an adjustment for the value of tourism activity, in terms of relative spend per visitor night, and expected growth in the base of activity over the period to 2025.

3. **Gap analysis:** This measures the value of tourism activity affected by a shortfall in the current level of infrastructure. This is calculated as the product of components 1 and 2. A number of assumptions are made to scale raw data to a consistent format and able to be scaled upwards to a national picture.

4. **Tourism impact weighting:** This reflects the degree to which tourism activity affected translates into tourism activity foregone. For instance, a shortfall of telecommunications infrastructure will be less binding in terms of foregone tourism than visitor accommodation. This weighting is determined through four factors: (1) the potential visitor 'pulling power' of the infrastructure, (2) the ability of the infrastructure to 'unlock' excess demand, (3) infrastructure as a promoter of high value, high growth, market segments, and (4) the infrastructure underpinning the ongoing sustainability and resilience of tourism activity.

5. **Overall tourism impact:** An overall rating of the impact on tourism activity if the gap in infrastructure was addressed. This is the product of components 3 and 4; the gap analysis and impact weighting. The intuition is that the gap analysis provides the overall tourism activity affected, while the weighting determines the degree to which tourism activity affected translates into tourism activity foregone. This is therefore a measure of overall tourism value that would be generated if the tourism infrastructure gap is addressed. This tourism value generated is the positive impact of infrastructure investment.

6. **Coordination weighting:** A weighting of the need for government and tourism sector coordination in order to bring about a reduction in the gap. This considers the different degrees to which infrastructure gaps will be resolved independently by the market. Put another way, whether market incentives are sufficient for the private sector to sufficiently resolve the infrastructure gap in a timely manner, without the need for government intervention. It also takes into account the potential need for an integrated government response. This is represented on a five-point scale and is based on a multi-criteria analysis of the four coordination factors: (1) the degree of revenue uplift captured by the investor, (2) the expected timescale for development, (3) the number of agencies and layers of government involved, and (4) the depth of the regional market for the provision of the infrastructure.

   The bulk of weighting under this segment is given to the degree to which investors can capture the benefits of their investment. For example, hotel investors are likely able to capture a significant proportion of the returns from their investment via the operation or sale of the hotel. Conversely, investment in roads, a public good, would likely benefit a wide range of entities, with only a small proportion of benefits accruing to the investor.

   The need for coordinated investment varies based on the size of the surrounding economy and tourism industry. Areas with a smaller tourism activity base, and smaller economy overall, will generally require greater levels of support for investment than larger areas. This is included in the framework: for a given infrastructure category, a need for coordination rating is determined for both 'metropolitan'

and 'regional' areas. Each area is then assigned as 'metropolitan' or 'regional', based on the resident population, and size of the existing tourism industry. Hence, those infrastructure ratings are common across regions that share the same 'metropolitan' or 'regional' classification. This assumption reflects the stylised way in which this measure is derived.

7. **Infrastructure prioritisation:** Finally, the overall prioritisation assessment is completed by combining the rating of the impact on tourism activity with the need for government and tourism industry coordination weighting. These are presented at both a national level, and a regional level (where data allows). Specific infrastructure type observations are classified according to the quadrant in which they land. The location of each observation on the map determines the priority classification. Potential investment options are allocated into one of four quadrants: (1) coordinated action required with relative urgency (2) coordinated activity required if greater impact is apparent, (3) market more likely to resolve constraint, and (4) case for action relatively weak.

Other evidence supporting the prioritisation

Deloitte also conducted consultations with a variety of stakeholders in the tourism industry in order to inform this analysis. Consultation participants either operated nationally or were selected from a variety of regions in New Zealand, in order to obtain a national perspective on the infrastructure issues that were affecting tourism in New Zealand.

Participants were asked about the key infrastructure issues affecting their organisation, which included: issues with infrastructure enabling access to their organisation; issues with ancillary infrastructure; key infrastructure issues from a national perspective; and key barriers affecting infrastructure development. The consultation findings were used to dive deeper into key infrastructure issues identified from the survey and demand and supply analysis, and to supplement assessment of the depth and detail of infrastructure issues. Consultations also provided other valuable insights which are included in the report, such as the barriers to infrastructure development in New Zealand, potential solutions to addressing infrastructure issues and potential consequences of not addressing issues.

3 Application of the framework

The previous chapter set out the framework to prioritise tourism infrastructure investment, this chapter describes the application of the framework for 20 infrastructure categories, at a national and regional level. The results of this application are then described.

Determining the gap analysis ranking

As outlined in Figure 2.2 in the previous chapter, the prioritisation framework comprises seven steps to develop a view of tourism infrastructure investment priorities, over the medium term to 2025. This chapter describes each of those steps to illustrate how relative priorities between infrastructure categories are determined. Figure 3.1 illustrates the interaction between the first three steps in this process.

Figure 3.1: Determining the gap analysis ranking, for New Zealand overall

Constraint ranking (net issue score)

Rank	Infrastructure category
1	Worker accommodation
2	Visitor accommodation
3	Freedom camping facilities
4	Car parking
5	Conference facilities
6	Public transport
7	Cruise facilities
8	Telecommunications
9	Public toilets
10	Facilities on public conservation lands
11	Int'l air connectivity
12	Events and stadium facilities
13	Domestic air connectivity
14	Airports and related facilities
15	Water and sewerage systems
16	Road transport
17	Tourism attractions and activities
18	Cafes, restaurants and bars
19	Recreation and sport facilities
20	Urban public spaces

×

Base tourism activity ranking

Rank	Infrastructure category
1	Worker accommodation
2	Tourism attractions and activities
3	Cafes, restaurants and bars
4	Urban public spaces
5	Road transport
6	Car parking
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Gap analysis ranking

Rank	Infrastructure category
1	Worker accommodation
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15	Facilities on public conservation lands
16	Urban public spaces
17	Events and stadium facilities
18	Recreation and sport facilities
19	Cafes, restaurants and bars
20	Tourism attractions and activities

The left-hand table in Figure 3.1 depicts the relative constraint rankings, the result of the first step in the first step in the prioritisation framework. For each infrastructure type, relative constraints are calculated using survey data and/or underlying data, depending on the relative confidence of the two types of data. These considerations are explored in more detail in Appendix D: Data Sources. Of the 20 infrastructure categories examined, worker accommodation has the greatest relative constraint, followed by visitor accommodation, and freedom camping facilities. These three infrastructure categories are followed through the seven steps of the framework, to illustrate the function of each step.

The centre table in Figure 3.1 shows the ranking of each infrastructure category, in terms of the base level of tourism activity that is dependent on it. Taking worker accommodation for instance, all visitors interact with the tourism workforce to some degree, so the entire base of tourism activity will be exposed to constraints in worker accommodation. Hence worker accommodation is ranked first in terms of base activity ranking. Conversely, a smaller amount of visitor activity relies upon freedom camping facilities, relative to the figures overall, since only a share of total visitors use these facilities. This is determined using the IVS and DTS surveys. Visitor accommodation is middle-ranked, given many visitors use commercial visitor accommodation, but not all. Similarly, this is determined using the IVS and DTS surveys.

The third step in the process, the gap analysis, is presented in the right-hand table of Figure 3.1. This is the product of steps 1 and 2. Worker accommodation is the highest ranked in terms of the infrastructure gap, as it is ranked highest in the prior two steps. Visitor accommodation is ranked fourth, pulled down by the lower base level of activity. Similarly freedom camping facilities are ranked 13th in the overall gap analysis.

Importantly, this calculation is carried out at the regional level, then aggregated to a national summary. This influences the overall rankings, relative to if this calculation were undertaken at the national level. For example, car parking is fourth in terms of the relative constraint ranking, and seventh in terms of the base tourism activity. However, car parking is the second largest relative constraint for Queenstown-Wanaka (see Table 3.3), which has a large share of the base tourism activity in New Zealand. In this way, car parking is promoted to third in terms of the gap analysis.

Determining the tourism impact ranking

Once the gap analysis is established, the next step in the process is determining the tourism impact weighting matrix. This reflects the degree to which tourism activity affected translates into tourism activity foregone. Table 3.1 provides the rating for each infrastructure category on the three quantified factors: (1) the potential visitor 'pulling power' of the infrastructure, (2) the ability of the infrastructure to 'unlock' excess demand, and (3) infrastructure as a promoter of high value, high growth, market segments. The fourth factor, which focusses on the underpinning sustainability and resilience of tourism activity, is incorporated as a qualitative consideration in the prioritisation.

Table 3.1: The elements of the tourism impact weighting matrix

Infrastructure category	Pulling power of additional demand	Unlocking an existing constraint	Promoting high value, high growth
Tourism attractions and activities	Medium	Medium	High
Facilities on public conservation lands	Medium	Medium	Nil
Events and stadium facilities	Medium	Medium	Nil
Visitor accommodation	Low	High	High
Conference facilities	Low	High	Medium
Recreation and sport facilities	Low	Medium	Nil
Cruise facilities	Nil	High	High
Cafes, restaurants and bars	Low	Low	Low
Airports and related facilities	Nil	High	Medium
Domestic air connectivity	Nil	High	Medium
Int'l air connectivity	Nil	High	Medium
Road transport	Nil	Medium	Nil
Public transport	Nil	Medium	Nil
Freedom camping facilities	Nil	Medium	Nil
Water and sewerage systems	Nil	Medium	Nil
Public toilets	Nil	Medium	Nil
Urban public spaces	Nil	Low	Nil
Car parking	Nil	Low	Nil
Telecommunications	Nil	Low	Nil
Worker accommodation	Nil	Low	Nil

On balance, visitor accommodation scores Low on its ability to pull additional visitors to a given destination: most accommodation is not part of the purpose of a visit, with some exceptions such as treetop cabins or luxury lodges. Visitor accommodation scores High on its ability to unlock an existing constraint: if all hotels, motels, backpackers, and holiday parks are fully occupied, additional visitor accommodation will very directly lead to additional tourism activity. Those who stay in commercial Visitor

accommodation tend to spend more per night than those who do not, hence the category scores a Medium on its ability to promote high value, high growth visitation. Overall, visitor accommodation is ranked fourth in terms of the tourism impact weighting ranking, as shown in the middle table in Figure 3.2.

As a category, freedom camping facilities is ranked 15th overall: it has no discernible ability to attract visitors (therefore scored Nil for factor 1), it has a moderate ability to relieve a capacity constraint (therefore scored a Medium on factor 2), and does not preferentially promote high-value, high-growth visitation.

Worker accommodation is ranked last: as a category, it has no discernible ability to attract visitors – travellers are not attracted to a destination because it has sufficient accommodation for its workforce. Further, a shortage of worker accommodation will in most cases marginally increase prices for visitors, albeit in an indirect way. It therefore scored a Low on factor 2. Finally, worker accommodation does not preferentially promote high-value, high-growth visitation.

Figure 3.2 combines the gap analysis and impact weighting concepts, to determine the overall tourism impact ranking. Visitor accommodation ranks within the top five on both the gap analysis and the impact weighting, while the others that occupy the top five on one ranking are outside the top ten on the other, for example telecommunications – 2nd/19th, and tourism attractions and activities 19th/1st. This result promotes visitor accommodation to the top ranked infrastructure category. **If the current constraint in visitor accommodation were addressed, this would generate more additional tourism activity for New Zealand than if any other category were prioritised.**

Despite ranking last in terms of the impact weighting matrix, the current gap in worker accommodation is sufficiently large (ranked first), such that worker accommodation ranks fourth in terms of overall impact. Freedom camping facilities, while an issue that generates significant media attention, if resolved will not generate as much additional tourism expenditure as additional cruise facilities, for example.

Figure 3.2: Determining the tourism impact ranking, for New Zealand overall

Gap analysis ranking

Rank	Infrastructure category
1	Worker accommodation
2	Telecommunications
3	Car parking
4	Visitor accommodation
5	Int'l air connectivity
6	Airports and related facilities
7	Public toilets
8	Domestic air connectivity
9	Water and sewerage systems
10	Road transport
11	Public transport
12	Conference facilities
13	Freedom camping facilities
14	Cruise facilities
15	Facilities on public conservation lands
16	Urban public spaces
17	Events and stadium facilities
18	Recreation and sport facilities
19	Cafes, restaurants and bars
20	Tourism attractions and activities

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Impact weighting ranking

Rank	Infrastructure category
1	Tourism attractions and activities
2	Facilities on public conservation lands
3	Events and stadium facilities
4	Visitor accommodation
5	Conference facilities
6	Recreation and sport facilities
7	Cruise facilities
8	Cafes, restaurants and bars
9	Airports and related facilities
10	Domestic air connectivity
11	Int'l air connectivity
12	Road transport
13	Public transport
14	Freedom camping facilities
15	Water and sewerage systems
16	Public toilets
17	Urban public spaces
18	Car parking
19	Telecommunications
20	Worker accommodation

=

Tourism value impact ranking

Rank	Infrastructure category
1	Visitor accommodation
2	Int'l air connectivity
3	Airports and related facilities
4	Worker accommodation
5	Domestic air connectivity
6	Telecommunications
7	Car parking
8	Public toilets
9	Water and sewerage systems
10	Road transport
11	Conference facilities
12	Public transport
13	Facilities on public conservation lands
14	Cruise facilities
15	Freedom camping facilities
16	Events and stadium facilities
17	Urban public spaces
18	Recreation and sport facilities
19	Tourism attractions and activities
20	Cafes, restaurants and bars

Determining the infrastructure prioritisation

Figure 3.2 specifies the vertical axis of the tourism investment prioritisation map; i.e. the impact on tourism activity if the constraint were relieved. Table 3.2 provides the basis for assessing the horizontal axis of the prioritisation map; i.e. the need for coordinated effort to ensure the constraint is resolved. These two dimensions are brought together at a national level in Figure 3.3 overleaf.

Table 3.2: The elements of the need for coordination weighting matrix

Infrastructure category	Value uplift captured by the investor	Typical timescale	Number of agencies	Depth of market
Road transport	Nil	High	High	Low
Public transport	Low	Medium	Medium	Low
Facilities on public conservation lands	Nil	High	Medium	Low
Freedom camping facilities	Nil	Low	Low	Low
Urban public spaces	Nil	High	Medium	Low
Water and sewerage systems	Nil	High	Low	Low
Public toilets	Nil	Low	Low	Low
Car parking	Nil	Low	Low	Low
Airports and related facilities	Medium	High	High	Low
Cruise facilities	Low	High	High	Low
Recreation and sport facilities	Low	Medium	Medium	Low
Events and stadium facilities	Medium	High	Medium	Low
Telecommunications	Low	Medium	Medium	Low
Conference facilities	Low	High	Medium	Low
Visitor accommodation	Medium	Medium	Medium	Medium
Domestic air connectivity	High	Low	Low	Medium
Int'l air connectivity	High	Medium	Medium	High
Worker accommodation	Low	Medium	Medium	Medium
Tourism attractions and activities	High	Medium	Low	Medium
Cafes, restaurants and bars	High	Low	Low	Medium

New Zealand overview – national infrastructure priorities

The following section outlines the key findings in terms of infrastructure priorities. These are presented at a national level. Aggregating for the whole of New Zealand, the 20 infrastructure types are categorised into four quadrants, as shown in Figure 3.3.

Certain infrastructure items involve a larger degree of uncertainty on their tourism impact. This is a result of degree of uncertainty around the ability of these infrastructure types to attract additional visitors in their own right. To return to an example introduced previously, most accommodation is not part of the purpose of a visit, but there are some notable exceptions such as treetop cabins or luxury lodges. These categories with greater uncertainty are hence presented with vertical confidence intervals. In particular, certain tourism attractions and activities have the potential to be attractors in their own right, with perhaps the most often cited example of this being the Hobbiton Movie Set in Waikato.

Figure 3.3: Infrastructure prioritisation – all New Zealand

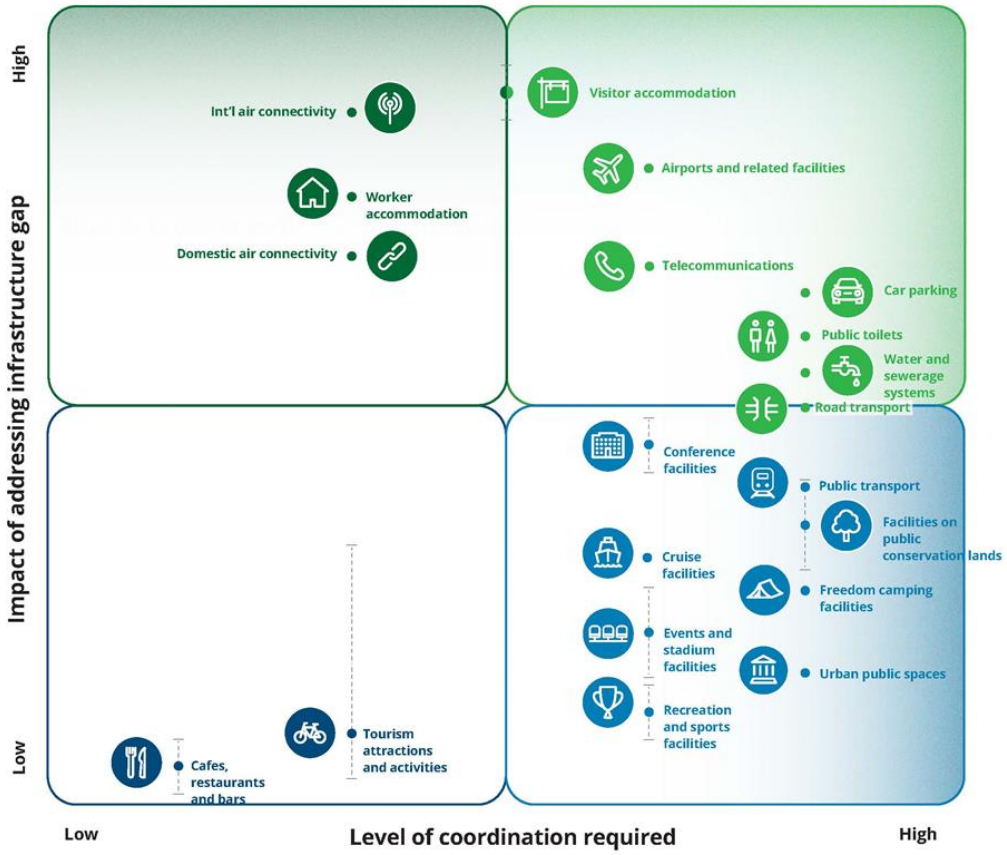


Figure 3.4 illustrates the distinct interpretation of each quadrant within the tourism infrastructure investment prioritisation map. While worker accommodation, international air connectivity and domestic air connectivity are assessed as likely having high tourism impact, it is also expected that these gaps are more likely to be self-resolved by the market.

Figure 3.4: Interpreting the quadrants of the prioritisation map

Impact of addressing infrastructure gap		
High	Infrastructure falling in this quadrant has high impact, but requires less coordination. While additional infrastructure will serve to underpin tourism growth, the market is expected to resolve these constraints due to higher potential commercial incentives. These include worker accommodation, and both international and domestic air connectivity.	Telecommunications, airport facilities, car parking, water and sewerage, road transport and visitor accommodation are assessed as high tourist impact. These require coordination from industry and government to resolve gaps in infrastructure provision. If these gaps are addressed, this would have a significant impact on aggregate tourism value in New Zealand.
Low	Low impact-Low coordination infrastructure types are not a priority for government and industry coordination. In general these infrastructure types would have less impact, as demand constraints are less acute. Where these gaps exist, the market is expected to provide sufficient incentives for investors. These include tourism attractions and activities, and cafes, restaurants and bars. Note the degree of uncertainty around these types, e.g. destination winery restaurants can have significant visitor 'pulling power'.	A number of infrastructure types are assessed to be low-impact, but requiring high degrees of coordination. This includes areas such as public urban spaces, which would not hold strong commercial incentives for potential investors. For others such as cruise and conference facilities, these may have considerable impact in certain regions, but less so at a national level. Coordination may be required for these, as substantial investment is required while returns may be uncertain in timing and scale.
	Low	Level of coordination required *High*

From a national perspective, coordinated effort, by either public or private sector organisations, is likely to yield the highest impact if focussed on infrastructure categories in the top right quadrant. Applying the prioritisation methodology developed to infrastructure specific data, these categories are assessed as the having the greatest impact on tourism activity overall, while requiring active effort beyond individual operators/providers in order for existing gaps to be resolved. These include:

- Visitor accommodation (to a degree, as some market-based investment incentives are present)
- Airports and related facilities
- Telecommunications
- Car parking
- Water and sewerage systems
- Public toilets; and
- Road transport.

The lowest ranked infrastructure categories in terms of their impact on expenditure are recreation and sport facilities, and urban public spaces. The above assessment takes into account existing infrastructure gaps, the ability of each infrastructure type to impact tourism activity, and the need for active coordination. It does not consider the degree of investment required to resolve infrastructure gaps, nor where such funding would be sourced from.

A number of infrastructure types are assessed as falling within the bottom right quadrant, i.e. with limited tourism impact, but requiring high degrees of coordination. This observation (of limited impact) holds true when infrastructure is assessed on an individual basis. Where these gaps exist and are not resolved, it is not clear whether the collective gap will magnify tourism impacts beyond expected effects at the individual level. That is, for example, while a shortfall in telecommunication infrastructure by itself is expected to have a low tourism impact, the lack of telecommunication infrastructure in conjunction with other infrastructure gaps (e.g. road, public toilets), may detract substantially from the visitor experience.

Along with air connectivity, worker accommodation is listed as an area which, if addressed, will have a significant impact on tourism activity, but where market resolution is more likely. However, it is noted that this sits within the context of a broader housing affordability issue in New Zealand's major cities. This is discussed further in Box 3.1, on page 29.

Further detail on specific infrastructure categories

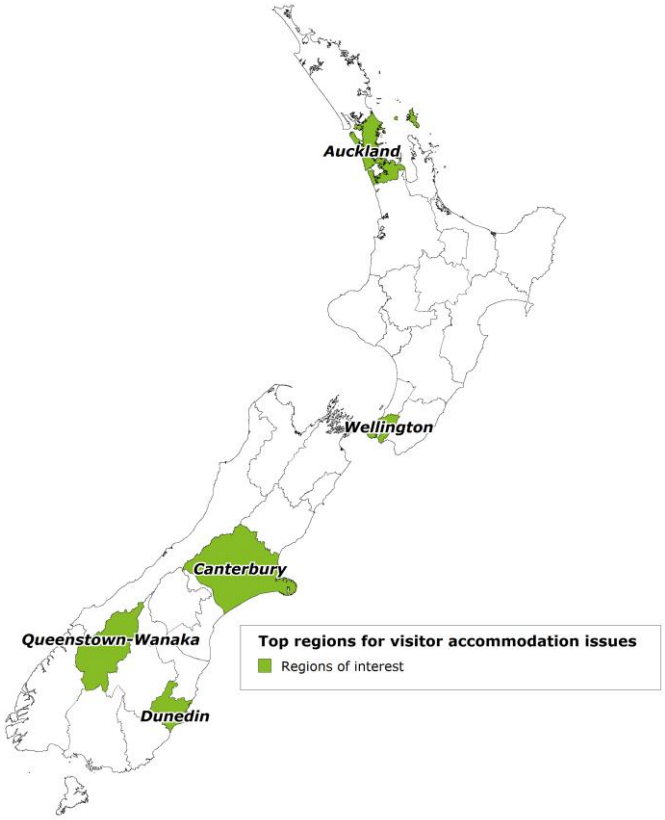
The sections below provide a more detailed look at the infrastructure categories that fell into the top-right quadrant of the prioritisation matrix. That is, the infrastructure categories that were assessed as having the greater impact on tourism activity, while requiring a high level of coordination between government and industry to resolve existing gaps. The top regions, which have identified gaps for these infrastructure types, are outlined in further detail below. A map is provided highlighting the regions of greatest priority for each of these infrastructure categories. For those categories where the gap analysis demonstrated a broad need for infrastructure investment across New Zealand, the top five regions are given. Some infrastructure needs are more narrowly focussed, in which case all regions are highlighted.

Visitor accommodation

Visitor accommodation may be the highest tourism impact infrastructure type in New Zealand. Visitor accommodation has a high impact weighting (4th overall) as additional supply can relieve the constraint and facilitate additional visitation. Certain visitor accommodation types – such as 4-5 star hotels – can attract higher value visitors. The level of coordination required for visitor accommodation differ by the region. While developers are likely to increase accommodation supply in metropolitan areas to capture the surplus demand without Government intervention, more coordination is required for regional areas.

Visitor accommodation is the second most raised issue (behind worker accommodation), and has been identified in 19 regions. The most acute gaps are in Auckland, Queenstown-Wanaka, Wellington, Canterbury and Dunedin (Figure 3.5).

Figure 3.5: Top regions for issues in visitor accommodation



Consultations with key tourism stakeholders have revealed that the issues in visitor accommodation span a range of accommodation options, and cover issues to do with both capacity and quality. In particular, respondents identified significant bottlenecks in hotel supply in Auckland and Queenstown. Other regions, such as Christchurch, have hotel capacity issues that are more limited to the peak season. In particular, respondents emphasised the importance of 4-5 star hotels that meet visitor expectations, and hotels that can cater to group visitors.

On the other end of the spectrum, Christchurch and Queenstown were identified as having a shortage of backpacker accommodation. These views are similarly echoed in the survey responses. The high demand is leading to higher prices. Consultation respondents noted that this discourages tourism, and creates a perception that New Zealand is expensive.

Respondents also recognised the importance of smoothing visitor demand throughout the year to justify investment in visitor accommodation.

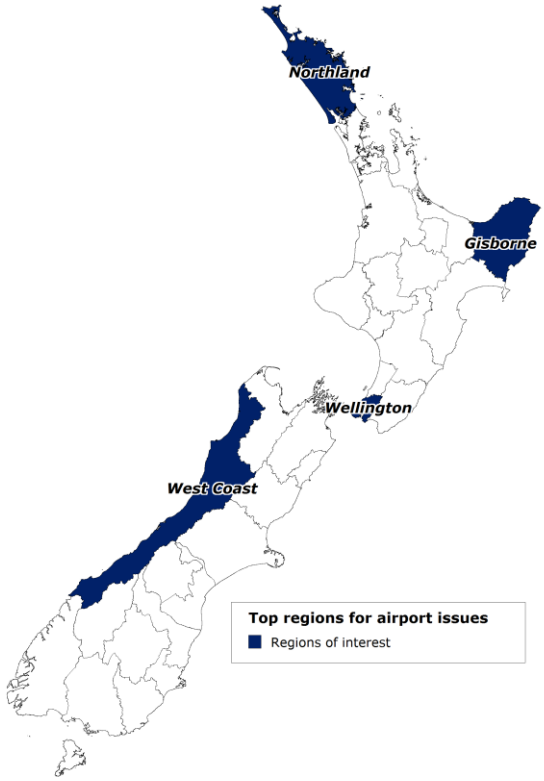
Airports and related facilities

Airports and related facilities is rated as the infrastructure with the third highest tourism impact in New Zealand. While airports and related facilities is average in its ability to generate tourism activity, it has a large overall impact as it affects a large visitor base. Addressing the gap in airports and related facilities will require a high level of coordination as development will involve a large number of agencies and stakeholders, and take a long time to complete.

Four regions have identified gaps in their airports and related facilities, shown in Figure 3.6. The regions where the infrastructure gaps represent the greatest impact on tourism are said to be most 'acute'.

These regions are Gisborne, Wellington, West Coast and Northland. In West Coast and Northland, survey respondents identified insufficient flight options at the Westport and Kerikeri airports respectively. For instance, Air New Zealand no longer operates out of Westport airport. The limited flight options make it harder for visitors, particularly domestic and business visitors, to access the regions. Further, respondents also identified limited public transport services at small regional airports as an issue.

Figure 3.6: Top regions for issues in airports and related facilities



More broadly across the country, the consultations revealed that inadequate airports and related facilities can cover a wide range of issues depending on the airport. For instance, one airport identified insufficient stands for peak times, while another airport pointed out long wait times for passengers at biosecurity checkpoints.

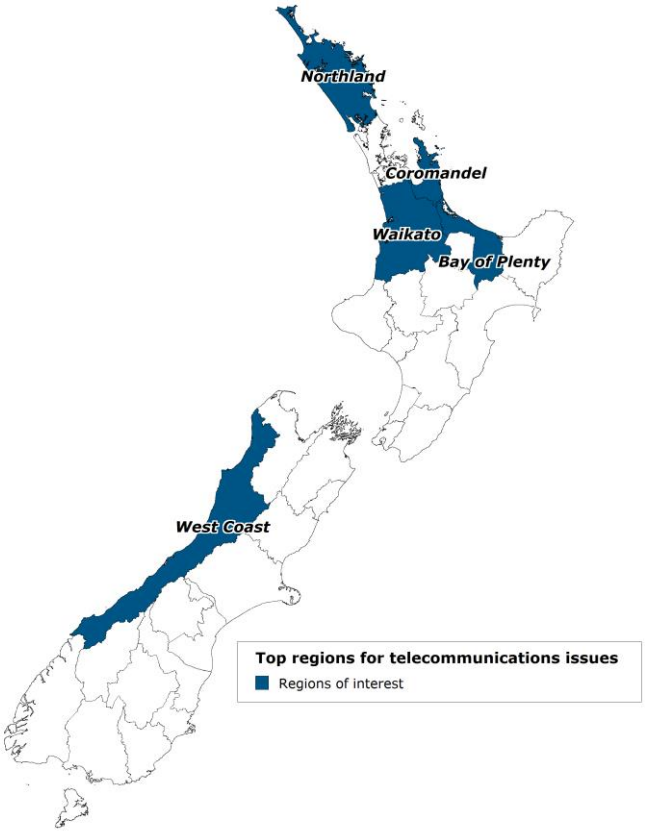
Telecommunications

Telecommunications issues identified across New Zealand include issues related to mobile coverage, data caps, central city Wi-Fi, fixed broadband access and service speeds.

Nationally, telecommunications is ranked as the infrastructure with the sixth highest tourism impact overall. Relative to other infrastructure categories that are more essential to a visitor's stay (such as visitor accommodation), telecommunications has a relatively modest impact on visitor activity and is ranked 19th for impact weighting. However, a large gap has been identified. Addressing the gap in telecommunications infrastructure will require a relatively high level of coordination as projects take a long time to complete and involve multiple agencies. Further, the market for mobile telecommunications is relatively thin, particularly outside the major cities.

Five regions have identified gaps in telecommunications, shown in Figure 3.7. They are all located in regional New Zealand and predominantly concentrated in the North Island. Ranked by the acuteness of the gap, they are Waikato, Coromandel, West Coast, Northland, and Bay of Plenty. Survey responses show that issues in telecommunications varied by the regions. For instance, survey respondents in Waikato identified patchy coverage and slow internet speeds, in key visitor attractions such as the Timber Trail cycleway, as key issues for the region. In contrast, survey respondents in Coromandel found coverage to be less of an issue compared to broadband speeds.

Figure 3.7: Top regions for issues in telecommunications



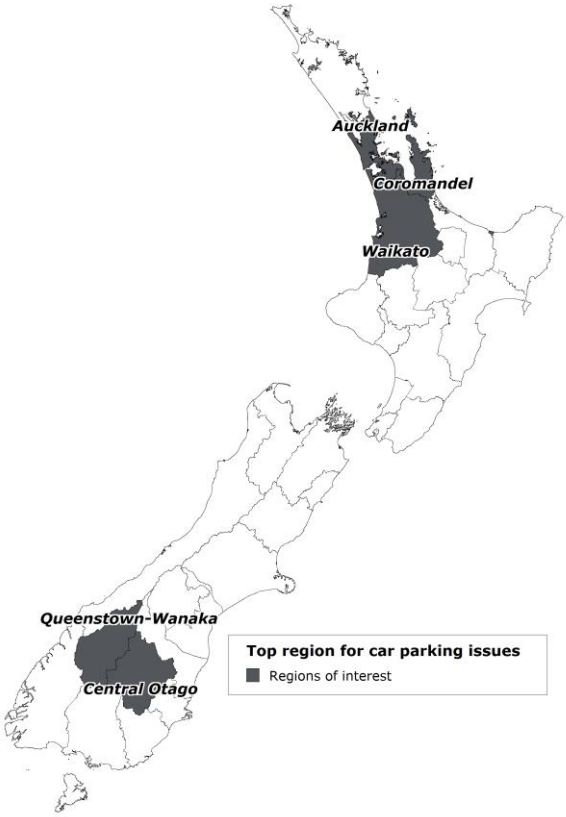
Survey respondents also emphasised that telecommunications does not only elevate visitor experience – it can be crucial for safety. For instance, a respondent from the West Coast noted that self-drive travellers have zero communication driving through the Haast region, which can be dangerous if they have an accident in the area.

Car parking

Car parking is ranked as the seventh highest tourism impact infrastructure in New Zealand. While car parking has small influence over individual tourism activity, it affects a large number of visitors, and was identified as a significant issue by survey respondents.

12 regions across New Zealand identified car parking as a key issue, making it the fourth most commonly raised infrastructure type. Queenstown-Wanaka, Auckland, Coromandel, Waikato and Central Otago are the five regions with the most acute gaps in car parking, as shown in Figure 3.8.

Figure 3.8: Top regions for issues in car parking



Car parking infrastructure covers a variety of issues, including access to, location and volume of carparks, for independent travellers, campervans and coaches. For instance, survey respondents in Coromandel noted insufficient parking at Hot Water Beach during peak times. This is despite council efforts to mitigate the issue. Within Auckland, respondents cited a lack of campervan and mobility parking as issues.

Operators and councils indicated that the inability of visitors to park close to primary visitor attractions diminished visitor experience and may even result in travellers bypassing towns, sites or attractions entirely, thereby resulting in a loss of revenue for operators or within townships, and decreasing visitor experience.

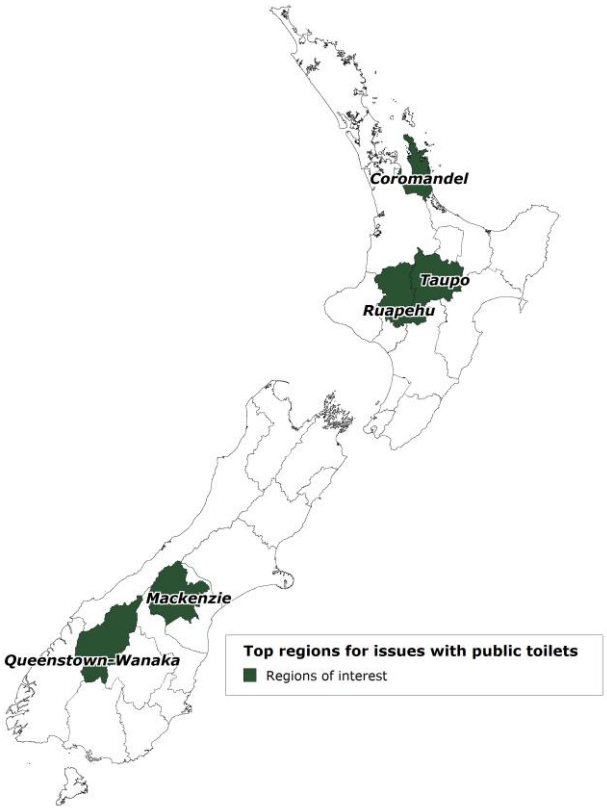
Some survey respondents emphasised the importance of balancing car park development with environmental concerns. One respondent noted that there was little space left to develop car parks in Milford Sound without encroaching on existing bushland.

Public toilets

Across the 20 infrastructure categories, addressing the gap in public toilets will have the 8th largest tourism impact nationally. Public toilets have a low impact weighting ranking (16th) but a large identified gap (7th). Addressing the gap in public toilets will require a high level of coordination as it exhibits public good characteristics: non-rivalry (one individual's use of public toilets does not prevent use by other individuals) and non-excludability (cannot exclude individuals from using public toilets).

Six regions identified public toilets as issues. With the exception of Queenstown-Wanaka, all are located in regional New Zealand. In order of the acuteness of the gap, the top five regions are Queenstown-Wanaka, Mackenzie, Coromandel, Taupo and Ruapehu (Figure 3.9).

Figure 3.9: Top regions for issues in public toilets



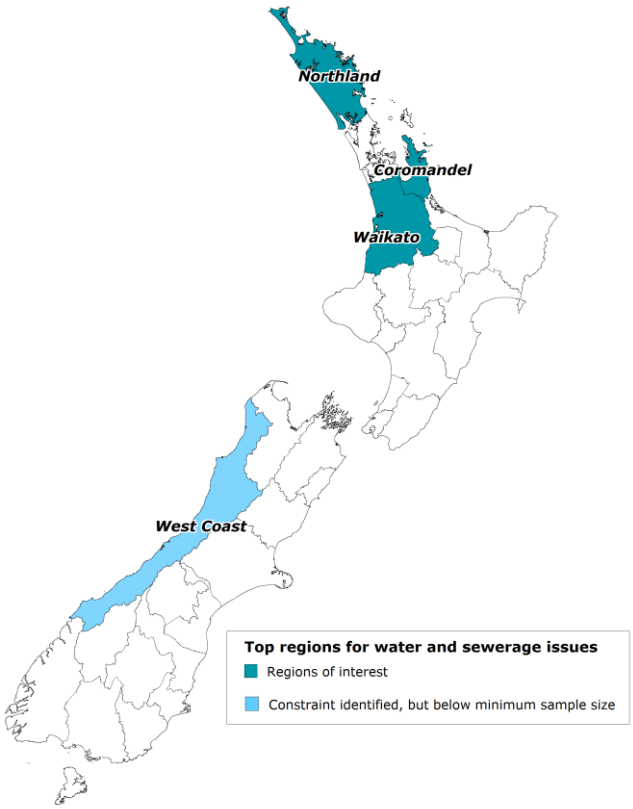
Survey respondents raised a range of issues concerning public toilets. Respondents in Queenstown-Wanaka noted that there are limited public toilets in popular areas, including on walking and cycling tracks. During peak times, they can fail to meet reasonable standards of hygiene.

Public toilets are often raised as an issue in relation to freedom camping. Some respondents noted that an inadequate supply of public toilets in freedom camping sites has led to heavy pollution of waterways, while others cited the overuse of public toilets by freedom campers as an issue.

Water and sewerage systems

Water and sewerage systems is the ninth highest tourism impact infrastructure type in New Zealand. The issue is isolated, with three regions in the North Island identifying issues, shown in Figure 3.10. They are, in order of the acuteness of the problem, Waikato, Northland and Coromandel. While water and sewerage systems issues were also raised in West Coast, it is not classified as a 'region of interest' due to insufficient survey responses.

Figure 3.10: Top regions for issues in water and sewerage systems



Survey respondents identified a variety of issues related to the water and sewerage systems, including water quality (such as excess chlorine), sewage treatment and storm water systems, and overall overload of the system. Recent outbreaks of waterborne diseases, such as the August 2016 Havelock North campylobacter outbreak, was partly attributed by respondents to inadequate water and sewerage facilities, though being the low season, this did not have a significant impact on tourism visitation.

Road transport

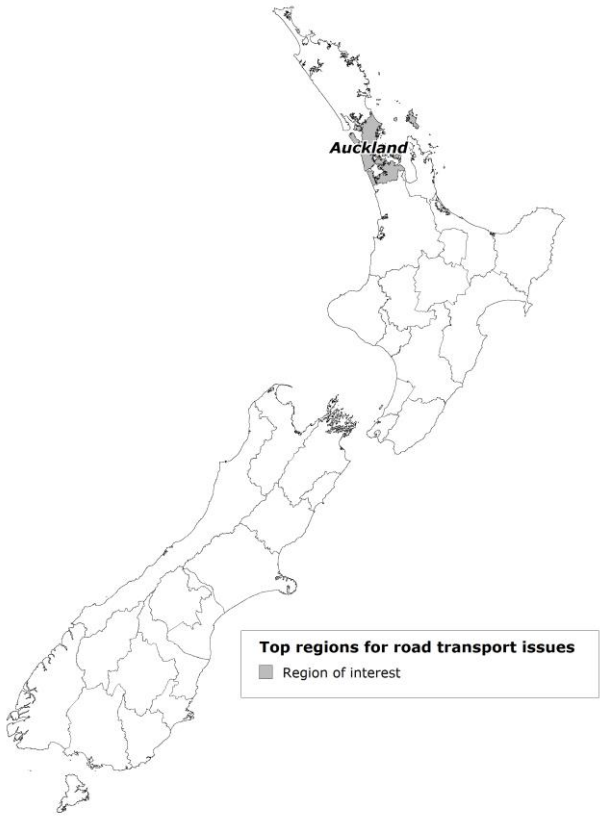
Road transport covers issues with roads (e.g. congestion) but also includes issues related to supporting road infrastructure such as signage, rest areas and barriers.

Road transport is rated as the infrastructure with the 10th highest tourism impact in New Zealand. The infrastructure has both a modest influence on tourism activity, and a modest supply gap. Auckland is the only region to have identified a gap in road transport infrastructure, as shown in Figure 3.11. However, as the most visited region and gateway to New Zealand, it can potentially affect a large number of visitors.

Operators and councils noted the route from the airport as being congested. They raised the prospect of the proposed rail link alleviating that constraint. This was echoed by the consultations, where participants also raised major concern on select Auckland roads (e.g. Auckland Airport to Manukau and the CBD). Consultation participants also raised issues with some of the stretches of roads that provide connections to neighbouring areas, for example to Matakana, Waitakere and Piha.

In addition to congestion related issues, stakeholders also emphasised the importance of better road infrastructure and education. In particular, this includes highways with double lanes, which would alleviate congestion in small townships, better signage, such as 'keep left' indicators, and better guidance for rental vehicle users.

Figure 3.11: Top regions for issues in road transport



Box 3.1: Worker accommodation

The case of worker accommodation is complex. While in theory businesses respond to shortfalls by paying higher prices for existing accommodation options, in practice, New Zealand's housing crisis has impacted the availability of suitable accommodation for transient workforces. The following points are important to note in this regard:

- General affordability issues exist, and are growing. The IMF's Global Housing Watch report underlines New Zealand's House Price to Income ratio growth as the highest amongst its peer countries. As a result, renting becomes comparatively more attractive, increasing competition for temporary accommodation which could be preferable to tourism workers.
- Lower tourism worker wages compounds this – where workers are required to pay for their own accommodation, they have to compete in a market where greater demand is increasing housing prices. While AirBnB has opened up channels for workers and businesses to access excess housing capacity, it can also take some properties out of the long term rental market in peak seasons, some of which would otherwise be targeted by tourism workers.

On balance, we expect resolution of issues in the general housing market to translate into increased flexibility for worker accommodation, requiring relatively lower levels of targeted coordination.

Regional priorities

A further assessment was made to see how tourism infrastructure issues differed between the highest visitation destinations, as well as between destinations with greatest concentration of visitors relative to residents. The five regions with the highest degree of visitation (measured by proportion of international and domestic travellers received) are shown in Table 3.3 below. The five regions with the greatest visitor to resident ratios are shown in Table 3.4.

- There is remarkable similarity amongst the top five regions by visitation, in terms of infrastructure priorities. These issues include visitor accommodation, worker accommodation, conference facilities, and transport (road/public).
- Civic infrastructure does not feature heavily in the top five regions by volume, compared to the regions with greatest concentration of visitors relative to residents.
- Both regional categories reported six or more infrastructure issues. Visitor accommodation features heavily in both categories.

The regional prioritisation maps are presented in Appendix A. These contrast the differing priorities for different regions. In some regions, market-based investment is the primary task, in areas such as Auckland, where worker accommodation, and visitor accommodation are key issues. Car parking in major centres such as Auckland may be commercially viable, given there is more scope for users to pay for car parking than in regional areas.

Table 3.3: Top five infrastructure categories by impact dimension – high visitation regions

Region	Share NZ Visitors	First	Second	Third	Fourth	Fifth
Auckland	20%	Visitor accommodation	Worker accommodation	Road transport	Car parking	Conference facilities
Canterbury	10%	Visitor accommodation	Worker accommodation	Cruise facilities	Public transport	Conference facilities
Wellington	7.3%	Visitor accommodation	Airports and related facilities	Worker accommodation	Conference facilities	Events and stadium facilities
Northland	6.8%	Domestic air connectivity	Airports and related facilities	Water and sewerage systems	Telecommunications	Worker accommodation
Queenstown-Wanaka	6.0%	Visitor accommodation	Public toilets	Car parking	Worker accommodation	Public transport

Table 3.4: Top five infrastructure categories by impact dimension – regions with greatest visitor to resident ratios (peak season)

Region	Visitor-resident ratio	First	Second	Third	Fourth	Fifth
Mackenzie	0.83	Visitor accommodation	Public toilets	Public transport	Car parking	Worker accommodation
Kaikoura*	0.62	Visitor accommodation	Worker accommodation	Public transport	Car parking	Events and stadium facilities
Queenstown-Wanaka	0.61	Visitor accommodation	Public toilets	Car parking	Worker accommodation	Public transport
Ruapehu	0.43	Public toilets	Visitor accommodation	Recreation and sport facilities		
Coromandel	0.40	Telecommunications	Car parking	Facilities on public conservation lands	Water and sewerage systems	Public toilets

**Data was collected before the Kaikoura earthquake, which occurred in November 2016.*

Key prioritisation findings

- Some infrastructure issues are broadly observed across New Zealand, while some others are more narrowly felt. Visitor and worker accommodation are broad based issues – they are assessed as issues for 19 and 18 regions respectively. Conversely, gaps in other infrastructure types are more localised, for example road transport, which is an issue primarily focussed in Auckland.
- Conversely, public transport and events/stadium facility infrastructure issues are more concentrated in the South Island (for the former, nine of 15 regions in the South Island, versus three of 17 regions in the North Island).
- There appear to be some differences between infrastructure issues in metropolitan regions (regions defined as gateway regions by MBIE), and regional areas. Without delving into causality, these include:
  - Limited public toilet issues in metropolitan regions, bar Queenstown-Wanaka, which is small relative to the key cities of Auckland, Wellington and Christchurch. Some public toilet issues persist across regional localities. This may be due to the presence of more alternative public toilets in metropolitan locations – for example toilets in shopping centres/hotels, which are not recorded by the dataset.
  - A number of regional areas report international air connectivity issues. These tend to be some distance from major airports, and include for example Rotorua, Bay of Plenty, Hawke's Bay, Clutha and Dunedin. With the exception of Dunedin, the identified constraint refers to onward domestic flight connections via the major international airports.

A number of infrastructure types do not appear as priorities. These include recreational and sporting facilities, urban public spaces, tourism attractions and activities, and cafes, restaurants and bars. This largely reflects these infrastructure categories not being noted as issues by participants in the survey.

4 Coordinating investment in practice

The prioritisation framework sets out an objective, robust structure to identify and prioritise infrastructure investment needs across New Zealand. Spanning a wide range of infrastructure categories and scale, and local settings, this framework is necessarily formulated at a high level. In taking the outcomes of this prioritisation framework forward, there are a number of more practical, specific issues to be considered.

As part of the discovery work, Deloitte captured a variety of perspectives on practical considerations to the delivery of infrastructure investment. Some of these relate to the practical task of coordination by government and industry, and some issues relate to commercial business cases and decision-making of investors themselves. These issues may be limiting development within the priority infrastructure areas identified in this report - either now or into the future - and should be considered to meet the needs of a growing tourism industry in New Zealand.

Similarly, some potential solutions to infrastructure issues have also been identified and are set out below. These solutions outline some ways that potential barriers to infrastructure development might be mitigated going forward.

The considerations raised by the various tourism industry stakeholders and captured through consultations throughout this piece of work are set out below. These are based on feedback from and discussions with operators, industry experts and local government officials. These considerations have not been ranked, and the order in which they are set out does not indicate how frequently they were raised, or their perceived magnitude.

Practical issues of the investment coordination task

Below are a number of practical issues that relate to the coordination required between government and industry for infrastructure development. These are considerations that future projects may need to be mindful of, to progress development of tourism infrastructure within the priority areas identified. Removing or mitigating these issues may have the effect of lowering the coordination burden for infrastructure development, and allow priority areas to be addressed more easily.

Regulatory complexity and compliance costs
Given the nature and size of infrastructure development in New Zealand, there are a number of local and central government processes and requirements (regulatory, statutory and compliance) to be fulfilled before development can proceed past the planning phases. The requirements include Resource Management Act (RMA) applications and consents, geotechnical and earthquake safety requirements, health and safety legislation, concessions and licences.

Industry perceives that each of these requirements increases the timeframe, cost and complexity of delivering infrastructure requirements beyond what may be acceptable to investors, in an industry already struggling to access capital and incentivise investment.

While it was recognised by some respondents that these functions, in particular the role of the RMA and Environment Court, protect the environmental interests and saleability of New Zealand as a safe, clean, green destination for both domestic and international visitors, industry suggested that these objectives may be better served by clear and timely processes at a local government level, with greater alignment in approach between regions. Streamlining of applications, clarity as to legislative requirements and greater partnership between operators and local government may better facilitate development in key areas.

Capacity and capability to manage and coordinate infrastructure development
Concerns were raised with the capacity and capability of councils or industry organisations to coordinate infrastructure developments. Some respondents thought that it could be advantageous to develop infrastructure in joint arrangements between the public and private sectors (e.g. in public-private-partnership arrangements) and bring together a combination of expertise from across both sectors. Some respondents thought that entering into such arrangements may bring benefits to councils dealing with genuine capacity and capability constraints, and noted a lack of integrated public / private effort at present.

Communication of long term tourism infrastructure strategy and vision
Consultations revealed a lack of long term vision and planning to cater for growth in the population of a particular area is a barrier to implementing infrastructure solutions (both general infrastructure and tourism infrastructure). Infrastructure development requires a consideration of (a) what a particular region will look like in the long term (accounting for a growth in the resident and visitor populations), (b) what infrastructure will be required in the future, and (c) how to deliver that infrastructure. Without foresight from local councils, central government and other industry players, infrastructure gaps are less likely to be addressed in the future.

Lack of partnering options or incentives
Respondents identified a lack of partnering options (i.e. relationships between local government, central government and private investors) and a lack of incentives as potential barriers to infrastructure development.

Public resistance to developments
A small minority of respondents identified that the ability of affected parties to dispute particular tourism infrastructure developments may be stopping these projects progressing. It was noted that there have been instances of infrastructure developments that have been hindered by public complaint (either individuals or affected businesses) in Queenstown, as a major contributing factor to infrastructure projects not going ahead.

Decision-making of private investors

The issues below are more general considerations for investors and relevant to any commercial business cases for infrastructure projects.

Construction costs
Some respondents identified that high construction costs in New Zealand may increase the difficulty of infrastructure development and decrease the attractiveness of the market to foreign investment. Respondents noted the cost of raw materials (i.e. steel) and labour costs have increased significantly in New Zealand with an associated impact on development costs.

Some thought that high construction costs may make it more desirable for developers to pursue cheaper development options with stronger or faster returns. For example, in Wellington, it was noted that developers are motivated to develop student accommodation (which is both cheaper to develop and has guaranteed occupancy) or office refurbishments in lieu of hotel development. Competing infrastructure projects may create an additional barrier to developing the accommodation infrastructure necessary to support tourism.

Investment
Industry identified its ability to attract and retain investment in infrastructure development, in particular foreign investment, as a difficulty. Many perceived that the capital and compliance costs required to address many of the issues identified in this study are high, however return on investment by potential investors may be considered low, or uncertain, given regulatory or compliance constraints.

Some raised that the size of the New Zealand market also impacts the ability of the tourism industry to attract foreign investment; New Zealand may be considered 'small-fry' to some overseas investors. Respondents raised difficult compliance requirements for foreign investors imposed by the Overseas

Investment Office (OIO) and the lengthy process timeframes as potential barriers to attracting the required foreign investment by respondents.

Some smaller local companies noted the inability to influence where government agencies are investing in their area. There is a perceived misalignment between government agencies and local tourism operator priorities.

Site acquisition
In certain regions, there is not only a lack of available sites, but there is also a lack of sites large enough to accommodate more sizeable developments (for example, there are few large sites near Wellington Airport). Further, some of the available land can be challenging to build on. While this consideration has an underlying commercial element, site acquisition will often require considerable coordination between government and industry and should therefore be considered in conjunction with the practical issues relating to coordination above.

Potential solutions

This section sets out potential solutions to address any gaps in tourism infrastructure identified by respondents as part of the consultations. Deloitte has not tested these proposals for feasibility; they are reported here for completeness.

National solutions for local issues
Rather than addressing infrastructure issues on a region by region or council by council basis, respondents thought that there would be considerable benefit from partnerships between local government and central government at a national level i.e. a national approach to addressing infrastructure issues that are present in multiple regions. For example if multiple regions have identified a shortage of toilet capacity, local councils might work with a central government body to develop one standardised toilet design and roll this out across the country.

Some perceived that national solutions would be considerably cheaper (e.g. only one designer will need to be engaged), costs could be shared across the regions, and they would be faster and more efficient to implement. This may assist councils in garnering community support for infrastructure developments (i.e. from ratepayers), considering they would be more affordable to the community.

Leverage off other projects
Any future projects in the identified priority areas could leverage off existing central or local government projects in order to increase efficiencies and reduce cost. For instance, if there are signage projects underway for one purpose (e.g. the Classic New Zealand Wine Trail), other signage projects could be coordinated alongside this (e.g. identification of New Zealand landmarks). Other projects could be leveraged off central government projects, for instance the rollout of the UFB2 (an add-on to the ultrafast broadband initiative which aimed to connect more New Zealanders to faster and more reliable internet), which may help address some of the mobile data and broadband issues raised by respondents.

Respondents acknowledged that this solution requires clear visibility of infrastructure projects underway, so that those undertaking new development projects can identify projects they can leverage off. Identification of where projects are being rolled out may be crucial to the success of leveraging off other projects, which necessitates clear communication between organisations.

Increased use of technology
Some respondents highlighted that infrastructure issues may be largely solved by adopting innovative technology solutions, as opposed to undertaking large infrastructure development projects. It was raised that it may be more affordable to adopt new technologies and incorporate these into existing infrastructure, rather than developing new infrastructure altogether. For example, introducing self-driving cars in the future may be a potential way to solve congestion issues as opposed to spending large amounts of money on road developments.

Smart technology offerings might also increase the attractiveness of New Zealand as a visitor destination (e.g. technology to facilitate non-English speaking visitors). Trialling scalable innovation and technology options could possibly boost New Zealand's pioneering reputation and enhance the overall visitor experience.

Partnership approaches
Consultees noted that partnership approaches for infrastructure development are currently underutilised in New Zealand. For instance, some respondents spoke of the potential for local councils to form more partnerships with iwi, potentially bringing significant and mutual benefits to all parties involved.

Increased partnership arrangements between the public and private sector are also likely to benefit tourism operators. By entering into joint arrangements with the private sector, councils may be able to access increased levels of funding for infrastructure projects. This would be especially beneficial where particular councils have limited access to funding, for instance in regions with smaller ratepayer bases. Respondents thought that central government could make investment propositions more attractive by offering incentives to private investors (as an example, New Zealand offers percentage cash grants as an incentive to have international films produced in New Zealand).

Potential consequences of not addressing key priority areas

While not the focus of the report, the consultation process revealed the following points of note:

New Zealand is increasingly seen as an expensive destination
In the face of high demand, some tourism operators have been motivated to increase the price of services. Respondents noted that certain services were historically provided at below cost or market value. Therefore, in some instances, price increases have realigned the value of services with market prices.

However, there was an equally valid perception that higher service prices, while increasing profitability in the short term, would lead to operators under-delivering on the experience and misaligning with the industry aim of increasing the value of tourism, both from a visitor value for money perspective and an increasing industry value in the long term perspective.

Visitors and wholesalers no longer choose New Zealand as a destination
A lack of infrastructure capacity in accommodation availability for visitors booking with either a short or long lead time has been strongly highlighted as a capacity constraint which may impact travellers choosing New Zealand as a destination at all.

Environmental impacts
Some respondents noted that infrastructure development can have negative flow on effects to the environment (for example, increasing road capacity may lead to an increased number of cars on the road) and poorly designed infrastructure solutions may damage the environment, and ultimately the clean, green, pure New Zealand tourism experience marketed internationally.

5 Key learnings

The following chapter sets out some of the key learnings of this work, comprising the establishment of the prioritisation framework, the application of the framework, and the practical challenges identified through the consultation process. Potential next steps in supporting tourism infrastructure investment are also discussed.

Establishing a comprehensive framework to identify and prioritise tourism infrastructure investment priorities

The framework formulated for this study identifies areas of investment need based on two dimensions. First, the impact in terms of the tourism value that is generated through the investment: this is a function of infrastructure's visitor pulling power; its ability to relieve an existing constraint; and its capacity to target high value/high growth travellers. Second, it identifies how pivotal the role for government and/or industry peak bodies is to supporting the achievement of optimal investment outcomes. The need for coordination is proxied by the share of value that could be captured by the investor, the depth of the existing market, and the lead times/approval processes that may impede individual investors. The areas of infrastructure that rank highly against both these dimensions will be the ones for which coordinated investment will provide that largest impact to tourism value in New Zealand. In particular, focussing in that area will ensure resources of government and sector peak bodies are not 'crowding out' private investors. Similarly, focus on these two dimensions will ensure resources are not being deployed on an ad-hoc basis according to widely publicised issues, which do not underpin tourism growth as much as possible.

At a national level, the results of this framework will inform the national agenda for tourism infrastructure investment, including NZ-wide policy responses by government. The regional level findings will inform strategic planning decisions by local economic development agencies, such as ATEED. The infrastructure-specific findings will be relevant to industry bodies such as Cruise New Zealand, in their policy and engagement activities. Ultimately, individual infrastructure proposal business cases will need to be conducted and evaluated before funds are committed, whether they be public or private funds. This framework is not intended to replace, but rather complement the business case process. It is designed to be applicable at the earlier stages of issue identification and scaling, and then support the project level business case. A number of further factors need to weigh into final prioritisation decisions beyond the considerations captured in this analytical framework. Among these are: the level of investment, maintenance of tourism's social licence to operate, environmental sustainability, seasonal/regional dispersal objectives, and the preservation of cultural heritage.

Application of the framework to establish national priority areas

From a national perspective, coordinated effort, by either public or private sector organisations, is likely to yield the highest impact if focussed on infrastructure categories in the top right quadrant - the area where coordinated action is required. Applying the prioritisation methodology developed to infrastructure specific data, these categories are assessed as having the greatest impact on tourism activity overall, while requiring active effort beyond individual operators/providers in order for existing gaps to be resolved. Focussing on those areas where the need for coordination is relatively greatest, the highest infrastructure priorities at the whole-of-country level include:

- Visitor accommodation (to a degree, as some market-based investment incentives are present)
- Airports and related facilities
- Telecommunications
- Car parking
- Water and sewerage systems; and
- Public toilets; and
- Road transport.

These infrastructure types are assessed as having the greatest impact on tourism activity overall, and also require coordinated effort at the government and peak body level, to ensure existing gaps are resolved, and a sufficient level of infrastructure is provided. Along with air connectivity, worker accommodation is registered as an area which, if addressed, will have a significant impact on tourism activity, but where market resolution is more likely. However, it is noted that this sits within the context of a broader housing affordability issue in New Zealand's major cities.

A number of infrastructure types are assessed as falling within the bottom right quadrant, i.e. with limited tourism impact, but requiring high degrees of coordination. This observation (of limited impact) holds true when infrastructure is assessed on an individual basis. Where these gaps exist and are not resolved, it is not clear whether the collective gap will magnify tourism impacts beyond expected effects at the individual level. That is, for example, while a shortfall in telecommunication infrastructure by itself is expected to have a low tourism impact, the lack of telecommunication infrastructure in conjunction with other infrastructure gaps (e.g. road, public toilets), may detract substantially from the visitor experience.

When regional issues are explored, the analysis reveals that some infrastructure issues are broadly observed across the nation, while some are more narrowly felt. Visitor and worker accommodation are broad based issues – they are assessed as issues for 19 and 18 regions, respectively (out of the total 31). Priorities in other infrastructure types are more localised. For example, road transport is primarily an issue in Auckland. Public transport and events/stadium facility infrastructure issues are more concentrated in the South Island (for the former, nine of 15 regions in the South Island, versus three of 17 regions in the North Island). There appear to be some differences between infrastructure issues in metropolitan regions (regions defined as gateway regions by MBIE), and regional areas.

Key practical considerations in pursuing the coordination task

As presented in the 'coordinating investment in practice' section, industry raised a number of key considerations related to the coordination element for infrastructure development. In summary, these considerations are:

- **Regulatory complexity and compliance costs** – there are many local and central government processes and requirements that need to be satisfied to progress infrastructure developments (e.g. RMA, geotechnical and earthquake, health and safety, and various concessions and licences), which may increase the coordination burden for infrastructure projects.
- **Capacity and capability to manage and coordinate infrastructure development** – there is a perceived concern with the capacity and capability of councils or industry organisations to coordinate infrastructure developments.
- **Communication of long term tourism infrastructure strategy and vision** –the development, coordination and communication of long term strategies and visions (between government and industry) plays a role in the development of solutions to infrastructure gaps.
- **Lack of partnering options or incentives –** there is a perceived lack of partnering options and incentives in relation to developing infrastructure. More partnering options (i.e. relationships between local government, central government and private investors) may help lower the coordination burden in relation to infrastructure development.
- **Public resistance to developments –** in some instances, the ability of affected parties to challenge tourism infrastructure projects may be impeding their progression.

These factors are considerations that any future projects within the identified priority infrastructure areas should be mindful of as they progress through the development processes. Along with the practical challenges, a variety of potential solutions arose though sector consultations. Developing national solutions to a series of localised problems, leveraging other projects, increased use of technology and smart partnering, are some examples. These will help address the priority infrastructure issues identified, and help to drive the efficiency of tourism infrastructure investment.

Ultimately, investment in the identified infrastructure priority areas will be essential to New Zealand sustaining the remarkable growth that its tourism industry has exhibited over recent years and to achieving the $41 billion annual tourism revenue target set out in the Tourism 2025 Growth Framework.

Meeting these priorities and delivering the projects that New Zealand tourism needs to support its continued growth will require systematically navigating both the commercial considerations (such as funding, financing and feasibility) and the development and approvals processes that any investment confronts. While this study has not gauged the overall economic impact that could be achieved by addressing all of the identified infrastructure priorities, it is apparent that the economic opportunity is a significant one that warrants endeavours to support developers and investors in overcoming the hurdles that projects of this nature commonly face (and that the sector has identified through the course of this study as critical to future investment outcomes).

Next steps in supporting tourism infrastructure investment

In moving forward with the tourism infrastructure investment task, there are a number of considerations and next steps that will be critical to ensuring the principles of the prioritisation framework are upheld in implementation. Some of the primary considerations are set out in the points below:

- This work has developed priority areas of infrastructure investment at the national and regional level. In order to translate this to an individual project level, a data gathering exercise is necessary on possible infrastructure developments. This will serve to establish expected cost benchmarks, existing funding options, the scale of infrastructure capacity, expected timeframes for development and current approval processes.
- This prioritisation framework has been established with the underpinning objective of efficiently providing sufficient infrastructure to achieve the Tourism 2025 growth target and to support the sector's long term growth more broadly. There could be a number of other relevant policy objectives, for example, regional dispersal and safeguarding of cultural heritage, which need to be clearly articulated so that individual projects are being evaluated on a common set of economic and social objectives.
- The analysis presented in this report has demonstrated that in some areas there is a clear role for government in the coordination of tourism infrastructure investment. Where the investment of public funds is required, project level business cases, incorporating cost-benefit analysis, should be conducted, so these funds are allocated using a fully evidence-based approach. Along with this, processes should be established to allow proponents of different scales to interact with government, with due governance and review to ensure transparency and appropriateness of any funding allocation.
- In consultations with the sector, a number of the barriers currently facing would-be investors were identified, along with potential mitigation strategies. Some of these issues relate to approval processes - rather than simply streamlining the approvals for identified priorities, a balance should be struck between due process and the need for expedience in addressing investment priorities. Other potential strategies raised around bundling and leveraging other investment activities can be assessed as part of a broader policy response.

National Tourism Infrastructure Assessment – Appendices

Appendices document

This appendices document provides further detail to our analysis and the information sources which underpinned our findings presented in the main report. A description about each appendix contained in this document is set out in the points below:

- **Appendix A: Prioritisation by Region** – provides an outline of the prioritisation results for each of the assessed tourism regions.
- **Appendix B: Survey Data** – sets out the combined results of the sector surveys mentioned above, broken down by survey question.
- **Appendix C: Consultations** – sets out the tourism infrastructure issues that were raised in consultation sessions.
- **Appendix D: Data sources** - outlines the data sources that were explored as part of the exercise to measure the infrastructure use and constraints across regions for each infrastructure type.

The detailed appendices are available from the TIA website:
https://tia.org.nz/advocacy/tia-projects/infrastructure-and-investment/

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