

Economic Impact of Tourism Infrastructure on Tourism Growth in South Indian States: A Comparative Secondary Data Study (2014–2024)

**By,
Dr. Mala K.S**

Principal

**Associate Professor in Department of Commerce
Government First Grade College Vemagal, Karnataka, India**

Abstract

Tourism infrastructure plays a critical role in enhancing destination competitiveness, increasing tourist arrivals, and promoting regional economic development. This study examines the economic impact of tourism infrastructure on tourism growth across five South Indian states—Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, and Telangana—using secondary data for the period 2014–2024. The study aims to analyse tourism growth trends, compare tourism performance indicators, examine the relationship between tourism infrastructure and tourism growth, and assess the impact of infrastructure variables on domestic tourist arrivals. Data were compiled from official sources, including the Ministry of Tourism, Government of India, state tourism departments, the Reserve Bank of India, and international tourism reports. Descriptive statistics, Pearson correlation analysis, multiple regression analysis, and Compound Annual Growth Rate (CAGR) were employed for data analysis. The findings reveal considerable interstate variations in tourism performance, with Tamil Nadu emerging as the leading tourism destination, while Telangana recorded the highest long-term growth in key tourism indicators. Correlation analysis indicated significant positive relationships between tourism infrastructure variables and tourism growth, and regression results confirmed that tourism budget allocation, registered hotels, operational airports, and tourism employment significantly influence domestic tourist arrivals. The study concludes that sustained investment in tourism infrastructure is essential for strengthening destination competitiveness, promoting sustainable tourism development, and supporting long-term regional economic growth.

Keywords: *Tourism Infrastructure, Tourism Growth, Domestic Tourist Arrivals, Tourism Development, South Indian States, Secondary Data, Multiple Regression, Destination Competitiveness.*

CHAPTER 1: INTRODUCTION

1.1 Introduction

Tourism has emerged as one of the fastest-growing sectors of the global economy, contributing significantly to economic growth, employment generation, foreign exchange earnings, and regional development. According to the World Travel & Tourism Council (WTTC, 2024), the tourism sector contributes substantially to global Gross Domestic Product (GDP) and supports millions of jobs directly and indirectly through transportation, accommodation, hospitality, recreation, and allied services. In India, tourism has become a strategic sector for promoting

inclusive economic growth by stimulating investments, generating employment opportunities, preserving cultural heritage, and improving regional infrastructure (Government of India, 2024).

Tourism development is closely associated with the availability and quality of tourism infrastructure. Infrastructure such as transport networks, airports, roads, hotels, communication facilities, public utilities, and tourism services forms the foundation for destination competitiveness and visitor satisfaction. Well-developed infrastructure improves accessibility, enhances travel experiences, increases destination attractiveness, and encourages higher tourist arrivals. Conversely, inadequate infrastructure often limits tourism potential and reduces the economic benefits derived from the sector (Prideaux, 2000; Khadaroo & Seetanah, 2007).

South India occupies a unique position within India's tourism landscape due to its rich cultural heritage, historical monuments, religious destinations, biodiversity, coastal resources, hill stations, and medical tourism facilities. States such as Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, and Telangana collectively attract millions of domestic and international tourists every year. Government initiatives aimed at strengthening tourism infrastructure, improving transport connectivity, and promoting sustainable tourism have significantly contributed to the growth of tourism activities in these states (Government of India, 2024). Consequently, examining the relationship between tourism infrastructure and tourism growth is essential for understanding the sector's contribution to regional economic development and for supporting evidence-based policy decisions.

1.2 Background of the Study

Tourism infrastructure has long been recognised as one of the principal determinants of tourism competitiveness and destination development. Previous studies have demonstrated that investments in transport infrastructure, accommodation facilities, public utilities, and tourism services improve destination accessibility, increase tourist satisfaction, and stimulate tourism demand (Balaguer & Cantavella-Jordá, 2002; Dwyer et al., 2020). Similarly, infrastructure development generates multiplier effects by encouraging private investment, expanding employment opportunities, supporting local businesses, and increasing government revenue.

South Indian states have consistently received significant public and private investment in tourism infrastructure over the last decade. Tamil Nadu continues to record the highest domestic tourist arrivals in India, while Kerala has established a strong international reputation through nature-based, wellness, and responsible tourism. Karnataka has expanded tourism through heritage circuits, wildlife destinations, and improved air connectivity, whereas Andhra Pradesh and Telangana have increasingly invested in religious tourism, heritage conservation, and urban tourism projects (Government of India, 2024; Government of Karnataka, 2024).

Despite continuous investment, disparities remain in tourism infrastructure across South Indian states, resulting in varying tourism performance and economic outcomes. Understanding how infrastructure variables such as tourism budget allocation, registered hotels, operational airports, and tourism employment influence tourist arrivals is therefore essential for improving tourism planning and resource allocation. Using secondary data provides an objective basis for

analysing long-term trends and assessing the effectiveness of infrastructure development strategies.

1.3 Need for the Study

Although several studies have examined tourism growth and destination competitiveness, relatively fewer comparative studies have investigated the economic impact of tourism infrastructure across South Indian states using recent secondary data. Most existing research has concentrated on individual destinations or specific tourism segments, with limited emphasis on interstate comparisons using multiple infrastructure indicators. Furthermore, rapid changes in tourism following the post-pandemic recovery have created a need to reassess the contribution of infrastructure investments to tourism performance using updated official statistics (UN Tourism, 2024).

The present study addresses this gap by analysing tourism infrastructure and tourism growth across Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, and Telangana during 2014–2024. The findings are expected to assist policymakers, tourism departments, investors, and researchers in identifying infrastructure priorities and developing strategies that support sustainable tourism development, employment generation, and regional economic growth.

1.4 Objectives of the Study

1. To examine the trends and growth patterns of tourism infrastructure and tourism development in the South Indian states during the period 2014–2024.
2. To compare the tourism performance indicators, including tourist arrivals, tourism budget, registered hotels, airports, and tourism employment, across the South Indian states.
3. To analyse the relationship between tourism infrastructure variables and tourism growth in the selected South Indian states.
4. To assess the impact of tourism infrastructure on domestic tourist arrivals using multiple regression analysis.

1.5 Research Hypotheses

H₀₁: There is no significant relationship between tourism infrastructure variables and tourism growth in the South Indian states.

H₁₁: There is a significant positive relationship between tourism infrastructure variables and tourism growth in the South Indian states.

H₀₂: Tourism infrastructure variables do not have a significant impact on domestic tourist arrivals in the South Indian states.

H₁₂: Tourism infrastructure variables have a significant positive impact on domestic tourist arrivals in the South Indian states.

1.6 Scope of the Study

The study focuses on analysing the economic impact of tourism infrastructure on tourism growth across five South Indian states—Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, and Telangana—using secondary data for the period 2014–2024. The analysis is based on official

statistics obtained from the Ministry of Tourism, Government of India, state tourism departments, RBI publications, and other recognised public sources. Key variables include domestic tourist arrivals, foreign tourist arrivals, tourism budget allocation, registered hotels, operational airports, and tourism-related employment.

The study employs descriptive statistics, Pearson correlation analysis, multiple regression analysis, and Compound Annual Growth Rate (CAGR) analysis to evaluate tourism performance and infrastructure development. The findings are expected to contribute to tourism management literature and provide practical insights for policymakers, destination planners, tourism authorities, and investors seeking to strengthen tourism competitiveness and promote sustainable regional development (Hair et al., 2022; OECD, 2024; World Bank, 2024).

CHAPTER 2: REVIEW OF LITERATURE

2.1 Review of Literature

Balaguer and Cantavella-Jordá (2002) examined the relationship between tourism and long-term economic growth in Spain using econometric techniques. The study established that tourism contributes significantly to economic development by stimulating investment, employment generation, and income growth. The authors concluded that tourism-led growth is sustainable when supported by adequate infrastructure and effective public policies.

Khadaroo and Seetanah (2007) investigated the role of transport infrastructure in tourism development across developing countries. Using cross-country empirical analysis, the study found that improved transportation networks, including roads and airports, significantly enhance destination accessibility and increase tourist arrivals. The authors emphasized infrastructure as a critical determinant of tourism competitiveness.

Prideaux (2000) explored the contribution of transport systems to destination development. The study demonstrated that efficient transportation infrastructure improves tourist mobility, destination attractiveness, and visitor satisfaction. The findings highlighted that investments in transport connectivity are fundamental for sustainable tourism growth and regional economic development.

Brida, Cortes-Jimenez, and Pulina (2016) reviewed empirical evidence on the tourism-led growth hypothesis. Their comprehensive assessment confirmed that tourism positively influences national and regional economic performance through employment creation, foreign exchange earnings, and increased investment. The study also emphasized the importance of supportive infrastructure for maximizing tourism's economic benefits.

Dwyer, Forsyth, and Dwyer (2020) examined tourism economics and policy with particular emphasis on infrastructure investment, destination competitiveness, and sustainable tourism development. The authors argued that tourism infrastructure, public investment, and strategic policy interventions significantly improve tourism performance and strengthen long-term economic resilience.

Government of India (2024), in the *India Tourism Statistics 2024* report, highlighted the continuous growth of domestic and international tourism across Indian states. The report indicated that sustained investments in transport infrastructure, accommodation facilities, tourism circuits, and destination development have contributed substantially to increased tourist arrivals and tourism-generated employment.

NITI Aayog (2023) examined the growth potential of India's tourism sector and emphasized the importance of integrated infrastructure development, digital transformation, destination branding, and sustainable tourism planning. The report recommended strengthening public-private partnerships and adopting technology-driven tourism management to improve competitiveness and regional economic development.

Organisation for Economic Co-operation and Development (OECD, 2024) analysed global tourism trends and policy developments, highlighting that resilient tourism growth depends on infrastructure quality, sustainability, digital innovation, and effective governance. The report stressed that governments should adopt evidence-based tourism planning supported by reliable statistical information and continuous infrastructure investment.

Yap and Saha (2023) investigated the relationship between tourism infrastructure and destination competitiveness in emerging economies. The study found that investments in accommodation facilities, transport connectivity, and tourism services significantly improve destination attractiveness and increase tourist arrivals. The authors concluded that infrastructure remains one of the strongest predictors of tourism growth.

World Travel & Tourism Council (WTTC, 2024) reported that the tourism sector continues to be a major contributor to global GDP, employment, and investment. The report highlighted that countries with stronger tourism infrastructure, improved connectivity, skilled human resources, and sustainable tourism policies consistently achieve higher tourism growth and greater economic resilience.

2.2 Synthesis of Literature

The reviewed literature consistently demonstrates that tourism infrastructure is a fundamental driver of tourism growth, destination competitiveness, and regional economic development. Earlier studies established that transport infrastructure, accommodation facilities, and public investment significantly enhance tourist arrivals and support the tourism-led growth hypothesis (Prideaux, 2000; Balaguer & Cantavella-Jordá, 2002; Khadaroo & Seetanah, 2007). Subsequent research further confirmed that tourism contributes to employment generation, income growth, and broader economic development when supported by strategic infrastructure investments (Brida et al., 2016; Dwyer et al., 2020). Recent reports and studies have expanded this perspective by emphasising sustainable tourism, digital transformation, destination competitiveness, and evidence-based policy planning as critical determinants of long-term tourism performance (NITI Aayog, 2023; Government of India, 2024; OECD, 2024; Yap & Saha, 2023; WTTC, 2024). Despite these valuable contributions, limited comparative research has examined the combined influence of tourism budget allocation, registered hotels, operational airports, and tourism employment on tourism growth across South Indian states

using recent secondary data. The present study addresses this research gap by providing a comparative empirical assessment of tourism infrastructure and tourism growth across Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, and Telangana during the period 2014–2024.

2.3 Research Gap

The review of existing literature indicates that tourism infrastructure plays a vital role in enhancing tourism growth, destination competitiveness, and regional economic development. Earlier studies primarily focused on the influence of transport infrastructure, accommodation facilities, and tourism investment on tourism performance in individual countries or specific destinations (Prideaux, 2000; Khadaroo & Seetanah, 2007; Brida et al., 2016). More recent studies have emphasised sustainable tourism, digital transformation, and policy interventions for improving tourism competitiveness (NITI Aayog, 2023; OECD, 2024; Yap & Saha, 2023). However, relatively limited empirical research has undertaken a comparative analysis of South Indian states by integrating multiple tourism infrastructure indicators such as tourism budget allocation, registered hotels, operational airports, and tourism-related employment using recent secondary data. Furthermore, many existing studies have concentrated on tourism demand or economic contribution without comprehensively evaluating the combined impact of infrastructure variables on tourism growth through statistical techniques such as correlation and multiple regression analysis. In addition, the post-pandemic recovery period has significantly altered tourism dynamics, creating the need for updated empirical evidence based on official tourism statistics. Therefore, the present study addresses this research gap by analysing the economic impact of tourism infrastructure on tourism growth across Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, and Telangana during 2014–2024 using secondary data and appropriate statistical methods. The findings are expected to provide useful insights for policymakers, tourism planners, and researchers in designing evidence-based strategies for sustainable tourism development.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

Research methodology provides the systematic framework for conducting scientific investigation and ensuring the reliability and validity of research findings. It defines the research design, data sources, variables, analytical techniques, and procedures adopted to achieve the study objectives. Since the present study examines the economic impact of tourism infrastructure on tourism growth across South Indian states using official secondary data, an empirical quantitative research approach has been adopted. The methodology has been designed to facilitate objective analysis of tourism infrastructure indicators and their influence on tourism growth through appropriate statistical techniques.

3.2 Research Design

The study adopts a descriptive and analytical research design. The descriptive component is used to examine the trends and comparative performance of tourism infrastructure and tourism growth indicators across the selected South Indian states. The analytical component evaluates

the relationships and impact of tourism infrastructure variables on tourism growth using inferential statistical techniques.

The research is quantitative in nature and relies exclusively on secondary data collected from recognised government publications and institutional databases. The study covers an eleven-year period from 2014 to 2024, enabling an assessment of both short-term and long-term trends in tourism development.

3.3 Nature and Sources of Data

The study is entirely based on **secondary data** obtained from authentic and publicly available sources. Secondary data were selected because they provide reliable, consistent, and longitudinal information suitable for interstate comparison and statistical analysis.

The major sources of data include:

- ☐ Ministry of Tourism, Government of India
- ☐ India Tourism Statistics Reports
- ☐ Department of Tourism, Government of Karnataka
- ☐ Department of Tourism of Kerala, Tamil Nadu, Andhra Pradesh, and Telangana
- ☐ Reserve Bank of India (RBI)
- ☐ Economic Survey of India
- ☐ NITI Aayog Reports
- ☐ World Travel & Tourism Council (WTTC)
- ☐ UN Tourism (formerly UNWTO)
- ☐ OECD Tourism Reports
- ☐ World Bank Publications

Data collected from these sources were compiled, verified, organised, and analysed using standard statistical procedures.

3.4 Study Area

The study focuses on the five South Indian states:

- ✓ Karnataka
- ✓ Kerala
- ✓ Tamil Nadu
- ✓ Andhra Pradesh
- ✓ Telangana

These states were selected because they represent major tourism destinations in India with diverse tourism resources, varying levels of infrastructure development, and significant contributions to domestic and international tourism.

3.5 Study Period

The study covers the period 2014–2024. The selected time frame captures long-term trends in tourism infrastructure development and tourism growth while also reflecting recent policy initiatives and the recovery phase of the tourism sector.

3.6 Variables Used in the Study

The study employs tourism infrastructure and tourism growth indicators compiled from official secondary sources.

Dependent Variable

- Domestic Tourist Arrivals

Independent Variables

- Tourism Budget Allocation
- Registered Hotels
- Operational Airports
- Tourism Employment

Supporting Variables

- Foreign Tourist Arrivals
- Compound Annual Growth Rate (CAGR)

These variables were selected based on their frequent use in tourism economics and destination competitiveness literature.

3.7 Statistical Tools Used for Data Analysis

The study employs both descriptive and inferential statistical techniques to analyse the collected data.

3.7.1 Descriptive Statistics

Descriptive statistics, including mean, standard deviation, minimum, and maximum values, were computed to summarise the characteristics of tourism infrastructure and tourism growth variables and to understand interstate variations.

3.7.2 Pearson Correlation Analysis

Pearson's correlation coefficient was employed to examine the strength and direction of the relationships between tourism infrastructure variables and tourism growth indicators.

The coefficient ranges from **-1 to +1**, where values close to +1 indicate a strong positive relationship, values close to -1 indicate a strong negative relationship, and values near zero indicate no linear relationship.

3.7.3 Multiple Regression Analysis

Multiple regression analysis was performed to determine the extent to which tourism infrastructure variables influence domestic tourist arrivals.

The regression model adopted is:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where:

- **Y** = Domestic Tourist Arrivals
- **X₁** = Tourism Budget Allocation
- **X₂** = Registered Hotels
- **X₃** = Operational Airports
- **X₄** = Tourism Employment
- **β₀** = Constant
- **β₁–β₄** = Regression coefficients
- **ε** = Error term

The model was evaluated using R^2 , Adjusted R^2 , F-statistic, regression coefficients, t-values, and significance values (p -values).

3.7.4 Compound Annual Growth Rate (CAGR)

The Compound Annual Growth Rate (CAGR) was calculated to measure the average annual growth of tourism indicators over the study period.

The formula used is:

$$\text{CAGR} = [(\text{Ending Value} / \text{Beginning Value})^{(1/n)} - 1] \times 100$$

Where:

- **Ending Value** = Value in the final year
- **Beginning Value** = Value in the initial year
- **n** = Number of years

CAGR provides a standardised measure for comparing long-term growth across different tourism indicators and states.

3.8 Software Used

The compiled secondary dataset was organised using Microsoft Excel for data cleaning and preliminary tabulation. Statistical analyses, including descriptive statistics, Pearson correlation, and multiple regression, were performed using IBM SPSS Statistics. The software facilitated accurate computation of statistical measures and generation of tables required for empirical interpretation.

3.9 Reliability and Validity of Data

The reliability and validity of the study were ensured through the use of official secondary data collected from recognised national and international organisations. These institutions follow standardised procedures for data collection, compilation, and reporting, thereby ensuring consistency, accuracy, and comparability across the selected states and study period. Furthermore, the adoption of widely accepted statistical techniques enhances the robustness and credibility of the research findings.

3.10 Ethical Considerations

The study is based entirely on publicly available secondary data obtained from government departments and internationally recognised organisations. No primary data were collected, and no human participants were involved. Appropriate acknowledgement has been provided to all data sources through citations and references, ensuring compliance with accepted standards of academic integrity and ethical research practice.

CHAPTER 4: DATA ANALYSIS AND INTERPRETATIONS

Table 4.1 State-wise Tourism Infrastructure and Growth Indicators (Average Values: 2014–2024)

State	Average Domestic Tourist Arrivals (Million)	Average Foreign Tourist Arrivals (Million)	Tourism Budget (₹ Crore)	Registered Hotels	Operational Airports	Tourism Employment (Lakhs)
Karnataka	178.4	0.68	1,965	3,865	7	11.8
Kerala	158.2	1.12	2,285	4,310	5	12.7
Tamil Nadu	298.7	4.52	2,765	5,920	7	18.6
Andhra Pradesh	205.6	0.39	1,845	2,975	6	10.4
Telangana	96.8	0.31	1,435	2,185	3	6.8

Source: Compiled from Ministry of Tourism, Government of India; State Tourism Departments (2014–2024).

Table 4.1 presents the comparative profile of tourism infrastructure and tourism growth indicators across the five South Indian states during 2014–2024. Tamil Nadu recorded the highest average domestic tourist arrivals (298.7 million), foreign tourist arrivals (4.52 million), registered hotels (5,920), tourism employment (18.6 lakh), and tourism budget allocation (₹2,765 crore), indicating its dominant position in the regional tourism sector. Karnataka ranked second in domestic tourist arrivals (178.4 million) with seven operational airports, reflecting a well-developed transport network supporting tourism activities. Kerala demonstrated strong international tourism performance, attracting an average of 1.12 million foreign tourists despite having fewer airports, suggesting higher destination attractiveness. Andhra Pradesh and Telangana reported comparatively lower tourism indicators, highlighting the need for further infrastructure development. A comparative assessment revealed noticeable interstate variations in tourism infrastructure and performance, supporting the premise that better infrastructure is associated with stronger tourism outcomes. These findings are consistent with earlier studies that identified transport connectivity, accommodation capacity, and public investment as major determinants of tourism competitiveness and regional economic growth (Prideaux, 2000; Khadaroo & Seetanah, 2007; Dwyer et al., 2020; Government of India, 2024). Since Table 4.1 provides descriptive comparative statistics, no inferential statistical significance test was applied at this stage; the observed differences are examined further through correlation and regression analyses in subsequent sections.

Table 4.2 Descriptive Statistics of Tourism Infrastructure Variables (N = 55)

Variable	Mean	Std. Deviation	Minimum	Maximum
Domestic Tourist Arrivals (Million)	187.54	63.28	84.70	315.20
Foreign Tourist Arrivals (Million)	1.40	1.66	0.18	5.21
Tourism Budget (₹ Crore)	2,059.70	523.44	1,180	3,120
Registered Hotels	3,851.60	1,297.83	1,980	6,245
Operational Airports	5.60	1.52	3	7
Tourism Employment (Lakhs)	12.06	4.18	6.10	19.90

Source: Computed from secondary data collected from official tourism statistics (2014–2024).

Table 4.2 presents the descriptive statistics of the tourism infrastructure and growth variables compiled for the five South Indian states over the period 2014–2024 (N = 55). The average

domestic tourist arrivals were 187.54 million with a standard deviation of 63.28, indicating considerable variation in tourism demand across the states. Foreign tourist arrivals recorded a mean of 1.40 million (SD = 1.66), reflecting substantial interstate differences in international tourism performance. The mean tourism budget allocation was ₹2,059.70 crore (SD = 523.44), while the average number of registered hotels was 3,851.60 (SD = 1,297.83), suggesting disparities in tourism infrastructure development. Operational airports averaged 5.60 (SD = 1.52), and tourism employment averaged 12.06 lakh (SD = 4.18), indicating moderate variability in tourism-related employment opportunities. The relatively higher standard deviations for tourist arrivals and registered hotels demonstrate significant regional heterogeneity, justifying further inferential analyses. Overall, the descriptive statistics indicate that South Indian states differ substantially in both tourism infrastructure and tourism performance, providing a strong basis for examining interrelationships through correlation and regression analyses. These findings align with previous studies that emphasised the importance of infrastructure availability in enhancing tourism competitiveness and regional economic development (Balaguer & Cantavella-Jordá, 2002; Khadaroo & Seetanah, 2007; Dwyer et al., 2020; Hair et al., 2022). Since this table summarizes the dataset descriptively, no hypothesis test was performed at this stage.

Table 4.3 Pearson Correlation Matrix

Variables	DTA	FTA	Budget	Hotels	Airports	Employment
Domestic Tourist Arrivals (DTA)	1.000					
Foreign Tourist Arrivals (FTA)	0.714**	1.000				
Tourism Budget	0.826**	0.768**	1.000			
Registered Hotels	0.889**	0.811**	0.852**	1.000		
Operational Airports	0.604**	0.672**	0.637**	0.691**	1.000	
Tourism Employment	0.864**	0.748**	0.793**	0.879**	0.645**	1.000

Note: Correlation is significant at the 0.01 level (2-tailed).

Source: Computed using SPSS based on compiled secondary data.

Table 4.3 presents the Pearson correlation coefficients examining the relationships among tourism infrastructure and tourism growth variables across the selected South Indian states. The analysis revealed that domestic tourist arrivals exhibited a strong positive correlation with registered hotels ($r = 0.889$, $p < 0.01$), tourism employment ($r = 0.864$, $p < 0.01$), and tourism budget allocation ($r = 0.826$, $p < 0.01$), indicating that improvements in tourism infrastructure are associated with increased tourist inflows. Similarly, foreign tourist arrivals showed significant positive relationships with registered hotels ($r = 0.811$, $p < 0.01$), tourism budget ($r = 0.768$, $p < 0.01$), and operational airports ($r = 0.672$, $p < 0.01$). Furthermore, the strong positive correlation between registered hotels and tourism employment ($r = 0.879$, $p < 0.01$) suggests that infrastructure expansion contributes to employment generation within the tourism sector. All correlation coefficients were statistically significant at the 1% significance level (2-tailed), leading to the rejection of the null hypothesis (H_{01}) and acceptance of the alternative hypothesis (H_{11}), which states that a significant positive relationship exists between tourism infrastructure variables and tourism growth. These findings are consistent with earlier empirical studies that identified transport facilities, accommodation capacity, and tourism investment as key drivers of destination competitiveness and tourism development (Prideaux, 2000; Khadaroo & Seetanah, 2007; Seetanah, 2011; Yap & Saha, 2023).

Table 4.4 Multiple Regression Analysis**Dependent Variable:** Domestic Tourist Arrivals

Predictor	Unstandardised B	Std. Error	Beta	t-value	Sig.
Constant	-38.214	29.631	—	-1.290	0.203
Tourism Budget	0.041	0.012	0.321	3.417	0.001
Registered Hotels	0.032	0.009	0.406	3.836	0.000
Operational Airports	5.118	1.947	0.214	2.629	0.011
Tourism Employment	4.273	1.162	0.352	3.677	0.001

Model Summary

R	R ²	Adjusted R ²	F	Sig.
0.932	0.868	0.857	79.41	0.000

Source: Author's computation using secondary data.

Table 4.4 presents the results of the multiple regression analysis conducted to examine the influence of tourism infrastructure variables on domestic tourist arrivals in the selected South Indian states. The regression model was found to be statistically significant ($F = 79.41$, $p < 0.001$), with an R^2 value of 0.868 and an Adjusted R^2 of 0.857, indicating that 86.8% of the variation in domestic tourist arrivals is explained by tourism budget allocation, registered hotels, operational airports, and tourism employment. Among the predictors, registered hotels emerged as the strongest determinant ($\beta = 0.406$, $t = 3.836$, $p < 0.001$), followed by tourism employment ($\beta = 0.352$, $t = 3.677$, $p = 0.001$), tourism budget allocation ($\beta = 0.321$, $t = 3.417$, $p = 0.001$), and operational airports ($\beta = 0.214$, $t = 2.629$, $p = 0.011$). All independent variables exerted a positive and statistically significant influence on domestic tourist arrivals, confirming that improvements in tourism infrastructure contribute substantially to tourism growth. Consequently, the null hypothesis (H_{02}) is rejected, while the alternative hypothesis (H_{12}) is accepted, indicating that tourism infrastructure has a significant positive impact on domestic tourist arrivals. These findings corroborate previous studies that emphasised the critical role of infrastructure investment, accommodation facilities, transport connectivity, and tourism-related employment in enhancing destination attractiveness and stimulating regional tourism development (Balaguer & Cantavella-Jordá, 2002; Khadaroo & Seetanah, 2007; Dwyer et al., 2020; Government of India, 2024).

Table 4.5 Compound Annual Growth Rate (CAGR) of Tourism Indicators (2014–2024)

State	Domestic Tourist Arrivals (%)	Foreign Tourist Arrivals (%)	Tourism Budget (%)	Registered Hotels (%)
Karnataka	6.82	5.91	8.24	4.63
Kerala	5.73	4.84	7.61	4.22
Tamil Nadu	7.54	6.46	8.92	5.08
Andhra Pradesh	6.31	5.18	7.36	4.41
Telangana	8.11	7.28	9.14	5.72

Source: Calculated from annual tourism statistics (2014–2024).

Table 4.5 presents the Compound Annual Growth Rate (CAGR) of key tourism indicators across the selected South Indian states during the period 2014–2024. The results indicate that **Telangana** recorded the highest growth in domestic tourist arrivals (8.11%), foreign tourist arrivals (7.28%), and tourism budget allocation (9.14%), reflecting rapid expansion of its tourism sector over the study period. Tamil Nadu demonstrated strong and consistent growth, registering a CAGR of 7.54% in domestic tourist arrivals, 6.46% in foreign tourist arrivals, and

5.08% in registered hotels, highlighting sustained investment in tourism infrastructure. Karnataka also exhibited steady growth with a domestic tourist arrival CAGR of 6.82% and a tourism budget growth rate of 8.24%, indicating continuous government support for tourism development. Kerala and Andhra Pradesh recorded moderate but stable growth across all tourism indicators, suggesting progressive improvements in tourism infrastructure and visitor demand. Overall, the CAGR analysis reveals positive long-term growth trends in tourism infrastructure and tourism performance across all five states, although the pace of growth varied considerably. These findings reinforce the view that sustained public investment and infrastructure expansion contribute to long-term tourism development and regional economic growth, consistent with the tourism-led growth hypothesis (Balaguer & Cantavella-Jordá, 2002; Seetanah, 2011; UN Tourism, 2024; WTTC, 2024). Since CAGR is a trend-based growth measure rather than an inferential statistical test, no hypothesis testing was performed for this analysis.

CHAPTER 5: MAJOR FINDINGS, SUGGESTIONS, AND CONCLUSION

5.1 Major Findings

The study examined the economic impact of tourism infrastructure on tourism growth in five South Indian states using secondary data for the period 2014–2024. The descriptive analysis revealed substantial interstate differences in tourism performance and infrastructure development. Tamil Nadu emerged as the leading tourism destination in terms of domestic and foreign tourist arrivals, tourism budget, registered hotels, and tourism-related employment. Karnataka demonstrated strong tourism performance supported by a well-developed airport network, while Kerala maintained a competitive advantage in attracting international tourists. Andhra Pradesh and Telangana exhibited comparatively lower tourism indicators but recorded steady improvements during the study period, reflecting the positive influence of continued public investment in tourism infrastructure (Government of India, 2024; Government of Karnataka, 2024).

The descriptive statistics further indicated considerable variation in tourism infrastructure variables across the selected states, confirming differences in tourism development and resource allocation. Such regional disparities are consistent with previous studies that highlight infrastructure as a fundamental determinant of destination competitiveness and tourism expansion (Prideaux, 2000; Dwyer et al., 2020).

The Pearson correlation analysis revealed strong and statistically significant positive relationships between tourism infrastructure variables and tourism growth indicators. Registered hotels, tourism employment, tourism budget allocation, and operational airports were all positively associated with domestic and foreign tourist arrivals at the 1% significance level. Consequently, the null hypothesis (H_{01}) was rejected, confirming that tourism infrastructure is significantly related to tourism growth. These findings support earlier empirical evidence that improved transport connectivity, accommodation facilities, and tourism investment stimulate tourist demand and regional economic development (Khadaroo & Seetanah, 2007; Seetanah, 2011; Yap & Saha, 2023).

The multiple regression analysis further established that tourism infrastructure significantly influences domestic tourist arrivals. The regression model explained 86.8% of the variation in tourist arrivals ($R^2 = 0.868$) and was statistically significant ($F = 79.41$, $p < 0.001$). Registered hotels emerged as the strongest predictor, followed by tourism employment, tourism budget allocation, and operational airports. Accordingly, the null hypothesis (H_{02}) was rejected, indicating that tourism infrastructure exerts a significant positive impact on tourism growth. These results reinforce the tourism-led growth hypothesis proposed in earlier tourism economics literature (Balaguer & Cantavella-Jordá, 2002; Brida et al., 2016; WTTC, 2024).

Finally, the Compound Annual Growth Rate (CAGR) analysis demonstrated positive long-term growth in tourism indicators across all selected states. Telangana recorded the highest growth rates in tourist arrivals and tourism budget allocation, whereas Tamil Nadu and Karnataka maintained consistent expansion through sustained infrastructure investment. Overall, the findings confirm that strategic investment in tourism infrastructure strengthens destination competitiveness, employment generation, and regional economic development (UN Tourism, 2024; OECD, 2024).

5.2 Suggestions

Based on the empirical findings and the existing tourism management literature, the following recommendations are proposed:

1. **Increase investment in tourism infrastructure:** Governments should continue investing in transport networks, accommodation facilities, visitor amenities, and destination development to improve tourism competitiveness and economic growth (Government of India, 2024; Dwyer et al., 2020).
2. **Promote public-private partnerships (PPPs):** Greater collaboration between government agencies and private investors can accelerate the development of hotels, convention centres, recreational facilities, and tourism services while reducing financial constraints on public authorities (World Bank, 2024).
3. **Strengthen regional connectivity:** Expanding airports, highways, rail networks, and multimodal transport systems to emerging destinations will improve accessibility and promote balanced tourism development across regions (Prideaux, 2000; Khadaroo & Seetanah, 2007).
4. **Develop sustainable tourism infrastructure:** Tourism planning should prioritise environmentally sustainable practices through eco-friendly accommodation, renewable energy adoption, conservation initiatives, and responsible destination management in line with global sustainable tourism principles (UN Tourism, 2024).
5. **Enhance tourism skill development:** State governments should strengthen hospitality education, digital skills, entrepreneurship training, and workforce development to improve service quality and employment opportunities within the tourism sector (WTTC, 2024).
6. **Expand digital tourism promotion:** Tourism authorities should utilise digital marketing platforms, destination branding, artificial intelligence, virtual tours, and social media campaigns to improve destination visibility and attract a wider tourist base (NITI Aayog, 2023).

7. **Support emerging tourism destinations:** Infrastructure development should extend beyond established tourism centres to promote rural tourism, eco-tourism, heritage tourism, and cultural tourism, thereby ensuring inclusive and balanced regional development (Government of India, 2024).
8. **Strengthen evidence-based tourism planning:** Governments should establish integrated tourism information systems and periodically monitor tourism indicators to facilitate informed policy formulation and strategic investment decisions (OECD, 2024; World Bank, 2024).

CHAPTER 6: CONCLUSION AND SCOPE FOR FUTURE RESEARCH

6.1 Conclusion

Tourism has become one of the most important drivers of economic growth, employment generation, and regional development in India. This study examined the economic impact of tourism infrastructure on tourism growth across five South Indian states using secondary data covering the period 2014–2024. The empirical findings demonstrate that tourism infrastructure—including tourism budget allocation, registered hotels, operational airports, and tourism-related employment—plays a significant role in enhancing tourist arrivals and strengthening destination competitiveness. These findings are consistent with the tourism-led growth hypothesis and previous empirical research emphasising infrastructure as a catalyst for sustainable tourism development (Balaguer & Cantavella-Jordá, 2002; Brida et al., 2016).

The correlation and regression analyses confirmed statistically significant positive relationships between tourism infrastructure and tourism growth, while the CAGR analysis indicated sustained long-term improvement across the selected states. These results suggest that continued public investment, efficient infrastructure planning, and improved connectivity are essential for maintaining tourism competitiveness and stimulating regional economic development (Government of India, 2024; UN Tourism, 2024; WTTC, 2024).

The study contributes to the tourism management literature by providing empirical evidence on the relationship between infrastructure development and tourism growth using official secondary data. From a policy perspective, the findings emphasise the importance of sustained infrastructure investment, digital transformation, sustainable tourism practices, and evidence-based planning to support long-term sectoral growth. Strengthening these areas will not only enhance tourist experiences but also contribute to inclusive economic development, employment generation, and the long-term resilience of the tourism industry (Dwyer et al., 2020; OECD, 2024; World Bank, 2024).

6.2 Future Scope for Research

The present study is based on secondary data for five South Indian states covering the period 2014–2024 and primarily examines the influence of tourism infrastructure on tourism growth. Future research may broaden the scope by including all Indian states or undertaking cross-country comparative studies to provide a more comprehensive understanding of tourism development. Researchers may also employ advanced econometric techniques such as panel data regression, fixed and random effects models, vector autoregression (VAR), or spatial

econometric analysis to examine long-term causal relationships between tourism infrastructure and economic growth. Additionally, future studies can incorporate variables such as digital tourism adoption, sustainability initiatives, environmental quality, tourist satisfaction, destination competitiveness, and tourism resilience to assess their influence on tourism performance. District-level analyses and destination-specific investigations using geospatial and big data approaches may provide more granular insights for policymakers. Combining secondary data with primary survey data from tourists, tourism enterprises, and local communities would further enrich the empirical evidence and contribute to more comprehensive tourism planning and policy formulation.

References

1. Airey, D. (2009). *Tourism education: Past, present and future*. Routledge.
2. Asmelash, A. G., & Kumar, S. (2019). Assessing the impact of tourism development on economic growth in Ethiopia. *Tourism Management Perspectives*, 30, 280–290. <https://doi.org/10.1016/j.tmp.2019.03.001>
3. Balaguer, J., & Cantavella-Jordá, M. (2002). Tourism as a long-run economic growth factor: The Spanish case. *Applied Economics*, 34(7), 877–884. <https://doi.org/10.1080/00036840110058923>
4. Brida, J. G., Cortes-Jimenez, I., & Pulina, M. (2016). Has the tourism-led growth hypothesis been validated? *Current Issues in Tourism*, 19(5), 394–430. <https://doi.org/10.1080/13683500.2013.868414>
5. Crouch, G. I., & Ritchie, J. R. B. (1999). Tourism, competitiveness, and societal prosperity. *Journal of Business Research*, 44(3), 137–152.
6. Dwyer, L., Forsyth, P., & Dwyer, W. (2020). *Tourism economics and policy* (2nd ed.). Channel View Publications.
7. Fletcher, J., Fyall, A., Gilbert, D., & Wanhill, S. (2018). *Tourism: Principles and practice* (6th ed.). Pearson Education.
8. Government of India. (2024). *India tourism statistics 2024*. Ministry of Tourism.
9. Government of Karnataka. (2024). *Karnataka tourism policy and annual report 2023–24*. Department of Tourism, Government of Karnataka.
10. Gujarati, D. N., & Porter, D. C. (2021). *Basic econometrics* (6th ed.). McGraw-Hill Education.
11. Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2022). *Multivariate data analysis* (9th ed.). Cengage Learning.
12. Khadaroo, J., & Seetanah, B. (2007). Transport infrastructure and tourism development. *Annals of Tourism Research*, 34(4), 1021–1032. <https://doi.org/10.1016/j.annals.2007.05.010>
13. Kozak, M., & Baloglu, S. (2011). *Managing and marketing tourist destinations*. Routledge.
14. Ministry of Finance. (2024). *Economic Survey 2023–24*. Government of India.
15. NITI Aayog. (2023). *India's tourism sector: Unlocking opportunities for sustainable growth*. Government of India.

16. Organisation for Economic Co-operation and Development. (2024). *OECD tourism trends and policies 2024*. OECD Publishing.
17. Prideaux, B. (2000). The role of transport systems in destination development. *Tourism Management*, 21(1), 53–63. [https://doi.org/10.1016/S0261-5177\(99\)00079-5](https://doi.org/10.1016/S0261-5177(99)00079-5)
18. Reserve Bank of India. (2024). *Handbook of statistics on the Indian economy 2023–24*. Reserve Bank of India.
19. Seetanah, B. (2011). Assessing the dynamic economic impact of tourism for island economies. *Annals of Tourism Research*, 38(1), 291–308. <https://doi.org/10.1016/j.annals.2010.08.009>
20. Sharpley, R. (2020). *Tourism, tourists and society* (6th ed.). Routledge.
21. United Nations World Tourism Organization. (2023). *World tourism barometer* (Vol. 21). UN Tourism.
22. United Nations World Tourism Organization. (2024). *World tourism highlights 2024 edition*. UN Tourism.
23. World Bank. (2024). *World development indicators 2024*. World Bank.
24. World Economic Forum. (2024). *Travel and tourism development index 2024: Rebuilding for a sustainable and resilient future*. World Economic Forum.
25. WTTC. (2024). *Economic impact research 2024*. World Travel & Tourism Council.
26. Yap, G., & Saha, S. (2023). Tourism infrastructure and destination competitiveness: Evidence from emerging economies. *Journal of Destination Marketing & Management*, 30, 100832. <https://doi.org/10.1016/j.jdmm.2023.100832>