Introduction:

Transport is a fundamental component of the tourism industry. Travel is an essential component of the tourism and leisure experience (Dickinson & Robbins, 2008), and transport is acknowledged as a key ingredient in tourism development (Seetanah & Khadaroo, 2007), (Schiefelbusch, Jain, Schäfer, & Müller, 2007); (Musa & Ndawayo, 2011); (Currie & Falconer, 2014) recognized the role of the transport system as an essential component of successful tourism development and stated that “transport plays an important role in the successful creation and development of new attractions as well as the healthy growth of existing ones. Provision of suitable transport has transformed dead centers of tourist interest into active and prosperous places attracting multitudes of people” (quoted by (Prideaux, 2000)). Due to characteristics of tourism activities at the destination (e.g. long-distance travel, remote areas, difficult routes, access restrictions and distances point to point) and personal constraints (e.g. health and physical abilities and security concerns), tourists are dependent upon the transport system available at the destination. Transport plays an important role in providing mobility for tourists at the destination, and tourists’ experience with public transport service may influence their satisfaction with the destination (Thompson & Schofield, 2007).

Several researchers have acknowledged the need for transport as an overall element in tourism development but the literature fails to identify any specific causal relationship between transport system performance at the destination and tourist satisfaction. There is therefore a need to identify the role of transport in the overall tourism experience at a destination, accessibility between the attractions, and its relationship with tourist satisfaction and experience.

A REVIEW OF DIMENSIONS OF TOURISM TRANSPORT AFFECTING TOURIST SATISFACTION

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ABSTRACT

Transport is an integral part of the tourism industry. Tourism has expanded largely due to the improvement of transportation. Development of tourism in any region depends on development of the transport system. Understanding tourists’ use of the transport system at the destination is important for increasing destination competitiveness. The availability and quality of transport at the destination has an influence on tourist experience and overall satisfaction. Tourist satisfaction is considered to be the most important factor in tourism studies, as it plays an important role in attracting and retaining tourists. This paper provides a review of research on transport and tourism. The review indicates that studies in this area have acknowledged the role of transport as a significant variable in tourism development but fails to identify any specific causal relationship between transport system performance at the destination and tourist satisfaction. The aim of this paper is to understand various dimensions of the transport system that influence tourist satisfaction with transportation services, and to identify potential areas for future research. Using a systematic review, the study analyzes accessibility, service quality, perceived value, and destination image as dimensions of the transport system influencing tourist satisfaction.

Keywords: transport, tourism, tourist satisfaction, tourists’ use of transport system.
In most tourism studies, transport is seen as a link between tourist-generating regions and tourism-generating regions (Khadaroo & Seetanah, 2007), (Khadaroo & Seetanah, 2008); (Lohmann & Duval, 2011); (Currie & Falconer, 2014). The role of transport in the development of tourism was researched by (Prideaux, 2000); (Rizal & Asokan, 2013); (Georgescu, 2015). Provision of transport infrastructure as a factor in overall tourism development has been researched by (Waryszak & King, 2000); (Khadaroo & Seetanah, 2007); (Henderson, 2009); (Bimonte & Punzo, 2016). Transport facilitates the movement of tourists between their place of origin and their destination and acts as the means of movement of tourists within the destination, thus allowing for wider dispersal of visitor movement and as a result maximum exposure of visitor flows to areas perhaps not otherwise possible (Page 2009, quoted by (Lohmann & Duval, 2011). Although many tourism studies have acknowledged the role of transport as a significant variable in tourism development, one area that has received little attention is the relationship transport has with tourist satisfaction.

The present study attempts to identify the dimensions of the transport system that have an impact on tourist satisfaction. This paper seeks to provide a review of dimensions of transport system at the destinations with the following objectives:
1) To understand the various dimensions of the transport system and tourism at destinations.
2) To understand how transport is used for tourism purposes in different contexts.
3) To identify areas and gaps for future research.

Towards achieving this aim, relevant research in the area of transport and tourism is reviewed to answer the following questions:
1) How do tourists travel within a destination? (transport modes used)
2) Which dimensions of transport system used at destinations affect tourist satisfaction? (motivation for use, satisfaction)

In addressing the research question, the analysis was conducted in two stages.
1) First, on the basis of the review on tourism and transport, an analysis was made to identify how the role of transport is researched in tourism studies.
2) Secondly, tourism studies were analyzed to understand which dimensions of transport influence tourist satisfaction at the destination.

Method:
Due to the multidisciplinary nature of transport and tourism research, it was necessary to have a very broad review of the literature. This paper is based on a broad review of academic research on transport and tourism. The literature search was conducted using online, international journal databases in order to capture the wide range of published academic research in the field. Google scholar (www. google scholar.com) was the main database used. The key words/phrases used were: role of the transport system in tourism, tourist satisfaction, service quality of transport system, transport and tourism development.

N-list, a research consortium was also used to locate research papers and theses on transport.

The paper is organized in 4 sections:
Section I: Review of available research on transport and tourism
Section II: Review of research on tourist satisfaction
Section III: Review of research on various dimensions of transport such as accessibility, service quality and perceived value.
Section IV: Conclusion and Suggestions for further research.

Section I: Review of Research on Transport and Tourism
Although most tourism literature acknowledges transport as an overall element in the successful program of tourism development, there has been relatively little research undertaken on the relationship between transport and tourism (Prideaux, 2000). From the supply side of tourism transport, (Hall & Page, 2009), (Hall D. , 2004) identified four general spatially expressed roles as (a) linking the source market with the host destination, (b) providing mobility and access within a destination area/region/country, (c) providing mobility and access within an actual tourism attraction and (d) facilitating travel along a recreational route which is itself a tourism experience. The study found that sustainability is a key strategic concept in transport and tourism policies and should act as an area of practical implementation binding the two. (Dickinson & Robbins, 2008) identified that perceived benefits and responsibility dimensions are salient dimensions of the representation of tourism.

(Prideaux, 2000) developed a transport cost model that identifies Transport Access Cost (TAC) as one of the key categories among Total Holiday Expenditure (the others are Discretionary Spending and Accommodation Cost at the destination). The model was used to identify the significance of transport as a factor in destination development as well as in the selection of a destination by intending tourists. While investigating the role of transport infrastructure (Khadaroo & Seetanah, 2007), (Khadaroo & Seetanah, 2008) found that transport infrastructure is a more sensitive factor when traveling to a relatively unknown destination and positively contributed to tourist from Europe/ America and Asia. (Albalate & Bel, 2010) researched how cities make provision of transport required by tourism and found that the cities with highest demand for public transport...
due to tourism hold this demand with the existing supply of public transport services. (Aguiló, Palmer, & Rosselló, 2012) investigated different strategies in tourism policies designed to reduce the number of tourists using private motor vehicle transport. (Henderson, 2009) identified that safe and efficient transport affording accessibility from abroad and mobility on arrival is a critical consideration to facilitate progress of tourist destination whereas its absence acts as a barrier. (Lumsdon, 2006) concluded that the design of tourism bus network at the destination needs a comprehensive approach with market understanding and accounting for the difference between utility and recreational trips. Studies on the means of transport used at the destination, found that tourists use private cars and taxis (Waryszak & King, 2000); (Rizal & Asokan, 2013).

The review of transport and tourism research reveals that although transport is an important element in tourism development it is researched as a provision at the destination for tourist. Another way to measure the importance of transport for tourism is to analyze its performance, and the economic benefits that transport can bring to a tourist destination. However how the use of transport system at the destination is related to tourist satisfaction is an area where research is lacking.

**Section II: Review of Research on Tourist Satisfaction**

The literature has analysed tourist satisfaction in a wide range of contexts:

- Behavioral intention (Bigne, Sanchez, & Sanchez, 2001); (Valle, Silva, Mendes, & Guerreiro, 2006); (del Bosque & San Martin, 2008); (Marin & Taberner, 2008); (Tsung Hung Lee, 2009),
- Tourist satisfaction with chosen destination (Huh, 2002); (Truong & Foster, 2006); (Phtevarooon, 2006); (Lather, Singh, & Singh, 2012); (Ali & Howaidee, 2012); (Ekiz & KhoO-Lattimore, 2014); (Suanmali, 2014); (Arasli & Baradarani, 2014); (Della Corte, Sciarelli, Cascella, & Del Gaudio, 2015); (Guzamn-Para et.al 2016),
- Antecedents of tourist satisfaction (Oliver, 1980); (Yoon, 2002); (Yoon & Uysal, 2005); (Martin Armario, 2008); (Tsung Hung Lee, 2009); (Wang, Zhang, Gu, & Zhen, 2009); (Mingfang, 2011); (Nowacki, 2013)

Tourist satisfaction is important for successful destination marketing because it influences the choice of destination, the consumption of products and services and the decision to return (Kozak & Rimmington, 2000), tourists' emotional state after experiencing the trip (Baker & Crompton, 2000). Tourist satisfaction may be the result of multiple factors including the expectations generated before and during the trip as well as the tourists' perceptions of the services received. (Pizam, Neumann, & Reichel, 1978) identified beach opportunities, cost, and hospitality, eating and drinking facilities, accommodation facilities, environment and extent of commercialization as factors influencing tourist satisfaction. (Ali & Howaidee, 2012) found that destination facilities and accessibility and attractions directly influenced tourist satisfaction. (Andriotis, Agiomirgianakis, & Mihiotis, 2008) identified host attitude, road transport, accommodation and catering, pricing, natural environment, entertainment, language and communication as important elements. (Bigne, Sanchez, & Sanchez, 2001) researched the interrelationship between destination image, perceived quality, satisfaction and behavioral intention using structural equation modeling and found that tourism image is a direct antecedent of perceived quality, satisfaction, and behavioral intentions and also identified the role of image as a key factor in destination marketing. (Chi & Qu, 2008) also found that destination image and attribute satisfaction are direct antecedents of overall satisfaction, and attribute satisfaction had a direct and positive impact on destination loyalty.

(Della Corte, Sciarelli, Cascella, & Del Gaudio, 2015) identified the principle competitive strategies that the variety of stakeholders, cooperating together in a destination, has to implement in order to increase tourist satisfaction and found that tourist satisfaction depends on a complex process, where the role of each actor in tourism is fundamental and requires cooperation. Armario (2008) provided an integral vision of the relationship that exists between tourist satisfaction and its antecedents such as an individual's own characteristics (e.g. motivation), the variety and type of activities available throughout his stay at the holiday destination and distance to the holiday destination. The study found that push type motivation dominate pull motives with regard to tourist satisfaction levels.

Cost of staying was found to be the most significant factor affecting satisfaction and hospitality, attraction, accessibility, and infrastructure other significant factors of overall satisfaction (Suanmali, 2014). Visitors' satisfaction is also determined by subject-related factors (visitors features including gender, age, education, place of residence, acquaintance with the attraction and the frequency of visiting similar attractions, interest in the subject matter related to the attraction, being part of sightseeing group, motivation) and object-related factors (attraction features including exhibitions, shows, dioramas, live animals, authentic and nostalgia-provoking buildings and interiors (Nowacki, 2013).

(Mingfang, 2011) found that tourists’ characteristics have no strong causal relationships with tourist satisfaction. The study found that perceived value has a direct and strong relationship with tourist satisfaction and it also affects their behavioral intentions of revisiting or recommending the
Section III: Review of Research on Various Dimensions of Transport such as Accessibility, Service Quality and Perceived Value

The significance of the transport system for tourism is acknowledged in tourism literature. For any tourist destination, the ability to travel within the destination to preferred attractions enhances the likelihood that tourists will visit the destination. Tourism transport system is defined by (Prideaux, 2000) as the operation of and interaction between transport modes, ways, and terminals that support tourism resorts in terms of passenger and freight flows into and out of destinations, the provision of transport services within the destination, and the provision of connecting transport modes in the tourism generating region. As per (Prideaux, 2000), the transport system is also responsible for

1. providing transport from the tourist's home to the terminal where the journey to the tourism destination commences,
2. providing services that are safe, comfortable, competitively priced and fast,
3. providing transport within the tourism destination and providing freight services into the tourism destination.

The literature reveals that transport is responsible for providing easy access and mobility to the attractions at the destination. Transportation services provided for tourist use also has an influence on overall satisfaction. It is necessary to identify and study various dimensions of the transport system which impact tourist satisfaction, in order to improve these services. From the literature, tourist accessibility, service quality of transport services, perceived value, trip characteristics and travel motivation are some of the dimensions identified. Among them, service quality of public transport is frequently researched. Studies on tourist satisfaction have researched the relationship that exists between perceived value, perceived quality, motivation, destination image, behavioral intentions, and satisfaction. It is necessary to research how accessibility, perceived performance of transport system, perceived value, expectations, and satisfaction are related. Following are the details of the dimensions of transport system reviewed from transport and tourism studies:

Accessibility:

Accessibility, a concept used in a number of scientific fields such as transport planning, urban planning, and geography, plays an important role in land-use and transport policy making. (Litman, 2003) defines accessibility (or just access) as the ability to reach desired goods, services, activities and destination (collectively called opportunities). (Handy & Niemeier, 1997) pointed out that accessibility is determined not only by the spatial distribution of the potential destination but also by the activity development level, by their quality and character. (Bănică & Camară, 2011) approaches accessibility taking into account not only the distance and number of potential tourists, but also the potential tourist attractiveness of the destination and concluded that accessibility of the destination clearly influences the attractiveness and potential for tourism and development. The study points out that "defining and evaluating tourist accessibility should take into account the characteristics of the transportation system, the ease to reach the tourist site from a certain location, the time taken, the costs and efforts made to go that distance". (Kahtani, Xia, & Veenendaal, 2011) evaluated accessibility not only from transportation and geographic proximity perspective, but also from the perspective of available quality functions and facilities at tourist attractions. (Israeli & Mansfeld, 2003) examined the factors influencing the transportation accessibility of tourist attractions and identified accessibility, traffic congestion, transportation infrastructure and services, spatial concentration of flow, time concentration of flow, inadequate tourist supply, and inadequate information system as factors influencing transportation accessibility within the old city of Jerusalem. (Gaman, 2014) studied the influence of transport accessibility on tourist accommodation facilities of health resorts situated in Carpathian areas, which presented lowest level of transport accessibility and subsequently the influence of accessibility on tourist accommodation facilities was very low. (Tóth & Dávid, 2010) explored the extent to which tourism income from accommodation receipts is connected to accessible public roads and found that international incomes are far more susceptible to favorable accessibility than domestic ones.

Ali and Howaidee (2012) studied private and public transport dimensions of tourism product that determine the cost, speed, and convenience with which a traveler may leave his place of residence and reach a chosen destination. Accessibility of the destinations included infrastructure, equipment, operational factors and government regulations and found that destination accessibility influences tourist satisfaction. (Arasli & Baradaran, 2014) investigated the effect of variables such as transportation services and accessibility as dimensions affecting destination satisfaction and found that they have an insignificant effect. (Shahrivar, 2012) studied accessibility as a destination attribute, measuring it on the basis of availability of transportation and availability of accommodation, and found that respondents were indifferent with respect to the availability of transport. Accessibility is studied as a dimension of transportation services, destination image and dimension of attribute satisfaction (Chi & Qu, 2008); Corte 2014; (Kozak, 2001)
Service Quality:
Service quality is a measure of how well the service level delivered matches customer expectations while a firm delivering quality services means conforming to customer expectations on a consistent basis (Transportation Research Board 1999, 2004). Therefore the extent to which service performance matches customer expectations influences the degree to which the customer feels satisfied. (Lai & Chen, 2011) used 19 items of service quality to evaluate their influence on passengers’ behavioral intentions, and found that vehicle safety, facility cleanliness, and complaint handling have a significant influence on passenger’s satisfaction. Enhanced performance quality leads to stronger behavioral intentions and visitors’ satisfaction adds to the explanatory power of quality (Baker and Crompton 2000). While exploring the transport efficiency and service quality of dynamic bus information system, it was found that users are reasonably satisfied with the service quality of intelligent stops. Customer satisfaction about overall service expectation as expressed by the customers of public transport services, suggested that improvement in planning and reliability are variables having the greatest effect on global customer satisfaction (Eboli & Mazzulla, 2007). Applying RECSA (Regional Estuarine and Coastal Systems of the Americas) service dimension model, (Govender, 2014) found age, education, and income were all significant variables in influencing the perceptions of overall service quality provided by bus and minibus taxis. The most significant service drivers influencing the utilization of public transport service are season tickets, followed by ticket pricing and information service (Jayaraman et.al 2011). (Dell’Olio, Ibeas, & Cecin, 2011) found waiting time, cleanliness and comfort are the variables that stand out independently of the grouping criteria and define the quality desired from an efficient and safe public transport. (Tyrinopoulos & Antoniou, 2008) identified price, information provision, a behavior of personnel, waiting and in-vehicle conditions and accessibility as factors of quality affecting customer choice in transit ridership.

In most of the tourism studies the use of public transport as means of transport by tourists and its service quality has been well-researched. Among the other available means of transport, the selection of transport modes will depend upon the service performance and satisfaction derived by tourist, and may also influence tourist satisfaction needs to be researched. Service quality of public transport is researched using perceived performance and expectation dimensions, mainly using Servqual model. (Chen, 2008); (Fellesson & Friman, 2008); Ohu and Jen 2006; (Wang, Zhang, Gu, & Zhen, 2009)

Perceived Value:
Perceived value is the consumer’s overall assessment of the utility of a product based on perceptions of what is received and what is given (Zeithaml, 1988). Though what is received varies across consumers (i.e. some may want volume, other high quality, still others convenience) and what is given also varies (i.e. some are concerned only with money expended, others with time and efforts), the value represents a trade-off between the salient give and get components. The positive relationship between perceived value and tourist satisfaction has also been identified in the tourism field. Perceived value is regarded as an important construct of relationship marketing (Cronin, Brady, & Hult, 2000). (Sweeney & Soutar, 2001) developed PERVAL Scale with four value dimensions termed as emotional, social, quality or performance and price or value for money and were found to help significantly in explaining attitudes and behavior. Concerning the quality-value-satisfaction -loyalty chain, the study indicated a clear pattern, viz. quality is an antecedent of perceived value and satisfaction is the behavioral consequence of perceived value, with loyalty attitude being the final outcome (Gallarza & Saura, 2006). (Kashyap & Bojanic, 2000) investigated the relationship between travellers’ perception of value, quality and price and their influence on travellers’ ratings of similar hotels and revisit intentions in two segments - business and leisure travelers. The study found that value plays a pivotal role in travellers’ decision schema emphasizing the need to shift efforts from managing quality alone to managing customer value. (Chen, 2008) examined the relationship between service quality, perceived value, satisfaction and behavioral intentions of air passengers using Structural Equation Modeling and found that perceived value directly influences behavioral intentions but perceived performance has an indirect effect on overall satisfaction as moderated by perceived value. Jen and (Jen & Hu, 2003) established a perceived value model which was applied to identify the factors affecting passenger repurchase intentions on the city bus at Taipei and found that repurchase intentions are typically determined by the perceived value of the service. ( (Lee, Yoon, & Lee, 2007) proposed a theoretical model of tourists Demilitarized Zone tour to investigate the relationship between perceived value, tourist satisfaction, and recommendation and to test the constructs that affects tourist satisfaction. Functional value, overall value, and emotional value were the three dimensions of perceived value applied and it was found that all the variables under these three dimensions had a significant effect on tour satisfaction and recommendations. Fang (2011) using Structural Equation Modeling examined the relationship between tourist characteristics, expectations, perceived value and overall satisfaction. Perceived value was studied using two dimensions) Price given quality 2) Quality given
price and the study found that perceived value has the strong causal relationship with satisfaction.

**Destination image:**
Destination image is a mental perception built up by tourists through multiple sources of information. (Chi & Qu, 2008) found that destination image had a positive effect on tourist satisfaction as well as destination loyalty) (Wang, Zhang, Gu, & Zhen, 2009) measured destination image using three dimensions viz. destination brand, nature and cultural image and entertainment image. The study found that destination image exercised the strongest total effect on tourist satisfaction construct among expectation, perceived quality, and perceived value constructs. (Alcázar, 2014) through a theory of social representation found that cognitive and affective image components are significant antecedents of the overall image. According to (Bigne, Sanchez, & Sanchez, 2001) image is a key factor in the hands of destination manager. It is a direct antecedent of perceived quality and satisfaction (evaluation of stay) and of the intention to return. Destination image would affect how customers perceive quality, with a more positive image corresponding to higher perceived quality (Chi & Qu, 2008), many studies have made an attempt to identify the relationship that exist between destination image, perceived value, attitude, motivation, destination loyalty, tourist perceptions, destination attributes and tourist satisfaction using structural equation modeling technique (Bigne, Sanchez, & Sanchez, 2001); (Yoon, 2002); (Yoon & Uysal, 2005); (Valle, Silva, Mendes, & Guerreiro, 2006); (Chi & Qu, 2008); (Wang, Zhang, Gu, & Zhen, 2009); (Mingfang, 2011); Nowacki 2013; (Ragavan, Subramonian, & Sharif, 2014) and found that tourist expectation, destination image, perceived quality, and perceived value are four key antecedents of tourist satisfaction.

**Section IV:** Conclusion and Suggestions for Further Research
An analysis of studies of transport and tourism has revealed that as transport is an important variable, and so far has been researched as one of the provisions required for tourism. Unavailability of transport facilities will always affect the destination image, hence reducing the likelihood of tourists revisiting the destination. Tourism involves collective efforts of various services to make the destination more competitive, the movement of tourists within the attraction at the destination, is an important consideration. Among the reviewed dimensions, accessibility being the important aspect of tourists’ movement at the destination has not been adequately researched.

In using the findings from the review to answer the questions of how tourists travel within the destination and which dimensions of the transport system affect tourist satisfaction, the following points emerge:

1) Transport facilities required by tourists are adjusted within the existing supply of public transport services, without making provision for tourism-oriented transport. It is analyzed that this adjustment may affect tourist leisure travel experience and investigation as to how transport, which is not dedicated to tourist use, influences the tourist experience remains limited. (Thompson & Schofield, 2007)

2) Most tourism studies have researched use of public transport, as it is found to be the commonly used means of transport, other available means of transport may influence tourist experience at the destination. The mode of transportation used may also influence the level of satisfaction with en route services. Future studies should include more than one type of traveler; separate domestic trips from international trips and take into account the modes of transportation (Neal & Gursoy, 2008).

3) (Masiero & Zoltan, 2013) also suggested that future research be undertaken to jointly analyze the spatial dimension and transportation mode used by estimating different hierarchical structures for the better understanding of tourist behavior at the destination. Specifically, the importance of motivation variables should not be neglected in future research investigating the influential factors of mobility decisions.

4) (Le-Klähn, Gerike, & Hall, 2014) researched tourist use of public transport at the destination, suggesting that it is necessary to better understand tourist behavior and improve their experience with public transport especially as such research may not only bring economic returns to a destination but also contribute to sustainable transport goals. The measurement of travel characteristics including time, cost and choice of mode and their impact on travel decisions has been a fertile area of research in transport and engineering literature, this issue has not been perused in tourism literature (Prideaux, 2000).

5) Transportation services provided at the destination are required to be assessed on the basis of service quality, to understand tourist satisfaction. There are studies in tourism literature researching service quality of public transport at the destination but they have not extended the concept to other means of transport. Additional research is needed to investigate a richer set of quality attributes such as safety, staff behavior, information and fares (Felllesson & Friman, 2008). Other areas that need further attention include staff service, seat availability, space and cleanliness of the vehicle (Le-Klähn, Gerike, & Hall, 2014). There is need to analyze post-purchase internal transport choice behavior including factors like activities,
expenditure etc. and their influence on tourist transport choice behavior.

The tourism literature has discussed the significance of transport as an integral component of tourism system, but so far the literature has not been able to produce a better understanding and explanation of the relationship between transport and tourist satisfaction. Research on the relations and interaction mechanism between destination perception and tourist satisfaction with transport services will assist the transport and tourism departments of the destination to plan effective marketing strategies, which will enhance destination competitiveness.

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