



## POSSIBLE IMPACTS OF *TREN MAYA*: THE RESIDENTS OF CHETUMAL'S PERSPECTIVE, QUINTANA ROO, MEXICO

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### ABSTRACT

The aim is to analyze the possible impacts of the *Tren Maya* megaproject on the city of Chetumal, Quintana Roo, Mexico, through the perceptions of its residents. The theoretical framework used is that of social representations, as this approach helps understand how people organize, interpret and give meaning to information in their environment. The methodology is qualitative, involving surveys and in-depth interviews with residents of the study area. The analysis of the results is based on trends and excerpts from interviews that illustrate and contrast the impacts perceived by the local community. The main findings indicate that *Tren Maya* is viewed as an opportunity for economic improvement and will invigorate the production and tourist activities of Chetumal, however negative impacts on the environment are acknowledged. It is concluded that social representations can assist in creating comprehensive strategies to mitigate potential negative impacts and enhance the benefits from the implementation of *Tren Maya* in Chetumal.

### KEYWORDS

tourism impacts, social representations, *Tren Maya*, Chetumal, local community

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## 1. INTRODUCTION

The study of the impacts of tourism megaprojects holds fundamental importance in comprehending and responsibly managing regional and socioeconomic development (Girma & Singh, 2019; Hübscher & Ringel, 2021). These projects can generate a range of complex and far-reaching consequences from economic momentum

to the disruption of local ecosystems and significant changes in the cultural elements of host communities (Hübscher, 2021). A thorough understanding of these impacts is essential to minimize potential negative effects, maximize sustainable benefits, and safeguard the cultural, environmental and social integrity of the regions where these megaprojects are located.



The *Tren Maya* project has emerged as a point of interest in Mexico due to its purpose of connecting and promoting development in southeastern Mexico (Camargo & Vázquez-Maguirre, 2020; Gasparello & Nuñez Rodríguez, 2021; Reyes Maturano, 2022), however, given its imminent implementation, the evaluation of its potential impacts has become an imperative need (Palafox-Muñoz, 2020; Vidal Fócil et al., 2020). In the academic literature, various aspects of *Tren Maya* have been addressed from its economic implications (Reyes Maturano, 2022; Vidal Fócil et al., 2020) to its environmental (Casanova Casañas, 2021; Gómez et al., 2020; Reyes García et al., 2019;) and social effects (Camargo & Vázquez-Maguirre, 2020; Gasparello & Nuñez Rodríguez, 2021).

However, there is a notable gap in research focusing on the perception of the potential impacts of the megaproject in Chetumal, the capital of the state of Quintana Roo. In this context, the article aims to analyze the social representations of the population of Chetumal regarding the potential impacts of *Tren Maya*. Identifying these perceptions is crucial to understanding the diversity of opinions, concerns and expectations in a region particularly affected by the implementation of the megaproject.

Previous studies have not covered the impacts of *Tren Maya*, particularly in the study area of Chetumal, which possesses distinctive social, environmental and economic conditions. As the cradle of mestizaje and the state capital, it serves as a key space for analyzing multicultural dynamics, public policies and urban development (Secretaría de Desarrollo Agrario Territorial y Urbano, 2018). Additionally, its tourism identity, rooted in cultural and natural heritage, provides a sustainable alternative to the predominant sun-and-beach tourism in the Mexican Caribbean.

The inclusion of theories aimed at understanding perceptions, both positive and negative, has also been incorporated. The purpose of this study is to provide an informed basis for decision-making both at the governmental level and in the strategic planning of the stakeholders involved. The objective is to promote responsible and equitable tourism that responds to the needs of local communities and the preservation of the natural environment. Thus, it is justified by the relevance of offering a comprehensive and contextualized view of the potential effects of *Tren Maya* in such a key area as Chetumal.

Through a qualitative methodology that has allowed residents' perceptions to be captured, this work comprises a literature review on megaprojects and the use of social representations for the study of impacts. It is followed by contextualization of the study area, the methodological process, the main findings, discussion and finally the conclusions.

## 2. LITERATURE REVIEW

### 2.1. MEGAPROJECTS, TOURISM AND IMPACTS

The discussion around megaprojects and their impacts has been the subject of attention by various academics and experts in recent years (Flyvbjerg, 2014; Flyvbjerg et al., 2003; Girma & Singh, 2019; Pitsis et al., 2018; Söderlund et al., 2017). Megaprojects, characterized by their monumental scale and technical and financial complexity, have captured the imagination of governments, businesses and citizens around the world (Delphine et al., 2019; McLeod, 2023). However, behind their apparent promise of development and progress, megaprojects have also come under intense scrutiny due to their potential negative impacts on the environment, local communities and the broader economy (Delphine et al., 2022; Söderlund et al., 2017).

From an environmental perspective, numerous studies have highlighted how megaprojects can trigger a series of adverse consequences such as deforestation, soil degradation and loss of biodiversity (Caldas & Gupta, 2017; Charest, 1995; Diaz & Fainstein, 2008). For example, the construction of hydroelectric dams has been associated with the flooding of vast areas of land, resulting in the loss of natural habitats and the disruption of river ecosystems (Ansar et al., 2014; Gutierrez et al., 2019).

Regarding social impacts, it has been documented how megaprojects can cause the forced relocation of entire communities, as well as socioeconomic and cultural conflicts (Camargo & Vázquez-Maguirre, 2020; Lehtonen et al., 2016; McLeod, 2023). Mining projects, for example, have been criticized for displacing indigenous and peasant populations from their ancestral lands, and generating tensions and inequalities in the affected areas (Brahm & Tarziján, 2015; Conde & Le Billon, 2017; Silva et al., 2018).

From an economic perspective, although megaprojects are often presented as drivers of growth and development, some studies have questioned this narrative (Korytárová & Hromádka, 2014; Oyegoke & Al Kiyumi, 2017). It has been argued that the real costs of these projects are often underestimated, while the promised benefits may not materialize or be unequally distributed (Lehtonen et al., 2016).

However, it is important to recognize that megaprojects can also have positive impacts, especially in the tourism sector (Dembicz & Carrillo, 2021; Girma & Singh, 2019; Hübscher, 2021). Many of these projects are designed to improve infrastructure and connectivity in tourist destinations, which in turn can boost visitor arrivals and stimulate local economic growth (Dembicz & Carrillo, 2021). For example, the construction of international airports or the expansion of transportation networks can facilitate access to

remote destinations, increasing their attractiveness for tourists (Monterrubio et al., 2020).

In this sense, megaprojects can play a crucial role in the development and promotion of tourism in various regions (Dembicz & Carrillo, 2021). However, it is essential to address the potential negative impacts associated with these projects, such as environmental degradation and social conflicts, to ensure sustainable and equitable development (Girma & Singh, 2019; Söderlund et al., 2017). Ultimately, careful planning and management of megaprojects are essential to maximize their potential benefits while minimizing their risks and negative repercussions.

## 2.2. SOCIAL REPRESENTATIONS AND TOURISM MEGAPROJECTS

The theory of social representations originated with Serge Moscovici (1988) and this proposal has regained relevance in academia due to the work of Jodelet (2008). Social representations are mental constructs shared by individuals within a society that enable them to understand, interpret and give meaning to phenomena, objects or situations (Jodelet, 2008; Moscardo, 2011; Moscovici, 1988). These representations are shaped by culture, and individual and collective experiences, and manifest themselves through communication, language and social interactions (de Moraes Prata Gaspar et al., 2020).

While the central concept in the theory of social representations is “representation”, referring to how individuals interpret and give meaning to their social environment, different authors (Kim & Park, 2023; Melendrez-Ruiz et al., 2020; Moscovici, 1988) emphasize various elements for approaching them. Generally, it is agreed that certain elements form the basis of the theory:

1. Central core: contains the most stable and coherent information of the representation, forming the basis for shared understanding.
2. Peripheral system: Encompasses more variable and flexible elements related to the adaptation of the representation to different contexts and situations.
3. Represented object: What the representation is built upon, including concepts, ideas, social groups, tangible objects, etc.
4. Social subjects: Individuals who share this representation in a community or society.
5. Sociohistorical context: The cultural, historical and social environment influencing the formation and evolution of these representations.

Similarly, for the study of social representations, Valencia et al. (2021) recommend categorizing them into three large groups. The first is hegemonic representations, reflecting dominant ideas, values and beliefs accepted as “normal” or “natural” in society. Emancipated representations, the second group, emerge as a counterpoint to hegemonic representations,

questioning, challenging or seeking to change ideas established by the dominant society, often promoted by social movements, minorities or groups aiming to transform existing social structures. The third group is polemical representations, generating debates, discrepancies and tensions within society due to their controversial, ambivalent or contradictory nature, typically related to sensitive issues for social groups. It should be clarified that these three types of social representation are not static; they can evolve, transform or be challenged as social, cultural and political dynamics change in any society (Valencia et al., 2021).

Moreover, the use of social representations theory has been an invaluable tool for understanding the impacts of tourism on diverse communities and how these representations shape perceptions and behaviors toward this activity (Atzori et al., 2019; Moscardo, 2011; Valencia et al., 2021; Wassler & Talarico, 2021). In the context of tourism, social representations have been used to analyze how local communities (Kim & Park, 2023; Lai et al., 2017; Li et al., 2021; Sarr et al., 2021) and tourists (Aquino & Andereck, 2018; Atzori et al., 2019; Shaheer & Carr, 2022) construct and share ideas about specific tourism destinations. These representations not only affect individual decisions but also influence the planning, development and sustainability of tourism areas (Aquino & Andereck, 2018; Atzori et al., 2019; Nugroho et al., 2021; Valencia et al., 2021).

Likewise, in the study of tourism megaprojects, social representations theory offers a framework for understanding how collective visions about these large-scale projects are constructed (Murekian et al., 2018; Pitsis et al., 2018; Rodríguez Lozano & Tarazona Morales, 2015). Social representations can reveal how different groups perceive and negotiate the benefits and challenges associated with these projects. For example, some representations may idealize economic potential and job creation (Moscardo, 2011; Nugroho & Numata, 2020; Sarr et al., 2021), while others may relate to environmental elements (Boager & Castro, 2022; Monterrubio et al., 2020; Sinclair-Maragh et al., 2015).

Therefore, the use of social representations theory in the study of tourism megaprojects is justified, as it allows for a profound understanding. This understanding can be crucial for planners, governments and local communities when assessing the social, economic and cultural impacts of these large-scale projects (Li et al., 2021; Moscardo, 2011; Murekian et al., 2018).

## 3. CHETUMAL AND *TREN MAYA*

Quintana Roo, located on the eastern coast of the Yucatan Peninsula in Mexico, is a region recognized for its tourism activity, particularly in the north, where



its world-famous tourist destinations are located, such as Cancun, Playa del Carmen and Tulum (Brenner et al., 2018). However, beyond these tourist centers, the southern region of Quintana Roo is growing significantly, as places such as Mahahual, Bacalar and Chetumal are experiencing growth in the number of visitors.

Chetumal is a city located within the municipality of Othón P. Blanco, situated in the Mexican state of Quintana Roo, located on the border with Belize (see Figure 1). With a population of 233,648 inhabitants, only 5.51% belong to an indigenous group (Instituto Nacional de Estadística y Geografía, 2020). It is the capital of the state and is in a region associated with Mayan culture, boasting cultural, historical and natural diversity. Additionally, it is part of the Chetumal Bay Manatee Sanctuary State Reserve (Dirección de Desarrollo Turístico, 2020). The city has witnessed significant growth in recent decades due to its strategic location and tourist appeal.

Economic activities in Chetumal are diverse, encompassing work in government agencies (state and municipal), commerce, tourism, fishing and agriculture, all playing pivotal roles in the local economy (Instituto Nacional de Estadística y Geografía, 2020). The city acts as a gateway to the Costa Maya region and nearby tourist destinations, such as Bacalar, a developing tourist spot that has experienced notable growth due to its attractions (Dirección de Desarrollo Turístico, 2020).

The tourist offer in the city of Chetumal currently includes 79 hotels with 2,220 rooms of varying quality. Additionally, in 2022, the Ministry of Tourism (Secretaría de Turismo, 2022) announced the Magical Neighborhoods program (*Barrios Mágicos* in Spanish) of which the historic center of Chetumal is a part (Gobierno de México, 2022). The purpose of this

program is to expand the range of tourist experiences and foster community development with a social dimension. Furthermore, according to the Ministry of Tourism (Secretaría de Turismo, 2022), the Magical Color Routes program has been implemented in Chetumal aiming to rehabilitate the urban image of tourist destinations.

The *Tren Maya* project has sparked considerable interest and debate in Mexico as it constitutes a megaproject set to impact the entire Yucatan Peninsula. This infrastructure initiative aims to connect various tourist destinations in southeastern Mexico through a rail network (Gobierno de México, 2020). According to González (2023), *Tren Maya* comprises seven sections (see Figure 2):

1. Chiapas to Campeche: Palenque – Escárcega.
2. Campeche: Escárcega – Calkiní.
3. Campeche to Yucatán: Calkiní – Izamal.
4. Yucatán to Quintana Roo: Izamal – Cancún.
5. North Quintana Roo: Cancún – Playa del Carmen and South Quintana Roo: Playa del Carmen – Tulum.
6. Quintana Roo: Tulum – Chetumal.
7. Quintana Roo to Campeche: Chetumal – Escárcega.

Sections one to five south commenced operations in December 2023, while the remaining sections, including the one involving Chetumal, are scheduled to begin operations in February 2024 (González, 2023).

Initially, Chetumal was not part of the established route; however, by the end of 2021, it was decided to include it as an additional station to facilitate train maintenance and connect the city to the international airport (Gobierno de México, 2020). While this development could potentially boost tourism and economic development in the capital, it has also sparked concerns and discussions regarding its environmental, social and cultural impact.

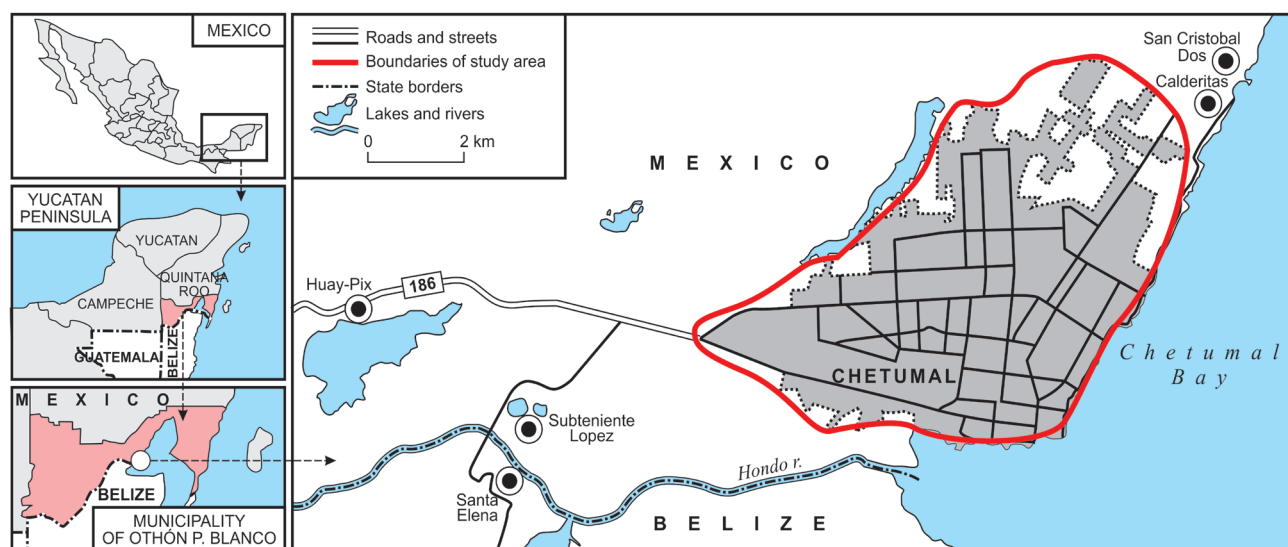


Figure 1. Study area

Source: based on Google Maps, elaboration by Jesús Roberto Flores Rodriguez

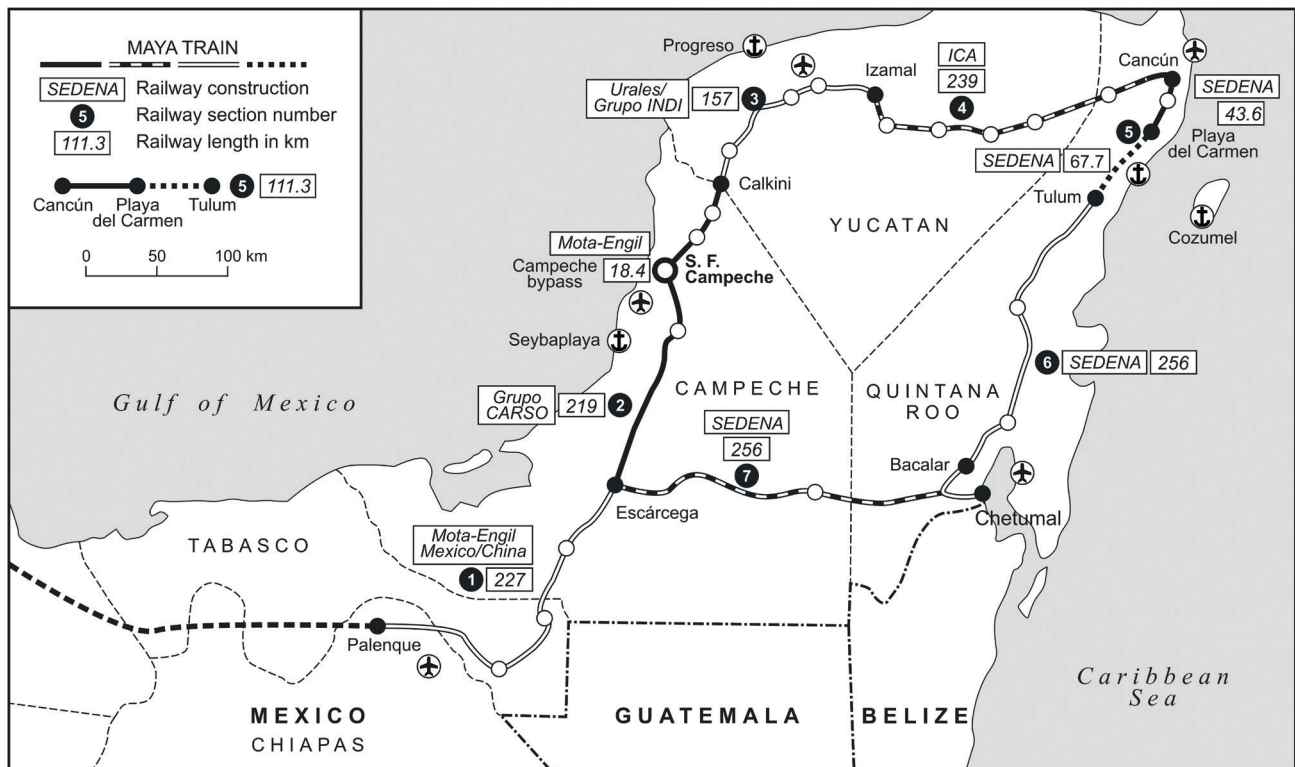


Figure 2. *Tren Maya* map  
Source: based on Tren Maya Trips (n.d.)

#### 4. METHODOLOGICAL PROCESS

The present research adopts a descriptive scope, aiming to characterize and comprehend the knowledge and perceptions of Chetumal's population concerning the *Tren Maya* project, along with assessing the potential economic, environmental and socio-cultural impacts associated with it. The mixed approach was chosen to provide a more comprehensive understanding of a research problem by integrating the strengths of both qualitative and quantitative research (Bryman, 2012). This approach is well-suited for capturing the complexity of social representations and individual perspectives (Moscardo, 2011; Sarr et al., 2021).

Two research techniques were determined: the first being a survey, chosen for its efficiency in data collection, capacity for result generalization, facilitation of statistical analysis, and consistency in data collection (Bryman, 2012). The second was the interview, deemed valuable, especially when seeking to understand the complexity and subjectivity of social, cultural or individual phenomena (Valencia et al., 2021).

The instruments were designed based on an analysis of literature (Monterrubio et al., 2020; Moscardo, 2011; Pitsis et al., 2018) where aspects related to the impacts of tourism and mega-projects were considered. A structured questionnaire with five sections was employed (Ramírez-Hernández et al., 2023). The first focused on identifying informants' profiles, while the next

evaluated the degree of knowledge about the *Tren Maya* project in Chetumal. The remaining three sections addressed tourism impacts, classified as economic, environmental and socio-cultural utilising a five-point Likert scale, ranging from *strongly agree* to *strongly disagree*. An open-ended question was included at the end, allowing participants to mention other impacts related to *Tren Maya* and express interest in additional interviews. The instrument achieved a Cronbach's alpha score of 0.832.

The interview script comprised two sections: the first aimed at identifying the informant's profile, while the other contained open-ended questions to delve deeper into the economic, environmental and socio-cultural impacts that could be caused by *Tren Maya*. The selection of interviewees and informants was conducted using a purposive sampling method to ensure the inclusion of individuals with relevant expertise and experience related to the topic under study. Key stakeholders were identified based on their roles in the development, management and impact of the analyzed projects, as well as their knowledge of local dynamics. This approach allowed for the collection of diverse perspectives including representatives from government agencies, local businesses and community organizations.

Questionnaires were distributed by a convenience sample through Google Forms, involving Chetumal residents of legal age, resulting in a total of 478 participants. Interviews were conducted concurrently, with

a total of 26 participants, nine of whom were recorded, while the rest were documented through detailed notes to capture essential perceptions.

For the analysis of information obtained from the questionnaires, trends were identified to recognize patterns and common characteristics in responses. Regarding the interviews, recordings were transcribed and analyzed alongside notes taken during non-recorded interviews. The analysis focused on identifying recurring themes, emerging patterns and variations in responses to gain an in-depth understanding of the perceptions of Chetumal's population regarding *Tren Maya*.

To categorize the social representations of the *Tren Maya* project, a thematic analysis was conducted, drawing from survey responses and in-depth interviews with key informants. This process involved systematically coding qualitative data to identify recurring themes and patterns. The classification was guided by three main criteria: the prevalence of the representation in the responses, the underlying perspective (optimistic, critical or ambivalent), and its focus on specific aspects of the project, such as economic, environmental or social dimensions.

The categorization resulted in three distinct types of representation:

1. Hegemonic: identified as the dominant and widely shared perspectives within the community, reflecting optimism and high expectations regarding *Tren Maya*'s potential benefits – examples include improvements in tourism infrastructure, job creation and enhanced connectivity.
2. Emancipated: focused on advocating active citizen participation and equitable distribution of benefits highlighting the importance of involving local communities in decision-making to ensure inclusive development. And
3. Controversial: embodying ambivalence and conflicting viewpoints, often juxtaposing environmental concerns with potential economic gains.

## 5. RESULTS

The section will be divided into two significant parts: the first identifies the profile of the informants for the two techniques used, while the second considers social representations, presenting hegemonic, emancipated and controversial examples.

### 5.1. PROFILE OF THE INFORMANTS AND KNOWLEDGE ABOUT *TREN MAYA*

The informants who responded to the questionnaire exhibit demographic diversity reflective of Chetumal's population (see Table 1). A slight male predominance

stands out, representing 52%, while 47.1% are women, and 0.9% preferred not to specify their gender. The majority of informants are of Mexican nationality (98%), with 2% of foreign origin. Regarding age, a diverse range is observed, with the 35–44 group being the most represented covering 45.1% of the informants, followed by the 25–34 group with 16.7%, and the 45–54 group with 15.7%.

Table 1. Respondents' profiles

Variable	Value	Percentage (%)
Gender	Female	47.1
	Male	52.0
	I'd rather not say	0.9
Nationality	Mexican	92.0
	Foreign	8.0
Occupation	Public official	34.3
	Retired	8.1
	Teacher	12.9
	Trader	16.7
	Military	4.1
	Student	15.7
	Tourism sector worker	4.9
	<i>Tren Maya</i> worker	3.1
Age (years)	18–24	12.9
	25–34	16.7
	35–44	45.1
	45–54	15.7
	Over 55	9.6
Length of residence (years)	0–10	21.6
	11–20	19.6
	21–30	34.3
	Over 31	24.5
Level of education	Elementary school	2.3
	High school	31.9
	Technical degree	13.2
	University	34.3
	Postgraduate	18.3

Source: authors.

Concerning the length of residence in Chetumal, a varied distribution is evident: 34.3% have lived in the city between 21 and 30 years, while 24.5% have lived there for 31 or more; 21.6% between 0 and 10 years,

and 19.6% between 11 and 20. Regarding educational level, there is significant diversity: 34.3% have a bachelor's degree, 18.3% have a postgraduate degree, 31.9% have a high school diploma, 13.2% have a technical diploma and 2.3% have only elementary education.

In relation to occupation, the informants cover various professional areas: 34.3% identify themselves as public officials, while 8.1% are retired, 12.9% are teachers, 16.7% are traders, 4.1% are linked to the military, 15.7% are students, 4.9% work in the tourism sector, and 3.1% are workers on *Tren Maya*. Regarding dependence on tourism for economic income, it is notable that 71% indicate that their income does not depend on tourism, while 17% have very low dependence, 4% have low dependence, 7% have moderate dependency, and only 1% has high dependence.

All the informants are residents in one of the localities in Chetumal. The distribution of their residence locations is heterogeneous, with 17% residing in Las Américas, 13% in Caribe and 21% in Centro. Other neighborhoods, such as Jardines, Solidaridad and Aeropuerto, are also represented, although to a lesser extent.

Regarding knowledge of the *Tren Maya* project, familiarity varies with 3% not being familiar and 17.6% considering themselves very familiar. The most used means of information are social networks (39%), followed by conversations with friends and family (22%), websites (15%), TV news (11%) and statements from government agencies (13%).

The groups of interviewees were chosen based on their expressed interest in the questionnaire to continue providing information for the research, aiming for a diversity of profiles (see Table 2). The interviewees are mainly composed of women (15) with the rest (11) being men, all of Mexican nationality. Regarding age, a predominance is observed in the range of 35 to 44 years, with a total of 14 interviewees, followed by 45 to 54 with nine, and three interviewees were over 65. This distribution suggests a balanced representation from diverse generations.

Table 2. Interviewees' profiles

Variable	Value	Frequency
Gender	Male	15
	Female	11
Occupation	Public official	12
	Retired	3
	Teacher	4
	Trader	3
	Military	1
	Student	1

Occupation	Tourism worker	1
	<i>Tren Maya</i> worker	1
Age (years)	35–44	14
	45–54	9
	Over 65	3
Length of residence (years)	0–10	4
	21–30	13
	Over 30	9
Level of education	Elementary school	2
	High school	6
	University	14
	Postgraduate	4

Source: authors.

Regarding the length of residence in Chetumal, 13 interviewees have lived in the city between 21 and 30 years, nine for more than 31, and four between 0 and 10. The location of residence of the interviewees is distributed heterogeneously, highlighting the presence of interviewees in different areas such as Centro, Calderitas, Lomas del Caribe, Caribe and Las Américas.

In relation to educational level, the majority of those interviewed have higher education, with 14 participants who have reached a university degree, four with a postgraduate degree, six with a high school diploma, and two with only elementary education. Regarding occupation, the group of interviewees presents a diversity of job profiles. The majority identified themselves as public servants, with 12 interviewed, followed by retirees (3), teachers (4), traders (3), and a single presence in roles such as the military, student, a tourism sector worker and a *Tren Maya* worker.

## 5.2. SOCIAL REPRESENTATIONS OF *TREN MAYA*

The hegemonic social representations of Chetumal residents regarding the potential impacts of the *Tren Maya* project reveal an optimistic and hopeful image shared by the majority of the community. Specifically, they anticipate improvements in tourist services (94%), expect a significant generation of new jobs both overall (98%) and in the tourism sector (96%), foresee the diversification of local tourist activities (81%), anticipate enhanced facilities for merchandise transportation (88%) and improved connectivity of the city with the peninsula (88%). Moreover, they envision the creation of local enterprises and businesses (93%), the promotion of tourist sites (94%), the development of gastronomy (89%) and crafts (89%) in Chetumal, and an increase in the overall quality of life for Chetumal residents (86%).



Hegemonic social representations are reinforced by various interviewees. For instance, a professional trader indicates:

The connectivity offered by *Tren Maya* will allow Chetumal to overcome the isolation that has persisted for decades. It serves as another route and also functions as advertising to visit the capital of Quintana Roo.

Similarly, a housewife comments:

The train will benefit many men and women who need income to cover family expenses and contribute to the well-being of their loved ones.

Among the emancipated social representations, there is an emphasis on the significance of citizen participation in both the planning and execution of the project. This focus aims to empower the community and prevent unilateral decisions. Additionally, there is an advocacy for policies and measures that steer clear of economic inequality in the benefits of the project, ensuring that prosperity is distributed equitably among the population. The importance of utilizing the train to bridge social gaps and enhance the quality of life in areas facing challenges related to access to services and opportunities is underscored.

In this sense, one of the interviewees, who is a teacher, indicates:

I agree with what has been carried out so far, but I would also like to see more consideration given to nearby towns.

In the same line, a development approach must be established that considers the preservation of natural resources, promoting tourism and transportation practices that minimize the environmental impact. The safeguarding of local cultural identity is sought, advocating measures that protect and promote the historical and cultural heritage of the region.

The controversial social representations reveal a series of concerns and ambivalent perceptions within the Chetumal community regarding the *Tren Maya* project. The community expresses a mixed and ambivalent feeling, reflecting a blend of emotions that oscillates between pride and identity.

The most prominently expressed controversial perspective regards contributing to deforestation, with a marked 85% of respondents expressing this, a perception reflecting a deep concern about the direct environmental impact of the project in terms of the loss of forest areas. Likewise, during the interviews, various people expressed concern about the environmental impact, such as the case of an informant who works as a public servant, stating:

The piece of jungle that they removed to build it will affect everyone, not only the animals that lived there, but all the living beings that are in this ecosystem.

In the same way, a retiree mentions:

... [the jungle] will never recover; they took it away, and it will begin to affect the climate. For example, this year it was warmer, and there began to be more garbage near the construction site. I recognize that there may be greater insecurity, greater contamination because the city is not prepared for this type of project.

In a similar sense, another social representation indicates that the consumption of natural resources also emerges as a significant concern. Given this, a teacher explains:

I consider that it could increase the number of residents in the city, and this could cause a lack of basic services such as water and electricity since they would have to cover a broader sector.

Although these representations speak of negative things expected by *Tren Maya*, or that already happen, they are controversial because there are other positions that disagree with the development of the train, identifying that the development justifies its environmental impact. This is how a trader puts it, stating:

It could be a loss of biodiversity in nearby ecosystems. I don't think it is the only project that affects it, but it is one that can bring development, promotion and more tourism to the city, so we would also benefit.

These results demonstrate the existence of diverse social representations, which reveal environmental concerns but also hope for the potential development of the city.

## 6. DISCUSSION

The implementation of *Tren Maya* has sparked analysis and debate regarding its potential to boost tourism, generate employment, foster economic development and its environmental impact in Chetumal and its surroundings. The results uncover widespread perceptions that anticipate various benefits with the railway project's implementation in the region. This reflects a shared expectation of economic, cultural and social progress for the area, aligning with other studies where economic benefits are perceived from tourist activities (Kim & Park, 2023; Moscardo, 2011; Valencia et al., 2021).



On the other hand, the results show that inhabitants are concerned about preserving the environment, protecting archaeological sites, and maintaining the cultural identity of indigenous communities along the *Tren Maya* route. This indicates perspectives that extend beyond simple acceptance or rejection of the project, aiming to positively influence its implementation for the benefit of the local community while respecting the cultural and natural environment. This corresponds with other research findings (Camargo & Vázquez-Maguirre, 2020; Gasparello & Nuñez Rodríguez, 2021; Reyes Maturano, 2022), emphasizing the importance of ensuring that the benefits of *Tren Maya* genuinely reach local communities.

This ambivalence suggests a nuanced perception, wherein residents experience mixed feelings about the connection between tourism megaprojects, economic benefits and existing natural resources (Murekian et al., 2018; Nugroho et al., 2021). This situation, combined with apprehension towards potential environmental impacts, implies that the Chetumal community is divided in its perception of the *Tren Maya* project, highlighting the complexity of the interaction between development and conservation in the local context.

The implementation of *Tren Maya* in Chetumal elicits a diverse range of perceptions and expectations in the community. The results from hegemonic social representations reflect an optimistic majority vision, anticipating significant benefits for the local economy, employment and tourism promotion. This perspective suggests a deep connection between the positive perception of the project and expectations of improvement in the quality of life. However, addressing the ambivalence in social representations, where a significant segment of the population expresses mixed feelings towards *Tren Maya*, is essential. This ambivalence could stem from the complexity inherent in balancing development with cultural and environmental preservation.

These perspectives underscore the need for an inclusive and sustainable approach in executing any tourism project (Murekian et al., 2018). The discussion should explore how the local community can be integrated into decision-making processes (Camargo & Vázquez-Maguirre, 2020), ensuring that *Tren Maya* not only provides immediate economic benefits but also respects and strengthens local cultural identity while preserving the region's natural resources for future generations.

The results of this study show that the social representations of the *Tren Maya* project in Chetumal reflect both positive expectations and concerns regarding environmental, social and economic impacts. These findings align with those of other megaprojects, where local communities often have an optimistic view of the potential benefits, such as job creation and improved

infrastructure (Boothroyd et al., 1995; Charest, 1995; Delphine et al., 2022); but also raise concerns about environmental sustainability and the equitable distribution of benefits (Ansar et al., 2014; Flyvbjerg, 2014; Oyegoke & Al Kiyumi, 2017). Similarly, projects like the construction of large-scale transportation infrastructure in other regions (Delphine et al., 2022; Korytářová & Hromádka, 2014; Rothengatter, 2019) have generated ambivalent perceptions, with communities expecting economic development but also facing tensions related to the disruption of the natural environment and equitable access to benefits.

The results also distinguish the *Tren Maya* project from other megaprojects, as its strong connection to the region's cultural and natural heritage presents a unique challenge in terms of preserving local identity. While, in other cases, megaprojects may be perceived as an external imposition with no clear link to local identity (Dembicz & Carrillo, 2021; Hübscher & Ringel, 2021; Witz et al., 2021), in the case of Chetumal, there is a greater concern about balancing development with the protection of the cultural and natural environments. This difference highlights the need for policies that promote active citizen participation and the integration of sustainability measures to ensure that the project's benefits are distributed equitably, minimizing negative impacts on communities and the environment.

The survey results reflect an over-representation of individuals with higher levels of education. This demographic profile may influence the findings, as highly educated respondents might have greater access to information or exhibit specific attitudes and perspectives. While this provides valuable insights, it is important to acknowledge that this demographic imbalance could limit the generalizability of the results to the broader population.

The discussion about the possible impacts of *Tren Maya* in Chetumal must address these complexities and aim for comprehensive development that is socially inclusive, environmentally sustainable and culturally respectful. Additionally, mitigation and sustainability strategies that seek to balance development with the preservation of the region's valuable natural heritage must be carefully considered (Boager & Castro, 2022; Monterrubio et al., 2020).

## 7. CONCLUSIONS

This study delved into the potential impacts of *Tren Maya* in Chetumal, revealing a complex and multifaceted panorama that mirrors the diversity of perceptions in the community. The results affirm that Chetumal residents harbor optimism regarding the economic benefits of the railway project an optimism intertwined

with expectations of an enhanced quality of life, local economic development and cultural progress. However, the study emphasizes the crucial need to carefully address the inherent tensions between development and cultural and environmental preservation.

There is a notable concern about deforestation, environmental degradation and the alteration of migratory routes, underscoring the necessity to incorporate mitigation and sustainability strategies into the project's implementation. Consequently, this study contributes empirically by supporting the potential development of strategies in collaboration with the local community, integrating solutions that harmonize progress with conservation.

On the other hand, the results underscore the inherent complexity in the interaction of social, economic and environmental factors, demanding ongoing study. Therefore, its limitation lies in the variability of individual perceptions, the evolving dynamics of the community, and the potential impact of new events or policies that could alter the study's context. Moreover, it emphasizes the importance of considering the temporality of perceptions since they can evolve as the project progresses.

The findings can serve as a guide for designing territorial and regional development strategies that balance the economic benefits of the *Tren Maya* project with environmental sustainability and social inclusion. The identified social representations highlight the need to strengthen citizen participation in decision-making, implement policies that equitably distribute economic benefits, and mitigate potential environmental impacts. In this regard, local policies could focus on promoting sustainable tourism entrepreneurship initiatives, protecting the region's natural resources, and improving urban infrastructure to accommodate the anticipated increase in population and economic activity.

Future research endeavors could focus on long-term monitoring to assess how social representations evolve in response to real events related to *Tren Maya*. Additionally, delving more deeply into the factors influencing the formation of these representations and comparing experiences with other communities that have undergone similar projects, could enhance the understanding of *Tren Maya's* potential impacts and more precisely guide future planning and management decisions. One important future line of inquiry would be to ask the residents of Chetumal about the impacts they experience once the train is fully operational, as this would provide valuable insight into how the functioning of *Tren Maya* influences local perceptions and attitudes.

Ultimately, the research highlights the necessity for a holistic and balanced approach in the implementation of *Tren Maya* in Chetumal. This entails carefully weighing economic benefits without losing sight of the

preservation of cultural and environmental heritage. The crux of the matter is that the long-term success of the project will be intrinsically linked to the ability to manage the complexities and tensions in Chetumal, seeking development that is truly sustainable, equitable and respectful.

## REFERENCES

- Ansar, A., Flyvbjerg, B., Budzier, A., & Lunn, D. (2014). Should we build more large dams? The actual costs of hydropower megaproject development. *Energy Policy*, 69, 43–56. <https://doi.org/10.1016/j.enpol.2013.10.069>
- Aquino, J.F., & Andereck, K. (2018). Volunteer tourists' perceptions of their impacts on marginalized communities. *Journal of Sustainable Tourism*, 26(11), 1967–1983. <https://doi.org/10.1080/09669582.2018.1526295>
- Atzori, R., Fyall, A., Tasci, A.D.A., & Fjelstul, J. (2019). The role of social representations in shaping tourist responses to potential climate change impacts: An analysis of Florida's coastal destinations. *Journal of Travel Research*, 58(8), 1373–1388. <https://doi.org/10.1177/0047287518802089>
- Boager, E., & Castro, P. (2022). Lisbon's unsustainable tourism intensification: Contributions from social representations to understanding a depoliticised press discourse and its consequences. *Journal of Sustainable Tourism*, 30(8), 1956–1971. <https://doi.org/10.1080/09669582.2021.1970173>
- Boothroyd, P., Knight, N., Eberle, M., Kawaguchi, J., & Gagnon, C. (1995). The need for retrospective impact assessment: The megaprojects example. *Impact Assessment*, 13(3), 253–271. <https://doi.org/10.1080/07349165.1995.9726097>
- Brahm, F., & Tarziján, J. (2015). Does complexity and prior interactions affect project procurement? Evidence from mining mega-projects. *International Journal of Project Management*, 33(8), 1851–1862. <https://doi.org/10.1016/j.ijproman.2015.08.005>
- Brenner, L., Engelbauer, M., & Job, H. (2018). Mitigating tourism-driven impacts on mangroves in Cancún and the Riviera Maya, Mexico: An evaluation of conservation policy strategies and environmental planning instruments. *Journal of Coastal Conservation*, 22(4), 755–767. <https://doi.org/10.1007/s11852-018-0606-0>
- Bryman, A. (2012). *Social research methods* (4th ed.). Oxford University Press.
- Caldas, C., & Gupta, A. (2017). Critical factors impacting the performance of mega-projects. *Engineering, Construction and Architectural Management*, 24(6), 920–934. <https://doi.org/10.1108/ECAM-05-2016-0117>
- Camargo, B.A., & Vázquez-Maguirre, M. (2020). Humanism, dignity and indigenous justice: The Mayan Train megaproject, Mexico. *Journal of Sustainable Tourism*, 29(2–3), 372–391. <https://doi.org/10.1080/09669582.2020.1758707>
- Casanova Casañas, L. (2021). Megaproyectos y conflictos ecoterritoriales: El caso del Tren Maya. *Relaciones Internacionales*, (46), 139–159. <https://doi.org/10.15366/relacionesinternacionales2021.46.008>
- Charest, P. (1995). Aboriginal alternatives to megaprojects and their environmental and social impacts. *Impact Assessment*, 13(4), 371–386. <https://doi.org/10.1080/07349165.1995.9726109>
- Conde, M., & Le Billon, P. (2017). Why do some communities resist mining projects while others do not? *The Extractive Industries and Society*, 4(3), 681–697. <https://doi.org/10.1016/j.exis.2017.04.009>
- de Moraes Prata Gaspar, M.C., Muñoz Garcia, A., & Larrea-Killinger, C. (2020). How would you define healthy food? Social

- representations of Brazilian, French and Spanish dietitians and young laywomen. *Appetite*, 153, Article 104728. <https://doi.org/10.1016/j.appet.2020.104728>
- Delphine, Witte, P., & Spit, T. (2019). Megaprojects – an anatomy of perception: Local people's perceptions of megaprojects: The case of Suramadu, Indonesia. *disP – The Planning Review*, 55(2), 63–77. <https://doi.org/10.1080/02513625.2019.1630189>
- Delphine, Witte, P., & Spit, T. (2022). Bridging the perception gap? When top-down built megaprojects meet bottom-up perceptions: A case study of Suramadu bridge, Indonesia. *Asian Geographer*, 39(1), 21–43. <https://doi.org/10.1080/10225706.2020.1750441>
- Dembicz, K., & Carrillo, X. (2021). Guanacaste tourist megaprojects: Local perceptions for the future solutions. *Prace i Studia Geograficzne*, 66.4, 119–134. <https://doi.org/10.48128/pisg/2021-66.4-08>
- Díaz Orueta, F., & Fainstein, S.S. (2008). The new mega-projects: Genesis and impacts. *International Journal of Urban and Regional Research*, 32(4), 759–767. <https://doi.org/10.1111/j.1468-2427.2008.00829.x>
- Dirección de Desarrollo Turístico. (2020). *Guía Turística Huay Pix laguna milagros*. [https://fliphtml5.com/fdeqv/ghht/Gu%C3%ADa\\_Tur%C3%ADstica\\_HUAY\\_PIX/](https://fliphtml5.com/fdeqv/ghht/Gu%C3%ADa_Tur%C3%ADstica_HUAY_PIX/)
- Flyvbjerg, B. (2014). What you should know about megaprojects and why: An overview. *Project Management Journal*, 45(2), 6–19. <https://doi.org/10.1002/pmj.21409>
- Flyvbjerg, B., Bruzelius, N., & Rothengatter, W. (2003). *Megaprojects and risk: An anatomy of ambition*. Cambridge University Press. <https://doi.org/10.1017/CBO9781107050891>
- Gaspardo, G., & Nuñez Rodríguez, V.R. (coord.). (2021). *Pueblos y territorios frente al Tren Maya: Escenarios sociales, económicos y culturales*. Centro Interdisciplinar para la Investigación de la Recreación. <https://bajotierraediciones.com/wp-content/uploads/2022/04/tren-maya-enero-vf.pdf>
- Girma, M., & Singh, M. (2019). Empirical analysis of mega projects effects on destination Ethiopia. *American Journal of Marketing Research*, 5(1), 1–9. <http://www.aiscience.org/journal/paperInfo/ajmr?paperId=4321>
- Gobierno de México. (2020, September 18). *Proyecto Regional Tren Maya*. <https://www.gob.mx/foatur/acciones-y-programas/proyecto-regional-tren-maya>
- Gobierno de México. (2022, November 30). *El Centro Histórico de Chetumal es ya el primer Barrio Mágico de México*. <https://www.gob.mx/sector/prensa/el-centro-historico-de-chetumal-es-ya-el-primer-barrio-magico-de-mexico>
- Gómez, A.L.L., Andrade, J.L.A., Barrios, A.I., & Gutiérrez, J.D.A. (2020). El Tren Maya: Un escenario de conflictividad socioambiental en el posneoliberalismo mexicano. *Ecología Política*, 60, 94–100. <https://www.jstor.org/stable/27041585>
- González, S. (2023, December 12). Tren Maya: La ruta completa, estaciones, horarios, y costo de los viajes. *El País*. <https://elpais.com/mexico/2023-12-12/tren-maya-la-ruta-completa-estaciones-horarios-y-costo-de-los-viajes.html>
- Gutierrez, G.M., Kelly, S., Cousins, J.J., & Sneddon, C. (2019). What makes a megaproject? A review of global hydropower assemblages. *Environment and Society*, 10(1), 101–121. <https://doi.org/10.3167/ares.2019.100107>
- Hübscher, M. (2021). Megaprojects, gentrification, and tourism. A systematic review on intertwined phenomena. *Sustainability*, 13(22), Article 12827. <https://doi.org/10.3390/su132212827>
- Hübscher, M., & Ringel, J. (2021). Opaque Urban Planning: The megaproject Santa Cruz Verde 2030 seen from the local perspective (Tenerife, Spain). *Urban Science*, 5(1), Article 32. <https://doi.org/10.3390/urbansci5010032>
- Instituto Nacional de Estadística y Geografía. (2020). *Panorama sociodemográfico de México 2020: Panorama sociodemográfico de Quintana Roo: Censo de Población y Vivienda 2020*. [https://www.inegi.org.mx/contenidos/productos/prod\\_serv/contenidos/espanol/bvinegi/productos/nueva\\_estruc/702825197964.pdf](https://www.inegi.org.mx/contenidos/productos/prod_serv/contenidos/espanol/bvinegi/productos/nueva_estruc/702825197964.pdf)
- Jodelet, D. (2008). Social representations: The beautiful invention. *Journal for the Theory of Social Behaviour*, 38(4), 411–430. <https://doi.org/10.1111/j.1468-5914.2008.00383.x>
- Kim, S., & Park, E. (2023). An integrated model of social impacts and resident's perceptions: From a film tourism destination. *Journal of Hospitality & Tourism Research*, 47(2), 395–421. <https://doi.org/10.1177/10963480211011641>
- Korytárová, J., & Hromádka, V. (2014). The economic evaluation of megaprojects – social and economic impacts. *Procedia – Social and Behavioral Sciences*, 119, 495–502. <https://doi.org/10.1016/j.sbspro.2014.03.055>
- Lai, P.-H., Morrison-Saunders, A., & Grimstad, S. (2017). Operating small tourism firms in rural destinations: A social representations approach to examining how small tourism firms cope with non-tourism induced changes. *Tourism Management*, 58, 164–174. <https://doi.org/10.1016/j.tourman.2016.10.017>
- Lehtonen, M., Joly, P.-B., & Aparicio, L. (2016). Introduction. In M. Lehtonen, P.-B. Joly & L. Aparicio (Eds.), *Socioeconomic evaluation of megaprojects: Dealing with uncertainties* (pp. 1–22). Routledge. <https://doi.org/10.4324/9781315622125>
- Li, Z., Chen, H., Huang, S.(S.), Wanichwasin, P., & Cui, R. (2021). Resident perceptions of Chinese tourists in Thailand. *Tourism Review*, 76(5), 1154–1163. <https://doi.org/10.1108/TR-10-2019-0443>
- McLeod, S. (2023). Rethinking public infrastructure megaproject performance: Theorizing alternative benefits, and the need for open science in project research. *Project Leadership and Society*, 4, Article 100080. <https://doi.org/10.1016/j.plas.2023.100080>
- Melendrez-Ruiz, J., Arvisenet, G., Laugel, V., Chambaron, S., & Monnery-Patris, S. (2020). Do French consumers have the same social representations of pulses as food industry professionals? *Foods*, 9(2), Article 147. <https://doi.org/10.3390/foods9020147>
- Monterrubio, C., Andriotis, K., & Rodríguez-Muñoz, G. (2020). Residents' perceptions of airport construction impacts: A negativity bias approach. *Tourism Management*, 77, Article 103983. <https://doi.org/10.1016/j.tourman.2019.103983>
- Moscato, G. (2011). Exploring social representations of tourism planning: Issues for governance. *Journal of Sustainable Tourism*, 19(4–5), 423–436. <https://doi.org/10.1080/09669582.2011.558625>
- Moscovici, S. (1988). Notes towards a description of social representations. *European Journal of Social Psychology*, 18(3), 211–250.
- Murekian, N.G., Faleiros, V.D.P., & Jouet, E. (2018). Social representations, knowledge and practices of deinstitutionalizing insanity: Argentina, Brazil and France. *Articles on Social Representations*, 27(1), 4.1–4.21. <https://psr.iscte-iul.pt/index.php/PSR/article/view/463>
- Nugroho, P., & Numata, S. (2020). Changes in residents' attitudes toward community-based tourism through destination development in Gunung Ciremai national park, Indonesia. *Tourism Recreation Research*, 46(3), 403–421. <https://doi.org/10.1080/02508281.2020.1808753>
- Nugroho, T.W., Hanani, N., Toiba, H., Sujarwo, & Purnomo, M. (2021). Post-tourism in booming Indonesian rural tourism industry: A social representation theory approach. *Journal of Environmental Management and Tourism*, 12(1), 288–301. <https://journals.aserspublishing.eu/jemt/article/view/5904>
- Oyegoke, A.S., & Al Kiyumi, N. (2017). The causes, impacts and mitigations of delay in megaprojects in the Sultanate of Oman. *Journal of Financial Management of Property and Construction*, 22(3), 286–302. <https://doi.org/10.1108/JFMPC-11-2016-0052>
- Palafox-Muñoz, A. (2020). El Tren Maya: ¿Acumulación para el despojo o alternativa de desarrollo? *Metabólica. Revista de Crítica Ambiental*, 1(2), 75–79. <https://tejiendorevolucion.org/>



- wp-content/uploads/2024/01/Metabolica2\_ElTrenMayaylas ViasdelDespojo.pdf
- Pitsis, A., Clegg, S., Freeder, D., Sankaran, S., & Burdon, S. (2018). Megaprojects redefined – complexity vs cost and social imperatives. *International Journal of Managing Projects in Business*, 11(1), 7–34. <https://doi.org/10.1108/IJMPB-07-2017-0080>
- Ramírez-Hernández, O.I., Barrón Arreola, K.S., & Cruz Jiménez, G. (2023). *Impactos del Tren Maya en Chetumal* [Questionnaire]. Google Form. <https://forms.gle/34QKEvWgvfDsSoMb9>
- Reyes García, C., Espadas Manrique, C., García Quintanilla, A., & Tamayo Chim, M. (2019). El tren maya ¿Por qué están tan preocupados los biólogos? *Desde el Herbario CICY*, 11, 119–125. [https://www.cicy.mx/Documentos/CICY/Desde\\_Herbario/2019/2019-06-20-Reyes-et-al.-El-Tren-maya.pdf](https://www.cicy.mx/Documentos/CICY/Desde_Herbario/2019/2019-06-20-Reyes-et-al.-El-Tren-maya.pdf)
- Reyes Maturano, I. (2022). Análisis discursivo del Tren Maya: Fragmentación territorial de una promesa desarrollista. *Maya America: Journal of Essays, Commentary, and Analysis*, 4(2), Article 17. <https://doi.org/10.32727/26.2023.8>
- Rodríguez Lozano, G.I., & Tarazona Morales, O. (2015). Unidades de empreendimento sob um estudo de eficiência relativa / Entrepreneurship units under study on relative efficiency. *Revista de La Facultad de Ciencias Económicas de La Universidad Militar Nueva Granada*, 23(2), 149–162 [in Portuguese]. <http://doi.org/10.18359/rfce.1613>
- Rothengatter, W. (2019). Megaprojects in transportation networks. *Transport Policy*, 75, A1–A15. <https://doi.org/10.1016/j.tranpol.2018.08.002>
- Sarr, B., Sène-Harper, A., & Gonzalez-Hernandez, M.M. (2021). Tourism, social representations and empowerment of rural communities at Langue de Barbarie National Park, Senegal. *Journal of Sustainable Tourism*, 29(8), 1383–1402. <https://doi.org/10.1080/09669582.2020.1855437>
- Secretaría de Desarrollo Agrario Territorial y Urbano. (2018). *Programa de Desarrollo Urbano de Chetumal-Calderitas-Subteniente López-Huay Pix. Municipio de Othón P. Blanco, Estado de Quintana Roo*. <https://www.opb.gob.mx/portal/wp-content/uploads/transparencia/93/1/f/PDU2018/PDU%20integrado%2019012018-publicacion%20digital.pdf>
- Secretaría de Turismo. (2022, September 8). *Barrios Mágicos de México, nuevo programa de Sectur* (Announcement 193/2022). Gobierno de México. <https://www.gob.mx/sectur/prensa/barrios-magicos-de-mexico-nuevo-programa-de-sectur?idiom=es-MX>
- Shaheer, I., & Carr, N. (2022). Social representations of tourists' deviant behaviours: An analysis of Reddit comments. *International Journal of Tourism Research*, 24(5), 689–700. <https://doi.org/10.1002/jtr.2531>
- Silva, E., Akchurin, M., & Bebbington, A. (2018). Policy effects of resistance against mega-projects in Latin America: An introduction. *European Review of Latin American and Caribbean Studies / Revista Europea de Estudios Latinoamericanos y del Caribe*, 106, 25–46. <https://www.jstor.org/stable/26608619>
- Sinclair-Maragh, G., Gursoy, D., & Vieregge, M. (2015). Residents' perceptions toward tourism development: A factor-cluster approach. *Journal of Destination Marketing & Management*, 4(1), 36–45. <https://doi.org/10.1016/j.jdmm.2014.10.001>
- Söderlund, J., Sankaran, S., & Biesenthal, C. (2017). The past and present of megaprojects. *Project Management Journal*, 48(6), 5–16. <https://doi.org/10.1177/875697281704800602>
- Tren Maya Trips. (n.d.). *Conoce la ruta del Tren Maya: 1,554 kilómetros de cultura*. <https://www.trenmayatrips.com/es/planifica-tu-viaje-en-tren-maya-mapa-de-rutas-y-atracciones-imperdibles>
- Valencia, L., Monterrubio, C., & Osorio-García, M. (2021). Social representations of surf tourism's impacts in Mexico. *International Journal of Tourism Policy (IJTP)*, 11(1), 29–51. <https://doi.org/10.1504/IJTP.2021.114454>
- Vidal Fócil, A.B., Rueda Vázquez, D. de A., & Ancona Alcocer, M. del C. (2020). Análisis del proyecto económico y sustentable: Tren maya para la zona turística del sur sureste de México / Analysis of the economic and sustainable project: Mayan train for the tourist area of south-southeast Mexico. *Journal of Tourism and Heritage Research*, 3(4), 228–235 [in Spanish]. <https://jthr.es/index.php/journal/article/view/238>
- Wassler, P., & Talarico, C. (2021). Sociocultural impacts of COVID-19: A social representations perspective. *Tourism Management Perspectives*, 38, Article 100813. <https://doi.org/10.1016/j.tmp.2021.100813>
- Witz, P., Stingl, V., Wied, M., & Oehmen, J. (2021). Asymmetric legitimacy perception across megaproject stakeholders: The case of the Fehmarnbelt Fixed Link. *International Journal of Project Management*, 39(4), 377–393. <https://doi.org/10.1016/j.ijproman.2021.01.006>