

The Journey of the Gods

A case study of Shree Jagannatha Temple , Puri, Odisha, India

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AR2A011 Architectural History Thesis
TU Delft 2021/2022
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ABSTRACT

The impact of urban morphological changes on heritage structures and their surroundings is investigated in this thesis. To accomplish so, the thesis focuses on and investigates the case of Shree Jagannatha Temple in Puri, which was built in the 12th century. The temple serves as the spiritual heart of Hinduism, one of the world's oldest religions. As one of the country's 'Char Dhams (four prominent Hindu temple locations)', it is crucial to the city's economy. The inflow of pilgrims to the temple on significant occasions like the Ratha Yatra (Chariot Journey) surpassed the support system's basic capacities. Grand Road (main road) for key religious rites degraded over time as a result of commercialization of the surrounding area, leading to illegal settlements as well. The urbanization of the area surrounding the temple has also adulterated the temple's pinnacle's visibility. The government of Odisha has presented a plan by Puri Konark Development Authority to transform the city of Puri into a world heritage city by 2031 in order to protect the temple and its significance. The thesis examines three architectural dimensions – setting, scale, and space – to better comprehend the factors that influenced the government's decision. The research is limited to the urban changes in the 19th century, 20th century, and latest developments because considerable urban growth occurred in the last few decades. Site visits, photographic documentation, and comparative analysis were all part of the research for developing Serial Vision using the method of Gordon Cullen. Furthermore, Kulke and Hunter W. Stirling's publications, as well as news articles, were useful resources for understanding history and stakeholder perspectives. Finally, the thesis explores the government's document plans and how they may aid in the restoration of the temple's monumentality.

TABLE OF CONTENTS

List of Figures	4
Research Question.....	5
Introduction.....	6
Chapter 1 : Historical Context and Chronological Growth.....	9
Chapter 2 : The yatra and the primary routes.....	12
2.1 : Ratha Construction	12
2.2 : The Yatra Today	17
Chapter 3 : Pedestrian Walking experience in terms of setting, scale and space.....	19
3.1 : The Setting	20
3.2 : The Scale	21
3.3 : The Space	22
Chapter 4 : The Stakeholder’s Debate - People and the Plan	23
Chapter 5 : The Proposed Serial Vision.....	28
Chapter 6 : Conclusion	33
References	36

LIST OF FIGURES

Illustration for the chronological Growth of the city of Puri	8
Major streets for all the Yatra `	11
Ratha Yatra , 1819 - Puri, Odisha,India	11
Chariots - Ratha Yatra	13
Chariot Construction	13
Chariot Wheel Construction	14
The Ratha (Chariot) Construction	14
Distractions on the Grand Road, chaotic movement (2019)	16
The Grand road connecting the Jagannata Temple to Gundicha Temple	17
The setting of the Grand Road in 19th (left) and 20th century (right)	18
The scale of the Grand Road in 19th (left) and 20th century (right)	19
The space around the Grand Road in 19th (top) and 20th century (bottom)	20
Sree Mandira Heritage Corridor Masterplan by Bhumiputra Architecture	24
The Grand Road - Serial Vision Route	28
Serial Vision Node 1	28
Serial Vision Node 2	28
Serial Vision Node 3	29
Serial Vision Node 4	29
Serial Vision Node 5	30
Serial Vision Node 6	30

RESEARCH QUESTION

Do urban morphological changes obscure or add value to the architectural dimension of the heritage structures' setting, scale, and space?

A case study of Shri Jagannatha Temple, Puri, India.

(Keywords: Scale, Space –Built and open space, monumentality,heritage)

INTRODUCTION

Puri is a mosaic of extensive stretches of beaches alive with life and a legacy of incredible architectural heritage, overflowing with a significant element of religious fervour stemming from Jagannatha culture.

It is nestled in India's eastern coastline region of Odisha. Along with Konark and Bhubaneswar, the city is part of the well-known 'Golden Triangle.'

¹This paper argues that the comprehensive development plans by the two Authorities; PKDA – Puri Konark Development Authority and HRIDAY- National Heritage Development and Augmentation Yojana by the Ministry of Urban Development of the Government of India, for the city of Puri might add value to the scale, setting and space around the Jagannatha Temple.

The PKDA Plan for 2031 focuses on the urban development of the heritage areas in and around the city of Puri and Konark. ²The development plan aims at providing the state of Orissa with international prominence given its picturesque setting by enhancing its religious and cultural sites, historical monuments, and the life of its citizens through better infrastructure and modified land-use patterns. It aims to balance the development and opening of little-explored facets of the state and meticulously directed conservation initiatives.

HRIDAY (National Heritage Development and Augmentation Yojana) is a scheme aimed at preserving and revitalizing India's rich cultural heritage. ³ This holistic development plan aims to look at urban spaces to improve the quality of life for populations in regions of India's 12 historical cities. The project included Puri to help revitalize the city's heritage infrastructure because of the presence of the Shree Jagannatha Temple. The 'Char Dham' are four prominent pilgrimage locations in India (meaning: four abodes). Pilgrims believe that visiting these temples helps in the attainment of salvation. One of the Char Dhams is Puri's Shree Jagannatha Temple. ⁴

Char Dham – 'Char' means four in Hindi, and 'Dham' means adobe. This includes; Jagannatha Temple, Dwarkadish Temple, Badrinath Temple, and Rameshwaram Temple located in the four cardinal directions – east, west, north and south, respectively. The Temple is dedicated to Lord Jagannatha and his two siblings, brother- Balabhadra and sister - Subhadra. Lord Jagannatha is believed to be a version of Lord Krishna. The Temple is world-famous for its Ratha Yatra.

1. Odisha's Golden Triangle. Have You Been? (2019, 19 december). <https://www.outlookindia.com/Outlook-traveller/>. Retrieved 12 april 2022, van <https://www.outlookindia.com/outlooktraveller/explore/story/70096/what-is-the-golden-triangle-route-in-odisha>

2. Puri Konark Development Authority. (2013). *Draft Comprehensive Development Plan-2031*. Bhubaneswar

3. Ministry of Urban Development (2015). *National Heritage Development and Augmentation Yojana*. Puri

4. Real Char Dham Yatra, Char Dham Yatra Pilgrimage Tour. (z.d.). Dham Yatra. Retrieved on 12 april 2022, from <https://www.dham-yatra.com/real-char-dham-yatra-24>

Ratha Yatra is a five thousand year old annual ritual. The festival talks about the Human body as Rath (Chariot) and God as the driver, who drives the Chariot of the body on the journey of material existence.⁵ Where the three deities are taken into gigantic and beautifully constructed wooden chariots to the nearby Gundicha Temple, located 3 kilometres from the Temple, this is an annual ritual and attracts millions of Hindi pilgrims worldwide. The Gundicha Temple is dedicated to Lord Jagannatha's aunt.

The unique natural attributes, socioeconomic character, and rich historic physical fabric of traditional settlements of the state of Odisha are all considered in the development strategy of the PKDA Comprehensive plan for 2031. The plan also includes providing the Shree Jagannatha Temple with an unadulterated visual relevance. Because the Temple is the epicentre of religious activities for one of the world's oldest religions, Hinduism, the influx of people to the Temple on special occasions surpassed the fundamental capacities of the support system. As a result of the overcrowding, current services and facilities became inadequate. Due to the pressure of commercialization of the surroundings, the path for significant religious rituals deteriorated over time, leading to illegal settlements. The research investigates the urban morphological changes through the different architectural dimensions. These dimensions include setting (time), scale (monumentality) and space (built and open). With an in-depth analysis of Shree Jagannatha Temple as a case study, the research begins with the following question: Do urban morphological changes obscure or add value to the architectural dimension of the heritage structures' setting, scale, and space?

The research is limited to the Shree Jagannatha Temple area and the path for Ratha Yatra leading to Gundicha Temple. The urban transformations will mainly be documented from the 19th century, the present situation, and the upcoming changes of the 21st century. However, for understanding these morphological changes- in terms of open and built spaces around the Temple, a historical layer mapping in chronological order will reveal if it was organic or forced. The book *Jagannath Revisited: Studying Society, Religion, and the State in Orissa* by Kulke, H. (2001) discusses the transforming urban fabric of the town of Puri and the religious aspects affecting it – mainly the Deoli Brahmins (living in and around the Temple), Hindu religion and the Temple. It emphasizes the relationship between religion, power, politics, and its impact on the town planning of the city of Puri.⁶

5. Puri Rath Yatra 2022 Date, Puri Ratha Yatra, the Festival of Chariots. (z.d.). Rathayatra. Retrieved on 12 April 2022, from <https://www.rathayatra.net/>

6. Kulke, H., & Schnepel, B. (2001). *Jagannath Revisited*. Manohar.

However, the urban development is beyond these political stances and attempts to focus on the Temple, which was the fulcrum of the city's existence and give it unadulterated visual importance. The book *History of Orrisa* by Hunter, W. Stirling, A. Beams, J. Sahu, N. (2005) talks about the historical developments and the impacts of several ruling dynasties. Still, the architectural perspective is all blurred over time.⁷

The research is a piece of history that would result from several methodologies. However, it does have a personal point of view. The thesis will begin with historical layer mapping to understand the chronological growth of open and built spaces around the Temple. Cullen sees the city as a sum of its citizens as it has an abundance of amenities, which is one of the reasons why people choose to live in communities and here it is the Temple. Therefore, to explore the layers of revelations and compressions through the streets of Puri, a comparative analysis through photographic documentation of the present urban scenario with 19th-century scenario will be beneficial in getting a clear picture of the issues.

A series of sketches showing the proposed design based on Cullen's Serial Vision could function as a base to develop the required architectural dimensions and the city's image. Serial Vision is a visual approach to urban design by Gordon Cullen in his book- *Classic Townscape*(1961), which seeks to design as an art of relationship between physical elements in an urban setting.⁸ As Lynch emphasizes how every citizen has had long associations with some part of the city through memories and meanings, it will be interesting to observe Puri through these aspects.⁹ From a personal view, there is a need to understand the compulsion, which made the authorities think of bringing a change to the temple surroundings with the help of site visits and news articles. Lastly, brief documentation of the significant streets and the activities would clarify if the setting, space, and scale are safe for the confluence of the pilgrims. These observations would help conclude whether the developments proposed in the Puri Konark Development Authority document for the 2031 vision are beneficial.

7. Hunter, W. Stirling, A. Beams, J.Sahu, N. (2005). *History of Orrisa. Vol.2.* New Delhi: R.N.Bhattacharya

8. Cullen, G.(1961). *The concise townscape.* New York: Van Nostrand Reinhold Company.

9. Lynch, K. (1960). *The Image of the City.* Cambridge, MA: M.I.T. Press.

CHAPTER 1 : HISTORICAL CONTEXT AND THE CHRONOLOGICAL GROWTH OF PURI

Puri, a coastal city of 16.84 km² located in the eastern region of India in the state of Odisha, is situated along the Bay of Bengal. It has undergone substantial geographical transformations. The town's development is related to Shree Jagannatha's central Temple, built in the 12th century. The Temple plays a vital part in the town's economy as one of the 'Char Dhams' of the country (four prominent Hindu temple locations). Shree Jagannatha Temple, which stands 214 feet tall in Puri, Odisha, India, was built in the 12th century by king Indradyamuna of Central India. Two concentric walls surround it, with the outer wall standing 24 feet tall. The enclosure includes four entrances, one on each side, with the main one on the eastern side (Singha Dwar-' Lion Entrance). The Temple served as the city's fulcrum and was the driving force for its expansion over the years. The population eventually surged over the support system's essential capacities, rendering insufficient existing services and amenities.

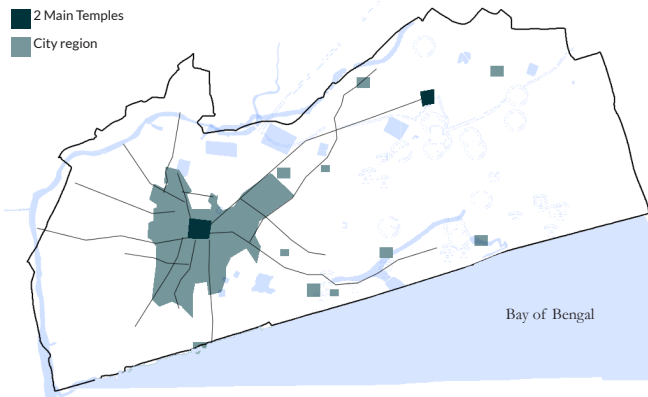
Shankh Kshetra (literally, 'The Conch-shaped Region'), named by the geographical form of the town, resembles a right-angled conch shell with Shree Jagannatha temple in the centre.¹⁰ The subsidiary temples, also known as Mathas, were built in an outer locational layout surrounding the main Temple, with various secondary and tertiary deities. A matha is a Sanskrit term that means "institution" and refers to a Hindu dharmic monastery with a temple (or several temples) at its centre. The principal deity is worshipped in the main Temple, while subordinate gods are in the Mathas. The Mathas also houses priests to whom they disseminate religious information. There are 30 Mathas in Puri circled the Jagannath Temple

Between the 7th century AD and the 19th century, Islamic kings conquered the Temple and the city eighteen times, yet never harmed the architecture.¹¹ The religious events related to the Temple, particularly the Ratha Yatra, a yearly event, established the path leading to the Gundicha Temple as a primary route. The Ratha Yatra (Carriage trip) is when the god and his two siblings' idol travel in three different Ratha to the Gundicha Temple. The expansion of cultural and religious sites in this area resulted in high and low development

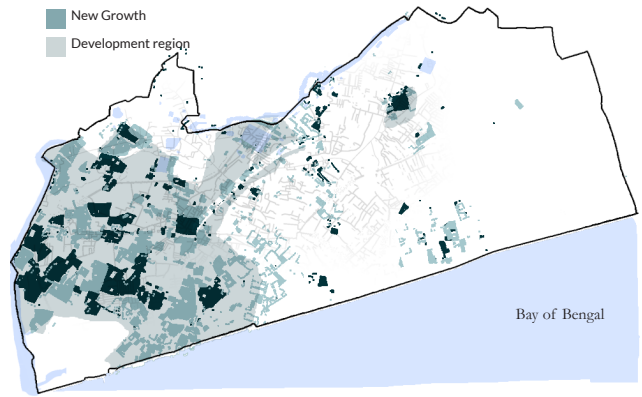
10. Mathas of Puri, Monasteries of Puri, Gobardhan Matha, Odia Matha, Jagannath Balav Matha. (z.d.). shreekhetra. Retrieved on 8 february 2022, from <http://www.shreekhetra.com/matha.html>

11. Hunter, W. Stirling, A. Beams, J.Sahu, N. (2005). *History of Orrisa. Vol.2.* New Delhi: R.N.Bhat-tacharya

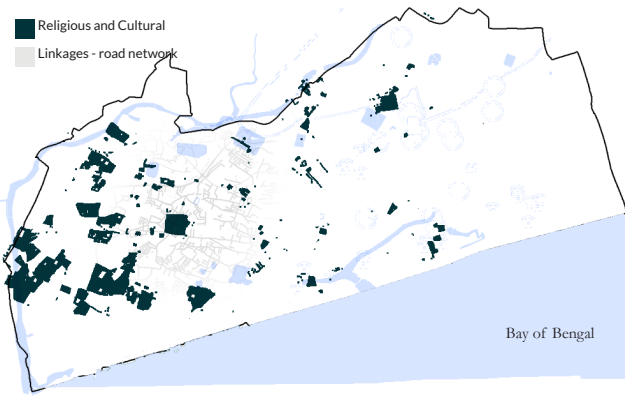
Historical Layer Mapping



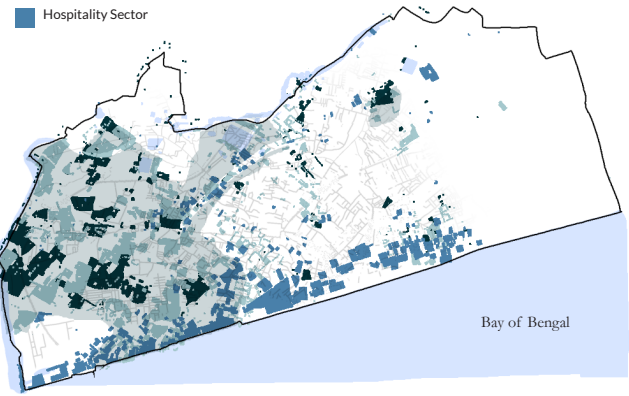
12th Century- Shree Jagannatha Temple and other associated temples



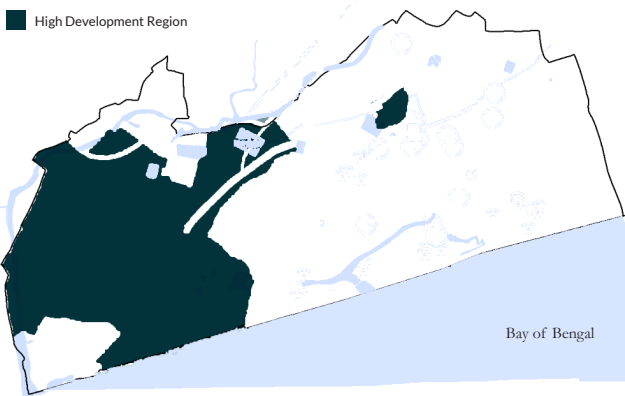
19th Century - Growth of settlements near the temple and in smaller pockets farther.



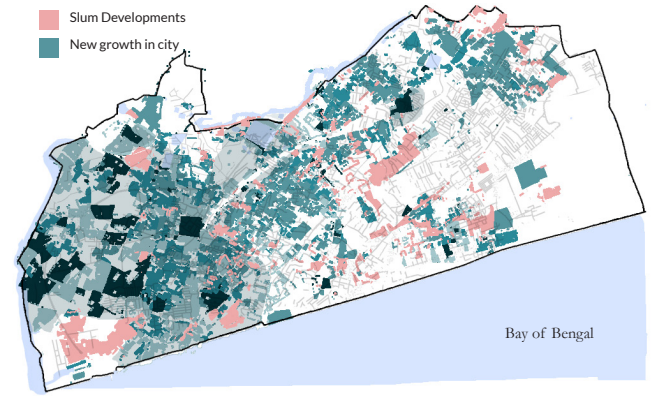
17th Century - Emergence of Mathas (smaller temples) linked to the main Temple



2005 - Increase in Hospitality sector parallel to beach front.



19th Century - The growth of town was driven by the temple, dividing the town into low and high development zones.



2019 - Illegal settlements and slum development near the temple precincts.

Fig 1. Illustration for the chronological Growth of the town of Puri

zones in the city until the nineteenth century, with the temple region seeing the most growth. The maps (Fig1.) show that the growth of this city is organic. A visit to the Puri beach became a part of the itinerary for most of the pilgrims. Religious preachers and social reformers visited Orissa in the past for religious purposes. Nowadays, pilgrims and tourists visit Puri, not for merely pilgrimage but also to tour historical sites and the beaches. With expansion along the Bay of Bengal's coastline after India's independence, the city boosted the hospitality sector. Though the city's prominence is due to the Temple, the boost in the tourism sector added to the economy of the city's growth. It is remarkable to notice that as the population grew from the 19th to the 20th centuries, settlement arrangements began to crowd severely around the Temple. In 2000, the settlements grew in a north-south-west direction and remained high. However, unauthorized settlements in violation of municipal rules emerged near the Temple in 2015.

The central street (Grand Road) eventually dissolved because of the pressures of surrounding commercialization—the experience of walking down the same street deteriorated by illegal settlements, slum dwellings, and encroachments (random street vending shops and undesignated parking spots), irregular façade. Due to the congested road, unplanned waste disposal near temple precincts occurred regularly, causing temple operations to impede.

The wide street in 1892 was sufficient for the Ratha yatra, the primary religious activity associated with the Temple. In due course of time, this path disintegrated due to the pressure of commercialization of the surroundings. The subsequent irregular developments distorted the Temple's street vista and diluted its monumentality. Because of its religious, cultural sites and historical monuments, Puri became a heritage city under the Heritage City Development and Augmentation Yojana plan proposed by the government of India because of its socioeconomic nature and rich historical fabric. Therefore, the Puri Konark Development Authority has proposed a 2031 vision for Puri to restore its historical and cultural significance.

The next chapter discusses the Grand Road, its disintegration, and visual changes while walking using Gordon Cullen's Serial Vision methodology.¹²

12. Cullen, G.(1961). *The concise townscape*. New York: Van Nostrand Reinhold Company.

CHAPTER 2: THE YATRA AND THE PRIMARY ROUTES

The city of Puri has events throughout the 12 months of the year; these events are known as Yatra. A Yatra is a pilgrimage or procession, particularly one with a religious objective. In Puri, the Yatras are linked to the Jagannath temple, and its subsidiary temples are connected via minor routes in six directions, which often include the movement of people between two temples, one being the Jagannatha Temple (Figure 2). The map highlights the major routes taken by the pilgrims. Yatra is a pilgrimage journey to a temple followed by the pilgrims of the Hindu Religion. The following are a few of the important Yatras:

Chandana Yatra is a 21- day event that takes place in a movement from Sri Jagannath Temple to Narendra Puskarini. In February, the deity is carried on a pilgrimage between Sri Jagannath Temple and Lokanath Temple during Pankhodhar Ekadashi. Amavasya Yatra is a monthly Yatra to the beach that takes place on the Swargdwar route on the new moon day. The Sahi Yatra is a fortnight-long event that commemorates Lord Ram's birth. Processions from the Temple's seven Sahis (Brahmins priests) conclude in Bada Danda for the festival. The nature and activities of the Temple precincts are constantly changing, making the settings around this area very dynamic. The yatras around Shree Jagannath Temple profoundly impact how the temple precinct area is used. This chapter focuses on the route that hosts the most prominent Yatra - The Ratha Yatra, every year around May/June. Puri's yearly cart festival is known as Ratha Yatra. The Ratha Yatra involves people pulling three Chariots carrying three deities - Lord Jagannatha, Lord Balabhadra and Goddess Subhadra from the Jagannath Temple to the Gundicha Temple. This is the only procession where the deities are moved out of the temple premises and put into the Chariots. Hundreds of devotees pull the three Chariots as a devotion to the Gods.

2.1 Ratha Construction

The Chandana Yatra (a 21-day festival) is just as auspicious as the Yatra for creating the Ratha (the Chariot). Lord Jagannatha and his siblings, Balabhadra and Subhadra, are represented by the three chariots, Nandighosh, Taladwaja, and Devadalana. A brief prayer is performed be-

13. KalingaTV Bureau. (2020, 25 January). Odisha: First lot of Timber for Chariot Construction reaches Puri. KalingaTV. Retrieved on 1 April 2022, from <https://kalingatv.com/state/first-lot-of-timber-for-chariot-construction-reaches-puri/>

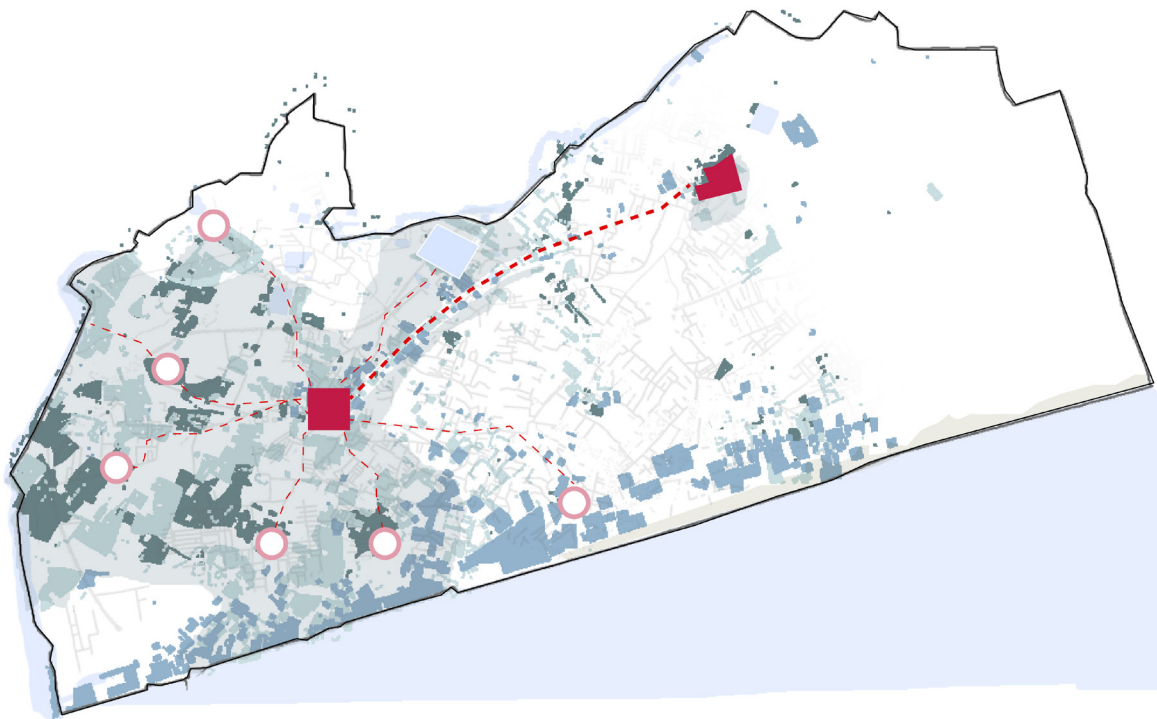


Figure 2 : Major streets for all the Yatra`



Ratha Yatra , 1819 - Puri, Odisha,India

Source : Procession at the Great Temple of Jagannath, Puri (Orissa). July 1818. (z.d.). [Photo]. British Library. <https://www.bl.uk/onlinegallery/onlineex/apac/other/019wdz000000680u00000000.html>

fore the first tree is cut down for the construction of the Chariots. ¹³

The traditions also specify the size and shape of the trees. According to custom, the chief priest performs the rituals for three logs after offering prayers to the deities. Typically, wood species such as Phase (*Anogeissus acuminata*), Dhaura (*Anogeissus latifolia*), Asan (*Terminalia tomentosa*), and Simili (*Bombax ceiba*) are used for the construction. The structure is made up of almost 1200 enormous logs of wood and takes around 40 days to finish. Carpenters who have inherited the rights and privileges for bringing the timbers get it from the Dasapalla region of Odisha.

The logs are typically set afloat in the Mahanadi River. Later, they are gathered near Puri. The Ratha construction area, known as 'Ratha Kal,' is built in a specified shaded space made of coconut leaves and wood. This area is on the Grand Road. The Chariots are ornamented according to centuries-old rituals and aesthetics. Chariots with 18 wheels queue up in front of the Temple's eastern entrance during the Yatra (Lion's gate). Nine painted wooden representations of deities, a charioteer, and four horses are among the numerous decorations.

The chariots are removed, and the sacred wood is auctioned at the end of the Rath Yatra festivities. It is worth noting that the wood from the previous year's Chariot is used in the Temple's Kitchen (Rosaghara), which happens to be the world's most enormous Kitchen. The Artisans

The Chariot's construction method is an inherited art, as it is a thousand-year-old ritual. The Temple's 200 Vishwakarma (carpenters) are responsible for its construction. It was passed down to them from their forefathers. As seva to Jagannath temple, Vishwakarma and Roopkar sevaks create the three Chariot. Every task necessitates the use of a specialized artisan.¹⁴

Gunnar - Shapes raw wood to be used to build various sections.

Kamarkant Nayi or Oja Maharana - Makes Chariot joining parts such as nails and screws.

14. Rath making (2021, 10 May). *Research on Indian Handicrafts & Handloom*. Craft Archive | Research on Indian Handicrafts & Handloom - Indian Craft Online. Retrieved on 17 March 2022, from <https://gaatha.org/Craft-of-India/rath-making-craft-puri-odisha/>



Chariots - Ratha Yatra

Source: A. (2020, 22 mei). In Pics: Construction of chariots for Rath Yatra 2020 underway in Puri. Odisha News In English. Retrieved on 17 March 2022, from <https://www.prameyanews.com/in-pics-construction-of-chariots-for-rath-yatra-2020-underway-in-puri-5/>



Chariot Construction

Source: A. (2020, 22 mei). In Pics: Construction of chariots for Rath Yatra 2020 underway in Puri. Odisha News In English. Retrieved on 17 March 2022, from <https://www.prameyanews.com/in-pics-construction-of-chariots-for-rath-yatra-2020-underway-in-puri-5/>



Chariot Wheel Construction

Source: A. (2020, 22 mei). In Pics: Construction of chariots for Rath Yatra 2020 underway in Puri. Odisha News In English. Retrieved on 17 March 2022, from <https://www.prameyanews.com/in-pics-construction-of-chariots-for-rath-yatra-2020-underway-in-puri-5/>



The Ratha (Chariot) Construction

Source: A. (2020, 22 mei). In Pics: Construction of chariots for Rath Yatra 2020 underway in Puri. Odisha News In English. Retrieved on 17 March 2022, from <https://www.prameyanews.com/in-pics-construction-of-chariots-for-rath-yatra-2020-underway-in-puri-5/>

Pahi Maharana – Joins the front half of the chariot

Jokaar and Muktikaar: Jokaar and Muktikaar cut the wood into exact shapes for use in chariot construction.

Chitrakaar: Paints chariots and adds colour to the paintings.

Suchikar or Dardhiseva: Prepares the fabric for the Chariot's adornment and the flag (Dwaja).

2.2 The Yatra today

A pilgrim takes the route of Grand Road, locally known as 'Bada Danda', to visit the Jagannatha Temple. This road connects it to the Gundicha Temple. The stretch is approximately 3 km long and has 9-12 meters tall buildings flanked on both sides. The Temple, which stands 65 meters tall, seeks to maintain a majestic presence amidst the organic growth. The Grand Road had a maximum of six-meter-tall buildings in the nineteenth century, which somehow formed a clear focal image. Even the modest temporary stores closest to the Temple were in harmony. Walking along this path has radically transformed over the previous century, mainly due to substantial organic growth in the last three decades. Even though local vendors existed in the nineteenth century, there was a designated pattern and a specific location to offer their commodities. The pilgrims stopped by these shops before or after their visit to the Temple.

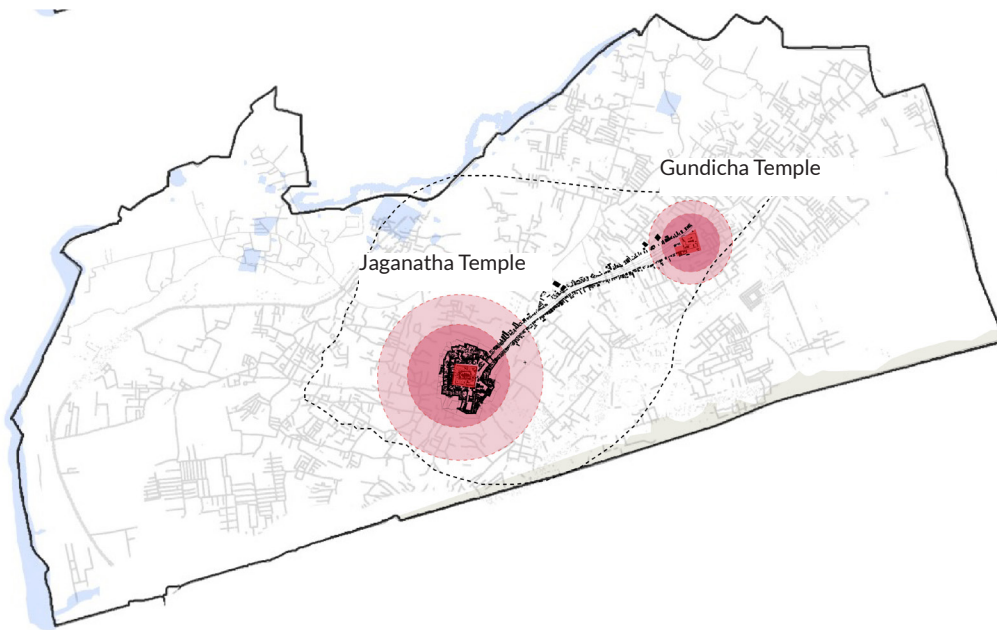
However, it is now strewn along the Grand Road haphazardly. Acting as a diversion from the monumentality of the city's fulcrum on several occasions. This has a substantial influence on the walking experience of a pedestrian. A temporary parking lot about a kilometre from the Temple holds almost 300 vehicles, reducing vehicular traffic. However, the right of way is inconsistent, varying from 40 to 75 meters, making the pedestrian walkway smaller than 1 meter at times. This has led to a chaotic walk down the road to the Temple, which holds a million pilgrims and three large chariots during the Ratha Yatra. The development of interferences from both sides of the road and the irregular façade appearances further distort the view of the Temple. Individual confrontations are rising because of erratic street vending sites and undesignated two-wheeler parking. Pedestrians have a frantic and fragmented experience as a result.



Distractions on the Grand Road, chaotic movement (2019)

CHAPTER 3: PEDESTRIAN WALKING EXPERIENCE IN TERMS OF SETTING , SCALE AND SPACE

The contrasts and similarities of the surroundings around the Temple over time, specifically in the 19th and 20th centuries, have been assessed by visual documentation from the perspective of pedestrians. This chapter discusses the findings through a juxtaposition of present and historical views was done to analyze this experience of a pedestrian strolling down the Grand Road through three architectural frames - Setting, Scale and Space.



The Grand road connecting the Jagannata Temple to Gundicha Temple

The images on the next page show the initial node of Grand Road, which links to the Jagannatha Temple in the 19th century (left) and the present condition of the node (right). The linear arrangement of kiosks creates a safe and clear path to purchase various Puja-related items (worshipping). There were also stores offering fruits, vegetables, and other local foods. This layout formed an organic boundary on both sides, allowing visitors to see the Temple. However, the image of 2019 shows a surge in encroachment through these shops and certain random parking spots.



The setting of the Grand Road in 19th (left) and 20th century (right)

3.1 The Setting

The roadway subsequently disintegrated due to surrounding commercialization and population growth demands. This development influences the overall experience, also adding up to the inconsistent width of the right of way. The random arrangement of stores, illegal settlements, slum dwellings, and encroachments restricted walking along the same road. There are no dedicated parking spaces, and the placement is close to amenities and pedestrian areas. Even though no automobiles are allowed within 1 kilometre of the Temple, the photograph shows several cars parked in front of the temporary kiosks.

Unplanned waste dumping near temple precincts resulted from these congested activities, which regularly disrupt temple functions. There is a demonstrable constriction to the walking zone through these illegal encroachments. The activities are crucial for providing a pedestrian with an active experience, but their chaotic development does not create benefits.

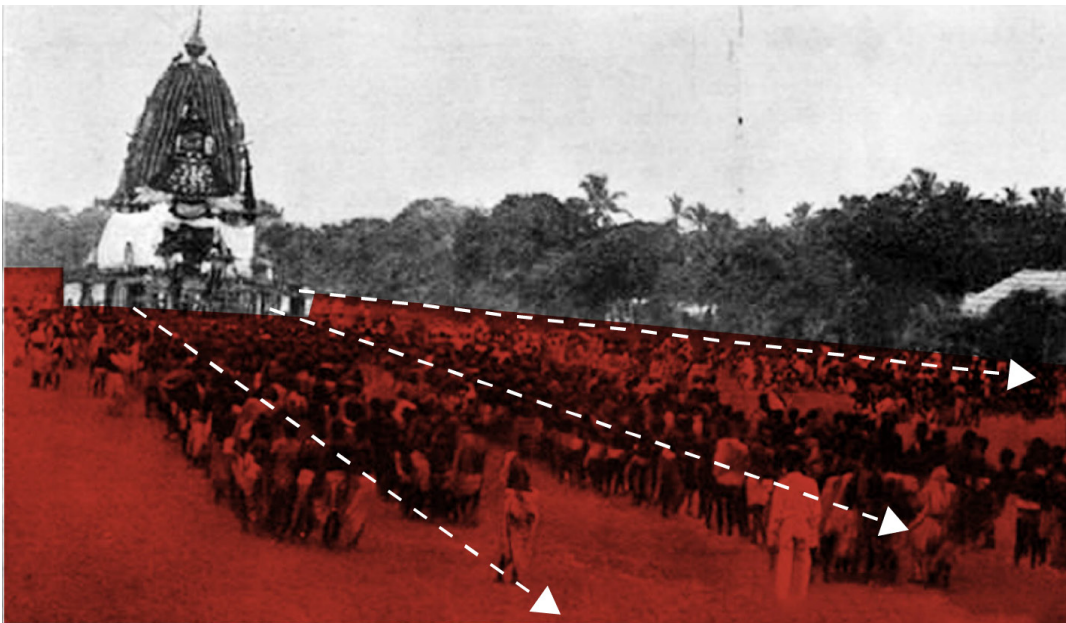


The scale of the Grand Road in 19th (left) and 20th century (right)

3.2 The Scale

The images above are of the minor street leading to the Temple. The Jagannatha temple is one of the country's most prominent religious sites, and it is a tangible expression of social cohesion over centuries of worshipping. Its architectural monumentality stems from the scale and function it has performed since the 12th century. The nearby low-rise communities visually complemented the Temple's architecture and related the surrounding land use occupied by the Marathas. The street in 1982 (left) appears to be adequate for the Temple's critical religious activities. It was also then pedestrian-friendly and devoid of encroachments.

The Temple was the focal point, and the street framed the scale of the Temple beautifully. However, in 2019, the incremental growth of the same low-rise structure into 3-4 storeys, and the random parking of vehicles, has reduced the vista to the Temple. The monumentality of the Temple appears to be diminishing.



The space around the Grand Road in 19th (top) and 20th century (bottom)

3.3 The Space

The photographs above depict Ratha Yatras held along the Grand Road in the nineteenth and twentieth centuries. The entire route had minimal low-rise development in the 19th century, with a clear stretch for the Yatra. The people could easily pull the Chariot while also having an unobstructed view. There is no problematic zone. The Chariot's backdrop had much greenery. In 2019, the organic expansion around temple precincts and the grand road had an impact not just on its scale but also on its space. It appears to be quite congested and disorderly. The confluence of millions of people is complex enough. Still, shrinkage of the right of way due to irregular expansion due to activities and building adds to the chaos. Rickshaws halt in the middle, people walk in various directions to find their way, and there are scattered kiosks. It is, in fact, visually also cluttered.

CHAPTER 4: THE STAKEHOLDERS DEBATE - PEOPLE AND THE PLAN

The state of Odisha has developed a plan for Puri that emphasizes Shree Jagannatha Temple. The redevelopment plan suggested under the Puri Konark Development Authority's ABADHA Scheme was due to insufficient efforts to protect and manage the heritage structure. The Augmentation of Basic Amenities and Development of Heritage and Architecture Scheme (ABADHA) focuses on developing Puri's infrastructure to make it a world-class heritage city. Land Acquisition Charges, Re-habitation, Resettlement, and Road Improvement are all part of the plan to improve facilities in and around Shree Jagannath Temple.

According to the Puri Konark Development Authority's latest study, uncontrolled development arose on the edges of the precincts, resulting in insufficient forward and backward economic ties. The government of Odisha recommended the developments around the Temple to address the recognized difficulties arising around the Shree Jagannatha Temple and the Grand Road. Widespread road encroachment, tourist surges causing planning constraints, severe congestion, and a lack of infrastructure were all factors that led to this proposal. The project entails redeveloping critical areas of the holy town and the area surrounding the Temple for visitors and tourists. The government held a competition to redevelop a 75-meter-wide area around the Temple, titled Shree Mandira Parikrama Project, based on a thorough design brief.

The project was eventually awarded to Bumiputra Architecture, an international firm based in Bengaluru, India, in November 2019, after repeated rounds of calling for designs from a wide range of architectural firms. The design brief included a heritage corridor around the Temple, redevelopment of the Shree Jagannath Temple Administration (SJTA) building, a reception centre for queue management, the Jagannath cultural centre, and a heritage streetscape along Bada danda (Grand Road). In February 2020, the state legislative assembly officially passed a resolution for the project, with all political parties agreeing to start the first phase of development. The total project costs 332 crore Indian Rupees. I had the opportunity of being a member of the core design team as an Architectural Intern and Junior Architect. I was involved in conceptual development, competition presentation preparation, on-site photographic documentation, master planning, technical drawings, client presentations, and site visits. We developed the idea over two years

under the guidance of the firm's principal architect, Mr Alok Shetty. The involvement also made me learn about the bureaucratic hurdles in government projects. I was able to participate in several high-level meetings with government officials. During the initial phase of site visits, I was curious about the religious sensibilities of those who had spent their entire lives near the Temple.

Were they having trouble accepting the fact that their homes would be demolished to restore the Temple's prominence? According to a series of newspaper articles, most residents were fine with the alternatives, a handful of which are discussed further. However, is the Temple's significance solely due to its monumental character, or is it also due to the presence and growth of people? As a result, we are back to the research question - Do urban morphological changes obscure or add value to the architectural dimension of the heritage structures' setting, scale, and space? Several news articles were analyzed to find responses to the issue from the stakeholders' perspective, resulting in a variety of viewpoints. A citizen told Odisha Bhaskar (one of the local media) that some families who lived in houses near the Temple had voluntarily abandoned their homes and accepted the government's compensation.¹⁵

As most plots are not legally owned but occupied through generations. He claims that several families were dissatisfied with the amount of money and the alternate property they were given but did not speak up because they were afraid of the government. There are demonstrations against the policy, and these people demand better monetary compensation and a plot "near" the Temple. The chief minister of Odisha, who aims at transforming Puri into a world-class heritage city, stated that the surroundings encompassing the Jagannath Temple were previously densely packed with stores, stalls, and residences, and Dharamshala's, the majority of which had crept over time. The congested location was a safety problem not just for pilgrims during the crowded Ratha Yatra and Bahuda Yatra festivities but also for damaging the historic Temple's 12th-century Meghanada wall. According to the Odisha government, unlawful encroachments and constructions built around the Meghanada wall pose a severe security concern to the Temple and visiting pilgrims. The CM also added, "To facilitate rigorous vigilance and prevent a terror strike, we want this region cleansed of all constructions, many illegal."¹⁶

15. Staff, O. (2022, 19 January). *Bodybuilder Sevyat from viral photo wants more compensation, slams Odisha govt's Shri Jagannath Temple corridor project in Puri*. OpIndia. Retrieved on 8 february 2022, from <https://www.opindia.com/2022/01/bodybuilder-sevyat-viral-photo-jagannath-temple-corridor-project-puri-odisha-government-naveen-pattnaik/>

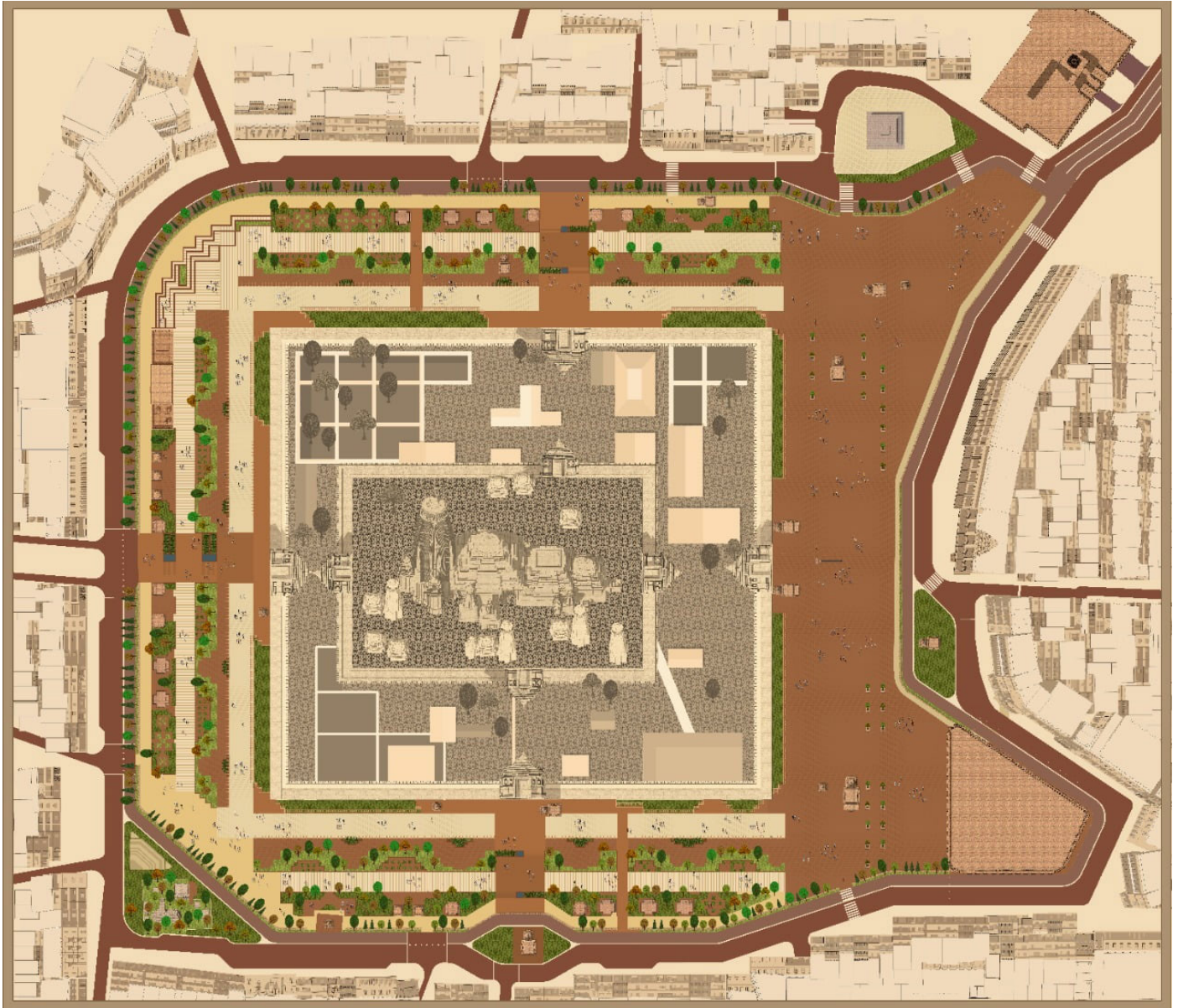
16. Krishnan, R. (2021, 9 december). *New corridor, more breathing space – how Puri Jagannath temple is revamping for the times*. ThePrint. Retrieved on 8 february 2022, from <https://theprint.in/india/new-corridor-more-breathing-space-how-puri-jagannath-temple-is-revamping-for-the-times/777001/>

The Odisha government finds it challenging to acquire the land from the individuals who have shops and residences on the periphery of the Temple because of the Temple's prominence. Even though the government has offered every such individual a rehabilitation package, they are still reluctant to give away their lands because they have been there for so long. However, in one of the newspapers(ThePrint), the government representative stated, "We had to tread carefully because this is a highly delicate topic of people's religion and belief".¹⁷The reactions of pilgrims visiting the development project support the initiative. Also known as the Parikrama Project or the Shree Jagannatha Heritage Corridor would make it convenient was pilgrims to do Parikrama (walk around the Temple). Another resident interviewed by the same newspaper said that there should not be any alteration to the heritage and should do nothing to the original building of the Temple, which their forefathers saw. Three hundred fifty million has been spent on resettlement and rehabilitation, with funds distributed to 134 landowners and 18 Mathas.

Contradictory perspectives of stakeholders indicate that the consensus achieved by most of the people led to the project's initiation. Still, there will always be some roadblocks and contradictions due to sentimental and religious reasons. Bhumiputra Architecture's development plan does not alter the ancient temple structure but adds beauty, infrastructure, and modern amenities for pilgrims and tourists. The team committed to bringing ethnicity and utility together in the rebuilding of the sacred place as curators of design. The intervention's main goal was to integrate seamless design without interfering with centuries-old traditions.

The ability to shape the architectural dynamic has come with a great responsibility to preserve Puri's spirituality and cultural vibrancy. The manifestation is the result of respectful interference and a functional aesthetic that does not compromise the deliverables' cultural uniqueness. All the development takes place outside of Meghanad Pracheri (Compound Wall surrounding the Temple). There are various zones within the heritage corridor. Next to the Meghanad Pracheri, a 7-meter green buffer zone will be established, followed by a 10-meter Antar Parikrama.

17. Krishnan, R. (2021, 9 december). *New corridor, more breathing space – how Puri Jagannath temple is revamping for the times*. ThePrint. Retrieved on 8 february 2022, from <https://theprint.in/india/new-corridor-more-breathing-space-how-puri-jagannath-temple-is-revamping-for-the-times/777001/>



Sree Mandira Heritage Corridor Masterplan by Bhumiputra Architecture

Source : Masterplan - Heritage Corridor Plan / SreeMandira Parikrama Project. (z.d.). [Photo]. Odisha bytes. <https://odishabytes.com/heritage-corridor-plan-in-odishas-puri-gets-sjta-approval/>

The Parikrama (procession) will be for the deities' ceremonial procession. Pilgrims will have access to an 8-metre corridor known as the outer pradakshina and a 10-metre public conveyance zone with restrooms, drinking water fountains, information, donation kiosks, and shelter pavilions. (Fig. Masterplan)

The initial phase of being on-site and indulging in several meetings made me curious to write this research paper. I realized the importance of architectural frames of setting, scale, and space of a context on the overall experience of a place. While I walked towards the Temple, I was distracted by the activities and scattered shops, waste disposal and undesignated pedestrian lane. However, the irregularity and the cluttered space became a part of my experience of visiting one of the prominent Hindu temples in the world. It was my first time in Puri in 2019, and thought straight, the chaotic way of navigating through the street also added up to my image of the city.

I was stunned when I stood next to the magnificent Temple and saw the flag being changed. As a part of the daily ritual for good luck, the triangular-shaped flag of 20 feet at the top tip of the Temple's roof (Shikhara) is changed by a male member of the Chola family. This family had the exclusive rights to hoist the flag for over 800 years by the king who built the Temple. There are so many layers that get added to create the image in our minds, which generates a unique impression of the Temple, the place, and the city. As observed through the photographic documentation in the previous chapters, the frame of scale for the Temple appears to be diminishing.

An aesthetically pleasing journey to the Temple, with the Temple as a focal point, would make the walking experience more memorable for the pilgrims, tourists and even residents. Multiple site visits to the Temple urged to re-imagine the same route through Gordon Cullen's Serial Vision methods. The next chapter is a condensed result of all the observations and experiences that could help in imagining a memorable image of the city.

CHAPTER 5 : THE PROPOSED SERIAL VISION

Puri is a collaborative endeavour of its rich heritage, tradition and culture, a community that grows to be greater than its components. It exemplifies the art of relationship: how things fit together- the plethora of temples and mathas, the spaces formed between them, and how people use and live in these spaces while also moving between them. Cullen's idea of experiencing the urban setting through kinaesthetic influenced me greatly to propose a new serial vision through the Grand Road finally. By now, I do not mean the demolition of the old, but rearrangement and renovation. The proposed series of sketches are developed with keeping movements in mind. Movement of people, where they can witness the true essence of this small town while strolling down the Grand Road at a certain pace. .¹⁸

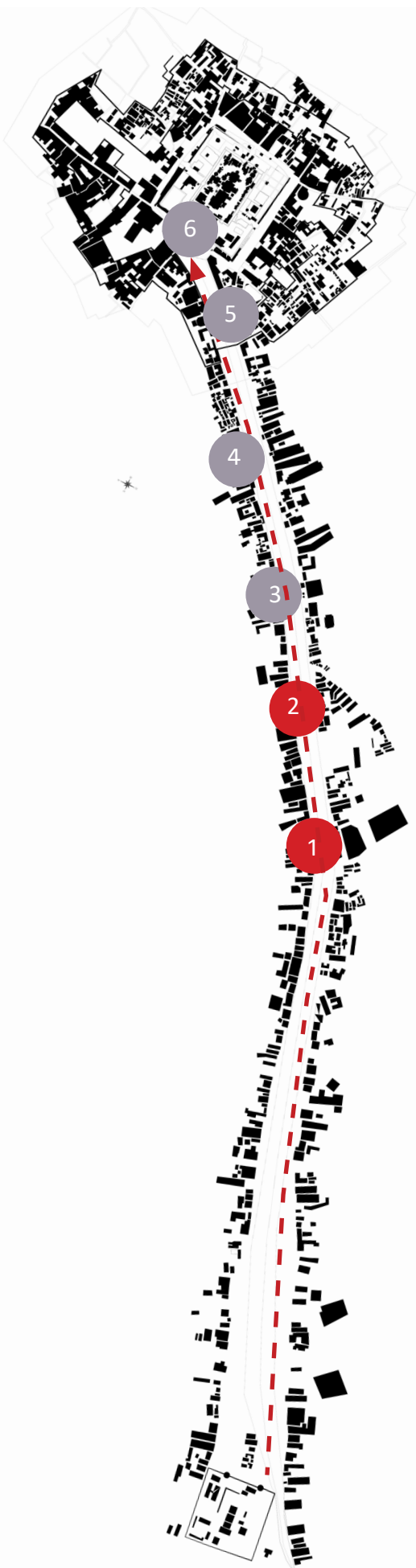
These sketches are based on the concept of serial Vision and could be used to develop the architectural dimensions of the city's image. Through three to four-story-high construction around and multiple distractions on the road, the Temple's stunning image has been blurred by the city's ever-growing expansion and advancements. The design strives to create a sense of coherence across the path and a visual and experiential link back to the Temple. Each frame has a visual connection to the Temple, and along the way, one gets to see everything associated with it. A sense of space is created by a dedicated pedestrian lane and a linear arrangement of shops. This produces an environment brimming with sweets shops, traditional arts and crafts stalls, flowers, and souvenirs, to the point that the visitor has no choice but to become immersed in the hustling and bustling of Puri in a pleasant way.

The provision of dedicated spaces for such activities also avoids the risk of getting distracted. Every frame has the Jagannatha temple as a constant feature. Shree Jagannatha Temple is built in the Kalinga style of architecture, which is a Hindu temple architectural style found in the state of Odisha in eastern India. On the Temple's façade, there are numerous designs and beautiful sculptures. Integrating urban street elements with the Kalinga style of architecture would establish a link to the temple architecture. Bollards, benches, and lamps are examples of elements. The colour, texture, and style in Kalinga style would relink the fabric of the town to the fulcrum of its existence – Shree Jagannatha Temple.

18. Cullen, G.(1961). *The concise townscape*. New York: Van Nostrand Reinhold Company. 118

Dedicated pedestrian, rickshaw, and two-wheeler lanes would result in a more structured urban environment. A similar structure would be advantageous during the Ratha Yatra, allowing tourists to walk around easily. A range of experiences stems from the significant impacts of exposure and enclosure through market stalls and other activities on the street. The proposed Vision focuses on restoring attention to the Temple's scale by reorganizing it with urban streetscaping rather than removing organic expansion entirely. When standing next to the Temple, one should have sensed the connection while walking towards it and be tempted to reflect on their journey as they return. In the same way that Lynch recounts, such an event will leave them with a lasting image of Puri in their minds.

The Temple is becoming obscured due to the increasing number of structures around it. The Temple's tallest pinnacle, the shikhara, is visible, lending a sense of mystery. As one approaches the Temple, it gradually becomes evident, culminating in fulfilment when it becomes immediate to the visitor. The Temple's massive entrance beautifully frames it and draws attention to its grandeur. Finally, the scale and setting create a lively environment for both visitors and locals. The proposal does not provide intentional distractions but rather a framework for existing ones, which influence the scale to bring back the temple towns, character, and personality.

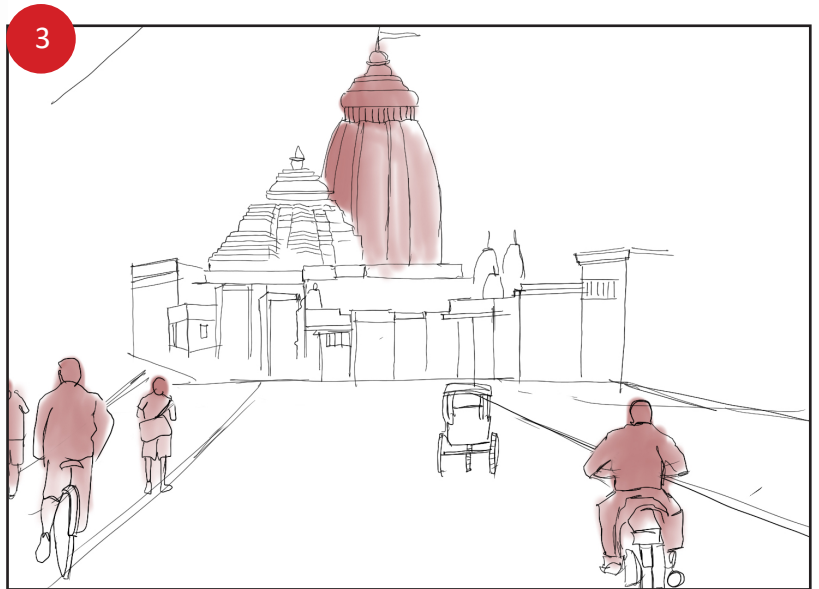
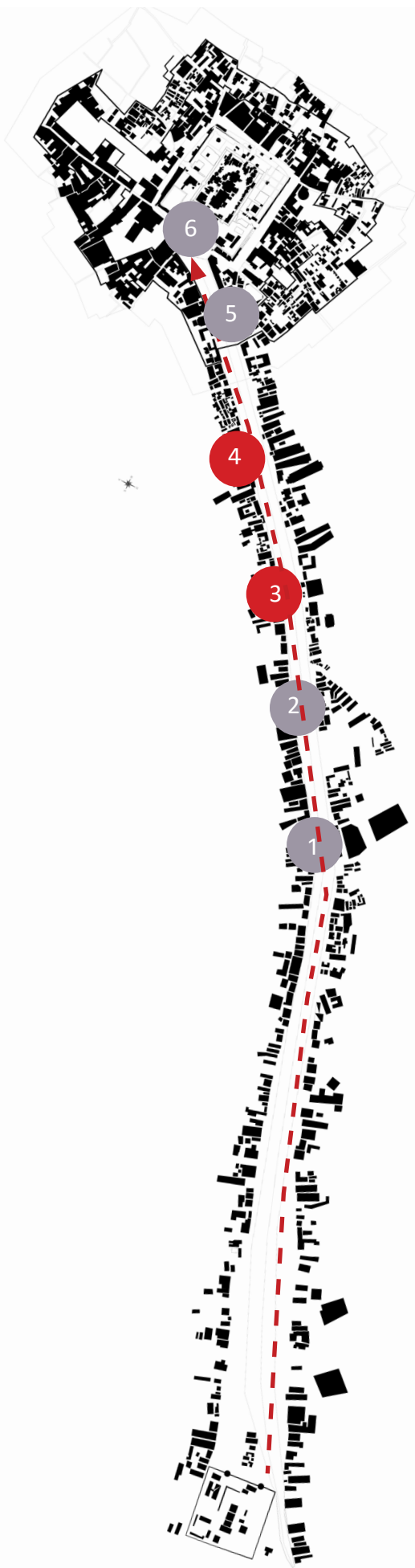


The pedestrian journey begins with a series of stores and souvenirs arranged in a linear fashion. There is a lot going on in the pedestrian lane. As it conceals behind the new buildings, the temple is visible from afar, generating a sense of mystery. The new lamp posts and benches make the lande more pedestrianized.



As one progresses deeper into the town, the front facade is still obscured by buildings, but the pinnacle of the temple may be seen. The journey eventually leads to the temple, but the twists and turns provide delayed discoveries. When you turn around, the shikhara (pinnacle) looks to be larger than it was before. Along the way, the scenery changes from shops to pedestrian paths, but the temple remains a constant feature. It is a safer and more structured environment with dedicated lanes for pedestrians, rickshaws, and vehicles.

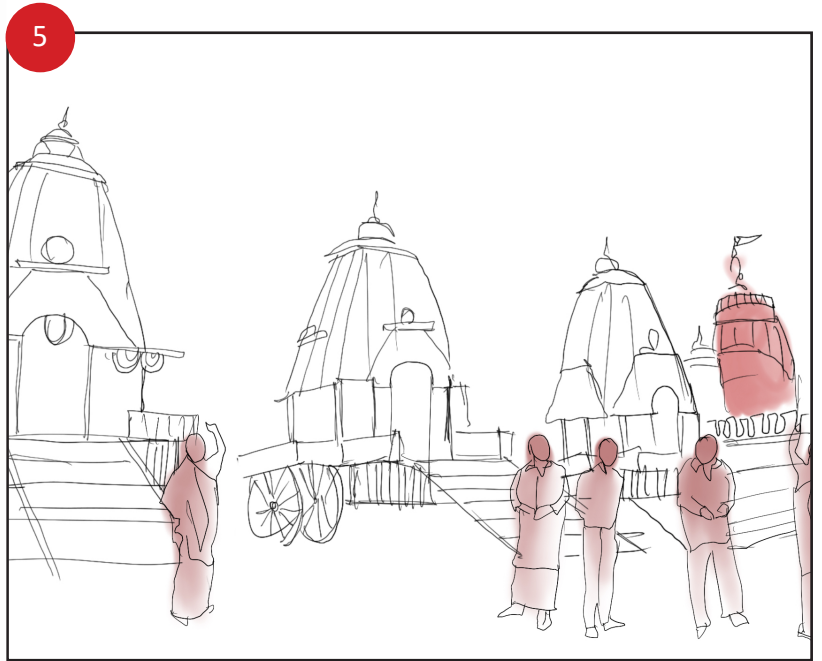
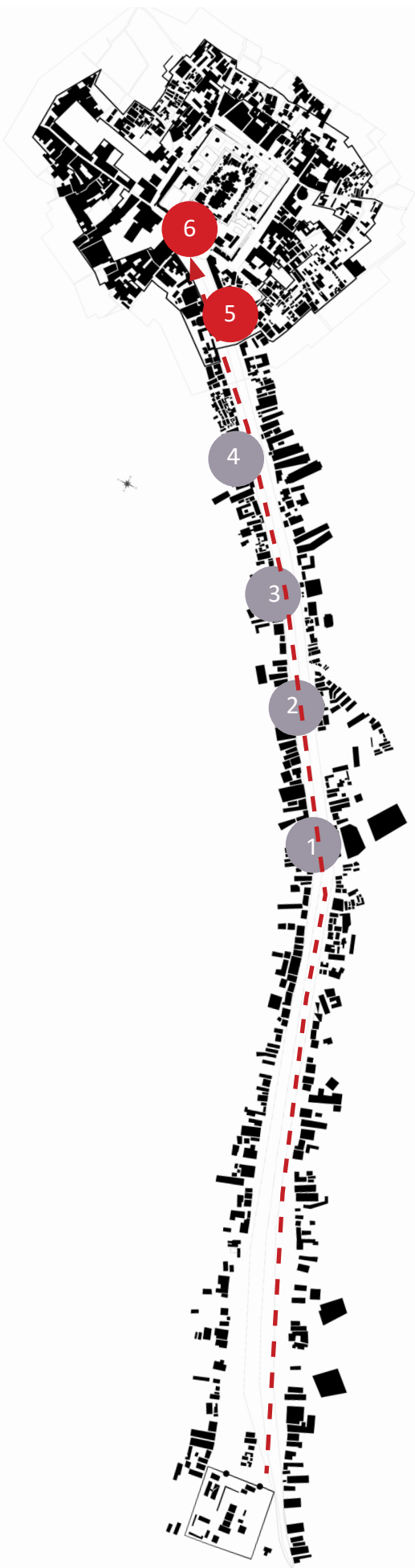
The Grand Road - Serial Vision Route



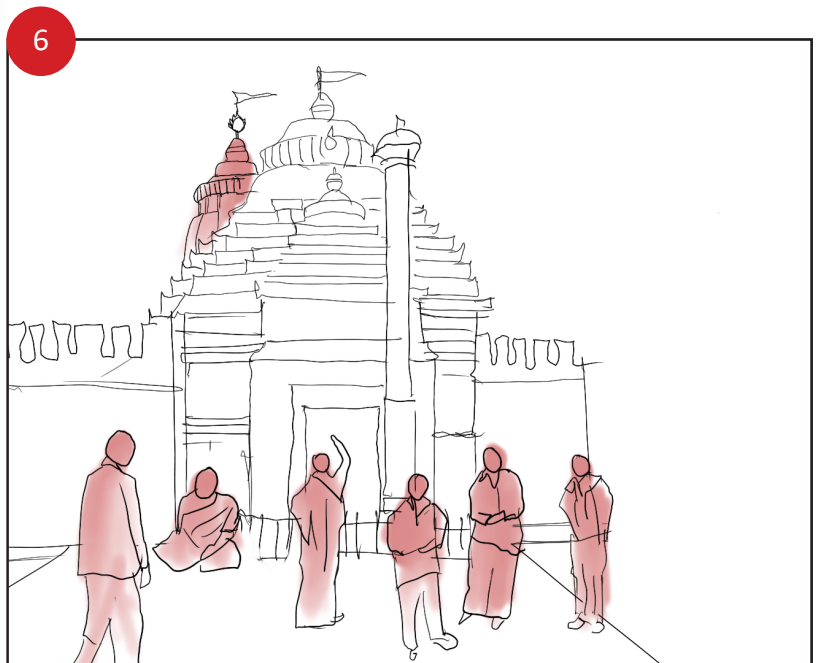
The temple remains still hidden, but visitors can now better situate themselves in the surrounding landscape. The temple's size becomes more apparent. Following a stroll around the shops and through the streetscape. The symmetry created by the buildings on the sides serves as a framing for the temple.



The sense of place is aroused as one waits in a specified line to enter. The queue management system would assist visitors to comprehend the temple's magnificence because it is an intuitive and continual habit of the body to relate itself to its environment.



The total temporary lane separation would allow for the potential of enlarging the road during the Ratha Yatra, allowing millions of visitors to draw the chariots.



After going through several nodes, one arrives at the temple, which stands tall but is covered behind the giant doors that also serve as a frame. The impression of reveals, exposures, and enclosures is now complete.

CHAPTER 6 : CONCLUSION

Do urban morphological changes obscure or add value to the architectural dimension of the heritage structures' setting, scale, and space?

Because of its cultural and religious significance, Puri is one of the most important pilgrimage destinations for Hindu pilgrims all over the world. The Odisha government's decision to revive the Temple's surroundings, not just for safety reasons but also to restore its relevance, appears ideal. The structure and population of the city have changed because of urban morphological changes over time. It originated as a temple town and has now evolved into a popular tourist destination. The Temple must not be overshadowed by the natural development that surrounds it; it must be remembered as a religious World Heritage Site. Decongesting the peripheral surroundings as well as the grand road is an initiative in the right direction. The narrow lanes leading to the Temple create a sense of revelations through enclosures, but the encroachment through buildings and undesignated vehicular parking made it narrower. The number of pilgrims keeps on increasing, which also puts pressure on the government to make the facilities functional. The manifold increase in the demographics in the last few decades due to tourism and religious aspects has made the amenities redundant.

The architectural dimensions of the heritage monuments' setting, scale, and space are both obscured and valued by urban morphological alterations. Site visits, maps, photographic documentation, and analysis assisted in comprehending the changes in urban morphology of Puri over time, which undoubtedly influenced the context, scale, and space around the Temple, but also added value to it.

Puri Konark Development Authority's Plan for 2031 is a positive start in preserving the Temple's architectural significance. The maps revealed that urbanization was rapidly overtaking the Temple, leaving little breathing room around it. Therefore, it appears to be a pressing need to preserve the Temple by securing its surroundings. There is a sheer need to create open spaces around the Temple for infrastructural and security reasons. The Shree Mandira Parikrama Project will be a critical step in transforming Puri into a World

Heritage Site. There were some discrepancies indicated in the chapter on people and the plan, so it is expected that not every stakeholder will be satisfied with the displacement.

The disagreement is primarily due to the land offered in compensation. Nevertheless, most of the people who have been residing around those 75-meter peripheral ranges have willingly given their land to the temple authority to be a part of this development process happily. This showcases that resident of Puri also understand the urgency of this transformation process.

The proposed serial Vision assisted in realizing that a structured framework may potentially turn naturally occurring obscurity into a value. This would enhance the pedestrian experience if building height, façade appearance, and proper location of amenities were all regulated. The Temple's scale is also essential because of the surrounding elements, but not everything is being demolished. Buildings in a 75-meter perimeter are being demolished, but the fabric of the Temple is being left undisturbed. People believe that this development may jeopardize thousand-year-old customs. However, this is not the case. The proposal also includes a green buffer between the developing area and the temple boundaries to avoid such a scenario. This is solely to restore the Temple and its infrastructure to its former grandeur.¹⁹ Organic urban growth is inevitable, yet specific interventions are required at some point to preserve the heritage. Urban morphology has aided strategic urban planning, mostly in European countries. Even Gordon Cullen's examples are set in this kind of environment. There are opposing scales at the city's centre, but activities are confined and revolve around the central structure, whether it's the church or the town hall. Puri followed a similar path, with the Shree Jagannatha Temple serving as the cornerstone of its growth.

However, in recent decades, organic growth within the city around the temple complex has impacted the heritage structure's visual appearance and structural safety. In the proposed serial Vision, I aim to improve existing socio-cultural activities by arranging them like that observed in the 1900s. The government's urban development plan is a step toward preserving and safeguarding the built

19. Mohapatra, D. (2019, 24 august). The Demolition Drive at Puri. Time of India. Retrieved on 8 February 2022, from <https://timesofindia.indiatimes.com/city/bhubaneswar/sacrifice-for-sake-of-jagannath-temples-security-naveen-patnaik-to-puri-locals/articleshow/70814589.cms>

environment around the Temple, which is a part of its resilient essence. Puri's Temple and its components, the city and its traditions, must be preserved to designate it a world heritage site. Although it is a critical case, the present trend has obscured the Temple's monumentality. As a result, the government of Odisha's endeavours toward the Temple and its development appear to be positive, a move that will restore the Temple's identity and monumentality.

References

1. Odisha's Golden Triangle. Have You Been? (2019, 19 december). <https://www.outlookindia.com/Outlooktraveller/>. Retrieved 12 april 2022, van <https://www.outlookindia.com/outlook-traveller/explore/story/70096/what-is-the-golden-triangle-route-in-odisha>
2. Puri Konark Development Authority. (2013). *Draft Comprehensive Development Plan-2031*. Bhubaneswar
3. Ministry of Urban Development (2015). *National Heritage Development and Augmentation Yojana*. Puri
4. Real Char Dham Yatra, Char Dham Yatra Pilgrimage Tour. (z.d.). *Dham Yatra*. Retrieved on 12 april 2022, from <https://www.dham-yatra.com/real-char-dham-yatra-24>
5. Puri Rath Yatra 2022 Date, Puri Ratha Yatra, the Festival of Chariots. (z.d.). *Rathayatra*. Retrieved on 12 april 2022, from <https://www.rathayatra.net/>
6. Kulke, H., & Schnepel, B. (2001). *Jagannath Revisited*. Manohar.
7. Hunter, W. Stirling, A. Beams, J.Sahu, N. (2005). *History of Orrisa*. Vol.2. New Delhi: R.N.Bhattacharya
8. Cullen, G.(1961). *The concise townscape*. New York: Van Nostrand Reinhold Company.
9. Lynch, K. (1960). *The Image of the City*. Cambridge, MA: M.I.T. Press.
10. Mathas of Puri, Monasteries of Puri, Gobardhan Matha, Odia Matha, Jagannath Balav Matha. (z.d.). shreekhetra. Retrieved on 8 february 2022, from <http://www.shreekhetra.com/matha.html>
11. Hunter, W. Stirling, A. Beams, J.Sahu, N. (2005). *History of Orrisa*. Vol.2. New Delhi: R.N.Bhattacharya
12. Cullen, G.(1961). *The concise townscape*. New York: Van Nostrand Reinhold Company.
13. KalingaTV Bureau. (2020, 25 january). *Odisha: First lot of Timber for Chariot Construction reaches Puri*. KalingaTV. Retrieved on 1 april 2022, from <https://kalingatv.com/state/first-lot-of-timber-for-chariot-construction-reaches-puri/>
14. Rath making (2021, 10 May). *Research on Indian Handicrafts & Handloom*. Craft Archive | Research on Indian Handicrafts & Handloom - Indian Craft Online. Retrieved on 17 march 2022, from <https://gaatha.org/Craft-of-India/rath-making-craft-puri-odisha/>
15. Staff, O. (2022, 19 january). *Bodybuilder Sevayat from viral photo wants more compensation, slams Odisha govt's Shri Jagannath Temple corridor project in Puri*. OpIndia. Retrieved on 8 february 2022, from <https://www.opindia.com/2022/01/bodybuilder-sevayat-viral-photo-jagannath-temple-corridor-project-puri-odisha-government-naveen-pattnaik/>
16. Krishnan, R. (2021, 9 december). *New corridor, more breathing space – how Puri Jagannath temple is revamping for the times*. ThePrint. Retrieved on 8 february 2022, from <https://theprint.in/india/new-corridor-more-breathing-space-how-puri-jagannath-temple-is-revamping-for-the>

times/777001/

17. Krishnan, R. (2021, 9 december). *New corridor, more breathing space – how Puri Jagannath temple is revamping for the times*. ThePrint. Retrieved on 8 february 2022, from <https://theprint.in/india/new-corridor-more-breathing-space-how-puri-jagannath-temple-is-revamping-for-the-times/777001/>
18. Cullen, G.(1961). *The concise townscape*. New York: Van Nostrand Reinhold Company. 118
19. Nayak, S. (2019). *The Demolition Drive at Puri : Perspectives of all stakeholders*. OP India. Retrieved on 8 february 2022, <https://www.opindia.com/2019/09/all-you-need-to-know-about-puri-odisha-demolition-drive-naveen-patnaik-matthadeesh-seers-perspective-of-all-stakeholders/>
20. Hagn, A. (2016). *Of slums and politics in Puri, Odisha: The localisation of the slum-free cities mission in the temple city*. South Asia Multidisciplinary Academic Journal. Retrieved on 8 february 2022 from <http://journals.openedition.org/samaj/4226>; <https://doi.org/10.4000/samaj.4226>
21. Mohapatra, D. (2019, 24 august). *The Demolition Drive at Puri*. Time of India. Retrieved on 8 February 2022, from <https://timesofindia.indiatimes.com/city/bhubaneswar/sacrifice-for-sake-of-jagannath-temple-security-naveen-patnaik-to-puri-locals/article-show/70814589.cms>
22. *Procession at the Great Temple of Jagannath, Puri (Orissa)*. July 1818. (z.d.). [Photo]. British Library. <https://www.bl.uk/onlinegallery/onlineex/apac/other/019wdz000000680u00000000.html>
23. A. (2020, 22 may). In *Pics: Construction of chariots for Rath Yatra 2020 underway in Puri*. Odisha News In English. Retrieved on 17 March 2022, from <https://www.prameyanews.com/in-pics-construction-of-chariots-for-rath-yatra-2020-underway-in-puri-5/>
24. *Masterplan - Heritage Corridor Plan / SreeMandira Parikrama Project*. (z.d.). [Photo]. Odisha bytes. <https://odishabytes.com/heritage-corridor-plan-in-odishas-puri-gets-sjta-approval/>