

GEOGRAPHY BULLETIN



The
Geography Teachers Association
of NSW & ACT Inc.

Volume 51 No 2 2019

IN THIS ISSUE:

STAGE 6: URBAN PLACES	
– URBAN DYNAMICS	8
– SUSTAINABILITY	20
STAGE 5: CHANGING PLACES	23
STAGE 4–5: URBAN PLACES AND LIVEABILITY	71
STAGE 4–6: POPULATION AND URBANISATION	78

**POPULATION, URBAN PLACES
AND SUSTAINABILITY**

PROJECTS • REPORTS • RESOURCES • ARTICLES • REVIEWS

EXECUTIVE 2019

President

Lorraine Chaffer

Vice Presidents

Susan Caldis

Grant Kleeman

Sharon McLean

Louise Swanson

Minutes Secretary

Susan Caldis

Honorary Treasurer

Grant Kleeman

Councillors

Paul Alger

Paul Batten

Karen Bowden

Drew Collins

Michael da Roza (ACT)

Catherine Donnelly

Adrian Harrison

Keith Hopkins

Grace Larobina

David Latimer

John Lewis

Alexandria Lucas

Alex Pentz

John Petts

Martin Pluss

Public Officer

Louise Swanson



**The
Geography Teachers Association**
of NSW & ACT Inc.

OFFICE OF THE GEOGRAPHY TEACHERS' ASSOCIATION OF NEW SOUTH WALES

ABN 59246850128

Address: 67–71 St Hilliers Rd, Auburn NSW 2141

Postal Address: PO Box 699 Lidcombe NSW 1825, Australia

Telephone: (02) 9716 0378, Fax: (02) 9564 2342

Website: www.gtansw.org.au

Email: gta.admin@ptc.nsw.edu.au

ANNUAL MEMBERSHIP (Subscriptions include GST)

Personal membership \$90.00

Corporate membership (school, department or business) \$200.00

Concessional membership (retiree, part-time teacher or student) \$40.00

Primary corporate membership \$40.00

Pre-service teachers – free membership



Covers: Rural India
Image source: L Chaffer

GEOGRAPHY BULLETIN

Editor

Lorraine Chaffer

Articles and letters should be sent to the Editor:

Lorraine Chaffer

Email: lchaffer@tpg.com.au

Design and layout:

Jill Sillar, Professional Teachers' Council NSW

jill.sillar@ptc.nsw.edu.au

ISSN 0156-9236

The Geography Bulletin is a quarterly journal of The Geography Teachers' Association of NSW & ACT. The 'Bulletin' embraces those natural and human phenomena which fashion the character of the Earth's surface. In addition to this it sees Geography as incorporating 'issues' which confront the discipline and its students. The Geography Bulletin is designed to serve teachers and students of Geography. The journal has a specific role in providing material to help meet the requirements of the Geography syllabuses. As an evolving journal the Geography Bulletin attempts to satisfy the requirements of a broad readership and in so doing improve its service to teachers. Those individuals wishing to contribute to the publication are directed to the 'Advice to contributors' inside the back cover. Articles are submitted to two referees. Any decisions as to the applicability to secondary and/or tertiary education are made by the referees. Authors, it is suggested, should direct articles according to editorial policy.

© Copyright 2019 Geography Teachers' Association of NSW & ACT Inc.

Unless otherwise indicated in an article, non-profit organisations such as schools and universities may make up to 30 photocopies of any article in this journal without obtaining further permission.

GEOGRAPHY BULLETIN



The
Geography Teachers Association
of NSW & ACT Inc.

Volume 51, No2 2019

EDITOR: Lorraine Chaffer

EDITORIAL.....	2
STAGE 6: URBAN PLACES – URBAN DYNAMICS	
– Sydney’s Darling Harbour: A case study in the dynamics driving change in a large city in the developed world. Dr Grant Kleeman	8
– Case Study: Urban dynamics in Central Maitland. Justin Mahoney	13
STAGE 6: URBAN PLACES – SUSTAINABILITY	
– Sydney’s Green Square: How to Develop a Sustainable Community in Australia’s Fastest Growing City. The Urban Developer	20
STAGE 5: CHANGING PLACES	
– Inquiry based fieldwork: Is Sydney’s ‘Central District City’ a liveable and sustainable city? Sharon Mclean	23
– Part A: Planning inquiry-based fieldwork	23
– Part B: Assessment Task	28
– Part C: Fieldwork Booklet	30
– Part D: Background information for teachers	51
– Virtual Reality Tour. Kenan Koparan	55
STAGE 4–5: URBAN PLACES AND LIVEABILITY	
– Design an apartment block Jessica Skinner Crowe	71
STAGE 4–6: POPULATION AND URBANISATION	
– India: Population and urbanisation. Dr Susan Bliss	78
IN THE CLASSROOM	
– Unleashing your inner geographer: Sharing your stories and building a geographical narrative. Martin Pluss	99
ADVICE TO CONTRIBUTORS	106
APPENDICES	
– Appendix 1: Student Activities Urban Places Doc. Lorraine Chaffer	
– Appendix 2: Student Activities Urban Places PDF. Lorraine Chaffer	

S
T
A
T
E
S
T
E
R
N
T
C
O
N
T
E
N
T
S

EDITORIAL

Welcome to Edition 2 of the Geography Bulletin 2019.

Thank you to the following contributors for providing articles, activities and assessment tasks on the theme *Population, urbanisation and sustainability*.

For Stage 6 Urban Places

- Dr Grant Kleeman for *Sydney's Darling Harbour: A case study in the dynamics driving change in a large city in the developed world*.
- Justin Mahoney for *Central Maitland: A case study in the urban dynamics driving change in a country town*.
- The Urban Developer for *How to Develop a Sustainable Community in Australia's Fastest Growing City* about the Green Square development

For Stage 5 Changing Places

- Sharon McLean for *Inquiry based fieldwork* for Stage 5 Urban Places. Sharon has provided pre- fieldwork activities, a fieldwork workbook and background information for teachers based on an Assessment Task on the inquiry question 'Is Sydney's 'Central District City' a liveable and sustainable city?'
- Kenan Koparan for his *Virtual Reality Task Workbook* (Stage 5 Urban Places). Kenan's workbook provides a scaffolded approach for student inquiry and skill development with the end product featuring a Virtual Tour and report.

For topics across Stages 4–6

- Dr Susan Bliss for *India: Population and Urbanisation* an investigation of population growth, structure and change, with links to urbanisation.
- Jessica Skinner Crowe for *Design an apartment block*
- Martin Pluss for *Unleashing your inner geographer: Sharing your stories and building a geographical narrative*. Martin encourages teachers to share stories about their own geographical encounters.

NOTE: GTA NSW & ACT members will receive Student Activities as PDF and editable Word documents for some articles in this Edition.

TERM 2 REGIONAL CONFERENCE



Many thanks to GTA Councillor Sharon McLean for organising the Regional Conference at Kiama with sponsorship from DestinationNSW. The three-day event attracted over 30 teachers, from across NSW and ACT, who participated in fieldwork and fieldwork planning activities. GTA councillors Michael Da Rosa, Lorraine Chaffer and Susan Caldis helped to facilitate the event.



Lorraine Chaffer, Editor

TERM 2 HSC EXAM PREPARATION DAYS

Successful HSC Examination preparation days for students and teachers were held in Sydney and Newcastle. Unfortunately, the planned Coffs Harbour event was cancelled due to lack of registrations. Many thanks to GTA Councillor Catherine Donnelly for organising this lecture series and to the presenters at both venues – Alexandria Lucas, Dr Grant Kleeman, Drew Collins, David Latimer and Lorraine Chaffer.



GTA NSW & ACT SEMESTER 2 ACTIVITIES

Term 3 Webinars

- *Outcomes Assessment* with Susan Caldis, GTA Councillor Wednesday 7 August. Register by Friday 2 August
- *Promoting Geography & Using Virtual Reality* with Kurt Woods and Kenan Koparan. Monday 2 September. Register by Friday, 30 August

To register visit the GTA website at <https://www.gtansw.org.au>

Time: Each Webinar runs for an hour, commencing at 4:00pm

Cost: \$20 per seminar, \$100 for all six seminars

Term 3 Skills Workshop

This event will suit inexperienced teachers and those new to teaching Geography or teaching out of field.

- Tuesday 17 September – Potts Point
- Wednesday 18 September – Warrick Farm

Presented by Dr Grant Kleeman and Sharon McLean. Flyer and online registration will be available soon.

Arthur Phillip Geography Fieldwork Competition

Entries due at the GTA office by 20 November. 2019. To see flyer details and register entries visit the GTA website – www.gtansw.org.au

Australian Geography Teachers Association

AGTA 19: The Innovative Geographer Conference will be held on Queensland's Gold Coast from Tuesday 1 to Friday 4. October. For further details and online registration visit the conference website at www.agta2019.com.au

BREAKING NEWS

2020 GTANSW & ACT GEOGRAPHY TEACHERS TOUR OF CHINA



AGTA • 19
THE INNOVATIVE GEOGRAPHER

Registrations are now open!

Join us for four days of innovation, collaboration and networking!

Go to www.agta2019.com.au to register



AGTA 2019: The Innovative Geographer @agta2019 geoteachers2019

A SELECTION of the FIELDWORK OPTIONS at **AGTA • 19**

AGTA • 19
THE INNOVATIVE GEOGRAPHER

THE IMPACTS OF TOURISM ON PEOPLE AND PLACE

Formosa is a tourist destination. Byron Bay attracts more than two million visitors a year. The permanent population is just 10,000, and therefore balancing the positive impacts of tourism, with the negative impacts on people and environment is a challenge for this place. This fieldtrip will focus on the impact of tourism on Byron Bay and the northern NSW region, whilst allowing the participants to enjoy the beautiful scenery and tourist attractions that make this town so popular.

HIGHLIGHTS INCLUDE:

- Information provided by experts on the impact of tourism on Byron Bay, as well as planning for sustainable growth in the city.
- A visit to Cape Byron Lighthouse, with 360 degree views of the Pacific Ocean from the main assembly area on the Amentis mountain.
- Possibility of whale watching during whale migration season.
- Tour of 'The Farm', a failed the science look at a sustainable agricultural ecosystem.
- Tour and visit to a local Gin Distillery.

CURRICULUM LINKS

- Australian Geography Curriculum Unit 2 - Place and Locality
- Australian Geography Curriculum Unit 2 - Geographical Inquiry
- Geography 11/12 Geography Unit 2, 3
- Responding to challenges facing
- VCAA Unit 2 - Tourism, development
- Impact of tourism
- NSW 10C Geography - People
- MA2C Geography Stage 1 - The
- MA2C Geography Stage 1 - The
- Unit 2 Global Networks and
- ISSS ACT Geography Unit 2 - 3

FIELDTRIP LEADER
New Holland, Brown State High School

0400121311 | admin@agta2019.com.au | www.agta2019.com.au
AGTA 2019: The Innovative Geographer | @agta2019 | geoteachers2019

AGTA • 19
THE INNOVATIVE GEOGRAPHER

LANDFORMS AND LANDSCAPES OF THE GOLD COAST HINTERLAND

Many of us associate the Gold Coast with beautiful beaches, the surf and sand. However, just beyond the bright lights of Surfer's Paradise is a scenic hinterland that is a Geographer's paradise. The region includes Tamborine Mountain, a remnant of the Tazewell Volcano, and a breath-taking landscape characterized by jutting peaks and dipping valleys. The hinterland is also home to significant natural heritage that is preserved in national parks, many that are UNESCO World Heritage listed as well as part of the Gondwana Rainforests of Australia.

This fieldtrip will visit a variety of the natural attractions in the Gold Coast hinterland, with expert content knowledge provided at these locations. Delegates will also travel through some of the smaller settlements in the hinterland, and visit the Hince Dam Water Centre. Throughout the fieldtrip Shane and Bruce will introduce some of the field data collection tools they have been using with their Geography students, including iGeotools.

HIGHLIGHTS INCLUDE:

- Explore a World Heritage listed warm sub-tropical rainforest via a canopy walk.
- Visit some small towns in the hinterland and stop at the Collier Creek Winery for lunch.
- Visit Hince Dam, and learn from an expert about the importance of this dam to the Gold Coast and surrounding settlements.
- Visit Natural Bridge in Springbrook National Park, a picturesque rock formation formed by the force of a waterfall over a basalt cave. Glow worms live in the cave!
- Learn about the geology and physical geography of the Gold Coast hinterland from experts.
- Gather expert data from local Geography teachers on the use of mobile apps to collect data in the field.

CURRICULUM LINKS

- Australian Geography - Water in the World
- Australian Geography - Landforms and Land
- Australian Geography - Biomes and Food

FIELDTRIP LEADER
Shane Thickway and Bruce Stevens, Varsity College, Gold Coast

0400121311 | admin@agta2019.com.au | www.agta2019.com.au
AGTA 2019: The Innovative Geographer | @agta2019 | geoteachers2019

AGTA • 19
THE INNOVATIVE GEOGRAPHER

COASTAL LANDFORMS AND MANAGEMENT

Proudly Sponsored by the Griffith Centre for Coastal Management

The Griffith Centre for Coastal Management will offer a guided tour of the significant coastal locations and provide in-depth information about their past, present and future management and planning.

Locations will include but not limited to the Sand bypassing system on the Spit, with an explanation on the recently established CORMS coastal engineering research field station. Palm Beach and Narrabeen beach information on the artificial reef and Burleigh Heads on dunes and beach maintenance. Speakers will include researchers from the Centre as well as the Gold Coast waterways authority. An air conditioned bus, morning tea and lunch at Griffith University will be provided.

HIGHLIGHTS INCLUDE:

- Visit the jetty at the Spit and learn about everything sand bypassing through Gold Coast Waterways authority and what is involved in running a world's first coastal management engineering structure.
- Learn about artificial reefs, their construction and how the Gold Coast is on the forefront of this technology.
- Learn about engineering and dune plants including how local communities get involved.
- Visit a significant mangrove landscape and learn about the fragile mangrove environment and climate change.

ITINERARY

08:30 - Departure from Griffith University
09:00 - 09:30 - Travel
09:30 - 10:30 - Visit Sand bypassing jetty
10:30 - 11:00 - Coffee and Lunch
11:00 - 11:30 - Visit Palm Beach
11:30 - 12:30 - Visit Narrabeen
12:30 - 1:30 - Visit Burleigh Heads
1:30 - 2:30 - Visit Griffith University
2:30 - 3:30 - Visit Griffith University
3:30 - 4:30 - Visit Griffith University
4:30 - 5:30 - Visit Griffith University
5:30 - 6:30 - Visit Griffith University
6:30 - 7:30 - Visit Griffith University
7:30 - 8:30 - Visit Griffith University

ITINERARY

08:30 - Departure from Griffith University
09:00 - 09:30 - Travel
09:30 - 10:30 - Visit Sand bypassing jetty
10:30 - 11:00 - Coffee and Lunch
11:00 - 11:30 - Visit Palm Beach
11:30 - 12:30 - Visit Narrabeen
12:30 - 1:30 - Visit Burleigh Heads
1:30 - 2:30 - Visit Griffith University
2:30 - 3:30 - Visit Griffith University
3:30 - 4:30 - Visit Griffith University
4:30 - 5:30 - Visit Griffith University
5:30 - 6:30 - Visit Griffith University
6:30 - 7:30 - Visit Griffith University
7:30 - 8:30 - Visit Griffith University

0400121311 | admin@agta2019.com.au | www.agta2019.com.au
AGTA 2019: The Innovative Geographer

AGTA • 19
THE INNOVATIVE GEOGRAPHER

SPATIAL TECHNOLOGIES IN THE FIELD

This fieldtrip will provide teachers with the opportunity to collect data in the field using spatial technologies. The data collected will focus on the health of a waterway on the Gold Coast, and how human activities have impacted on the waterway. Delegates will travel to a number of stops through the Currumbin Valley, from source to mouth of Currumbin Creek. Other quality data will be collected at various stops. However, it won't be all hard work with an opportunity for a swim at the Terranova Reserve at the mouth of Currumbin Creek over lunch.

After lunch, the fieldtrip participants will return to the classroom to take the data collected in the field and interpret this using spatial technologies. Resources will be provided for teachers.

HIGHLIGHTS INCLUDE:

- Explore a World Heritage listed warm sub-tropical rainforest.
- Travel along Currumbin Creek, from waterfall and rock pools, through the human modified Currumbin Waters to the mouth of the creek.
- Visit the Currumbin Ecovillage, a fully functioning ecovillage.

ITINERARY

08:30 - Depart Gold Coast Convention and Exhibition Centre
09:00 - Arrive Site 1 - Currumbin Creek
09:45am - Depart Currumbin Creek
10:00am - Arrive Site 2 - Glass Reserve, Currumbin Valley
10:30am - Morning tea at Picture and Co. Café, Currumbin Ecovillage
11:15am - Depart Currumbin Ecovillage
11:30am - Arrive Site 3 - Currumbin Waters
12:30 - Depart Currumbin Waters
12:30pm - Lunch at Terranova Reserve at the mouth of Currumbin Creek
1:00pm - Travel to classroom
1:30 - 3:30pm - Interpreting data collected in the field for use in a field report

CURRICULUM LINKS

- Australian Curriculum Geography Unit 2: Water in the World
- VCAA Geographical Inquiry Unit 2: Responding to Local Land Cover Transformation
- Units in 11/12 Australian Curriculum Geography and Similar Geography involving the collection of data in the field and the manipulation and representation of data using spatial technologies.

FIELDTRIP LEADER
Mike Lane, Science Education Advisor, Department of Natural Resources, Mines and Energy

0400121311 | admin@agta2019.com.au | www.agta2019.com.au
AGTA 2019: The Innovative Geographer | @agta2019 | geoteachers2019



Geography Teacher China Study Tour

10th April to 25th April 2020

Sydney / Kunming / Lijiang / Chengdu / Xian / Beijing / Shanghai / Sydney

The China Study Tour provides an opportunity to develop the skills of intercultural understanding whilst investigating geographical knowledge and understanding through an Asia-focused lens. Each day is aligned to specific sections of the NSW K–10 Geography syllabus and Australian Curriculum: Geography. Emphasis is placed on Stages 4 and 5. The Geography Teachers Association of NSW & ACT (GTANSW&ACT) look forward to welcoming you to the inaugural and accredited study tour to China during April 2020. Local guides will join the tour in each province to provide specialised information. The GTANSW&ACT study-tour leader will facilitate workshops at key points throughout the tour about possible ways to incorporate learning gained from the study tour in to classroom practice. Please note the workshops are flexible in their timing and duration. Participants are encouraged to download Padlet so they can contribute to a collaborative reflection journal throughout the study-tour.



Organiser:



Travel Partner:

Selective Tours
Tailor-made Journeys

Day 1 Sydney Kunming April 10

Fly to Kunming, spend a night on the plane.

Day 2 Kunming April 11

Arrive Kunming, transfer to the hotel for a breakfast. Visit Green Lake (Cui Hu) Park, in the midst of the city, is known for its scenery, biodiversity, and for being a planned green-space for the local community. The park is ringed with teahouses and criss-crossed by traditional bridges. Observe locals leisure activities. This afternoon travel to Western Hills (Xishan), on the city outskirts, is a mountainous forest park reaching an altitude of up to 2500m and includes features of cultural significance to Taoist and Buddhist communities. Dian Lake, the largest freshwater lake in the Yunnan province is also contained within the Western Hills. Such places provide a connection between Place and Liveability, Water in the World, and Landscapes and Landforms. Learning can also be directed towards the underpinning concepts of place, environment, and interconnection. (B/L/D)

Day 3 Yuanyang April 12

Today coach to the Stone Forest, a steep karst landscape of limestone origins, which is known for its landforms and topography as well as its connection to cultural legends of the Yi and Hani communities. Continue the road to Yuanyang known for its' rice terraces and communities of ethnic minority cultures. (B/L/D)

Two days in this region provide an opportunity to more deeply understand the connection between people, place and environment. Duoyishu village is in the midst of the mountainside World Heritage listed rice terraces. The terraces descend to the Hong River and demonstrate the ecologically sustainable practices of the Hani communities. Such places provide a connection between Landscape and Landforms, Biomes and Food Security/Sustainable Biomes, Water in the World and Interconnections/Geographies of Interconnections. Learning can also be directed towards the underpinning concepts of place, environment, interconnection and sustainability. At the end of Day 4, a 60 minute workshop will be available to consolidate, connect and apply learning gained from the study tour to develop resources for teaching, learning and assessment programs suitable for Stage 4 or 5 cohorts and/or publication in the Geography Bulletin

Day 4 Yuanyang April 13

Get up early to watch the sunrise, visit to a lively market to see Hani people in their colourful costumes gather to sell their produce or to buy supplies, and then hike through the spectacular rice terraces. Drive to the town of Jianshui, a historic centre in Yunnan province and an important transportation crossroad today. (B /L /D)

Day 5 Jianshui / Lijiang April 14

Visit the Qing Dynasty Family Zhu Gardens, and China's second largest Confucian temple, where you will stroll through beautiful courtyards, pavilions and gardens. Photo stop at the Ming Dynasty Chaoyang Gate. Time exploring Jianshui provides a connection between Interconnections/Geographies of Interconnections and Human Wellbeing/Geographies of Human Wellbeing. Learning can also be directed towards the underpinning concepts of place, interconnection and change. Transfer to Kunming railway station for a bullet train ride to Lijiang. (B/L/D)

Day 6 Lijiang April 15

Lijiang is in the north-west of the Yunnan province, and known for being home to several ethnic minority cultures including the Naxi Peoples. Two days in this town provides an opportunity to extend understanding about connections between people, place and environment in Lijiang, and to also analyse the outcomes of such connections across the Yunnan province. The Black Dragon Pool Park is characterised by its bubbling spring waters and support of rare, diverse marine and terrestrial species. Lion Hill is a massif in the centre of Lijiang Old Town with over 90% land coverage of cypress trees. Tiger Leaping Gorge is a UNESCO protected area and one of the deepest gorges in the world. It is located on a tributary of the Yangtze River, one of the most important river systems in China. Such places provide points of connection between Landscape and Landforms and Water in the World, Interconnections/Geographies of Interconnections, and Human Wellbeing/Geographies of Human Wellbeing. Learning can also be directed towards the underpinning concepts of place, environment, interconnection, sustainability and change. (B/L/D)

Day 7 Lijiang / Chengdu April 16

A day excursion to Tiger Leaping Gorge, the deepest and most beautiful gorge east of the Tibetan Plateau. Transfer to the airport for a flight to Chengdu. (B/L/D)

Chengdu is the capital city of the Sichuan province, in the mid-south-west of China and to the north of the Yunnan province. The Sichuan province is known for fertile land and abundant mineral resources, plateaus, river systems and mountain ranges throughout the region. Two days in this province provides an opportunity to extend understanding about connections between people, place and environment in Sichuan, and to also compare and contrast such connections with those evident in the Yunnan province. The demographic, cultural and economic geographies of Chengdu and surrounds show the vibrancy and complexity of life in a rural province of China. Such places provide points of connection between

Landscape and Landforms and Water in the World, Interconnections/Geographies of Interconnections, and Human Wellbeing/Geographies of Human Wellbeing. Learning can also be directed towards the underpinning concepts of place, environment, interconnection, sustainability and change.

At the end of Day 8, a 60 minute workshop will be available to consolidate, connect and apply learning gained from the study tour to develop resources for teaching, learning and assessment programs suitable for Stage 4 or 5 cohorts and/or publication in the Geography Bulletin

Day 8 Chengdu April 17

Morning closely view Pandas of all ages at the Giant Panda Breeding and Research Base. Afternoon visit UNESCO World Heritage Site - The Dujiangyan Irrigation System which was built over 2,200 years ago and is a still functioning engineering marvel that has kept Sichuan a prosperous agricultural province. (B/L/D)

Day 9 Chengdu / Xian April 18

A bullet train to Xian. Afternoon ride a bike or stroll on the original City Wall, the most complete city wall that has survived through history. Explore the Old Muslim Quarter. This evening is your free time. (B/L/D)

Day 10 Xian April 19

Xian is the capital city of Shaanxi province in central China. The easterly end of the old Silk Road, now known as the Belt and Road, passes through Xian, and is a key contributor to the historical and cultural significance of the city. Such a place provides a point of connection between Changing Places/Changing Nations and Interconnections/Geographies of Interconnections. Learning can also be directed towards the underpinning concepts of place, interconnection, scale and change. Time in a local school with local teachers and students will continue to build the skills of intercultural understanding and communication. It will also help build understanding about the similarities and differences in Geography education between our known and introduced school contexts.

Morning visit The Terracotta Army - UNESCO World Heritage Site. Spend an afternoon in a local school with local teachers and students to build the skills of intercultural understanding and communication. It will also help build understanding about the similarities and differences in education between our known and introduced school contexts. After the dinner, return to the hotel. This evening is your free time (B/L/D)

Day 11 Village / Beijing April 20

Today leave bustling Xian city at behind, drive to the countryside. The rural area beyond Xian enables an exploration of village life and sustainable farming practices. Such a place provides a point of connection between Biomes and Food Security/Sustainable Biomes and Human Wellbeing/Geographies of Human Wellbeing. Learning can also be directed towards the underpinning concepts of place, sustainability, scale and change. Visit an organic vegetable farm and a dairy farm, learn traditional Chinese medicine treatments at a village clinic, enjoy a homemade lunch, visit a village school. Transfer to the railway station for a bullet train ride to Beijing. (B/L/D)

Beijing is the capital city of China, located in the Hebei province in north-eastern China. Time in Beijing and out to the Great Wall provides an opportunity to extend understanding about connections between people, place and change between Beijing, other parts of China, and other global cities outside of China. Such a place provides a point of connection between Human Wellbeing/Geographies of Human Wellbeing and Changing Places/Changing Nations and Interconnections/Geographies of Interconnections. Learning can also be directed towards place, change, interconnection and scale. At the end of Day 13, a 60 minute workshop will be available to consolidate, connect and apply learning gained from the study tour to develop resources for teaching, learning and assessment programs suitable for Stage 4 or 5 cohorts and/or publication in the Geography Bulletin

Day 12 Beijing April 21

Morning enjoy a rickshaw ride through "Hutong" - zig zag alleys in the traditional residential areas. Visit a local family's court yard home. Participants will learn Chinese Calligraphy. Walking tour of winding alleyways hidden between the city's main streets and form the residential neighborhoods that make up old Beijing. After the lunch, stroll Tiananmen Square, the world's largest square, and then walk to China's most glorious imperial palace of Forbidden City, explore over 178 acres of history, with access to detailed ceramics, art, and the opulent architecture (B/L/D)

Day 13 Great Wall April 22

The Great Wall of China ! You will visit less touristy Mutianyu section, take a cable car up to one of the many watchtowers to view the winding wall as it rises and falls over mountains into the distance. Take a chair lift, or toboggan or walk down the Wall. On the way back to Beijing, stop at a Jade factory to learn ancient craftsmanship of Jade carving. Sample Beijing duck dinner. Tonight is free time. (B/L/D)

Day 14 Beijing / Shanghai April 23

Morning flight to Shanghai, upon arrival, enjoy a walking tour of the former French Concession, an upper-class residential district in the city, with grand villas and leafy boulevards. Stroll around Fuxi Park to see a French Garden sitting next to a Chinese Garden in harmony. Wander from boutiques to café in traditional Shanghai style Longtang (laneway) and Shikumen (stone gate) housing at Tian Zi Fang. After the dinner, see the best views of the illuminated city by strolling the Bund, a mile-long

promenade along the Huangpu River, a living museum of European architectural styles, whilst across the river you can find the modern skyline of Shanghai. (B/L/D)

Shanghai is a global financial hub and the most populated city in China. Shanghai is located on the central east coast of China. Time in Shanghai provides an opportunity to extend understanding about connections between people, place and change between Shanghai, Beijing, and other global cities outside of China. Such a place provides a point of connection between Human Wellbeing/Geographies of Human Wellbeing and Changing Places/Changing Nations and Interconnections/Geographies of Interconnections. Learning can also be directed towards place, change, interconnection and scale.

Day 15 Depart Shanghai April 24

Visit Yu Garden, built in the Ming Dynasty more than 400 years ago. There is absolute harmony between its elaborate pavilions, decorative halls, glittering pools, weaving bridges and stunning pagodas. Outside the gardens, the bustling Yu Bazaar is packed with restaurants, tea houses and shops in traditional-style building. Enjoy a tea ceremony at a tea house, and then sample famous street food and bargain shopping. Transfer to the airport for a flight back Sydney. (B/L)

Day 16 Arrive Sydney April 25

Morning arrival into Sydney Airport

Cost: A\$5158/p.p. Min. 10 teachers
Cost: A\$4998/p.p. Min. 15 teachers
Single Room Supplement: A\$790/per person

Inclusions:

- ✓ China Eastern Airline return economy airfares and taxes
- ✓ One GTANSW&ACT group leader
- ✓ One local English speaking guide in each city.
- ✓ 13 nights hotel accommodation
- ✓ Private coach throughout in each city
- ✓ 2 high speed train , 2nd Class seat

- ✓ Domestic flight Lijiang / Chengdu
- ✓ All meals as listed (B-Breakfast, L-Lunch, D-Dinner)
- ✓ Site visits and entrance fee
- ✓ Chinese visa
- ✓ Tips for drivers and guides

Exclusions:

- ✗ Travel Insurance
- ✗ Meals not listed and personal expenses
- ✗ Personal expenses and portages at hotel, railway station

Important Dates:

Expression of interest by 15th August 2019
\$600 non-refundable deposit and copy of passport are due on 25th August 2019
Balance Payment is due on 31st January 2020.

Accreditation is pending.

You may be able to claim tax on this study tour. Please consult with your accountant.

Enquiries:

Susan Caldis

Email: gta.admin@ptc.nsw.edu.au

Christine Seitan

Email: christine@selectivetours.com

1300 760 208

Sydney's Darling Harbour: A case study in the dynamics driving change in a large city of the developed world



Dr Grant Kleeman

Harbourside Shopping Centre, Darling Harbour. Source: PTCNSW

The processes transforming our large cities are complex and are often difficult to assign a definitive label to. At a macro scale, the processes of economic, technological and social and demographic change are the key drivers of change. At a micro scale, the dynamic of urban decay and renewal, and in the case of Sydney urban consolidation, are key processes. But our established assumptions about the nature of urban decay and renewal no longer seem to apply. There is clearly a need to develop a more nuanced understanding of such processes. We need to acknowledge, for example, that factors such as the need to maximise economic returns, and the need for world cities such as Sydney to remain internationally competitive, also play an important role in the transformations taking place in large cities. In this article we look at the wave of urban renewal in Sydney's Darling Harbour precinct as a vehicle for developing a deeper understanding of the process of urban renewal.

Cities are dynamic places. Their morphology (their functional form and character) is always changing. Two of the key drivers of these changes are the related processes of urban decay and renewal. But how do we define these processes in the contemporary urban context? Clearly, traditional notions of urban decay no longer adequately account for the recent surge in demolition and redevelopment (urban renewal) in Sydney's Darling Harbour precinct. Much more complex processes are at play. Why is it, for example, that relatively new and still functional infrastructure has been demolished and replaced? By the mid-2020s, nearly all the buildings surrounding Darling Harbour will have been replaced. Clearly there is a need for world cities to remain competitive. This might explain the redevelopment of the city's convention and exhibition buildings but it does not explain the planned

redevelopment of the Cockle Bay Wharf complex or the Harbourside shopping centre. Here it is the need to maximise the economic return generated from sites on the edge of the city's CBD that is driving demolition and rebuilding.

Darling Harbour's latest transformation

Traditionally, urban renewal (the redevelopment of an urban area) was examined in terms of a response to the process of urban decay – the process by which a previously functioning part of a city falls into disuse and disrepair. The \$6 billion redevelopment of Darling Harbour's Barangaroo (see Figure 1) largely conforms to traditional notions of urban decay and renewal – an obsolete container terminal transformed into a vibrant new multi-use urban precinct featuring open space, commercial office towers, apartment buildings, a hotel

URBAN PLACES – URBAN DYNAMICS

Figure 1 – Computer generated image of Sydney's Barangaroo

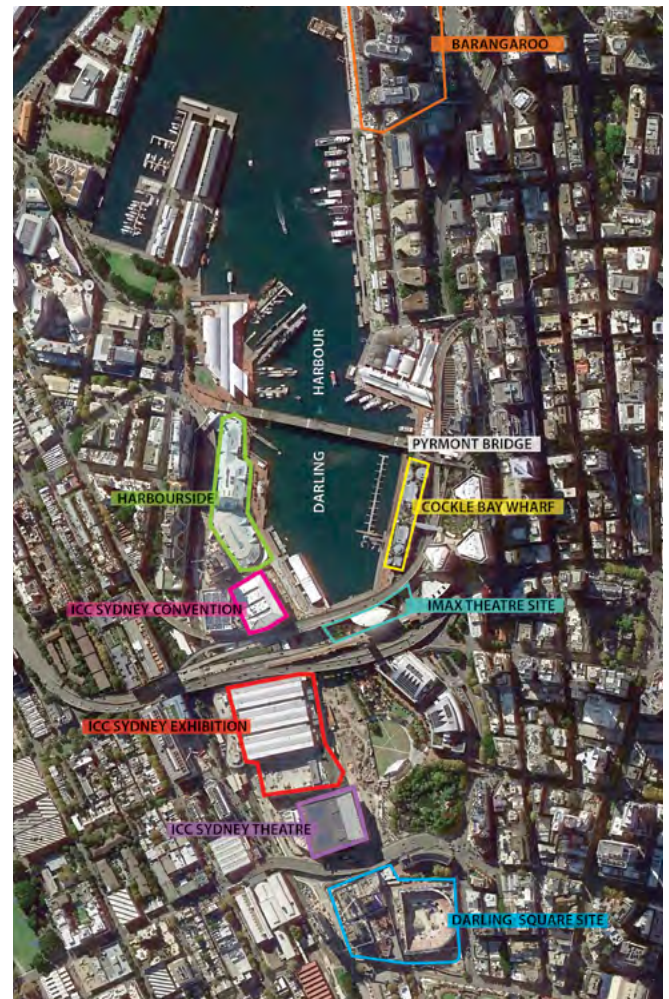


resort and a diverse range of retail outlets including cafes and restaurants. Significantly, however, this type of redevelopment in the area remains the exception. Increasingly, relatively new and still functional buildings are being torn down and the site redeveloped. Nearly the entire Darling Harbour precinct to the south of Pyrmont Bridge, an area initially redeveloped as part of the City's Bicentennial Celebrations in 1988, has been transformed or is about to be (see Figure 2).

Sydney's Entertainment Centre (completed in 1983 and refurbished for the Sydney Olympic Games in 2000) and the Convention and Exhibition Centres (completed in 1988) have been demolished and the sites redeveloped. The Entertainment Centre and its adjacent multi-story car park site in Sydney's Haymarket are being transformed into a mix-use, high-density residential and commercial precinct, named Darling Square. The nearby Sydney Convention and Exhibition Centres have been replaced by the International Convention Centre (ICC Sydney), a new convention, exhibition and events complex (see Figure 3–5). The Imax Theatre has been demolished and is being replaced by a new hotel, apartments and a replacement theatre. Soon to go are the Harbourside Shopping Centre and the Cockle Bay Wharf complex. These are to be replaced by large commercial and residential towers, retail outlets, restaurants, cafes and bars. Elsewhere in Sydney, the NSW State Government has demolished and plans to rebuild the Allianz Stadium at Moore Park (built in 1988). In the city's west, the Olympic Stadium at Homebush (completed in 1999) was earmarked for demolition and rebuilding until a public outcry forced a partial back down.

The driver of urban renewal in each of these instances is not urban decay as traditionally conceived but the need to maximise the economic (commercial) return for sites adjacent to Sydney's CBD or the need to remain internationally competitive in an increasingly integrated global economy.

Figure 2 – Satellite image of Darling Harbour Precinct



Source: Google Earth image of Darling Harbour, Sydney

Figure 3 – ICC Sydney Theatre



Figure 4 – ICC Sydney Exhibition building



Figure 5 – ICC Sydney Convention building



Darling Square

In the case of Darling Square, the Entertainment Centre infrastructure was still functional and in a good state of repair prior to the decision to demolish the complex and transform the site into a new residential and commercial neighbourhood (see Figure 6). The availability of site was a consequence of the political decision to demolish and rebuild Darling Harbour's entertainment and convention infrastructure. The inclusion of a large-scale entertainment venue in the new ICC complex rendered the existing Sydney Entertainment Centre obsolete. Also, there was a huge profit to be made in redeveloping a site so accessible to Sydney's CBD.

The transformation of the area into a high-density residential precinct is also an example of urban consolidation. Urban consolidation (or densification as it is often referred to in the media) involves increasing population densities in an urban area in order to make more efficient use of existing infrastructure, and to limit the spread of urban land-uses into surrounding rural areas (urban sprawl).

The need for urban consolidation in Sydney is becoming increasingly apparent. The NSW State Government anticipates that the population of the City will increase to 8 million by the middle of this century (up from the current population of five million). The housing target for the Sydney region is an additional 664,000 dwellings. It is not feasible to accommodate this growth on the periphery of the metropolitan region. The cost of providing the necessary infrastructure would be prohibitive. Infilling is the only feasible option. Higher density living, especially in areas close to public transport nodes, is inevitable.

Darling Square provides potential residents with two of the key drivers shaping our large cities – accessibility and connectivity. Increasingly, these are seen as the most important qualities people demand in urban living. People are looking for better connections to all elements of a city – public transport, open spaces, parks, work, entertainment, shops, cafes and restaurants. It's about creating a better quality of life with solid infrastructure, good communal spaces and efficient transport links so people aren't isolated within the city. These factors also account for the surge in development on abandoned industrial and port related sites close to the city centre. It also applies to those areas surrounding the railway stations on Sydney's radiating railway network. The surge in urban renewal in these areas involves the rezoning of land to allow for the construction of medium and high-density housing.

Reinforcing this trend towards higher-density living are a number of social and democratic factors including the later age of marriage (now averaging around 30 years of age), increased life expectancy (now well into the early 80s) and peoples' changing lifestyle aspirations these have increased the demand for well located medium and high-density housing. For those in their twenties, housing close to work places and favoured entertainment precincts is increasingly popular. For those in the pre and post-retirement age group there is a movement away from low-density detached living towards medium and high density housing in those areas perceived to have a high level of liveability.

There are also economic factors at work. Sydney's emergence as a world city with rapidly growing knowledge intensive industries had resulted in the rapid growth of employment in the city's CBD and what is referred to as the 'Global Sydney' corridor. The corridor stretches from Macquarie Park in the city's north, through North Sydney and the CBD to Sydney's International Airport in the south.

Sydney's economy is now dominated by information intensive industries. The finance and insurance sectors command a 16.2% share of Sydney's economic output. This is forecast to increase to 21% within a decade. By 2026, just three information-service industries (finance, professional services and information media and telecommunications) will together account for more than 40 per cent of the city's economy. Manufacturing in Sydney now accounts for only 5.7% of the city's employment.

In the period since 2008 employment growth in the corridor has been three times higher than the rest of Sydney and about 40 per cent above the national

average. An additional 93,000 jobs were added to the corridor between 2008 and 2013, which equates to an average annual growth rate of 2.1 per cent. By comparison, average jobs growth in the rest of Sydney was just 0.7 per cent in that period and national employment grew by 1.3 per cent. Accessibility to the CBD is increasingly important for this workforce, hence the increased demand for housing close to the city centre.

When complete, Darling Square will house 4,200 residents and 2,500 workers. There will 1,500 apartments and accommodation for 1,000 students in buildings up to 40 stories in height. At ground level more than 60 shops, bars and restaurants will line the area's streets and laneways. Commercial office space has also been included. The Commonwealth Bank is the principal occupant of this space. Twenty-five per cent of the area will be landscaped open space.

A new town square will be the heart of the development and its bordering streets and new laneways will connect the precinct to its adjacent neighbourhoods – Chinatown and Ultimo. Running through the centre of Darling Square, and linking it to ICC Sydney and Cockle Bay, will be a new tree-lined pedestrian boulevard. The project is built in stages and is due for completion during 2019.

Figure 6 – Computer generated image of the completed Darling Square development



Source: LendLease

ICC Sydney

The decision to redevelopment Sydney's exhibition and convention infrastructure was driven by the need to remain internationally (and nationally) competitive in a highly competitive convention and exhibition industry. The existing infrastructure, while still functional, could not compete with that available in other Australian capital cities and in the region. The age and design of the complex meant that Sydney was losing market share to places such as Melbourne, Brisbane, Hong Kong and Singapore.

The new ICC facilities, completed in late 2016, are now Australia's largest fully integrated convention, exhibition and entertainment centre. The availability of state-of-the-art convention and exhibition space is now considered a major economic asset. International convention delegates typically spend five or six times the amount of money as leisure tourists. Global and nationally significant events generate business for hotels, restaurants and retail businesses. It is estimated that the new complex generates \$200 million annual economic benefit for the NSW economy.

Harbourside Shopping Centre redevelopment

The Harbourside Shopping Centre, located on the western side of Darling Harbour, was opened in May 1988 by Queen Elizabeth II. After some initial success the complex struggled to attract the number of customers required to make it a commercial success. In an effort to revive the Centre's fortunes the complex underwent a full refurbishment in 2005. Unfortunately, the centre still struggled to attract customers and tenants and it failed to post the financial returns expected for the land on which it stands.

Mirvac, one of Australia's largest commercial property developers and landlords, purchased the complex for \$250 million in 2013. Since acquiring the property Mirvac has sought planning approval to redevelop the site. Their initial proposal for a massive, 44-story office tower, to be built above a new retail podium, has been abandoned in favour of a taller and thinner apartment tower (see Figure 7). The three-level retail podium on which the tower is to be built will mirror the shape of the shoreline. Mirvac's aim, in this instance, is to maximise the economic return on its investment.

Figure 7 – Computer generated image of Mirvac's redevelopment proposal



Cockle Bay Wharf redevelopment

On the eastern side of Darling Harbour, the Cockle Bay Wharf complex (built in 1998) is slated for a \$650 million dollar redevelopment by a consortium that includes GPT Wholesale Office Fund, Brookfield Asset Management and the AMP Capital Wholesale Office Fund.

The proposed development includes a 183 metre commercial office tower, 75,000 square metres of commercial space and up to 15,000 square metres of open space, and (see Figure 8). Again, the redevelopment of the site is aimed at maximising the economic return on a site close to the heart of Sydney's CBD.

Sydney's IMAX Theatre redevelopment

Darling Harbour's IMAX Theatre (opened in 1996) has been torn down and the site redeveloped at a cost of \$700 million dollars. The striking 25-story building, known as 'The Ribbon', will house a 450 room W Hotel, serviced apartments, a new cinema and retail outlets. See Figure 8.

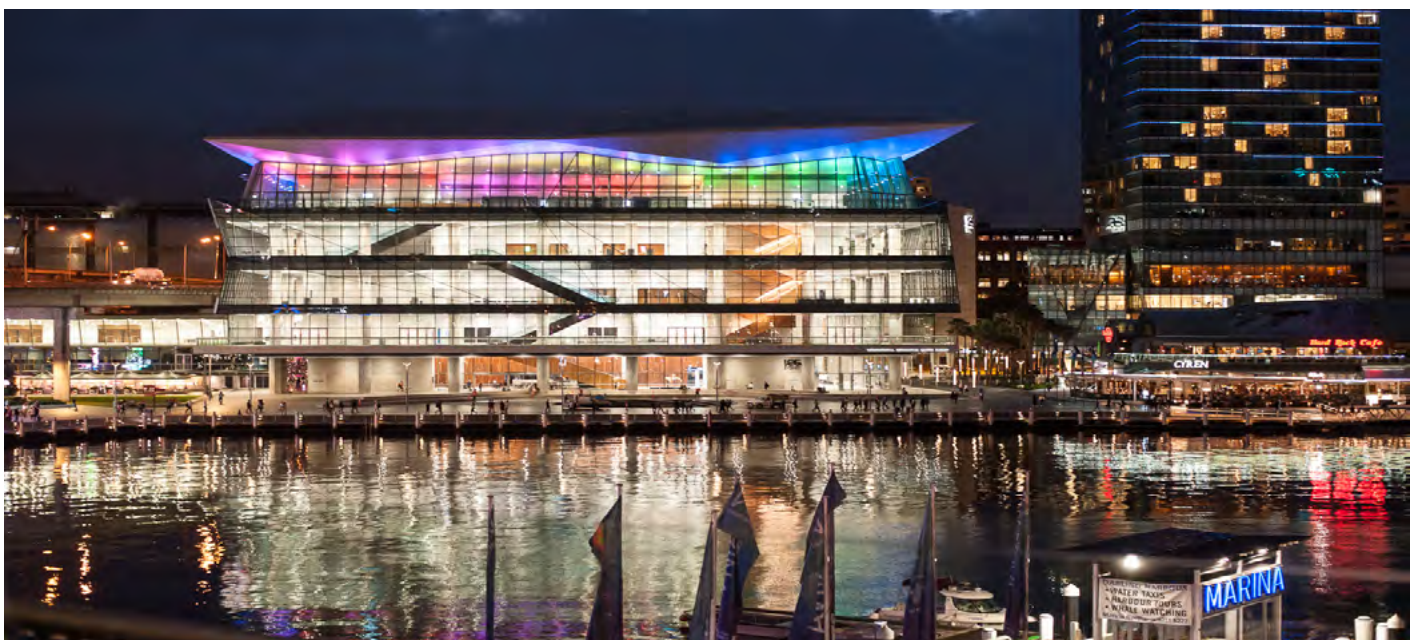
Figure 8 – Computer generated image of the redeveloped Cockle Bay Wharf and the IMAX Theatre



Conclusion

The very nature of the urban renewal taking place in Sydney's Darling Harbour precinct challenges our traditional understanding of the relationship between urban decay and renewal. There is, it is argued, a need to place greater emphasis on economic drivers if we are to adequately explain the increasingly dynamic nature of Sydney's urban morphology. The principal driver of much of the redevelopment taking place in inner Sydney is the need to maximise the economic return from a fixed input (in this instance land) and the need to remain competitive in an increasingly integrated global economy. The outcome of these processes has been the demolition and redevelopment of relatively new public and private infrastructure.

Also relevant in this particular context are the concepts of accessibility and connectivity. These, combined, with the social and demographic changes taking place in Australian society, have increased the demand for high-density, inner-city living. This, in turn, has initiated a surge of urban renewal. While some of this has been accommodated on brownfield sites in Sydney's Central Industrial Area and on sites once housing the City's now abandoned and obsolete port infrastructure (examples consistent with traditional notions of urban decay and renewal), significant development is occurring on sites where it is commercially viable to demolish and rebuild. Examples beyond the confines of the Darling Harbour precinct are many. The demolition and replacement of Goldfield House and the Coca Cola building at Circular Quay are examples of still functional commercial office towers being replaced by apartment towers and a hotel. The redevelopment of the AMP tower and adjacent buildings into a mixed-use development is another example.



STAGE 6: URBAN PLACES

Case study: Urban dynamics in Central Maitland

**Justin Mahoney, Geography Teacher,
All Saints' College Maitland, St Mary's Campus**

The following case study of Central Maitland has been designed for this syllabus dot point in the Urban Places topic of HSC Geography:

- a case study showing one of the urban dynamics listed above, operating in a country town or suburb.

My students spend four to five lessons in class learning about **urban renewal** in the **country township of Central Maitland**, before conducting fieldwork around the town. Their final HSC course assessment task then involves completing a stimulus booklet with observations and photographs and bringing this into class to write an extended response to the question: **"Analyse how ONE urban dynamic of change operates in a country town or suburb"**. We spend a lot of time in class unpacking the implications across the three categories of social, economic and environmental through watching short clips and reading media reports (links are included in each section below). If you would like a copy of the assessment task or other resources on this topic, I am happy to assist on the email address provided in this article.

Overview and spatial dimensions of Central Maitland

The country township of Central Maitland, located in the Hunter Valley region of NSW, is approximately 167km north of Sydney. The Wonnarua people are the traditional land owners of the Maitland area and their lands extend throughout the Hunter Valley. Central Maitland is one of the Hunter's fastest growing towns, with 2400 residents in 2018. The area offers a semi-rural lifestyle with an abundance of small acreage lots and hobby farms flanked by period homes and the Hunter River. Like many country towns, the main street of Central Maitland was in long term urban decay from the 1980's up until 2014 as younger shoppers chose larger retail complexes such as Stockland Greenhills. Urban



Maitland satellite image. Source Google Earth Screen capture

renewal programs in the last five years have seen the area become more popular with younger families.

In Central Maitland, four key urban renewal projects have recently occurred:

1. Opening of The Levee retail area as a shared pedestrian and vehicle zone
2. Construction of the Riverlink building
3. Cultural renewal through new modern dining and festivals
4. Riverside Plaza renewal

Each section starts with a dot point summary of the urban renewal program. Secondly, there are websites students access in class to complete the implications activity.

The Levee Shared Pedestrian Zone



Levee Central Maitland . Source: <https://www.theleveemaitland.com.au/information/the-shared-zone/>

1. Opening of The Levee retail area as a shared pedestrian and vehicle zone

- In October 2015, stage one of the Central Maitland renewal plan was completed when shopping strip “The Levee” in High Street was opened to traffic at a cost of \$9 million, funded by the *NSW Government Restart NSW Resources for Regions* program.
- The Levee has become a shared pedestrian and vehicle zone, with previously decaying pavement removed and new modern pavement and pedestrian and vehicle tracks installed.
- *Comment from Maitland mayor Peter Blackmore:* “The Levee is an important part of the revitalisation of Central Maitland and the return of traffic through the precinct will support new opportunities for retail, entertainment, leisure and the night-time economy.”
- This will be the first time the public will be able to drive vehicles through this section of High Street since it was closed in 1988 for the development of the previous “Heritage Mall”.
- The one-way, westbound road runs between Bourke and Elgin streets and the speed limit is 10km/h.

Class discussion

What are the implications (impacts) of the shared pedestrian zone at The Levee?

1. Economic
2. Social
3. Environmental

<https://www.youtube.com/watch?v=k75ImjKmiC4>

<https://www.maitlandmercury.com.au/story/3425736/the-levee-opens-to-traffic-photos-video/>

<https://www.maitlandmercury.com.au/story/4830379/levee-is-states-no1/>

Mapping

Identify the location of the Levee Retail area on the satellite image

Riverlink building



Source: Maitland Mercury – <https://www.maitlandmercury.com.au/story/5356660/the-riverlink-building-has-officially-opened-at-maitland/>

2. Construction of the Riverlink building

Designed by CHROFI architectural Firm – John Choi, Tai Ropiha and Steven Figuera.

- Stage two of the Central Maitland urban renewal plan was completed in April 2018. It includes the construction of the new Riverlink Building which will connect High Street to the banks of the Hunter River. This replaces three commercial buildings that were in a state of decay.
- Stage two has also involved the creation of a public open space, new amenities, a cafe, and footpath and cycleway upgrades along the Riverside Walk as well as the planting of native trees to provide shade.
- Work on the Riverlink Building, a key part of the \$9.92m second component of The Levee Development, commenced on Monday 24 October 2016. The project costs are being met through grant funding from the *NSW Government Restart NSW Resources for Regions* program.

Class discussion

What are the implications (impacts) of the Riverlink building

1. Economic
2. Social
3. Environmental

www.youtube.com/watch?v=fK2FV47EeaE

<https://www.maitlandmercury.com.au/story/5970568/more-awards-for-maitland-riverlink-building/>

<https://www.maitlandmercury.com.au/story/5565083/local-flavours-in-new-riverlink-restaurant-space/>

Mapping

Identify the location of the Riverlink building on the satellite image

Riverlights Festival



Source: Maitland Mercury – <https://www.maitlandmercury.com.au/story/5697034/riverlights-festival-lands-this-weekend/>

3. Cultural renewal in Central Maitland

Historically, Central Maitland shops and events primarily catered for Caucasian European culture with a focus on being a “Heritage Mall” that celebrated European settlement of the Maitland area. To cater for the changing demographics and lifestyles of contemporary society, Central Maitland has introduced a number of new cultural initiatives that point to a more progressive future including:

- Encouraging more culturally diverse restaurants such as “Beud” that opened in 2017 and brings a new form of distinctive Korean and Japanese cuisine to Central Maitland.
- New modern cafes such as Xtraction Espresso have opened in Central Maitland. This particular café sells vegan food and new forms of coffee to attract younger customers to the retail precinct.
- Holding produce markets twice a month in The Levee that offers fresh seasonal fruit and vegetable produce as well as local meats, eggs, organic bread and honey.
- Introducing new annual festivals, including The Riverlights Multicultural Festival, with 11,000 people attending in 2018 to see local representatives from 20 different countries demonstrate their food and artistic culture such as a dance troupe from South Sudan. Additionally, the “Aroma Coffee & Chocolate Festival” had more than 10,000 people enjoy coffee from local roasters and a range of chocolates, local wine from the Hunter Region and street food. The annual “Taste Festival” is also attracting new customers to Central Maitland. For example, part of the 2017 Taste festival was the “Pumpkin Precinct”, where people could buy fresh locally-grown pumpkins and learn new ways to prepare the produce.
- Another significant cultural change was the gentrification** of the former Empire Hotel to now become the “Pourhouse”, which offers unique craft beers. This has attracted a younger and higher socioeconomic demographic to Central Maitland.

** Gentrification is a process of renovation of deteriorated urban neighbourhoods by means of the influx of more affluent residents.

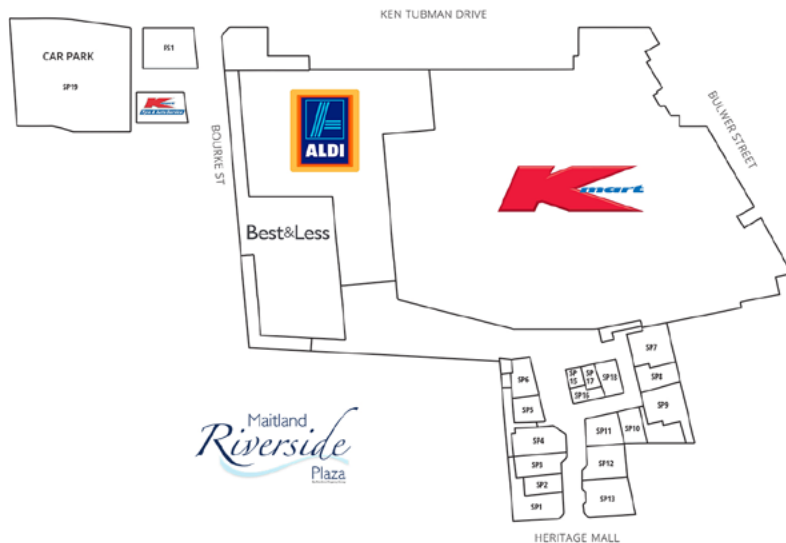
Class discussion

What are the implications (impacts) of Central Maitland’s cultural renewal?

1. Economic
2. Social
3. Environmental

<https://www.youtube.com/watch?v=bXFgysFmtV4>
<https://www.maitlandmercury.com.au/story/5700370/thousands-visit-riverlights-multicultural-festival-photos/>
<https://www.maitlandriverlights.com.au/>
<https://www.maitlandmercury.com.au/story/4392954/now-you-can-add-korea-to-the-levee-food-scene/>

Riverside Plaza layout & Aldi at Riverside Plaza



Source: Panthera Group – <https://static1.squarespace.com/static/5bfb391f0dbda3e7f01954a7/t/5c52ac0070a6ada661478218/1548921860117/MRP+Available+Tenancies+-+290119.pdf> Source: Aldi at Riverside Plaza. Source: Maitland Riverside Plaza. – <https://www.maitlandriversideplaza.com/aldi>

4. Renewal of Riverside Plaza Shopping Centre

- Formerly known as the Hunter Mall, the new Riverside Plaza in Central Maitland is aiming to renew through new modern retailers and design features that attract families to the area.
- The centre has undertaken an \$8 million upgrade to shops and internal finishes designed to encourage shoppers back to Central Maitland.
- The floor space of some shops will be reshaped in key areas to improve the flow of the centre and allow for four new casual mall leasing areas (seen in pink on the diagram below).
- Major retailers who have entered into long term leases at Riverside Plaza include Aldi, Kmart, Best and Less and Super Cheap Auto. 21 smaller speciality retailers are at the centre, including “Toto Sushi”, that also forms part of the cultural renewal of Central Maitland.

Class discussion

What are the implications (impacts) of Riverside Plaza's renewal?

1. Economic
2. Social
3. Environmental

Mapping

Identify the location of the Riverside Plaza on the satellite image

<https://www.maitlandmercury.com.au/story/5673914/foodies-delight-coming-to-the-plaza/>
<https://www.maitlandmercury.com.au/story/4783833/sneak-peek-at-maitlands-new-aldi-photos-video/>
<https://www.hospitalitymagazine.com.au/wok-this-way-set-to-open-in-maitland/>

References

- Allen, R. (2017). *New Korean restaurant Beud opens in Levee*. Available: <https://www.maitlandmercury.com.au/story/4392954/now-you-can-add-korea-to-the-levee-food-scene/>. Last accessed 19/4/2019.
- Brown, J. (2015). *The Levee in Maitland will open on Thursday*. Available: <https://www.maitlandmercury.com.au/story/3416213/the-levee-will-open-on-thursday-video-photos/>. Last accessed 19/4/2019.
- Cheng, L. (2018). *CHROFI's grand arch for Maitland opens*. Available: <https://architectureau.com/articles/chrofis-grand-arch-for-maitland-opens/>. Last accessed 19/4/2019.
- Francis, M. (2018). *Maitland's Riverlights Festival 2018 celebrates cultural diversity at The Levee Central Maitland*. Available: <https://www.maitlandmercury.com.au/story/5700370/thousands-visit-riverlights-multicultural-festival-photos/>. Last accessed 19/4/2019.
- Levee Retail Management team. (2017). *The Riverlink*. Available: <https://www.theleveemaitland.com.au/information/riverlink-building/>. Last accessed 19/4/2019.
- Maitland City Council. (2019). *Maitland's Riverlights*. Available: <https://www.maitlandriverlights.com.au/>. Last accessed 19/4/2019.
- Maitland Riverside Plaza. (2019). *Leasing*. Available: <https://www.maitlandriversideplaza.com>. Last accessed 19/4/2019.
- Rockman, L. (2018). *Wok This Way, Bergy's Buns and Proud Rooster opening in Maitland Riverside Plaza*. Available: <https://www.maitlandmercury.com.au/story/5673914/foodies-delight-coming-to-the-plaza/>. Last accessed 19/4/2019.
- Swinton, S. (2017). *New ALDI supermarket opens in Hunter Mall, Maitland*. Available: <https://www.maitlandmercury.com.au/story/4783833/sneak-peek-at-maitlands-new-aldi-photos-video/>. Last accessed 19/4/2019.



Youth
Eco
Summit

Secondary Event

Class bookings now open

Bring your Stage 4 and Stage 5 students to the 2019 Youth Eco Summit at Sydney Olympic Park! Celebrate the inspirational sustainability projects showcased by secondary students across Sydney. The event will showcase a variety of forward thinking projects focused on STEM, fashion sustainability and the war on waste, the future of transport and cultural sustainability.

The program includes Shark-tank style presentations, interactive cultural activities and knowledge sharing, mini workshops, Q&A sessions and a trashion parade!

The event is bound to leave your students amazed and inspired!



Make sure your class is booked for YES Secondary 2019.

Tuesday 3 September, 2019

9:00am – 2:15pm

Quaycentre, Sydney Olympic Park

Book now
Search YES at
sydneyolympicpark.com.au

SydneyOlympicPark



GIANTS
CARE



TOTAL
ENVIRONMENT
CENTRE



The Geography Teachers' Association of NSW & ACT **GEOGRAPHY SKILLS WORKSHOP**

Venues and dates

Tuesday 17 September – Holiday Inn, 203 Victoria St, Potts Point (Kings Cross)

Wednesday 18 September – Holiday Inn, 355 Hume Hwy, Warwick Farm

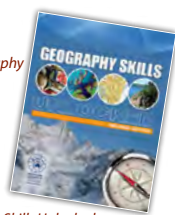
Time: 8.30am registration, 9.00am – 3.30pm

Geography Skills Workshop for teachers new to the teaching of Geography

This professional learning opportunity caters teachers who are new to the teaching of Geography and have little, if any, academic background in the subject. It introduces participants to the Geography skills students are expected to master in Years 7–10. These include the skills associated with the interpretation of topographic maps; specialist maps (for example, choropleth maps, flow-line maps and histograms); climate graphs and weather maps, and the full range of graphic representations used in Geography.

Presenters

- Dr Grant Kleeman, author of the Cambridge *Skills in Geography* series and editor of AGTA's *Geography Skills Unlocked*
- Ms Sharon McLean, Vice President, GTA NSW*
* Sharon is an experienced classroom teacher, with a thorough understanding of the skills students are expected to demonstrate and the pedagogies required to teach them effectively.



Cost

GTA NSW members \$250 & Non-members \$280

Registration cost includes a complimentary copy of *Geography Skills Unlocked*.

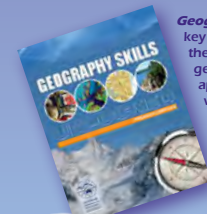
Registration

Online workshop registration opening soon

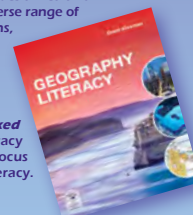
Contact us via email at gta.admin@ptc.nsw.edu.au or phone 02 9716 0378

PRE-SERVICE GEOGRAPHY TEACHER STARTER PACK

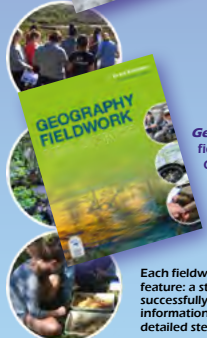
The Australian Geography Teachers Association (AGTA) offers pre-service Geography teachers the opportunity to access three essential teaching resources at a considerable discount on their recommended retail price. All three resources are available for the heavily discounted price \$115.00.



Geography Skills Unlocked a comprehensive coverage of the key geographical skills including those related to the focus on the emerging technologies used to gather, analyse and present geographical data. It provides the user with a student-friendly approach with step-by-step explanations, descriptions and worked examples. The book includes a wealth of stimulus material including a diverse range of maps, graphs, aerial photographs, satellite images, diagrams and photographs.



Geography Literacy Unlocked focuses on developing the literacy skills of students. It includes a focus on written, visual and oral literacy.



Geography Fieldwork Unlocked features 33 inquiry-based fieldwork activities developed by a team of experienced Geography educators. The book introduces the reader to concept of inquiry-based fieldwork. It also provides guidance in developing fieldwork action plans, research methodologies, and data collection tools and approaches. It also provides guidance on the presentation and communication of fieldwork findings.

Each fieldwork activity is framed by one or more inquiry questions. They also feature: a statement of expected learning; a list of the equipment needed to successfully complete each fieldwork activity; a short introduction; background information that contextualises student learning; pre-fieldwork activities; and detailed step-by-step instructions on how to complete each fieldwork task.

TO ORDER – Email: gta.admin@ptc.nsw.edu.au or Phone: 02 9716 0378

Find out about the AGTA Geography Unlocked series – www.agta.asn.au/Products

The Geography Teachers' Association of NSW & ACT **GEOGRAPHY 101: CONCEPTS, PART 1**

A flexible anywhere, any time online learning opportunity through Open Learning

Geographical concepts are a foundation for teaching Geography in NSW. This professional development course, created by Dr. Paul Batten on behalf of the GTA NSW & ACT, examines the seven key concepts from the Australian Curriculum Geography and NESA Geography Syllabus K–10. These concepts are: place, space, environment, interconnection, scale, sustainability and change.

The purpose of the course is to build teachers' understanding of these core concepts. By completing the learning activities participants will demonstrate their capacity to use three of the concepts – place, space and environment – to create engaging Geography lessons.

Skills developed in this course include: applying knowledge of the content and teaching strategies of Geography to develop engaging teaching activities (NESA Standard 2.1.2), providing opportunities for ATSI respect and understanding (NESA Standard 2.4.2) and contributing to collegial discussions to improve professional knowledge and practice (NESA Standard 6.3.2).

The course is designed for flexible delivery, where participants can start, progress and finish at times convenient to them. The collaboration is in a 'pay it forward' style, where participants engage with previous contributions and contribute themselves – learning in the process, but also adding to the galleries of exemplars and case studies for future participants to review.

Cost: \$90 Register at <https://www.openlearning.com/ptc-nsw/courses/geography-101/>
 For further information about this course contact – gta.elearning@gmail.com

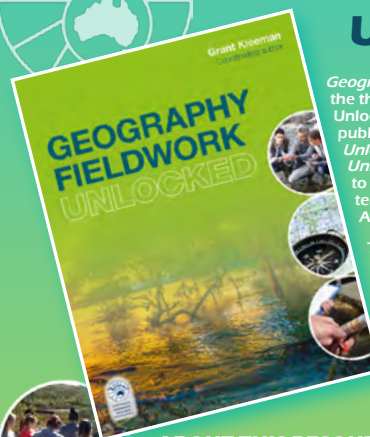


Geography Teachers Association of NSW & ACT, through the Professional Teachers' Council NSW – is endorsed to provide the NSW Education Standards Authority (NESA) Registered Professional Development for teachers accredited at Proficient, Highly Accomplished, and Lead Levels.

Completing the *Geography 101: Concepts, Part 1*, on 29 October 2018 – 29 October 2019 will contribute 3 Hours of NSW Education Standards Authority (NESA) Registered PD addressing 2.1.2; 2.4.2; 6.3.2 from the Australian Professional Standards for Teachers towards maintaining Proficient Teacher Accreditation in NSW.

www.gtansw.org.au • gta.admin@ptc.nsw.edu.au • 02 9716 0378

NEW TO THE AGTA GEOGRAPHY UNLOCKED SERIES **GEOGRAPHY FIELDWORK UNLOCKED**



Geography Fieldwork Unlocked is the third book in the Geography Unlocked series. Like companion publications – *Geography Skills Unlocked* and *Geography Literacy Unlocked* – the resource seeks to support and enhance the teaching of Geography in Australian Schools.

The Australian Geography Teachers Association (AGTA) has published the book with Dr Grant Kleeman, one of Australia's leading Geography educators, acting as coordinating author.

➔ **NOW AVAILABLE**

ABOUT THIS RESOURCE

Geography Fieldwork Unlocked features 34 inquiry-based fieldwork activities developed by a team of experienced Geography educators. Section 1 of the book introduces the reader to inquiry-based fieldwork. It also provides guidance in developing fieldwork action plans, research methodologies, and data collection tools and approaches. It also provides guidance on the presentation and communication of fieldwork findings.

Section 2 features nine fieldwork activities for primary students (Years F/K–6). Each of these activities has been designed to develop students' conceptual understanding and the skills associated with inquiry-based learning.

Section 3 showcases 25 fieldwork activities aligned to the topics studied by students in Years 7–10.

Each fieldwork activity is framed by one or more inquiry questions. They also feature: a statement of expected learning; a list of the equipment needed to successfully complete each fieldwork activity; a short introduction; background information that contextualises student learning; pre-fieldwork activities; and detailed step-by-step instructions on how to complete each fieldwork task.

STAGE 6: URBAN PLACES

SUSTAINABILITY – GREEN SQUARE

How to Develop a Sustainable Community in Australia's Fastest Growing City



The Urban Developer Reprinted with permission from The Urban Developer <https://theurbandeveloper.com>

Link to original article published on Friday June 14th, 2019 <https://theurbandeveloper.com/articles/how-to-develop-a-sustainable-community-in-australias-fastest-growing-city>

The way our cities and towns are planned, designed and built has a vast impact on the economy, the environment and our wellbeing.

Sustainability and liveability have become popular buzzwords over the past decade but developing truly sustainable communities that can thrive in Australia's most populated regions requires far more than a focus on their environmental impact.

The City of Sydney's Green Square development is a modern, commercial and residential precinct that demonstrates sustainable high density living in practice.



Green Square library Source: City of Sydney

Key to the goals set out in the council's Sustainable Sydney 2030 plan, 278 hectares of the city's industrial heartland are being transformed into a vibrant, sustainable and connected neighbourhood that utilises innovative design to create a community for the future.

The council's vision to build a cohesive and self-sustaining community in Green Square has been enabled through best-practice design principles, combined with sustainability innovations – creating the framework for a thriving community in the heart of Australia's busiest city.

City of Sydney chief operating officer Kim Woodbury says Green Square's success has come down to planning and cooperation with the local land owners, government agencies and developers as well as continual engagement with existing and incoming communities.

"The process is that you have to plan well for a future community, and you have to have a vision for what you are trying to achieve," Woodbury said.

"If you look at the scoring system for the Green Star – Communities rating, it talks about governance, it talks about planning; it's not just about environment.

URBAN PLACES – SUSTAINABILITY

“Although there is a big environment component it [also] talks about bringing the community along with you.”

Green Square’s town centre, which is inner-Sydney’s first new town centre in over 100 years, was recently awarded a 6 Star Green Star – Communities rating from the Green Building Council of Australia.

The Green Star – Communities rating tool assesses the planning, design and construction of large-scale development projects using five impact categories across governance, liveability, economic prosperity, environment and innovation. Green Square’s town centre’s rating certifies it as meeting the world’s highest standards for each category.

An example of this is the Green Square community and cultural precinct, which opened in May 2018. This precinct is home to a new green infrastructure system with a water treatment facility that supplies recycled storm water to the town centre for flushing toilets, green space irrigation and cooling towers.



Green Square’s town centre, which is inner-Sydney’s first new town centre in over 100 years, was recently awarded a 6 Star Green Star – Communities rating from the Green Building Council of Australia. Source City of Sydney

Beyond its green infrastructure centre, Green Square’s layout fosters a pedestrian-friendly environment with low speeds and high visibility. The geographical placement of the town centre links residential and commercial areas with the station interchange and prevents existing through traffic from penetrating the core of the town centre.

These thoughtful design additions ensure local business owners and residents are connected to their community and environment – while remaining well-served and accessible through public transport.

As an urban community with over 60,000 future residents (half of whom have already moved in), the concept of social cohesion is also at the core of Green Square’s vision.

Creating a diverse, equitable and connected community is the key to success of any urban renewal project, and City of Sydney have featured this heavily in what they are trying to achieve at Green Square – integrating it at all levels within the development.

For example, Green Square utilises well-designed public spaces, which act like communal living rooms, to encourage locals and visitors to interact and get to know one another. These spaces and initiatives work to aid quality of life in the high density urban area and to ensure the wellbeing of residents.



A significant public art investment will also support the social and cultural growth of Green Square and tell the story of the area’s history through interactive public artworks. Source City of Sydney

Green spaces in particular are intended to help the community instinctively come together and develop bonds with one another. A significant public art investment will also support the social and cultural growth of Green Square and tell the story of the area’s history through interactive public artworks.

Over a 10 year period, the City of Sydney is investing \$540 million to develop landmark facilities to underpin the emerging community – including a new library and plaza, aquatic and recreation facilities, a childcare centre and a community and cultural precinct.

These facilities have all been carefully thought-out to ensure they become places for residents to be with each other as a community and are the product of extensive community engagement that featured heavily in the development phase.

The council also undertakes a survey every two years through the University of NSW to study the social cohesion and community aspects within the Green Square urban renewal area. The survey gauges the community’s views and concerns, their wellbeing, any plans for the future and their sense of attachment to the area – with their feedback guiding future decisions for

URBAN PLACES – SUSTAINABILITY

the area to ensure an ongoing sense of community and cohesion within development.

"We also utilise pop-up events to engage the community, whether it's to do with new infrastructure and new developments coming up or to see what residents would like," Woodbury said.

"From a placemaking viewpoint I think it's important to know that governments and developers can build certain things, but they can't make a community.

"You can provide a framework and encouragement for the community, but it has to build itself up naturally."

When fully developed, Green Square will accommodate close to 61,000 people living in 30,500 new homes and provide around 21,000 permanent jobs.

The Urban Developer

To find out more about Green Square's 6 star Green Star – Communities rating follow the City of Sydney's latest news updates.

The Urban Developer is proud to partner with the City of Sydney to deliver this article to you. In doing so, we can continue to publish our free daily news, information, insights and opinion to you, our valued readers.

Project benefits



Green Square Town Centre will benefit the community by providing:

- urban transformation
- housing options
- retail opportunities
- employment opportunities
- transport accessibility
- affordable housing contributions
- sustainable town centre public domain
- community infrastructure.

LEFT: Project benefits: Screen Capture. Source: <https://www.landcom.com.au/places/green-square-town-centre/>

BELOW: Green Square Snapshot –Screen capture. Source: <https://www.cityofsydney.nsw.gov.au/vision/green-square>

Green Square snapshot

3.5km from the city and **4km** from the airport

278 hectare urban renewal area

\$13 billion urban renewal construction

30,500 new residential dwellings

\$540 million contribution from the City over next 10 years

61,000 people are expected to live in Green Square by 2030

RIGHT: Promotional billboard, Green Square station. Source: https://upload.wikimedia.org/wikipedia/commons/4/4a/Green_Square_10_minutes_from_anywhere.JPG

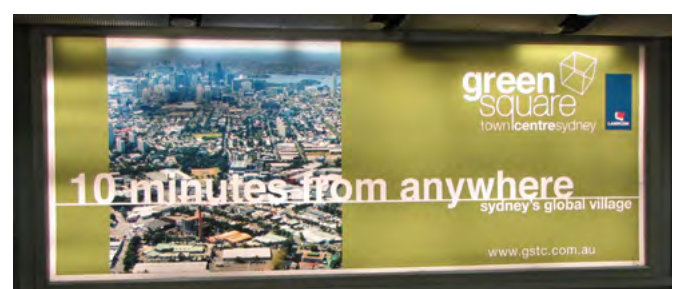
From the Editor: Inquiry, weblinks and facts for further investigation.

Potential Inquiry Questions:

- Does the vision for Green Square match the reality of the development?
- Will Green Square be the most liveable community in Sydney?
- What sustainability strategies for Green Square are transferable to other precincts / suburbs within Sydney and smaller urban places?

Weblinks

- City of Sydney: Green Square <https://www.cityofsydney.nsw.gov.au/vision/green-square>
- Green Square visualisation <https://www.youtube.com/watch?v=wHBZXSO-SFo>
- Six Stars for Green Square Town Centre <https://news.cityofsydney.nsw.gov.au/articles/6-stars-for-green-square-town-centre>
- Green Square Town Centre Project <https://www.landcom.com.au/places/green-square-town-centre/>
- Welcome to the Green Square Town Centre (YouTube) <https://www.youtube.com/watch?v=8E6Hkdgh84>
- Move over Suburbia Green Square offers new norm for urban living (The conversation 2016) <https://theconversation.com/move-over-suburbia-green-square-offers-new-norm-for-urban-living-57633>
- Green Square is Sydney's 'public transport disaster' even before apartments built <https://www.smh.com.au/national/nsw/green-square-is-sydneys-public-transport-disaster-even-before-apartments-built-20170523-gwazy9.html>
- 'Transport mess': Passengers at one Sydney station nearly double in three years (Nov 2018) <https://www.smh.com.au/national/nsw/transport-mess-passengers-at-one-sydney-station-nearly-double-in-three-years-20181119-p50gwf.html>
- Green Square History Booklet https://www.cityofsydney.nsw.gov.au/__data/assets/pdf_file/0009/195642/8928_Green-Square-History-Booklet-A5_FA1.pdf



STAGE 5: CHANGING PLACES

INQUIRY-BASED FIELDWORK



Is Sydney's 'Central District City' a liveable and sustainable city?

Sharon McLean
Vice-President GTA NSW and ACT

PART A: PLANNING INQUIRY-BASED FIELDWORK

Syllabus Links

Topic: Changing Places

Outcomes: A student:

- GE5-2 explains processes and influences that form and transform places and environments
- GE5-3 analyses the effect of interactions and connections between people, places and environments
- GE5-5 assesses management strategies for places and environments for their sustainability
- GE5-7 acquires and processes geographical information by selecting and using appropriate and relevant geographical tools for inquiry
- GE5-8 communicates geographical information to a range of audiences using a variety of strategies

Key inquiry questions

- How does urbanisation change environments and places?
- What strategies are used to manage environmental change in urban places to enhance sustainability?

Geographical Concepts: Place, space, environment, interconnection, scale, sustainability, change

Tools: Maps, statistics and graphs, photos, spatial technologies

Skills: Acquiring geographical information, processing geographical information, communicating geographical information

End product: 1. Google Tour Builder Map of Parramatta or Rouse Hill.

2. Recorded three minute "café conversation." See assessment task information.

CHANGING PLACES – PLANNING FIELDWORK

To engage students in the Changing Places topic the following key driving question was proposed: **Is Sydney's 'Central District City' a liveable and sustainable city?**

The starting point for this investigation was the Greater Sydney Commission's plan for the Greater Sydney Region. The forty-year plan focuses on liveability, sustainability, productivity and sustainability for Greater Sydney to transform the region into a Metropolis of Three Cities:

- The Western Parkland City
- The Central River City and
- The Eastern Harbour City.

Underpinning this plan are five city districts have been created: Western District City, Central District City, Eastern District City, South District and North District.

Map1: Metropolis of Three Cities



Source: <https://www.greater.sydney/metropolis-of-three-cities/vision-of-metropolis-of-three-cities>

Given the proximity of the Central District City to our school it was decided to focus the driving question on this area, in particular Parramatta and Rouse Hill. Prior to commencing the Changing Places unit teachers in the Geography Faculty explored both Parramatta and Rouse Hill to devise a plan for the fieldwork that would enable students to gather information to answer the driving question: **Is Sydney's 'Central District City' a liveable and sustainable city?**

Parramatta Westfield Shopping



Map 2: The Central City District



Source: <https://www.greater.sydney/central-city-district-plan/about-plan>

Parramatta Square



CHANGING PLACES – PLANNING FIELDWORK

Pre-Fieldwork Activities

The following activities to develop understanding of key concepts of liveability and sustainability.

- **How does urbanisation change environments and places?**
 - Use photos of Australian cities from the early 1900's and the present. Student discuss the differences they see in photos. Why have the changes taken place?
 - Explore Australia's population growth and the impact of urban growth by using ABS population data for different cities and states to map Australia's urban areas. <https://www.abs.gov.au/ausstats/abs@.nsf/mf/3218.0>
 - Students make predictions about future growth. How will future growth impact on cities and people who live in them.?
- **What makes a city liveable and sustainable?**
 - Use the following sites to investigate features of a liveable and sustainable city.
 - Ted Talk & Principles for building better cities. https://www.ted.com/talks/peter_calthorpe_7_principles_for_building_better_cities?language=en
 - What is the most sustainable city in the world? <https://www.weforum.org/agenda/2016/09/these-are-the-world-s-most-sustainable-cities/>
 - New York Is the First City to Report to the UN on SDGs - CityLab <https://www.citylab.com/amp/article/564953/#click=https://t.co/ZTwmyMxQsd>
 - Small group work: Students create a mind map of criteria for a liveable and sustainable city. Create a gallery walk of the mind maps for students to review.
 - Students review the criteria used in Greater Sydney Commission for liveability and sustainability at <https://www.greater.sydney/metropolis-of-three-cities> including infrastructure, housing, employment, environment. Students compare the criteria in their mind map to the criteria for the Metropolis of Three Cities.
- **How liveable and sustainable is your suburb or town?**
 - Using the criteria for assessing the liveability and sustainability create an annotated photo study of your suburb or town showing aspects of liveability and sustainability. OR students use the Egan Wheel of Liveability to assess their suburb or town.

The Egan Wheel of Liveability



Source: https://www.ihbc.org.uk/recent_papers/docs/Egan%20Review%20Skills%20for%20sustainable%20Communities.pdf page 19.

Key Inquiry Question: Is the “Central District City” a liveable and sustainable city?

- **Use the following site to compare the expected growth in the three cities of the metropolis of Sydney.** <https://www.greater.sydney/portal/metropolis-three-cities/vision-metropolis-three-cities/why-metropolis-of-three-cities> And use the data hub at <https://www.greater.sydney/data-hub-liveability>
- **What are the aims of the Greater Sydney Commission’s “Metropolis of Three Cities” plan?** <https://www.greater.sydney/metropolis-of-three-cities/vision-of-metropolis-of-three-cities> and interactive <https://www.greater.sydney/structure-plan-metropolis-three-cities>, <https://www.greater.sydney/metropolis-of-three-cities/about-plan> YouTube: Greater Sydney’s Great Cities <https://www.youtube.com/watch?v=fXj1E-F8iDI>
- **Where is the “Central District City”?** Google mapping activity, latitude, longitude. <https://www.greater.sydney/central-city-district-plan/about-plan>
- What is the “Central District City” like? Jigsaw group work – four in each group. Each student is assigned one of the following council areas within the Central District City: The Hills, Parramatta, Blacktown and Cumberland. Use ABS population data and council websites to produce a poster comparing the four council areas. Include indigenous culture, population growth, age groups,

CHANGING PLACES – PLANNING FIELDWORK

urban projects. Each group produces a poster comparing the four council areas.

E.g. <https://profile.id.com.au/parramatta>
<https://profile.id.com.au/the-hills>

- **What is being done to create a liveable and sustainable Central District City?**

Students plans for the city using Central District City Plan <https://www.greater.sydney/central-city-district-plan> and the Parramatta Council Economic Plan <https://www.cityofparramatta.nsw.gov.au/sites/council/files/2017-08/Economic%20Development%20Plan%202017-2021.pdf>

Fieldwork

Is Sydney's Central District City a liveable and sustainable city?

- **Students engage in fieldwork activities to observe and inquire into the Central District City.** Evidence gathered from fieldwork in Parramatta and Rouse Hill will include line drawing of the urban landscape, landuse map of Church Street Parramatta and Rouse Hill Town Centre, liveability and environment surveys and photos. See attached Fieldwork activities handout.

Parramatta Park Gates



Parramatta River Ferry Wharf



Photos by Sharon McLean

Curtis Cheng Police Headquarters



Meriton Apartments Parramatta



Rouse Hill Town Centre



Caddies Lake, Rouse Hill



CHANGING PLACES – PLANNING FIELDWORK

Post-Fieldwork Activities

1. Google Tour Builder

Students use a Google Tour Builder to create a tour of Parramatta or Rouse Hill including photos showing aspects of livability and sustainability or areas where liability and sustainability need improvement.

2. “Café Conversation”(Formal Assessment Task)

Using the fieldwork information prepare a **3-minute** “café conversation” for a radio segment for an upcoming podcast segment on urban places. Working **in pairs** your focus is on answering the key inquiry question:

Is Sydney’s Central District City a liveable and sustainable city?”

In your conversation consider the:

- strengths of the Central District City.
- challenges of the Central District City.
- opportunities of the Central District City.

Thank you to the 2018 Year 10 Geography Staff at Saint Ignatius’ College: Rex Cooke (Head of Faculty), Cassandra Crompton, Christina Keighran, Dominique Marturia, Peter Steffan, Michael Webb.

Parramatta River Cycleway



Rouse Hill Town Centre



Photos by Sharon McLean

Parramatta River Cycleway & Ferry Wharf



Image source: Wikimedia Commons

PART B: ASSESSMENT TASK

Outcomes

- explains processes and influences that form and transform places and environments
- analyses the effect of interactions and connections between people, places and environments
- assesses management strategies for places and environments for their sustainability
- acquires and processes geographical information by selecting and using appropriate and relevant geographical tools for inquiry
- communicates geographical information to a range of audiences using a variety of strategies

Inquiry Task:

Using the fieldwork information prepare a **3-minute** “café conversation” for a podcast segment on urban places. Working **in pairs** your focus is on answering the key inquiry question:

Is Sydney’s Central District City a liveable and sustainable city?

In your conversation consider the:

- strengths of the Central District City
- challenges of the Central District City
- opportunities of the Central District City.



Graphic. Source: <https://www.cjsi.ca/event/drop-in-conversation-cafe-2/>
Parramatta Square design. Source: <https://www.cityofparramatta.nsw.gov.au/council/parramatta-square>

“Parramatta Square is set to become a visionary, world-class landmark and destination in the heart of the Parramatta CBD. Located across a prime three-hectare city block, the \$2.7 billion project will comprise six new buildings and a refurbished Town Hall. The precinct is linked by 6,000sqm of public domain that will serve as an important place to meet, trade, shop, dine, learn, celebrate and connect.”

Marking Criteria

17-20	<ul style="list-style-type: none"> Shows a detailed understanding of aspects of liveability and sustainability of the Central District City Provides a clear and detailed understanding of the strengths, challenges and opportunities of the Central District City Effectively integrates appropriate and accurate evidence and examples from the fieldwork. Effectively uses appropriate geographical terminology. Both students contribute equally to the conversation Script of conversation is provided
13-16	<ul style="list-style-type: none"> Shows an understanding of aspects of liveability and sustainability of the Central District City Provides a detailed understanding of the strengths, challenges and opportunities of the Central District City Integrates appropriate and accurate evidence and examples from the fieldwork. Uses geographical terminology. Both students may or may not contribute equally to the conversation Script of conversation is provided
9-12	<ul style="list-style-type: none"> Shows a limited understanding of aspects of liveability and sustainability of the Central District City Provides an understanding of some the strengths, challenges and opportunities of the Central District City May refer to examples from the fieldwork. Uses some geographical terminology. Both students may or may not contribute equally to the conversation Script of conversation is provided
1-8	<ul style="list-style-type: none"> Provides general information on some aspects of the Central District City or lists some aspects of the Central District City May refer to some the strengths, challenges and opportunities of the Central District City Uses general terms and phrases to communicate geographical information with little or no use of fieldwork examples Both students may or may not contribute equally to the conversation Script of conversation is provided
0	<ul style="list-style-type: none"> Non-submission/non-attempt



Rouse Hill Station, Sydney Metro. Source: https://upload.wikimedia.org/wikipedia/commons/b/b5/Sydney_Metro_Rouse_Hill_Station3.jpg

PART C: FIELDWORK BOOKLET

Key Inquiry Question

Is Sydney's 'Central District City' a liveable and sustainable city?

Parramatta and Rouse Hill are part of the Central District City. Your goal during the fieldwork in Parramatta and Rouse Hill is to collect information that will assist you in answering the key inquiry question above.

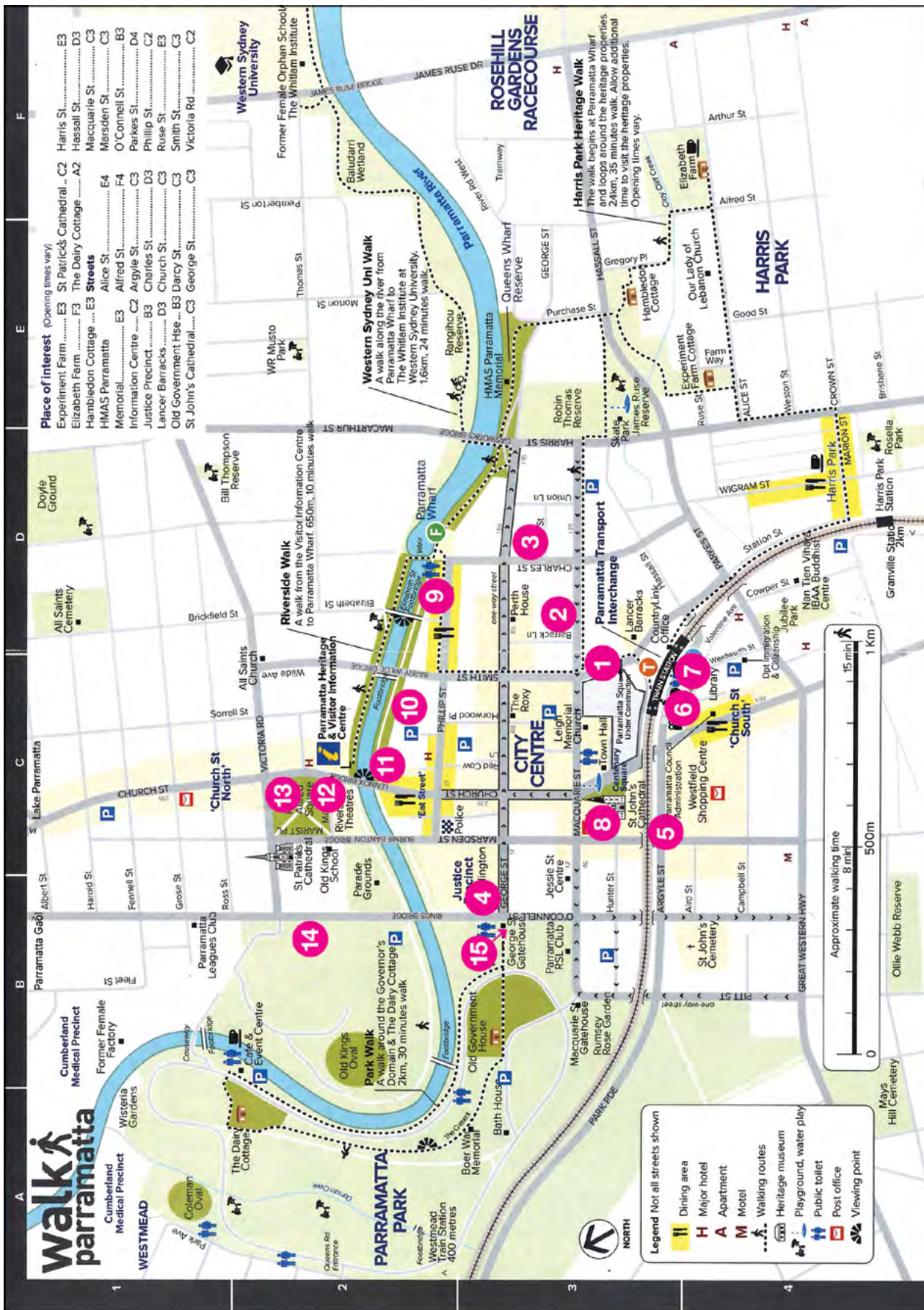
Use the following to assist you collect the data:

- Observation notes
- Photos
- Line drawing
- Liveability Survey

You will use this information and further research for the assessment task.

Location	Start	Finish	Bus Pick Up
Parramatta South Stops 1 to 8	Western Sydney University Smith St Open Space	Parramatta Centennial Square	Parramatta Park
Parramatta North Stops 9 to 15	Parramatta Ferry Wharf Intersection Charles St and Phillip St.	Parramatta Park	Parramatta Park
Rouse Hill	Caddies Boulevard Caddies Creek	Caddies Creek	Caddies Creek

PARRAMATTA MAP



Parramatta Tourist Map available at the Parramatta Visitor Centre, 346A Church St Parramatta NSW

Key Inquiry Question

Is Sydney's "Central District City" a liveable and sustainable city?

Before starting the fieldwork write the features you expect to see in a liveable and sustainable city.

Now with these features in mind commence collecting your information.

PARRAMATTA SOUTH

EDUCATION

1. Western Sydney University

a. Student capacity

b. Faculties available

c. What are the advantages and disadvantages of a university in this location.

Advantages	Disadvantages

2. Arthur Phillip High School

Arthur Phillip High School is being rebuilt.

Find out about this building from the information board.

a. What are the advantages and disadvantages of a high-rise school?

Advantages	Disadvantages

b. Why has the construction of the new building been delayed?

EMPLOYMENT AND HOUSING

3. Curtis Cheng Police Headquarters (employees).

The Police headquarters have moved from the Sydney to Parramatta.

a. What are the advantages and disadvantages for employees working at this site?

Advantages	Disadvantages

b. Describe the housing to the south of the Curtis Chang Police Headquarters.
Include architecture, building material, number of floors.

Research back at school:

- a. Size of apartments in square metres in Parramatta
- b. The price of an apartments in Parramatta in three different areas of Parramatta. Include one-bedroom and two-bedroom apartments.

Location	One bedroom	Two bedroom

- c. Is housing affordable in Parramatta?
Use the information above and the information from the Australian census on household income, rent and mortgage at http://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/125?opendocument

EMPLOYMENT

4. Justice Precinct

- a. Name the different courts in this precinct.

- b. List the different areas of employment provided in this precinct.

- c. Why is it useful to divide cities into “precincts”?

EMPLOYMENT, ENTERTAINMENT

5. Westfield Shopping Centre

- a. List the major department stores in Westfield.

- b. What evidence is there that Westfield Shopping Centre is also a social centre?

TRANSPORT INFRASTRUCTURE

6. Parramatta Interchange

- a. How many bus stands are there?

- b. Write down the destinations of two buses.

Research back at school:

- c. How long does the journey from Parramatta to these destinations take?



7. Go into the train station concourse.

- a. How many train lines are there and what are the destinations?

- b. How and why has station architecture changed? (Look at the old station)

Research back at school:

- c. The Parramatta Light Rail Project. What is the proposed route? Why is the government building the light rail?

COMMUNITY AND CULTURE

8. Parramatta Centennial Square

- a. Identify evidence of heritage in **Centennial Square**?

- b. Look at the information boards on the construction of 5 Darcy St.
What will the new building include?

- c. How does this square enhance community?

CHANGING PLACES – FIELDWORK BOOKLET

d. Write down evidence of community culture.

e. **Landuse Map.** Complete a landuse map of the Centennial Square area and the first block of Church St.

	Church Street	
Macquarie Street		

Legend

Heritage	
Retail	
Restaurants	

Banking /Financial	
Open Space	
Other	

PARRAMATTA NORTH

1. Parramatta River

TRANSPORT

- a. Parramatta River Ferry. Comment on the benefits and impacts of ferry transport.

Research back at school:

- b. Research back at school: How long does the ferry take to travel to the city?

CULTURE

Use the information boards on the river bank near the stairs.

- a. Explain how the “eel” became the Parramatta emblem.

- b. Who are the traditional owners of the area?

- c. What evidence is there that First Nation culture is acknowledged?

10. Site for new Museum of Applied Arts and Science (currently a parking station).

Research back at school:

a. How will the new Museum of Applied Arts and Science enhance liveability?

b. Identify the features that make the river area attractive for the community.

HOUSING

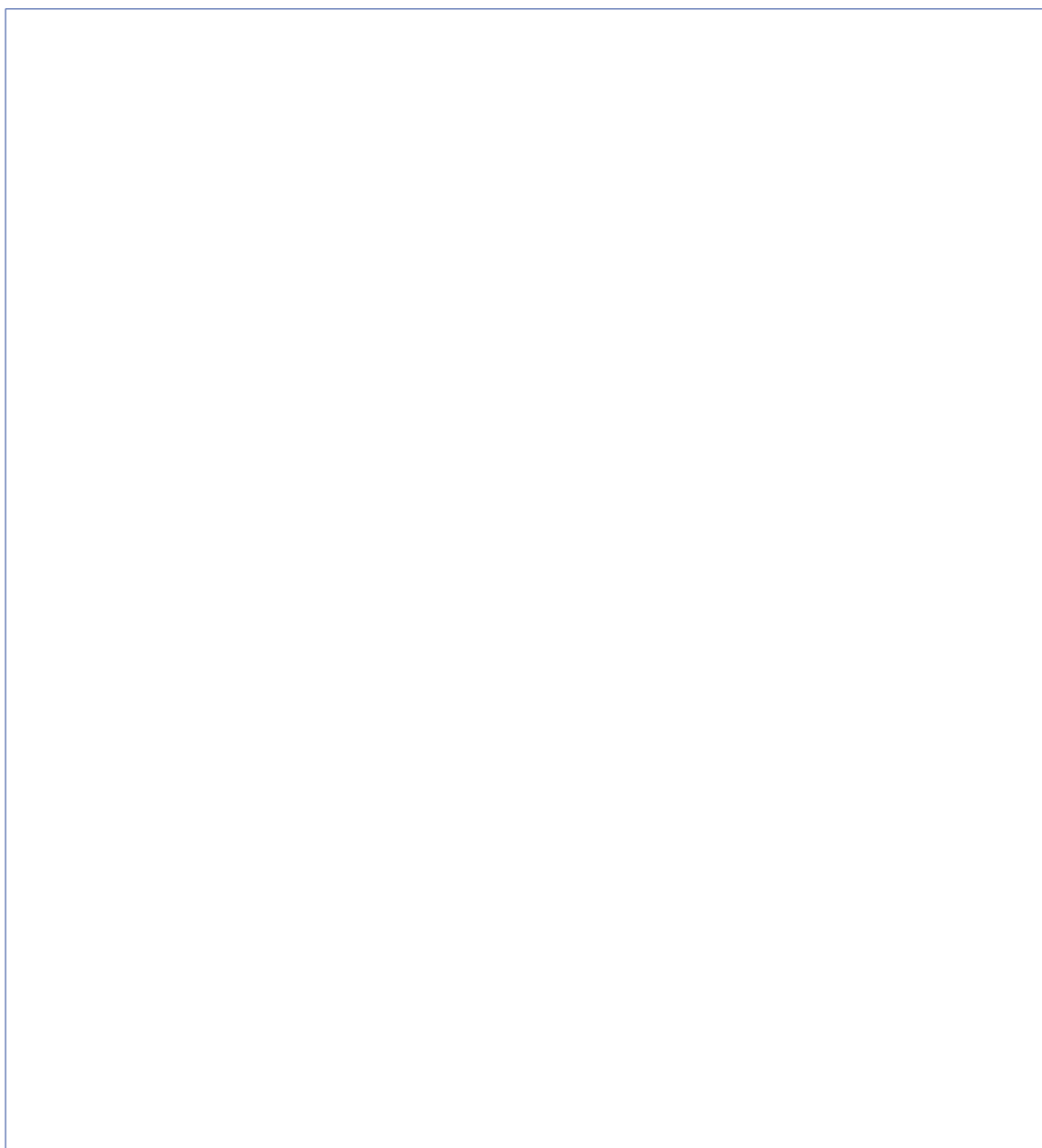
11. The David Jones department store was on this site before the Meriton Building.

a. What are the impacts of the Meriton high rise?
Include positive and negative impacts.



- b. Looking back to the Meriton Building complete a line drawing below. Remember to divide your drawing into foreground, middle ground and background. Label the main features in your drawing.

Title: _____

A large, empty rectangular box with a thin blue border, intended for a line drawing. The box is positioned below the title line and occupies the central portion of the page.

CULTURE, EDUCATION AND HERITAGE.

12. Riverside Theatre

- a. Write the performances currently at the Riverside Theatre.

13. Walk through Prince Alfred Park to St Patrick's Cathedral and to Grose St.

- a. What do you see? Why is this area important?

- b. Why do you think it is important to keep our heritage buildings?

14. Parramatta Stadium

The plan for the Central District City includes creating great places that “reflect shared community values and culture. Through this, they attract residents, workers, visitors, enterprise and investment”.

- a. How will the stadium fulfil these aims?

Research back at school:

- a. Research back at school: Research the proposed light rail to North Parramatta, the Parramatta North and Westmead development projects.

OPEN SPACES AND HERITAGE

15. Parramatta Park. Established in 1858 and is 85 hectares.

“Open space in high density neighbourhoods need to be durable, multipurpose and accessible to a wide variety of users” <https://www.greater.sydney/central-city-district-plan/sustainability/city-its-landscape/delivering-high-quality-open-space>

- a. How successful is Parramatta Park in meeting the above criteria?

Complete the “Liveability Survey on the next page.

PARRAMATTA LIVEABILITY SURVEY

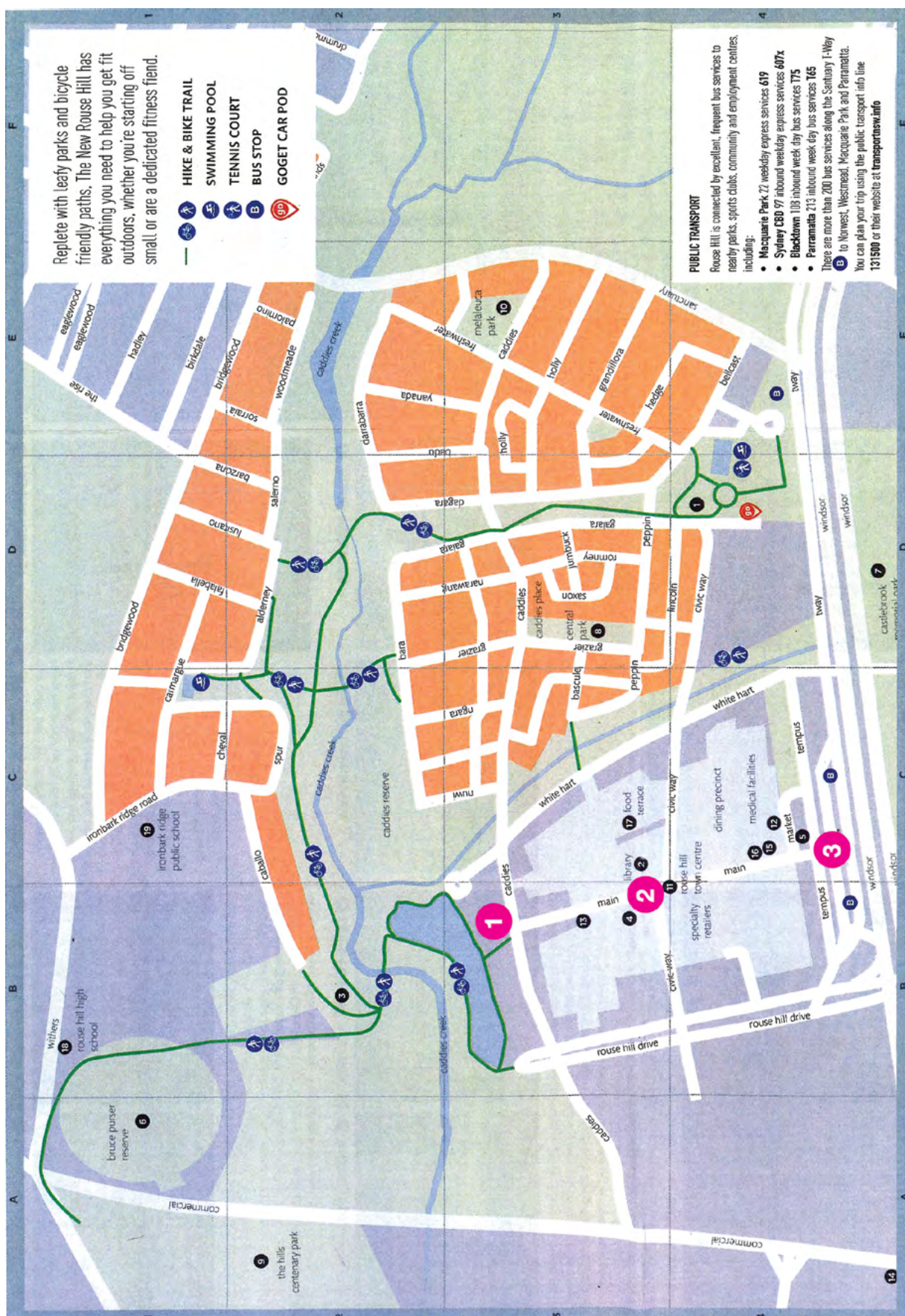
Use the knowledge you have gained from the fieldwork to complete the following survey.

LIVEABILITY AND SUSTAINABILITY

Criteria	Score				
	Poor/low			Good/high	
Productivity: Economic factors					
• Employment opportunities	1	2	3	4	5
• Affordable housing	1	2	3	4	5
• Variety of housing styles	1	2	3	4	5
• Access to shops and department stores	1	2	3	4	5
Infrastructure					
• Quality of road access	1	2	3	4	5
• Public walk ways	1	2	3	4	5
• Availability of public transport	1	2	3	4	5
• Transport interchanges and commuter parking	1	2	3	4	5
• Street lighting	1	2	3	4	5
• Cycle ways	1	2	3	4	5
Environmental factors					
• Quality of urban design	1	2	3	4	5
• Architecture	1	2	3	4	5
• Biophysical environment e.g bushland, waterways	1	2	3	4	5
• Open spaces	1	2	3	4	5
• Open space facilities e.g. seating, water bubblers	1	2	3	4	5
• Maintenance of open spaces	1	2	3	4	5
Services					
Education					
• Choice of schools	1	2	3	4	5
• Quality public schools	1	2	3	4	5
• Opportunities for post-school education	1	2	3	4	5
Local Government Services					
• Library	1	2	3	4	5
• Waste collection	1	2	3	4	5
Social /Cultural Factors					
• Acknowledgement of heritage	1	2	3	4	5
• Acknowledgement of cultural diversity	1	2	3	4	5
• Community meeting and event spaces	1	2	3	4	5
• Cultural centres e.g. theatre, sports centres	1	2	3	4	5
• Spaces for young people including playgrounds	1	2	3	4	5
• Graffiti and vandalism	1	2	3	4	5

Adapted from GeoSpace http://www.geospace.edu.au/verve/_resources/2.3.3.6_1_assessing_liveability_survey.pdf

ROUSE HILL MAP



ROUSE HILL

Rouse Hill is an urban area within the Hills Shire. Castle Hill and Rouse Hill are the two dominant urban centres in the Hills Shire.

SNAPSHOT OF THE SHIRE:

- 165,931 people live in the Shire
- 26.5% of population is under 17 years of age
- 14.4% of population 60+ years of age
- 69.6% of families in the Shire are parents with children
- 52,118 people work
- There are 54,369 dwellings in the Shire
- 25.5% of residents moved to the Shire in the last five years

Kellyville/Rouse Hill, North Kellyville and Box Hill, will provide about 25,000 new dwellings over the next 20 years. 18% of dwellings in the shire are medium or high density, compared with 44% in Greater Sydney. To help address this need, council made a landmark agreement with the NSW Department of Planning, which will allow larger family-focused apartments to be built. Some 20% of new apartments must have three or more bedrooms to ensure there are enough larger household types available for families – the main demographic living in (and moving to) north-west Sydney.

HOUSING

- a. Traveling to Rouse Hill what do you notice about the change in housing styles from Baulkham Hills to Castle Hill.

- b. Describe the variety of housing in Rouse Hill. Why are there apartments in this area?

- c. List schools in the area.

EMPLOYMENT

- a. List the different sectors of employment available in the Norwest Business Park.

ROUSE HILL TOWN CENTRE

SUSTAINABILITY – BIOPHYSICAL ENVIRONMENT

1. Caddies Creek

- a. Comment on the impact of urban development on the biophysical environment at Caddies Creek. Include flora, fauna, water and soil impacts.

- b. Identify the features that make the river area attractive for the community.

COMMUNITY AND CULTURE

2. Main Street

a. How different is the Rouse Hill Town Centre to a Westfield Centre and why has this design been adopted?

b. As you walk along Main Street in the Town Centre identify community facilities. E.g. Library, meeting places.

EMPLOYMENT

a. As you walk along Main Street identify the different types of business:

Business	Tally
Retail	
Restaurants	
Banking /Financial	
Other	



TRANSPORT

62% of Hills Shire residents drive to work. 12 % take a bus to work.

At the end of Main Street you will see the Norwest Light rail under construction.

a. How many cars will the light rail take off the roads?

b. Comment on the impact on liveability of the Norwest Light Rail.

Research back at school:

c. The Norwest Light Rail.

Complete the Rouse Hill Liveability Survey over the page.

Back at school compare your survey to the opinion of Rouse Hill Town Centre in this article
<http://architectsajc.com/press-release-rouse-hill-town-centre-one-of-the-worlds-best/>

Assess the validity of the article.

ROUSE HILL LIVEABILITY SURVEY

Use the knowledge you have gained from the fieldwork to complete the following survey.

LIVEABILITY AND SUSTAINABILITY

Criteria	Score				
	Poor/low			Good/high	
Productivity: Economic factors					
• Employment opportunities	1	2	3	4	5
• Affordable housing	1	2	3	4	5
• Variety of housing styles	1	2	3	4	5
• Access to shops and department stores	1	2	3	4	5
Infrastructure					
• Quality of road access	1	2	3	4	5
• Public walk ways	1	2	3	4	5
• Availability of public transport	1	2	3	4	5
• Transport interchanges and commuter parking	1	2	3	4	5
• Street lighting	1	2	3	4	5
• Cycle ways	1	2	3	4	5
Environmental factors					
• Quality of urban design	1	2	3	4	5
• Architecture	1	2	3	4	5
• Biophysical environment e.g bushland, waterways	1	2	3	4	5
• Open spaces	1	2	3	4	5
• Open space facilities e.g. seating, water bubblers	1	2	3	4	5
• Maintenance of open spaces	1	2	3	4	5
Services					
Education					
• Choice of schools	1	2	3	4	5
• Quality public schools	1	2	3	4	5
• Opportunities for post-school education	1	2	3	4	5
Local Government Services					
• Library	1	2	3	4	5
• Waste collection	1	2	3	4	5
Social /Cultural Factors					
• Acknowledgement of heritage	1	2	3	4	5
• Acknowledgement of cultural diversity	1	2	3	4	5
• Community meeting and event spaces	1	2	3	4	5
• Cultural centres e.g. theatre, sports centres	1	2	3	4	5
• Spaces for young people including playgrounds	1	2	3	4	5
• Graffiti and vandalism	1	2	3	4	5

Adapted from GeoSpace http://www.geospace.edu.au/verve/_resources/2.3.3.6_1_assessing_liveability_survey.pdf

PART D: BACKGROUND INFORMATION FOR TEACHERS

PARRAMATTA

Toilets are located at:

Stop 8: Parramatta Centennial Square

Stop 9: Ferry Wharf

Stop 15: Parramatta Park

EDUCATION

Stop 1: Western Sydney University

a. Student Capacity = 8,000 students. 10 Floors

b. Faculties available: Over 60 courses including undergraduate and post graduate. Business, IT, Social Work, Urban Planning and Management, Finance, Management. No lecture theatres - interactive teaching and learning, conducted in student-centred learning studios using IT.

Stop 2: Arthur Phillip High School

A school has been on this Smith Street site since 1875. Arthur Phillip High School was established as a separate school to the Primary School in 1960. Arthur Phillip High School is being rebuilt with room for 2,000 students. The new facilities will incorporate future-focused, flexible teaching spaces with adaptable/moveable furniture and room configurations. The learning spaces will be technology-rich to serve multiple learning contexts from large class groups to small clusters, providing better opportunities for collaboration and personalised learning. Due for completion 2019. The discovery of 13,000 artefacts has slowed the progress of construction. <https://www.watpac.com.au/project/arthur-phillip-high-school-and-parramatta-public-school/>

EMPLOYMENT

Stop 3. Curtis Cheng NSW Police Headquarters

The Curtis Chang Centre is the NSW Police Force Headquarters (but doesn't house the Police Commissioner – he is in the city). It does accommodate State Crime Command which includes: Organised Crime units (Drug squad, Firearms and Organised Crime squad, Gangs squad, Middle Eastern Organised Crime squad); Serious Crime units (Fraud and cyber crime), Homicide (Child abuse, property crime, robbery and serious crime, sex crimes); also includes an Intelligence Unit and Professional Standards. There is the State Intelligence Service Command, Forensic Services Command, Prosecutions Command, Human Resources and Business Tech Solutions (IT & accounts etc). There are approximately 2,000 staff.

Stop 4. Justice Precinct

The Parramatta Justice Precinct (PJP) is located in the western part of the central business district. The precinct houses the corporate headquarters of the New South Wales Department of Attorney General and Justice. Other legal offices include the Children's Court of New South Wales and the Sydney West Trial Courts, Legal Aid Commission of New South Wales, Office of Trustee and Guardian (formerly the Office of the Protective Commissioner), NSW Registry of Births, Deaths and Marriages, Office of the Director of Public Prosecutions, as well as a branch of the Family Court. Nearby on Marsden Street is the Parramatta Courthouse and a courthouse where the specialist Drug Court of New South Wales sits. The Garfield Barwick Commonwealth Law Courts Building (named in honor of Sir Garfield Barwick), houses courts of the Federal Magistrates Court of Australia and the Family Court of Australia. https://en.wikipedia.org/wiki/Parramatta_Justice_Precinct

EMPLOYMENT, ENTERTAINMENT

Stop 5: Westfield Shopping Centre

The centre is owned and managed by The Westfield Group. This shopping centre is now managed by Scentre Group. It has a net leasable area of approximately 137,407m² and contains 498 shops built over five levels, making it Australia's fourth largest shopping centre by Gross Leasable Area (GLA).

Westfield Parramatta's trade area population is 665,720; one of the largest markets for shopping centres in Australia, and its 28.7 million customer visits per annum makes it Australia's busiest Westfield shopping centre. https://en.wikipedia.org/wiki/Westfield_Group

TRANSPORT INFRASTRUCTURE

Stop 6 and 7: Parramatta Interchange

Parramatta station is one of Sydney's oldest. Sydney's first line connected Sydney and Parramatta Junction near Granville and opened on 26 September 1855. It was extended to the current Parramatta station on 4 July 1860. It is served by Sydney Trains T1 Western Line, T2 Inner West & Leppington and T5 Cumberland Line services and NSW TrainLink Blue Mountains Line, Central West XPT and Outback Xplorer services. The Interchange was upgraded in 2003 to include an underground connection to Westfield and bus interchange.

COMMUNITY AND CULTURE

Stop 8: Parramatta Centennial Square

Open space for those that live and work in Parramatta CBD. Markets held regularly, school holiday activities, community events.

Town Hall built 1883. St John's Church – oldest church site in Australia. Originally a simple building the old church was rebuilt in 1850's.

Construction site on corner of Number 1 Darcy St and Parramatta Centennial Square will include:

A community library and large screen for community events including theatre and music.

There is information on notice boards on the wall around the construction:

- \$2.7 billion project
- One of the largest urban renewal projects in Australia
- Three hectare site
- Contains the largest commercial office building in Australia

TRANSPORT, CULTURE

Stop 9: Parramatta River

Information on the First Nations People is on the information boards near the steps. The Darug people who lived in the area before European settlement regarded the area as rich in food from the river and forests. They called the area Baramada or Burramatta ('Parramatta') which means "head of waters", "the place where the eels lie down" or "eel waters".

Ferry Wharf: There has been a wharf at Parramatta since shortly after a settlement was established. The wharf is located next to the Queens' Wharf Reserve and the Gasworks Bridge, which was close to the site of the first official landing place at Parramatta, when Governor Phillip and a small number of marines arrived in 1788 to establish a second settlement. In December 1993, the State Transit Authority resumed services to Parramatta.

CHANGING PLACES – BACKGROUND

Today Parramatta wharf is served by Sydney Ferries Parramatta River services operating to and from Circular Quay. The single wharf is served by RiverCat class ferries. During periods of low tide, services terminate at Rydalmere with passengers completing the final part of the journey by bus.

https://en.wikipedia.org/wiki/Parramatta_ferry_wharf

Stop 10: Parramatta River Site for new Museum of Applied Arts and Science (currently a parking station)

The State's largest museum will be built on the Parramatta riverbank. With 18,000 sqm of exhibition and public spaces, it will have a science and technology focus and include the largest planetarium in Australia. This will be complemented by a dedicated play and learning space devoted to STEAM, children's spaces, cafes, bars, retail, and event and function spaces. The museum, which will open in 2023, will be an anchor for a new arts and cultural precinct in Parramatta, which will include revamped Riverside Theatres and a new pedestrian bridge across the river. <https://www.cityofparramatta.nsw.gov.au/about-parramatta/maas>

HOUSING

Stop 11: Meriton Apartments and retail.

Former David Jones site – photo of David Jones is in the fieldwork booklet.

'Altitude Apartments' Two buildings, one 39 floors the other 55 with 375 apartments and child care centre and retail. The Taller Altitude tower measuring 177m has now become the tallest building on the Parramatta skyline. It will be overtaken by the Macquarie Towers which is currently under construction and expected to be completed sometime in 2019.

The building has many items including luxury pools, a high-end restaurants and a childcare facility all within walking distance of all the amenities in Parramatta. Not only that but also being situated on the Parramatta River. <https://www.buildsydney.com/altitude-meriton-topped-parramatta/>

CULTURE, EDUCATION AND HERITAGE

Stop 12: Riverside Theatre

Riverside Theatres is a multi-venue performing arts centre. Opened in 1988, its venues include the 761-seat proscenium arch Riverside Theatre, the 213-seat Lennox Theatre, and the 88-seat Raffety's Theatre.

The National Theatre of Parramatta is a resident theatre company.[2] Other regular companies and productions that perform there include Packemin Productions, Sydney Theatre Company, Sport For Jove, The Premier State Ballet, Cumberland Gang Show and Pacific Opera.

Stop 13: Walk through Prince Alfred Park to St Patrick's Cathedral and to Grose St.

Prince Alfred Park

Prince Alfred Square is of state heritage significance as an intact representative example of a square or public park layout from the Victorian era, embellished in the Edwardian, inter-war and post-war eras. It is a rare example of the early Public Parks Movement in NSW. Significant for the age and maturity of its tree plantings. The oldest, including Moreton Bay figs, a camphor laurel and a Bunya pine, date from the mid Victorian period (c.1869-70s), and are reinforced by Federation-period plantings and later plantings (c1930s).

The site has historical values at a state level as it is the site of Parramatta's second gaol (1804 - 1841), first female factory (1804-1821), as a village green since 1837 and for associations with the Royal Visit of Prince Alfred in 1868. The site has exceptional archaeological research potential related to the above events. <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5053902>

Now the park is an important open space (note the high rise apartments in the area nearby) and community events area. The Winterlight festival is held in July which includes a skating rink.

St Patrick's Cathedral

St Patrick's was extensively rebuilt after a 1996 fire devastated the original church established in 1854. It is the residence of the Catholic Bishop of Parramatta, currently the Most Reverend Vincent Long Van Nguyen OFM Conv.

Our Lady of Mercy College, Parramatta

Site of a school since 1860's. One of the oldest girls' schools in Australia. The College was founded by a group of Mercy sisters from Callan, County Kilkenny, Ireland. The Sisters of Mercy were invited to come run a Catholic school in Parramatta. They opened the school on its present site in January 1889, with seven high school students. Currently 1000 students.

Stop 14: Bankwest Stadium

The Bankwest Stadium is the replacement for the demolished Parramatta Stadium. The stadium opened in mid 2019 with a 30,000 seat capacity. The stadium is owned & operated by the NSW Government, designed by Populous Architects and being built by Lend Lease Group with a build cost budgeted at \$300 million. The stadium will host A-League matches of the Western Sydney Wanderers and National Rugby League matches for the Parramatta Eels. https://en.wikipedia.org/wiki/Western_Sydney_Stadium

OPEN SPACES AND HERITAGE

Stop 15: Parramatta Park. Established in 1858 and is 85 hectares.

The area of Parramatta was known by the Darug people as Burramatta ("Burra" meaning eel and "matta" meaning creek) and was managed by the Burramatta clan for many thousands of years before European settlement in 1788. The early governors of the British colony established and lived in what is now known as Old Government House – just one of the many heritage-listed buildings that pepper Parramatta Park.

But 160 years ago, in 1858, 246 acres in Parramatta were declared public land and given back to the people, making Parramatta Park one of the oldest public parks in the world. The park was listed as a World Heritage site in 2010. <https://www.parrapark.com.au/heritage/world-heritage/>



A View of Parramatta Park ca. 1900–1927, State Library of NSW.
Source: https://upload.wikimedia.org/wikipedia/commons/5/54/SLNSW_796760_A_View_at_Parramatta_Park.jpg

PARRAMATTA TO ROUSE HILL

Travel via Windsor Road, Norwest Boulevard to Old Windsor and then to Rouse Hill Town centre

On route to or from Parramatta boys are to note the changes in housing styles from Baulkham Hills to Castle Hill. Houses tend to become larger moving toward Castle Hill where the developments are more recent.

Note any schools in the area. Access to transport, variety of housing, open spaces, community facilities. Going along Norwest Boulevard through Norwest Business Park students can note the various business and employment as well as housing. The business park began in 1983.

Along Old Windsor Road students can note the development of the Norwest light rail and think of the positive and negative impacts.

"Sydney Metro Northwest is delivering eight new railway stations and 4000 commuter car parking spaces to Sydney's growing North West. Trains run every four minutes in the peak, that's 15 trains an hour. Customers don't need a timetable, they just turn up and go.

Sydney Metro Northwest, formerly the North West Rail Link, is the first stage of Sydney Metro and will be the first fully-automated metro rail system in Australia. Sydney Metro City & Southwest is the second stage.

Sydney Metro Northwest will deliver, for the first time, a reliable public transport service to a region which has the highest car ownership levels per household in NSW. Over the coming decades, an extra 200,000 people will move into Sydney's North West, taking its population above 600,000, or twice the size of Canberra."

<https://www.sydneymetro.info/northwest/project-overview>

ROUSE HILL TOWN CENTRE

Toilets are located:

- Near the Reject Shop and
- Near the Toyota Car Dealership

Rouse Hill Town Centre opened in 2007 and changed the face of retail and residential living in North Western Sydney. Designed for the community, Rouse Hill Town Centre is located in the Hills District as part of The New Rouse Hill, approximately 35 kilometres north west of the Sydney CBD.

Rouse Hill Town Centre combines the traditional values and streetscape of a contemporary market town with the latest fashion, homewares, dining, community services and lifestyle choices. With over 230 specialty stores including Woolworths, Coles, Big W, Target and a Reading Cinema, you're bound to find what you need in the convenience of the Town Centre.

Winning several international planning & design awards, Rouse Hill Town Centre is different to a shopping centre, because it's a Town Centre. It's filled with learning spaces including North West Community College & Learn 2 plus Vinegar Hill Library. Rouse Hill Town Centre also accommodates interactive play areas for children (The Backyard) and respite areas for families (The Secret Garden).

Rouse Hill Town Centre has been planned as a sustainable shopping destination with entertainment and facilities for all the family. Check out our environmental and community pages for more information on how GPT has integrated sustainability into the planning of the Town Centre for the community"

<https://www.rhtc.com.au/centre-info/about-us>

STAGE 5: CHANGING PLACES

Virtual Reality Tour Workbook



Create a virtual tour

Tour Creator makes it easy to build immersive, 360° tours right from your computer

Source: https://www.youtube.com/watch?v=K_Og5xdKeGQ

Kenan Koparan
Geography Teacher at Toongabbie Christian College

Context

This task asked Year 9 students (Stage 5) to create and present a plan for how an Australian city or suburb could be further developed to maximise economic, environmental and social sustainability. The task was unique in that students were required to present their plans to the marker through a Virtual Reality (VR) tour; utilising a new program called 'Tour Creator' offered by Google in mid-2018.

The project's intention was to aid students in the development skills such as *research*, *critical thinking* and *problem solving*; mimicking what they would be doing beyond school in the field of Geography. The project also enabled students to gain an expert understanding of how to *use and apply emerging technologies* like VR. It was also a personal mission to show colleagues that VR could be more than just passive observation of foreign environments and that students could engage and create their own worlds.

Scaffolded booklet

Previously, when implementing similar projects with other classes, a major dilemma was finding the balance between providing students with content and/or technological knowledge weighed against the time that students had to work on their projects. The booklet was the means in which this dilemma was overcome. The booklet also scaffolded students throughout the

project and enabled differentiation of both ends. I was able to assist lower-ability students while higher-ability students could continue with the task in a self-directed manner. An added bonus was being able to see progress throughout the completion of the project by observing student booklets. By the end of the task, all students in year 9 turned in a VR tour with varying degrees of depth of knowledge and understanding of how their chosen city could be made more sustainable.

Advice for integrating new technologies

In order to implement such a task with a class, it is important to take the initial risk. If failure occurs, trying a different approach may assist. With integrating emerging technologies in a classroom setting, persistence is key. Trialing your own task is a must to ensure that all components work, whether it be the program or instructions. Furthermore, it is important to keep an eye out for new and improved programs or technologies which make the task easier to complete (older versions of this task used 'Story Sphere' by Google which may be considered outdated). Finally, ensure that students have a model to help them understand the expectations of their final product. There is an array of samples that can be found on <https://poly.google.com/> when an Australian city is typed into the search bar.



Source: https://medium.com/@_the_kate_d/whats-up-wednesday-tech-edition-google-tour-creator-a-free-tool-to-create-360-virtual-tours-96ebadde7de3

CHANGING PLACES

Year 9 Geography



TOONGABBIE
CHRISTIAN
COLLEGE

WORKBOOK CONTENTS

Our Class Schedule
Proposal
Initial Research
Population Projections
Sustainability
The Three Pillars of Sustainability
Malmö Case Study
What Does a Sustainable City Look Like?
Research Sustainable Visions
PEEL Paragraph
Narration Script
How to Form a Proposal?
Putting Your Report Together

Inquiry Question

How can we, as urban planners, create a virtual reality tour to educate the public about a chosen Australian city's plan to become a city that is sustainable?

Task

You have been asked by a developer, for example Walker Corporation, UrbanGrowth NSW Development Corporation, to create a virtual reality tour to help educate the public about an Australian City's plan to become more sustainable.

You will develop a **Virtual Reality Tour AND Report** which:

- Displays areas of urban growth, consolidation or renewal within your chosen city.
- Describes the population projections for Australia and your chosen city by 2030.
- Discusses the impacts that the population projection will have on the city.
- Explains real strategies to create economic, social and environmental sustainability in your chosen city.
- Proposes TWO additional strategies for how your chosen city can be made more sustainable for local communities and future generations.



Source: www.freepik.com . [Creativecommons.org](https://creativecommons.org)

OUR CLASS SCHEDULE

LESSON ONE <ul style="list-style-type: none"> <input type="checkbox"/> Complete Proposal <input type="checkbox"/> Initial research of chosen city in Australia <input type="checkbox"/> Play around with Google Tour Creator 	LESSON TWO <ul style="list-style-type: none"> <input type="checkbox"/> Population projections and impact <input type="checkbox"/> Sustainability reading <input type="checkbox"/> Three pillars of sustainability 	LESSON THREE <ul style="list-style-type: none"> <input type="checkbox"/> Malmö case study <input type="checkbox"/> What does a sustainable city look like? <input type="checkbox"/> Google tour creator
LESSON FOUR <ul style="list-style-type: none"> <input type="checkbox"/> Research and take notes <input type="checkbox"/> How is your chosen city doing/going to do sustainability? 	LESSON FIVE <ul style="list-style-type: none"> <input type="checkbox"/> PEEL paragraph <input type="checkbox"/> Time to work on your Virtual Tour 	LESSON SIX <ul style="list-style-type: none"> <input type="checkbox"/> Narrations script <input type="checkbox"/> Recording narrations
LESSON SEVEN <ul style="list-style-type: none"> <input type="checkbox"/> How to form a proposal <input type="checkbox"/> Proposal 	LESSON EIGHT <ul style="list-style-type: none"> <input type="checkbox"/> Report structure <input type="checkbox"/> Put together report 	LESSON SEVEN <ul style="list-style-type: none"> <input type="checkbox"/> Final touches Virtual Tour <input type="checkbox"/> Final touches on report

How to create a Virtual Reality Tour using Google Tour Creator

Watch the following clip: <https://www.youtube.com/watch?v=2s4rhDbYo4>

PURPOSE OF BOOKLET

The aim of this booklet is to assist you with your project.

In this booklet you will complete activities from the assessment task in smaller chunks while also helping you to understand the key concepts, terminology and theory behind our topic.

ASSESSMENT ACTIVITY 1:

Involves creating your Virtual Reality Tour.

Activities 2–5 will be labeled in this booklet as ASSESMENT ACTIVITIES. Please ensure that you answer these questions in as much detail possible and then transfer your response to a separate Google Doc for your FINAL REPORT.

Lines are an indication of how much you should be writing.



Icon made by Freepik from www.flaticon.com

PROPOSAL

What is your chosen city? Provide the exact coordinates.

Describe how your chosen city is changing.

Discuss the reason why you chose to focus on this city.

What are you interested in finding out about your chosen city.



Icon made by Freepik from www.flaticon.com

INITIAL RESEARCH

Define

Urban consolidation:

Urban sprawl:

Urban growth:

Urban renewal:

What is the history of your chosen city?

What is your chosen city currently known for?

Read **TWO** recent news articles about your city and summarise how your city is perceived and how it is changing.

Copy and paste website URLs..

POPULATION PROJECTIONS

A population projection gives a picture of what the future population may look like, based on knowledge of the past and taking, for the future, hypotheses based on fertility, mortality and migrations.

Read the following:

<https://www.theguardian.com/australia-news/2018/nov/22/australias-population-forecast-to-hit-30-million-by-2029>

<https://mccrindle.com.au/insights/blog/australias-capital-cities/>

ASSESSMENT ACTIVITY 2:

Describe the population projections of Australia and your chosen city by 2030.

(If the population projections for your chosen city are not found, please write about the capital city's projection and discuss the impact that this would have on your city)

ASSESSMENT ACTIVITY 3:

Discusses the impacts that the population projection will have on the city.

(Write about your chosen city)



Icon made by Freepik from www.flaticon.com

SUSTAINABILITY

To be sustainable simply means to enable things to continue to achieve a form of existence which can be maintained indefinitely (for an unspecified time).

The word sustainable is actually an adjective, which means it is used to qualify, clarify or add meanings to nouns (or names) and other phrases. As a result, when we use the term sustainable we rarely use it in isolation, but instead add it to words like agriculture, economy, environment and of course society.

Thus, the word sustainable transforms the way we understand the world around us and suggests that instead of promoting unsustainable practices like clear-cutting forestry, boom and bust economics, or environmental pollution, we develop sustainable systems of forestry, a sustainable economy, a sustainable environment.

In today’s world you may have noticed that the phrase ‘sustainable’ has become a very fashionable adjective, appearing in an increasingly wide range of contexts (and qualifying an increasingly large number of nouns).

Source: Whitehorse, M. (2006). Spaces of sustainability: Geographical perspectives on the sustainable society. London: Routledge, p. 9.

Use the definition above to assist you in writing down a definition for **sustainable development**.



Icon made by Freepik from www.flaticon.com

THE THREE PILLARS OF SUSTAINABILITY

Watch the following clip and complete the task below.

<https://www.youtube.com/watch?v=7V8oFl4GYMY&t=43s>

For extra assistance read the following website <https://ecoabode.com.au/3-pillars-sustainability/>

Define environmental sustainability?

Provide examples of what this may look like from the clip.

Define economic sustainability?

Provide examples of what this may look like from the clip.

Define social sustainability?

Provide examples of what this may look like from the clip.

MALMÖ CASE STUDY

Watch and read the following:

- <https://youtu.be/6yZYXSsWnsg>
- <https://youtu.be/OXMTAo3CjJE>
- <https://youtu.be/q0NCTHEMI1Q>
- http://www.pvupscale.org/IMG/pdf/Malmo_case-study_bg.pdf

How is Malmö different to most cities?

Take notes about the sustainable practices, technologies and layout/construction of Malmö.

WHAT DOES A SUSTAINABLE CITY LOOK LIKE?

Watch and read the following:

<https://youtu.be/fcDDUSUbq9A>

<https://youtu.be/qkg85KaXGjY>

<https://www.fastcompany.com/3016816/the-10-cities-that-are-leading-the-way-in-urban-sustainability>

Take notes on the aspects which make these cities sustainable.

What is interesting about Sydney's sustainable vision? Take notes about what will be implemented.



My Green city icon city – Image © by Natalie Hughes
Source: sustainablelearning.com

RESEARCH SUSTAINABLE VISIONS

Instructions:

1. In Google type in the keywords “sustainable vision” and your city’s name or “strategic plan” and your city’s name. This will provide you with websites (mostly council websites) which highlight how your chosen city would like to become more sustainable.
2. Take notes about your chosen city’s plans. Focus on Environmental, social and Economic sustainability.

This image shows a full page of blank, white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page, providing a template for writing or drawing. There are no margins, text, or other markings present.

PEEL PARAGRAPH

POINT

Topic sentence, main idea, answer question in its most simple form.

EVIDENCE

Proof from a source which extends your point.

EXPLAIN

Elaborate on your evidence. What does the evidence suggest about how your city plans to change/become sustainable?

LINK

Tie it back to the question.

ASSESSMENT QUESTION 4

Write **THREE** PEEL paragraphs which –

Explain real strategies to create economic, social and environmental sustainability in your chosen city.

1. _____

2. _____

3. _____

NARRATION SCRIPT

Scene 1 Describe what is shown within the scene. How is it related to the topic?
What aspect of change is sustainable?

Scene 2 Describe what is shown within the scene. How is it related to the topic?
What aspect of change is sustainable?

Scene 3 Describe what is shown within the scene. How is it related to the topic?
What aspect of change is sustainable?

Scene 4 Describe what is shown within the scene. How is it related to the topic?
What aspect of change is sustainable?

Scene 5 Describe what is shown within the scene. How is it related to the topic?
What aspect of change is sustainable?

HOW TO FORM A PROPOSAL

Scaffold and example of a proposal:

- ☐ **Project Summary**
- ☐ **Goal/Objective**
- ☐ **Description of Specific Steps**
- ☐ **Time frame Estimate**
- ☐ **Description of Project Budget Estimate**
- ☐ **Resources Needed**
- ☐ **Evidence of Accomplishment**

E.g. **We propose a new tram line connecting the outskirts of Toongabbie to the centre.** **This will help with traffic congestion and help prevent needless Carbon Dioxide emissions from car.** **This undertaking will take time: the first year surveyors will map tram lines, the second year construction will begin in isolated area to prevent traffic, by the fifth year tram lines will have trams running.** **The estimate cost \$1 billion.** **Steel and skilled laborers are required.** **When services are running our aims will be met.**

ASSESSMENT QUESTION 5

Propose TWO additional strategies for how your chosen city can be made more sustainable for local communities and future generations.

1. _____

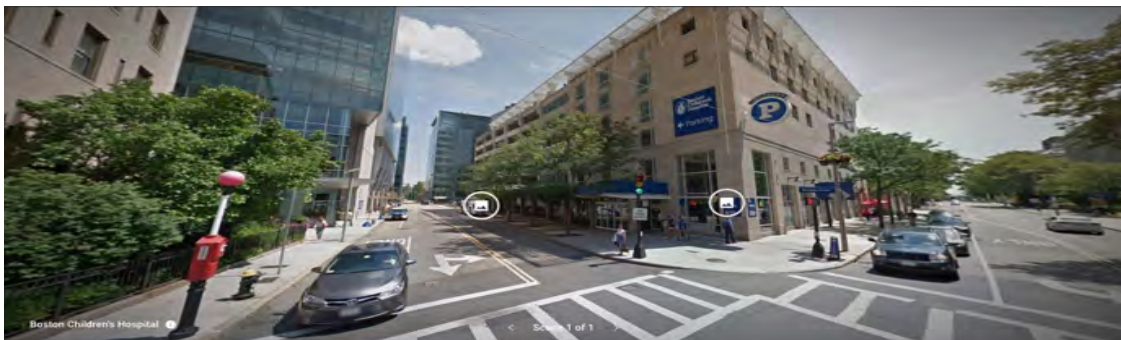
2. _____

PUTTING YOUR REPORT TOGETHER

A report has:

- **An introduction** – introduces the topic, the subheadings that you will explore and your case studies.
 - **A body** – with subheadings and several paragraphs (you may have 5). Please also include data, graphs, maps, statistics and/or images etc. and refer to them within your response.
 - **A conclusion** – summary of what you explored within the report.
 - **Bibliography** – APA 6th edition (Nothing new)
1. Sort through the assessment responses that you answered on this document and piece them together in a new separate document for your final submission.
 2. Remember to use subheadings and to re-read and edit your work.

A Virtual Reality Tour might look like this



Source: https://medium.com/@_the_kate_d/whats-up-wednesday-tech-edition-google-tour-creator-a-free-tool-to-create-360-virtual-tours-96ebadde7de3

NSW GEOGRAPHY SYLLABUS 7–10

Outcomes

- GE5-5 assesses management strategies for places and environments for their sustainability
- GE5-7 acquires and processes geographical information by selecting and using appropriate and relevant geographical tools for inquiry
- GE5-8 communicates geographical information to a range of audiences using a variety of strategies

Sustainability

In Geography, students examine the effects of human activities on environments and how challenges to sustainability, and strategies to address these, vary from place to place.

Geographical tools: Spatial technologies

Spatial technologies include any software or hardware that interacts with real world locations.

Spatial technologies are used to visualise, manipulate, analyse, display and record spatial data.

Information and communication technology capability

Students locate, select, evaluate, communicate and share geographical information using digital and spatial technologies.

Students develop ICT capability by maximising use of the technologies available to them, adapting as technologies evolve.

Critical and creative thinking

Students are encouraged to be curious and imaginative in investigations and fieldwork and to think creatively about the ways that the places and spaces they use might be better designed, and about possible, probable and preferable futures

Source: <https://educationstandards.nsw.edu.au/wps/portal/nesa/k-10/learning-areas/hsie/geography-k-10>

STAGES 4–5: URBAN PLACES AND LIVEABILITY



DESIGN AN APARTMENT BLOCK

Jessica Skinner Crowe
Geography Teacher, Riverside Girls High School

With this task, students examine the population movements within Sydney, specifically focusing on the increasing population within our local suburb. Students assess strategies which will make urban places liveable for a larger population whilst encouraging sustainability. This activity is flexible in its nature, allowing for its application in a range of environments.

Stage 4 Place and liveability

Selected outcomes

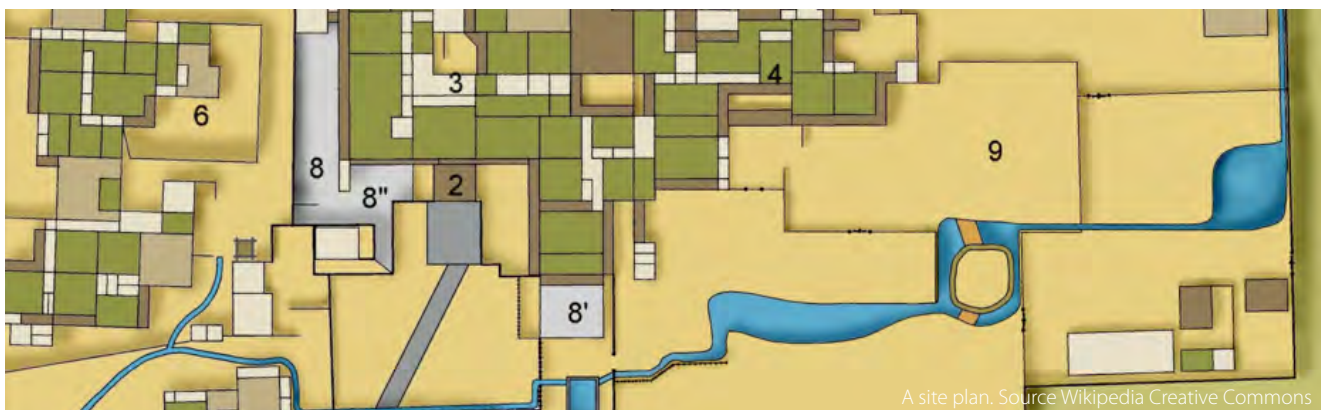
- GE4-3 explains how interactions and connections between people, places and environments result in change
- GE4-8 communicates geographical information using a variety of strategies

Inquiry question

What approaches can be used to improve the liveability of a place?

Content area

Students discuss factors that influence people's perceptions of the liveability of places and investigate the characteristics of places that support and enhance people's wellbeing. They assess the liveability of places and propose strategies to enhance the liveability of a place.





Paragon Apartments, Zetland. Source Wikipedia Creative Commons

Stage 5 Changing Places

Selected outcomes

- GE5-2 explains processes and influences that form and transform places and environments
- GE5-3 analyses the effect of interactions and connections between people, places and environments
- GE5-8 communicates geographical information to a range of audiences using a variety of strategies

Inquiry question

What strategies are used to manage environmental change in an urban place to enhance sustainability and liveability?

Content area

Students examine the patterns and trends in population movements and increasing urbanisation. They examine strategies to create liveable and sustainable urban places and propose solutions.

Adapted from

<https://educationstandards.nsw.edu.au/wps/portal/nesa/k-10/learning-areas/hsie/geography-k-10/content/1188>



Project management. Source Wikipedia Creative Commons

DESIGN AN APARTMENT BLOCK

The Problem

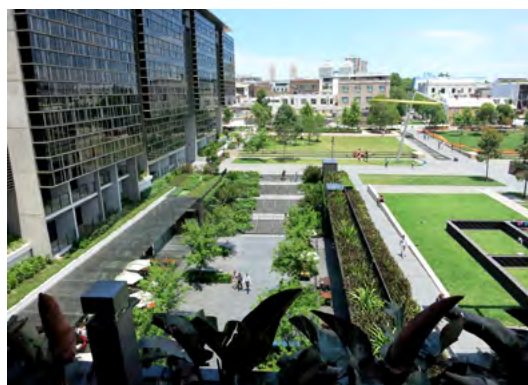
The population in _____ is increasing, meaning that there is a need for new apartment buildings to be established in the local area. For this reason, _____ is losing its basketball courts to high rise apartment buildings.

Working as a member of an architectural team in 2019, you are competing against other companies to win the contract to design a state-of-the-art apartment building for the _____ High School site. You must present your proposed design to a panel of professional architects, who will be awarding the contract. Your design must meet the needs of the local demographics. Your apartments must be a leading representation for sustainable Australia.

Required products and performances

1. advertisement brochure
2. community letter
3. development proposal
4. floor Plan (drawing)
5. site plan (drawing)
6. presentation

See detailed description for each product below



Open space at One Central Park Sydney.
Source: Wikimedia Commons

Team members

Teams need no more than four members.

Position	Team Member	Task
Company Marketing		Create an advertisement brochure for the development to promote it to potential buyers
The head of your company		Write a community letter to the people living in Huntleys Point to inform them of the development.
Project Manager		Draft a development proposal with RGHS for the project.
Interior Designer/ Architect		Design the interior of each apartment and outside of the block

Description of Required Products

ADVERTISEMENT BROCHURE

A brochure is an informative paper document for advertising, which can be folded into a template, pamphlet or leaflet. Brochures are promotional documents, primarily used to introduce a company, organisation, products or services and inform potential customers or members of the public of the benefits. The main purpose of a brochure is to extend the reader's knowledge on the apartment building.

Required Elements

- Location
- Services
- Infrastructure
- Why will this appeal to the local demographics?

Hints

- Define your audience: Ask yourself, "who is the target audience of your brochure?"
- Use an appealing headline
- Keep the content brief
- Use nice images
- Make it unique and eye-catching

COMMUNITY LETTER

A community letter is an informative piece of paper used to advise the local community about a development plan. If you want to call on the community to act on a particular issue, you must begin with a strong and persuasive letter to all community residents outlining the problem and suggesting a course of action.

Required elements

- Inform them of what is taking place
- Specify the benefits it will have on the community
- State how you are going to reduce any negative impacts/issues

DEVELOPMENT PROPOSAL

A Development Proposal helps organisations respond to buyer Request for Proposals (RFP). Having an established proposal development process should help ensure organisations develop the best proposal possible that satisfies all the seller and buyers needs and requirements.

Required elements

- Benefits to the school (or other location)
- Benefits to the development
- Sustainability
- Trade-offs

Hints

- Hook the seller and buyer
- Note anything that can hurt or increase the success of the development
- How will you overcome any obstacles?

NOTE: There is no need to reference amounts of money, it is about the deal



FLOOR PLAN

The floor plan should show the outline of each building (buildings only, not gardens or parking lots). They also show the location of interior walls, windows and exits.

Required elements

- all buildings/interior spaces must be clearly labelled
- use a standard symbol for windows and doors
- Construction options: online program or hand drawing

SITE PLAN

The site plan is an “artist’s rendering” of what the apartment complex looks like. It’s your chance to capture the viewer’s imagination and convey the spirit of the place (e.g., quiet, bustling, back-to-nature, high-tech ...).

Required elements

- Show detail such as building texture, landscaping, background
- Construction options: online program or hand drawing

PRESENTATION

The objective of the oral presentation is to highlight the strengths of your proposal and convince your client that you can handle the job. Your potential client (the panel of architects) gets a sense for what it would be like to work with you by the competence and sincerity you express, and by how you answer their questions and respond to their needs.

- you are limited to 10 minutes to explain your proposal, which will be followed by 2 minutes of questions from the architects
- you must prominently display the site plan, floor plan(s), perspective drawing, and scale model

Consider

Demographics	Use the ABS website to predict the future demographic of the suburb.
Fieldwork to the site	How much space do you have to build on? How big will each apartment be? What direction should the balconies be? Do you have room for green space at ground level? Or upper levels?
Advertisement Brochure	Location, services, infrastructure etc. around the area. What is going to appeal to the local incoming demographic?
Community letter	Inform them of what is taking place Specify the benefits it will have on the community State how you are going to reduce any negative impacts/issues
Building and Interior Design/Proposal	How will you share the space with the High School? What are the demographics being represented in _____? How will your building be environmentally, economically and socially sustainable? Will it offer different layouts to meet different needs e.g. three bedrooms for a family but one bedroom for an older couple? What colour will the building be? If your building is multiple levels, will it have an elevator? Car park? Facilities? How will aid in creating a sustainable Sydney?

URBAN PLACES AND LIVEABILITY

Timeline

Date/Lesson	
Week 6 Lesson 1	Start task
Week 6 Lesson 2	
Week 7 Lesson 1	
Week 7 Lesson 2	
Week 8 Lesson 2	
Week 9 Lesson 1	
Week 9 Lesson 2	Submit all work
Week 10	Present task



3D Floor plan. Source: Wikimedia Commons

URBAN PLACES AND LIVEABILITY

Peer Feedback

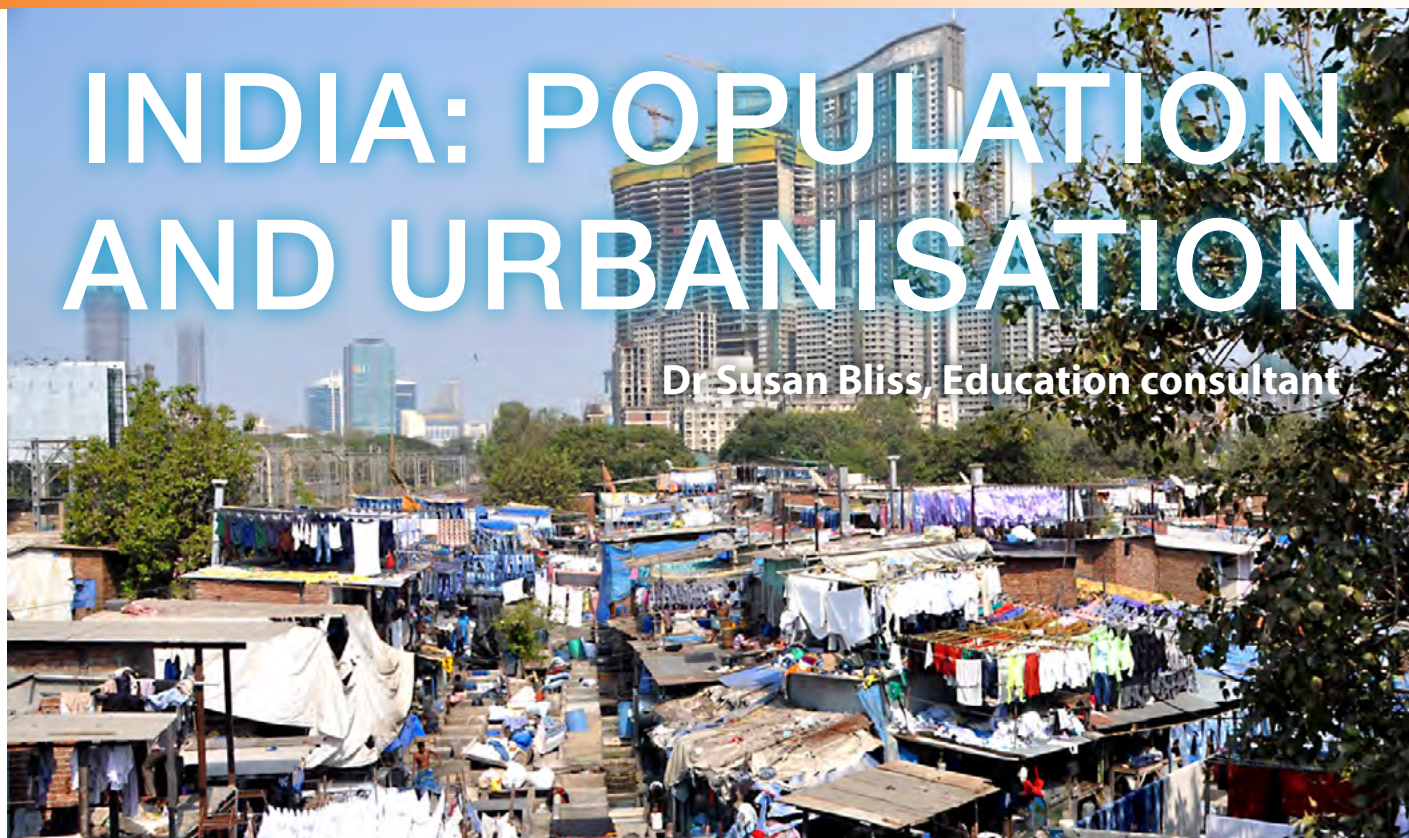
As each group presents, you will rank their proposal on a scale of 1-5 based on three indicators.

<p>Group members:</p> <hr/>	<p>Group members:</p> <hr/>																																																
<p>After each group presents rate their proposal from the follow.</p>	<p>After each group presents rate their proposal from the follow.</p>																																																
<table><thead><tr><th></th><th>Poor</th><th></th><th></th><th></th><th>Fantastic</th></tr></thead><tbody><tr><td>Social sustainability</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>Environmental sustainability</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>Economic sustainability</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr></tbody></table>		Poor				Fantastic	Social sustainability	1	2	3	4	5	Environmental sustainability	1	2	3	4	5	Economic sustainability	1	2	3	4	5	<table><thead><tr><th></th><th>Poor</th><th></th><th></th><th></th><th>Fantastic</th></tr></thead><tbody><tr><td>Social sustainability</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>Environmental sustainability</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>Economic sustainability</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr></tbody></table>		Poor				Fantastic	Social sustainability	1	2	3	4	5	Environmental sustainability	1	2	3	4	5	Economic sustainability	1	2	3	4	5
	Poor				Fantastic																																												
Social sustainability	1	2	3	4	5																																												
Environmental sustainability	1	2	3	4	5																																												
Economic sustainability	1	2	3	4	5																																												
	Poor				Fantastic																																												
Social sustainability	1	2	3	4	5																																												
Environmental sustainability	1	2	3	4	5																																												
Economic sustainability	1	2	3	4	5																																												
<p>Feedback:</p> <hr/> <hr/> <hr/>	<p>Feedback:</p> <hr/> <hr/> <hr/>																																																

<p>Group members:</p> <hr/>	<p>Group members:</p> <hr/>																																																
<p>After each group presents rate their proposal from the follow.</p>	<p>After each group presents rate their proposal from the follow.</p>																																																
<table><thead><tr><th></th><th>Poor</th><th></th><th></th><th></th><th>Fantastic</th></tr></thead><tbody><tr><td>Social sustainability</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>Environmental sustainability</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>Economic sustainability</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr></tbody></table>		Poor				Fantastic	Social sustainability	1	2	3	4	5	Environmental sustainability	1	2	3	4	5	Economic sustainability	1	2	3	4	5	<table><thead><tr><th></th><th>Poor</th><th></th><th></th><th></th><th>Fantastic</th></tr></thead><tbody><tr><td>Social sustainability</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>Environmental sustainability</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>Economic sustainability</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr></tbody></table>		Poor				Fantastic	Social sustainability	1	2	3	4	5	Environmental sustainability	1	2	3	4	5	Economic sustainability	1	2	3	4	5
	Poor				Fantastic																																												
Social sustainability	1	2	3	4	5																																												
Environmental sustainability	1	2	3	4	5																																												
Economic sustainability	1	2	3	4	5																																												
	Poor				Fantastic																																												
Social sustainability	1	2	3	4	5																																												
Environmental sustainability	1	2	3	4	5																																												
Economic sustainability	1	2	3	4	5																																												
<p>Feedback:</p> <hr/> <hr/> <hr/>	<p>Feedback:</p> <hr/> <hr/> <hr/>																																																

INDIA: POPULATION AND URBANISATION

Dr Susan Bliss, Education consultant



Dhobi_Ghat,_Mumbai,_India. Source: L.Chaffer

CURRICULUM: GEOGRAPHY

- Stage 4** **Liveability-spatial distribution and density of population**
- Stage 5** **Changing places – urbanisation and migration**
Environmental change and management – urban
- Stage 6** **Population – growth rates, distribution, types, volumes and movements, and its impacts on natural environments**
Urban Population – Urban Places

Integration of geographical skills: maps, graphs, population pyramids, cartoons, tables and photographs

*India's huge population of 1.37 billion people, and the sizeable movement of its populace (e.g. interstate, intrastate, rural-urban and international), has rapidly altered the distribution and density of the population, as indicated in the latest **2011 Census**, collected from '608,786 villages, 7742 towns, and 5767 tehsils across India's 640 districts'. As India only collects Census statistics every 10 years, data is frequently outdated and contradicts estimates from other sources, such as satellite imagery and remote sensing. However, the skill of identifying real and fake statistics and images, is imperative.*

Accurate and current statistics is critical for national and state governments' effective allocation of resources to infrastructure, transport, shelter, education, health services, energy, water and sewerage systems, all contributing to liveability.

Note some of the statistics in this article are debatable.

Source: <https://blog.socialcops.com/intelligence/data-stories/step-step-guide-2011-census-successes-failures-questions/>

INDIA: POPULATION & URBANISATION

CONTENT

This article on the spatial patterns of population distribution and density across India is divided into:

PART A: Overview-India's demographics-comparative global, national, state, urban/rural.

PART B: India overtakes China's population. Why? When?

PART C: Factors affecting population distribution and density in India.

PART D: Spatial distribution of population across India.

PART E: Spatial distribution of population density across India.

PART F: Changes over time to India's population distribution and density.

PART G: Spatial distribution of urban centres across India.

PART H: Predicted future population distribution-climate change

PART I: Activities

Note that India's population distribution and density are closely related.

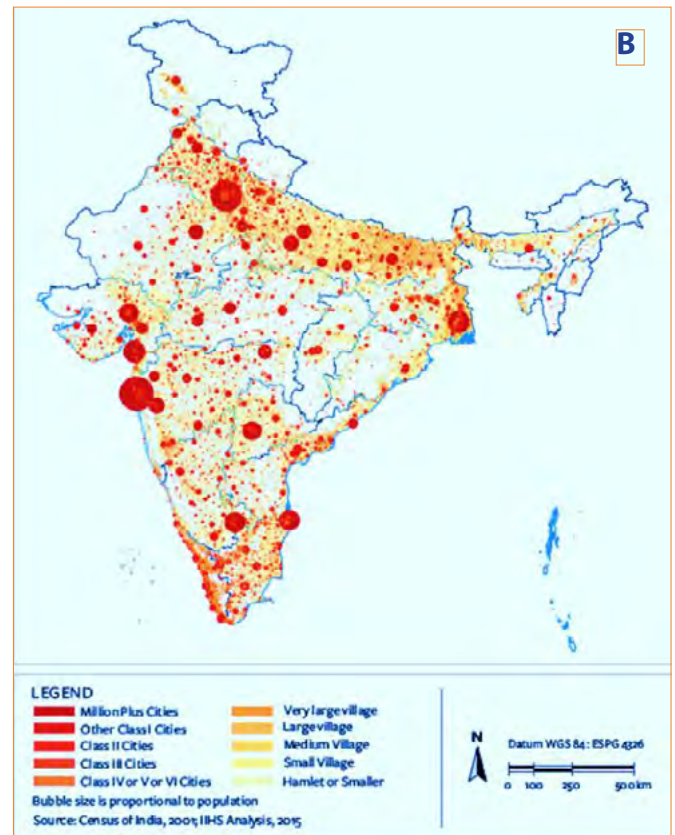
Mapping population distribution in India

A. **Gridded population cartogram** is an equal-population projection where each area is proportional to the number of people living there. Gridded population cartograms help us understand internal variations in the distribution of people within India.



Source: <https://worldmapper.org/maps/gridded-population-ind/>

B. **Proportional circle population map** illustrates India's population and distribution of settlements from 2011 Census



Source: <https://www.indiaspend.com/indias-missing-middle-24000-villages-with-populations-greater-than-towns-lose-out-on-policies-for-urban-areas/>

PART A: OVERVIEW – INDIA DEMOGRAPHICS

Global comparison

Area

India's area: 3.28 million km². **7th largest area** in the world – 2.41% of world's area

Population

India 2019: 1.37 billion people. **2nd largest** in the world – 18% of world's population

Population growth rate: 102nd highest out of 212 countries.

Population growth rate declined: 1975 – 2.34%; 2019 – 1.08%

Birth rate declined: 2000-24.7 births/1000 population; 2019-19.3 births/1,000.

Fertility rate declined: 1960 – 5.9 children per woman; 2019 – 2.3 children per woman. Rural areas generally have higher fertility rates than urban areas.

Death rate declined: 1960 – 22/1000 population; 2019 – 7.3 deaths/1,000

Life expectancy increased: 1960 – 42 years; 2019 – 68 years. Population is anticipated to grow until 2060s, and then predicted to decline.

INDIA: POPULATION & URBANISATION

Population Distribution

Rural 72.2% – 68.84%; **Urban** 27.8% – 31.16%

Largest state: Uttar Pradesh 200 million

Smallest states: Lakshadweep 64,500; Sikkim 500,000

Villages: 641,000 varying from 500–10,000 or more people

Million plus cities: More than 50 urban areas possess a population of over one million people.

Megacities: Populations over 10 million, e.g. Delhi (30 million), Mumbai (23 million) and Kolkata (28 million).

- **Urban growth:** Due to natural increase (births>deaths), net migration (push-pull factors), urban expansion/agglomerations, and new urban areas.
- **Rate of urbanisation:** Increased from 27.81% (2001) to 31.16% (2011).

Population Density Km²

Average density: 418 people per/Km² and growing

24th highest density country out of 212 countries

Densest states: Delhi 11,300 Km² followed by Chandigarh and Puducherry

Sparser state: Arunachal Pradesh 17 Km²

Cities – Highest densities: Delhi, Kolkata, Chennai and Mumbai.

Other Population Characteristics

India's gender ratio is 944 females for 1000 males. The more developed state of Kerala has highest gender ratio of 1084 females to 1000 males versus the poorer state of Haryana with only 879 females per 1000 males. Major causes of skewed gender ratios are ultrasound examinations for foetal sex determination followed by abortion of female babies, violent treatment to female children at birth, and dowry burning.

Worst child gender ratio: Mahesana – 762 girls per 1,000 boys.

Age distribution: More than 50% of the population are below 25 years.

Literacy rate: 74% but varies between states, rural/urban areas, gender and wealth.

Human Development Index (HDI): India is ranked 130 out of 189 countries on human development, covering factors such as health, education and income. The HDI varies between states and urban/rural areas/gender. Women experience a lower HDI than men.

YouTube

- Demography of India – Population of India
Source: <https://www.youtube.com/watch?v=1ail-D-XIng>

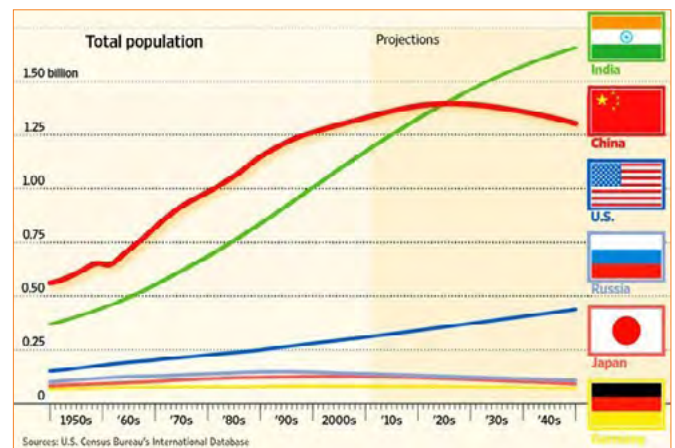


Source: https://upload.wikimedia.org/wikipedia/commons/0/0e/India_-_Varanasi_pharmacy_-_0894.jpg

PART B: INDIA OVERTAKES CHINA'S POPULATION

Around 1500 the Indian population reached 100 million people. From 1500 –1700 under the Mughal Empire, the population experienced economic and demographic upsurges resulting in the population rate accelerating from 60% to 253%, to reach 165 million people. By 1700 India possessed an urban population of 23 million creating 120 large cities (e.g. Agra 800,000), 3,200 townships and 455,000 villages. By 1880 during the British Raj era, the population was roughly 255 million. From 1975–2010 the population doubled to 1.2 billion, in 2019 it reached 1.37 billion, and by 2050 is predicted to encompass 1.7 billion people. India's decadal (2001–2011) population growth was a huge 17.64%, over three times higher than China's 5.43%. It is predicted that at the present population trajectory, India will overtake China as the most populous country around 2022.

a. Past, present and future projections of India's population growth



Source: <http://khaleejmag.com/news/main-causes-population-growth-india/>

INDIA: POPULATION & URBANISATION

b. World's most populous countries 1950 – 2050. India versus China

	1950	2017	2050 (Projected)
Top population country	China	China	India
Population	554 million	1.4 billion	1.6 billion
Percent of world's population	22%	19%	17%
Second highest population country	India	India	China
Population	376 million	1.3 billion	1.4 billion
Percent of world's population	15%	18%	14%
Third and fourth largest countries	US, Russia	US, Indonesia	Nigeria, US

Adapted: <https://qz.com/india/1051533/india-is-unprepared-for-a-near-future-when-it-will-be-the-worlds-most-populous-country/>

YouTube

- India vs China Population Growth (1950 – 2050)
Source: <https://www.youtube.com/watch?v=5ff8cL7VfrM>
- Interesting comparison of India vs China population 1950 – 2100. Animated.
Source: <https://www.youtube.com/watch?v=FNcGm2z11Qc>

c. Population: India versus China

India's estimated annual population growth rate is predicted to be 0.93% (2018 – 2030) and even lower at 0.46% (2030 – 2050). During the same period China's population growth is anticipated to be lower than India's at 0.03% by 2030, and eventually move into minus figures at -0.43% by 2050.

There are multiple factors contributing to India's larger growth in population compared to China's such as:

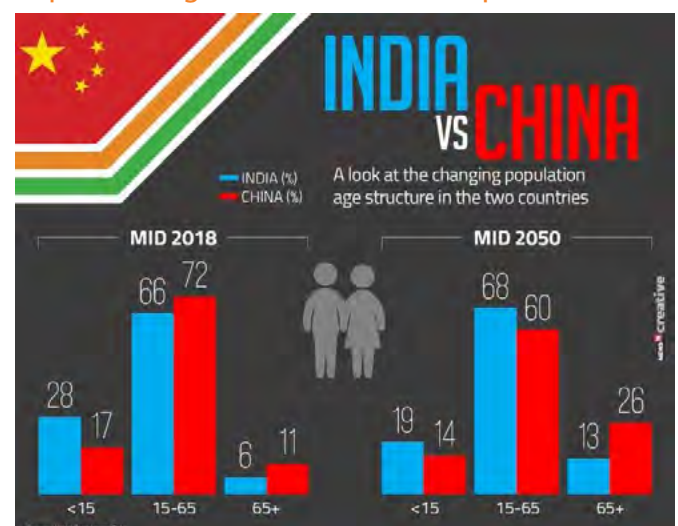
- Age-structure:** India possesses a younger population than China. The median age in India is 27 years, compared to China's 38 years. Children under 18 years account for 30% of India's population compared with 20% in China. When young people enter the workforce, India's working age population is predicted to rise to 869 million by 2020, representing 28% of the world's workforce.
- Fertility rates:** India has higher fertility rates than China. From 1960 – 2017 India's fertility rate fell from 5.9 to 2.3 births per woman, compared to China's lower rates falling from 5.7 to 1.6 births per woman.
- Rural versus urban:** India has a predominantly rural population varying from 72.2% – 68.84% in contrast to 43% in China. Urban populations generally transition

more rapidly to lower fertility rates, as experienced in the more urbanised China. Interestingly the abolition of the **One-Child Policy** in China in 2015 saw a further drop in the birth rate.

China exceeds India in the following indicators, contributing to a slower population growth rate.

- Life expectancy:** From 1960 – 2019, India's life expectancy increased from 42 years to 68 years as a result of improved health services and clean water, as well as the reduction of communicable diseases like cholera, malaria and smallpox. By contrast China's life expectancy was similar to India's at 44 years in the 1960s but reached a higher life expectancy of 76 years by 2017.
- Ageing population:** By 2050, the percentage of Indians over 65 years is predicted to double to 13%, compared to the Chinese reaching a large 44%.

Population-age structure: India compared to China

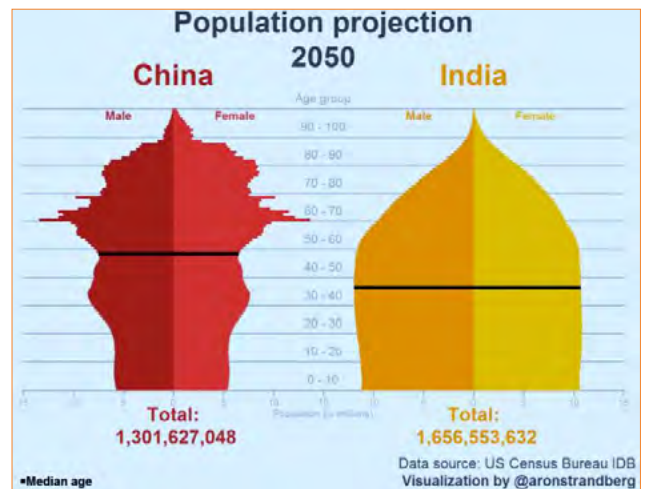
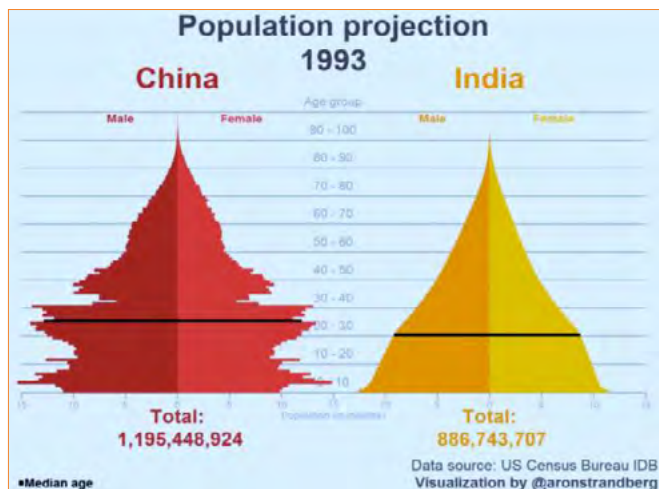


Source: <https://twitter.com/News18Graphics/status/1032878553627590656>

INDIA: POPULATION & URBANISATION

d. Population structure: India compared with China over time

The population pyramids differ between China and India over time. In 2050, China is predicted to be skewing towards an older population, compared to India comprising of a younger, working population.



Source: <https://www.visualcapitalist.com/animation-comparing-china-vs-india-population-pyramids/>

Skewed gender ratios

In both countries, **infant mortality** was higher for females than males. **Skewed gender ratios** are mainly due to the use of prenatal ultrasound scanning to abort female fetuses. The practice of sex-selective abortion, while prohibited, is difficult to eliminate.

In the coming decades, "surplus males" who can't find brides could reach 40 million. Son preference is related to their role to care for elderly parents, daughters depart to husbands' households after marriage, and a bride's parents are expected to pay a dowry to prospective in-laws.

In Mumbai the preference for boys is obvious as for every 1,000 boys there are only 899 girls. This gender imbalance is blamed on sex-selective abortions.

Source: <https://qz.com/india/1051533/india-is-unprepared-for-a-near-future-when-it-will-be-the-worlds-most-populous-country/>



Source: [https://commons.wikimedia.org/wiki/File:Children_Reading_Pratham_Books_and_Akshara_-_Flickr_-_Pratham_Books_\(10\).jpg](https://commons.wikimedia.org/wiki/File:Children_Reading_Pratham_Books_and_Akshara_-_Flickr_-_Pratham_Books_(10).jpg)

YouTube

- China and India population development 1960 – 2060. Source: <https://www.youtube.com/watch?v=9YZQO7EFGm4>

e. Fertility rates: Major contributor to India's population growth

The long-term growth of India's population, is largely a function of fertility rates. Since 1960 the fertility rate has more than halved from 5.9 to 2.3 children per woman, bolstering economic growth, reducing poverty and increasing human wellbeing. However, differentials in fertility rates exist between states, urban-rural areas; within urban centres; and between religious and caste communities For example:

- Between states:** There are considerable variations in the fertility rates between India's states. In the southern Indian states where there is higher economic development, such as Kerala, the fertility rate was below 2.0 children per women, compared to poorer eastern Bihar where the fertility rate is above 3.0 children per women.

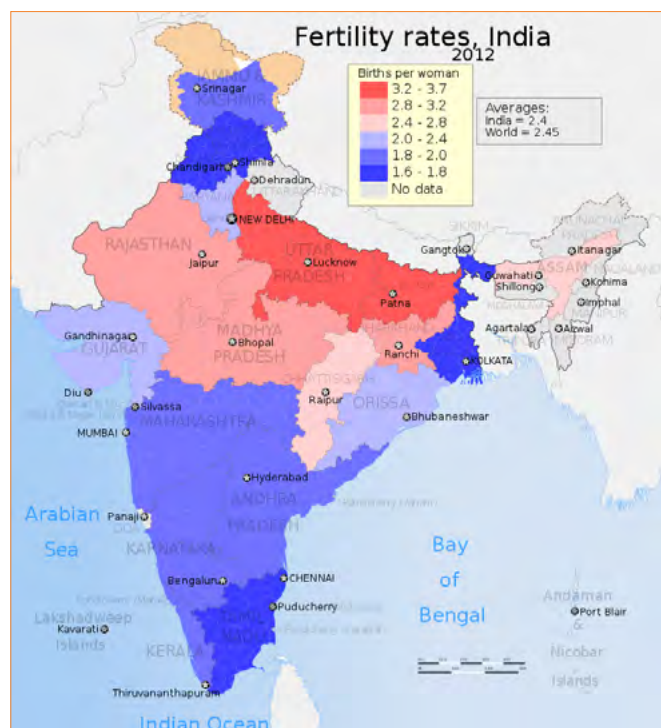


Over 3 children per woman:
Uttar Pradesh (3.1), Bihar (3.3)

Below replacement level of 2.1 children per woman: Sikkim (1.2), Goa (1.5), West Bengal (1.6), Delhi (1.7), Karnataka (1.8), Tamil Nadu (1.7) Andhra Pradesh (1.7) Kerala (1.8), Maharashtra (1.8).

INDIA: POPULATION & URBANISATION

Choropleth map: Fertility rates vary Between Indian states



Source: https://en.wikipedia.org/wiki/Demographics_of_India#/media/File:2012_Fertility_rate_map_of_India_births_per_woman_by_its_states_and_union_territories.svg

- **Urban versus rural areas:** Urban fertility and crude birth rates are generally lower than rural rates

YEAR 2016	URBAN	RURAL
Fertility rate – number of children per woman	1.75	2.41
Crude birth rate – number of live births per 1000 people	15.8	20.7

- **Within urban areas:** Delhi's urban middle-class fell to 1.7 children per woman, compared to residents living in urban slums reaching a high 6.0 number of children per woman.
- **Between religions:** The lowest fertility rate were amongst the Jains (1.2) who also reached the highest education level. This was followed by Sikhs (1.6), Buddhists (1.7), Christians (2.0) and Hindus (2.1). However the rate was higher in Muslim communities but was falling from 3.4 (2006) to 2.6 (2016).
- **Between castes:** The least developed and lowest castes referred to as the Scheduled Tribes/Castes had the highest fertility rates (2.5 – 2.3) compared to upper castes with the lowest fertility rate (1.9).

For decades, many Indian women relied on female sterilisation, as the main contraceptive. In 2017, about 30% of Indian women with one child had been sterilised

compared to 84% of women with two children. Around 77% were the poorest women and 89% the wealthiest. Family planning, abortions, sterilisation, contraceptives, two child policy (e.g. Assam), education and use of modern injectable contraceptives contributed to a decline in India's fertility rate. For example from 1981-2016 there were large reductions in fertility rates in Punjab (4.6 to 1.6) and Madhya Pradesh (5.2 to 2.7).

The future fertility rate in India is uncertain: Will it be: Same rate as today (2.3)? Replacement rate (2.1)? Below replacement rate (<2.1)?

If India's fertility rate remains unchanged (2.3 births per woman), the population would double to 2.5 billion by 2100. Even at replacement level (2.1 births per woman), the population would almost reach 2 billion by 2100.

YouTube

- Videographic: Are Asian fertility rates declining?
Source: <https://www.youtube.com/watch?v=mrQDCxGJqmc>



Source: <https://www.quora.com/What-appalls-or-disgusts-you-about-India>

PART C: FACTORS AFFECTING POPULATION DISTRIBUTION IN INDIA

India's massive population of nearly 1.4 billion people, encompassing an area of 3.28 million Km², is unevenly distributed across 29 states and 7 union territories, due to intersecting complex factors such as geographic, environmental, social/cultural, economic, technological, political and historical factors. This random population distribution is predominantly linked to its diverse landscapes-ranging from rugged snow-capped mountains (Himalaya), barren deserts (Thar), fertile wetlands (Kerala, Sundarbans), fertile plains (Indo-Gangetic), coasts (Kerala), plateaus (Deccan), islands (Andaman) and cities (Delhi, Kolkata).

INDIA: POPULATION & URBANISATION

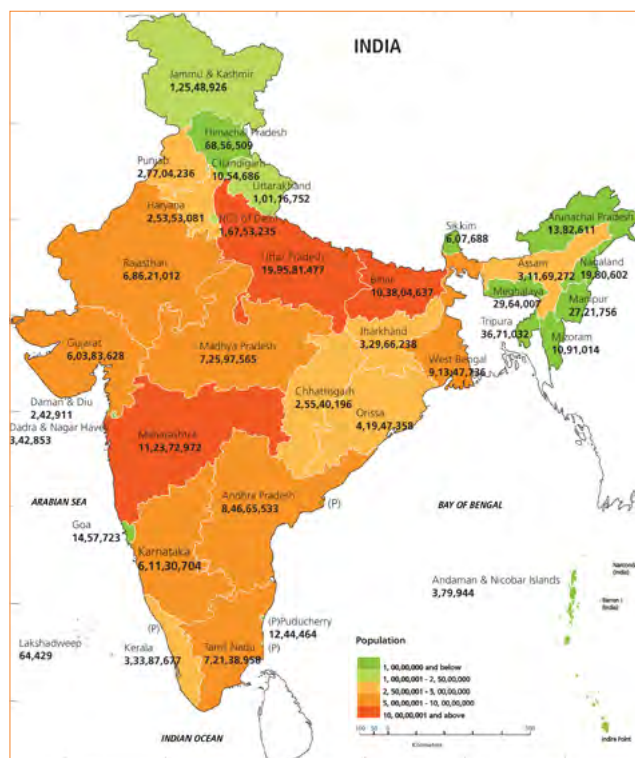
Multiple reasons for India's uneven distribution of population

- **Geographic location:** desert versus river valley. Remote and isolated settlements versus coastal
- **Demographic factors:** increase in natural population, net migration and rural-urban migration. Movement of population from Bangladesh (climate change refugees) and Indians migrating overseas for jobs
- **Infrastructure:** roads, railways, bridges, schools, hospitals
- **Urbanisation:** Development of Smart Cities
- **Employment:** industrial, agricultural, mining, technological, financial/commercial, fishing, tourism
- **Liveability:** access to jobs, shelter, education, hospitals, transport, services, clean environment, safety
- **Religion:** Varanasi – Hindu. Cultural sites

For example, **Jammu and Kashmir** located in the far northwest of India, is inaccessible, remote and a source of conflict since the partition of India in 1947. The population of only 14 million people has a low average population density of 56 persons/Km².

PART D: SPATIAL DISTRIBUTION OF INDIAN POPULATION

(2011 Census)



INDIA: POPULATION & URBANISATION



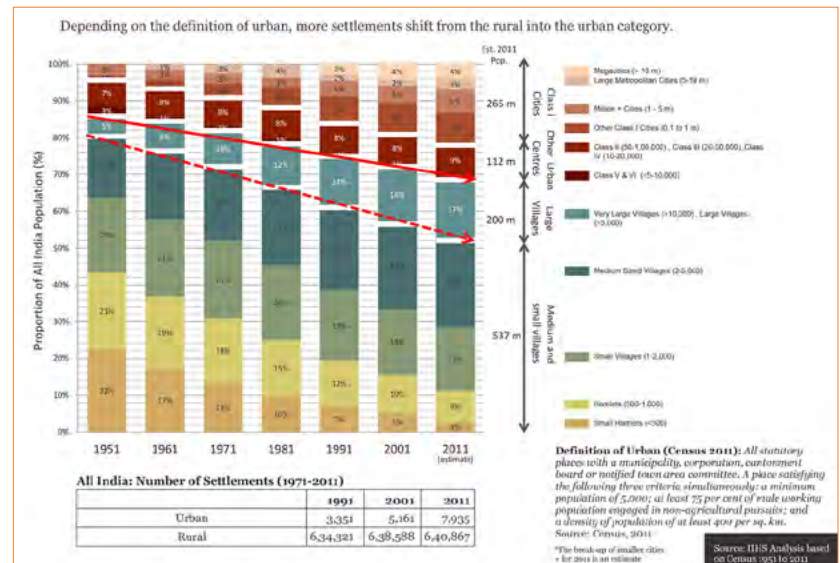
Source: [https://commons.wikimedia.org/wiki/File:India_-_Rural_-_04_-_typical_street_\(2566361495\).jpg](https://commons.wikimedia.org/wiki/File:India_-_Rural_-_04_-_typical_street_(2566361495).jpg)

a. Rural settlements

Around 68.84% of India's population live in rural areas. The predominantly rural population, concentrated in villages, generally suffers low levels of economic development and human wellbeing. Most of the rural population live in 641,000 villages varying in size from 500 to 10,000 or more people. The top five states with the highest share of the rural population are Himachal Pradesh, Bihar, Assam, Odisha and Meghalaya. However, push-pull forces have witnessed declining rural populations in Kerala (26%), Goa (19%), Nagaland (15%) and Sikkim (5%).

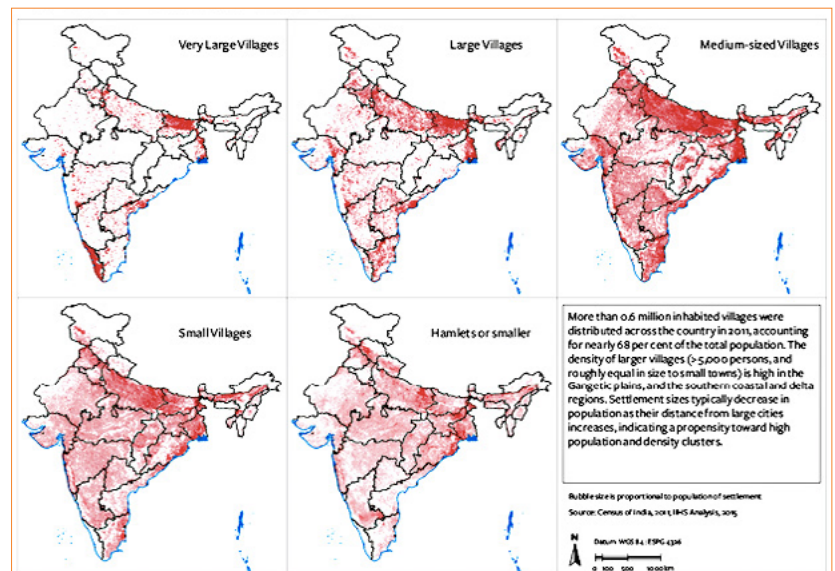
People living in rural areas experiencing droughts, floods, land degradation and desertification, such as parts of Rajasthan, Uttar Pradesh and Bihar, have been forced to move to urban areas, and as a result changed the spatial distribution of the Indian population.

Settlements – population size and distribution 1951–2011



Source: https://www.researchgate.net/publication/261697210_Urban_India_Evidence_2011

Distribution of Rural Settlements, 2011



Source: <https://www.indiaspend.com/wp-content/uploads/2019/01/Rural-settlements.png>



Image Source: L.Chaffar

INDIA: POPULATION & URBANISATION

In the decades between Independence 1947 and the Census 2011, an urban transition took place. While hamlets and small villages had housed 43% of the population in 1950, they were home to just 12% of the population in 2011. Around 24,000 settlements are now classified as 'large' and 'very large villages', where around 190 million people (more than 10% of India's population)--lived.

Source: <https://www.indiaspend.com/indias-missing-middle-24000-villages-with-populations-greater-than-towns-lose-out-on-policies-for-urban-areas/>



Ghaffar Market, Mumbai Source: L.Chaffer

YouTube

- Rural settlements in India

Source: <https://www.youtube.com/watch?v=t2aBGFFKQrs>

b. Urban settlements

The urban population of 377 million, constituting around 31.16% of the total population, live in 7,935 cities and towns. They are divided into:

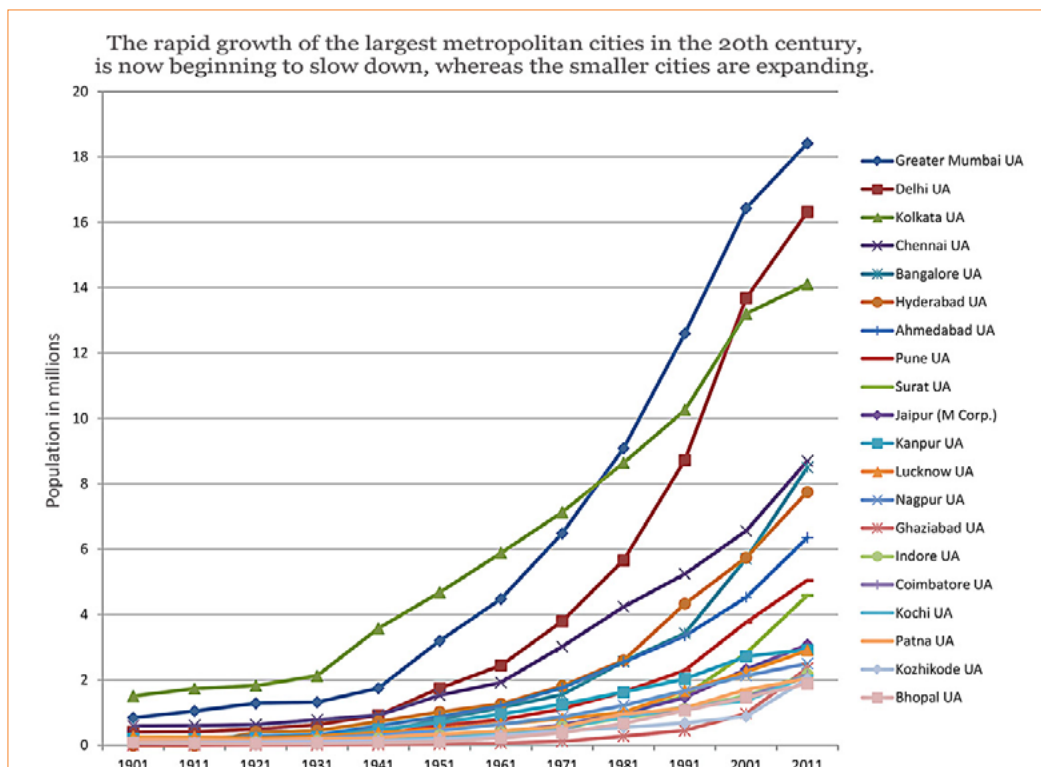
- Class I Towns or Cities: Populations of 100,000. These cities increased from 384 (2001) to 468 (2011).
- Million Plus Cities: 53 cities possess a population of 1 million and above (2011), that increased to 63 (2015)
- Megacities: Populations of 10 million and above e.g. Greater Mumbai UA (18.4 million), Delhi UA (16.3 million) and Kolkata UA (14.1 million). By 2030 it is anticipated India will have 7 megacities, with 9.6 million people moving to Delhi.

The top five states with the highest share of urban population are Goa, Mizoram, Tamil Nadu, Kerala and Maharashtra.

YouTube

- Is India becoming more urban? *The Economist*
Source: <https://www.youtube.com/watch?v=gtMeyAs7Vz0>
- Changing India: City Spaces
Source: <https://www.youtube.com/watch?v=FpZl4ZCki7g>
- "Urbanization in India" for UPSC and SSC
Source: https://www.youtube.com/watch?v=p7OQX_99itM
- Process of urbanisation in India
Source: <https://www.youtube.com/watch?v=830KUP-pNmY>

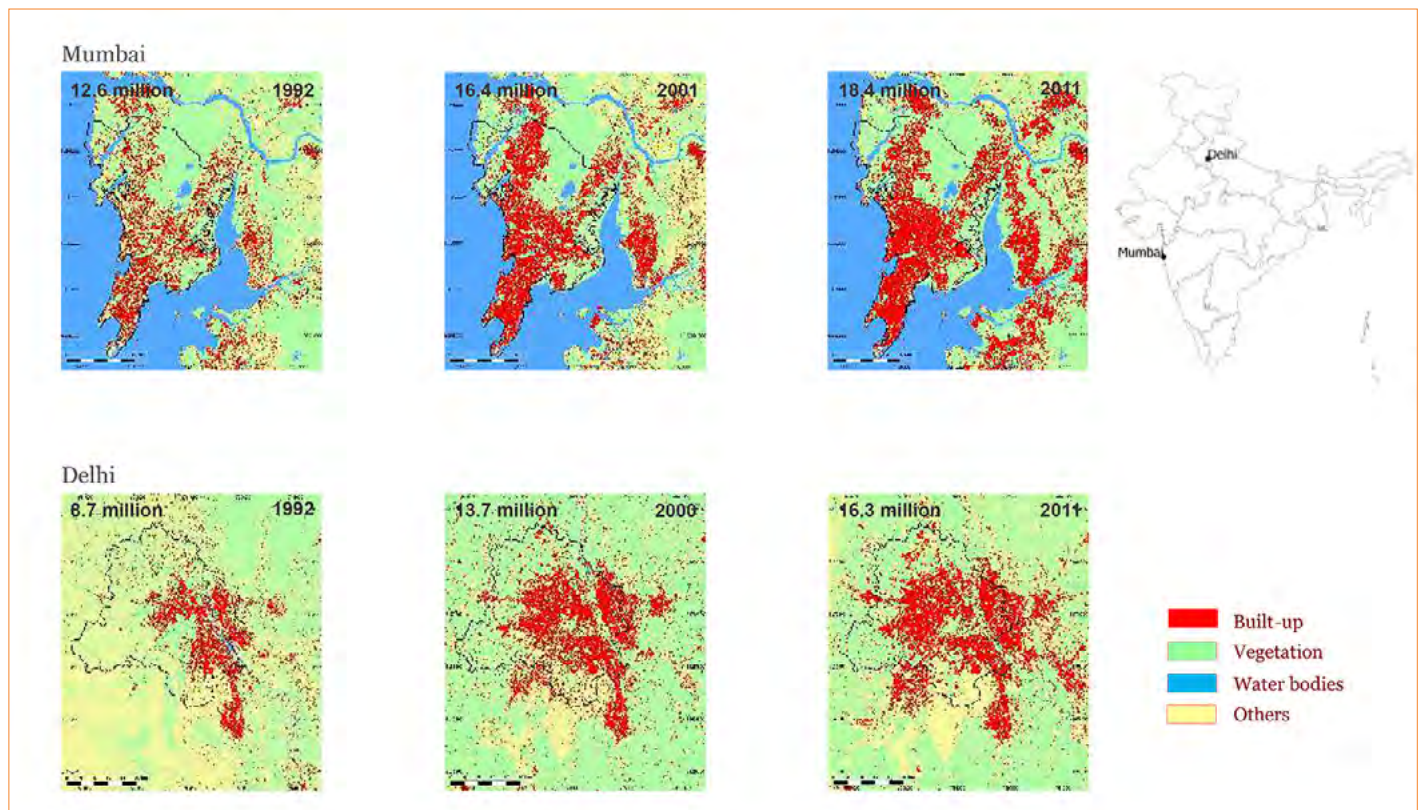
Largest 20 Urban Agglomerations by Population, 2011



Source: https://www.researchgate.net/publication/261697210_Urban_India_Evidence_2011

INDIA: POPULATION & URBANISATION

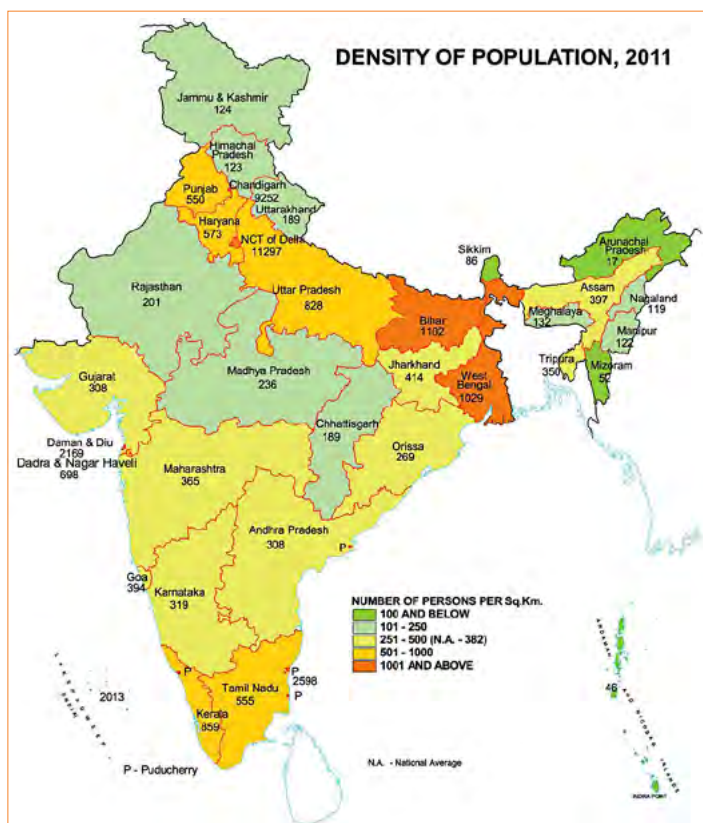
Changes to Urban Built-up Area & Land Cover: Mumbai & Delhi



PART E: SPATIAL DISTRIBUTION OF POPULATION DENSITY ACROSS INDIA

Population Density

- Urban areas:** Minimum population of 5,000 and density of 400 people/Km²
- Rural areas:** Population density of up to 400 people/Km²



INDIA: POPULATION & URBANISATION

Rural areas – comparisons

NORTHERN PLAINS – High population density



The Northern Indo-Gangetic Plain covers the high density states of Punjab (550 people/Km²), Haryana (573 people/Km²), Uttar Pradesh (828 people/Km²) and Bihar (1102 people/Km²), with the National Capital Territory of Delhi (11,927 people/Km²).

Located at the foothills of the Himalayan Mountains, this densely populated landscape supports over 400 million people (about 1/7th of the world's population), with some rural areas reaching a high density of 2913 people/Km².

Over millions of years fertile alluvial soil was deposited, to form a large plain. Additionally, access to water such as the Ganga and Yamuna and Brahmaputra Rivers have ensured the plain is ideal for growing crops, as well as supporting high density urban populations of Kolkata (15 million people) and Delhi (19 million people).

THAR DESERT – Low population density



Rajasthan the largest state in India by area (10.41% of country's area) has a population of only 70 million (5.6% of country's population) and a low population density (200 people/Km²).

These population statistics are low compared to the fertile Northern Plains, as Rajasthan is located in the Thar Desert. The desert receives little precipitation (400mm/pa), and temperatures frequently exceed 54°C in summer. This environment makes life difficult for humans, agriculture and pastoralism.

Jaipur, the pink city and the capital city of Rajasthan, contains about 3.8 million people with a density of 595 people/Km², and is presently growing at 2.75% pa

Image source: Creative commons

Urban centres

Urbanisation is a major factor contributing to changes in the spatial distribution of India's population. As the Indian economy developed, push-pull forces such as unemployed labour in rural areas and relatively higher incomes in urban areas, resulted in rural-urban migration. The escalating movement of millions of people to urban areas in search of a better quality of life (e.g. jobs, shelter, education, health and services) resulted in over urbanisation (e.g. insufficient urban infrastructure, development of slums, and water, air and soil pollution). As population density increased, urban sprawl resulted in the emergence of unplanned development and haphazard construction of homes, and commercial and industrial areas generally located on the outskirts of cities and along major lines of communications.

Mumbai averages about 31,700 persons/Km². However, within Mumbai is located the slum Dharavi, with about one million residents containing densities varying from 66,000 – 92,000 persons/Km².

It must be noted that there are no reliable statistics. Some sources state Delhi, Kolkata and Chennai possess higher population densities than Mumbai, and that Dharavi has a population density more than ten times higher than Mumbai.



Bareilly Compound, Dharavi, Mumbai. Source: https://upload.wikimedia.org/wikipedia/commons/a/a3/Bareilly_Compound%2C_Dharavi_2016_%2829627340465%29.jpg

INDIA: POPULATION & URBANISATION

Table: Population density (total number of people per unit of area) is about 325 persons Km² for India but varies from extremely low (less than 100 persons per km²) to very high (over 1000 km²).

	EXTREMELY LOW DENSITY	LOW DENSITY	MODERATE DENSITY	HIGH DENSITY	VERY HIGH DENSITY
Population density	Less than 100 persons per Km ²	101 to 250 persons per km ²	251 to 500 persons per Km ²	501 to 1000 per Km ²	more than 1000 persons per Km ²
States and persons per Km ²	Arunachal Pradesh (13), Mizoram (42), Andaman and Nicobar Islands (43) Sikkim (76) and Jammu and Kashmir (100).	Meghalaya (103), Manipur (111), Himachal Pradesh (109) Nagaland (120), Chhattisgarh (154), Uttaranchal (159), Rajasthan (165), Madhya Pradesh (196), and Orissa (236).	Gujarat (258), Karnataka (276), Andhra Pradesh (277), Tripura (305), Maharashtra (315), Jharkhand (338), Assam (340), Goa (364), Dadra and Nagar Haveli (449), Haryana (478), Tamil Nadu (480) and Punjab (484).	Uttar Pradesh (690), Kerala (809), Bihar (881) and West Bengal (903)	Union Territories of Daman and Diu (1,413), Lakshadweep, Pondicherry (2,034), Chandigarh (7,800), and Delhi (9,340)
	Environmental factors dominate the density of population. Development of small cities		Human-environmental interactions dominate density of population. Development of large cities		
Human - environmental interactions	<ul style="list-style-type: none"> • Arunachal Pradesh and Mizoram located in remote inaccessible part of NE India. • Sikkim mountainous area. • Andaman and Nicobar Islands located far from the mainland and experienced a hot and humid climate. • Jammu and Kashmir located mostly in the rugged Himalayan Mountains. It has vast areas devoid of population, except for fertile valleys. 	<ul style="list-style-type: none"> • Himachal Pradesh and Uttaranchal located in NW Himalayan region has little level land to support high population density. • Most of Rajasthan is a sandy desert lacking water resources that cannot support a high population density. • Madhya Pradesh and Chhattisgarh have thickly forested rugged topography mostly inhabited by tribal people. 	<ul style="list-style-type: none"> • Assam has tea plantations. • Andhra Pradesh, Karnataka and Jharkhand have agricultural and mineral resources, and is highly urbanised. • Gujarat, urban and industrial growth, • Punjab and Haryana, highly developed agriculture. • Tamil Nadu, agriculture and industries. 	<ul style="list-style-type: none"> • West Bengal, Uttar Pradesh and Bihar located in the fertile Ganga plain support high density of population. Kolkata is the major city • India's biggest industrial cluster is located in the Hugli basin. • Kerala's coastal plain is very fertile. Thiruvananthapuram is the capital city 	<ul style="list-style-type: none"> • Delhi has one of the fastest population growths, and as a result of its population density increased. <p>This growth is primarily due to large scale migration of people from the surrounding areas.</p>

Adapted from source: spatial-distribution-of-population-density/19853



PART F: POPULATION DISTRIBUTION AND DENSITY CHANGES OVER TIME

International and internal migration contributed to the changing spatial distribution of the Indian population over time and space. The most important factor in the redistributing of the Indian population is internal migration. About 20% of the Indian population are internal migrants who have moved across Indian states or district boundaries, for reasons such as employment, education, marriage, family and improved wellbeing.

Internal migration flows are either permanent, semi-permanent or seasonal. However they are generally:

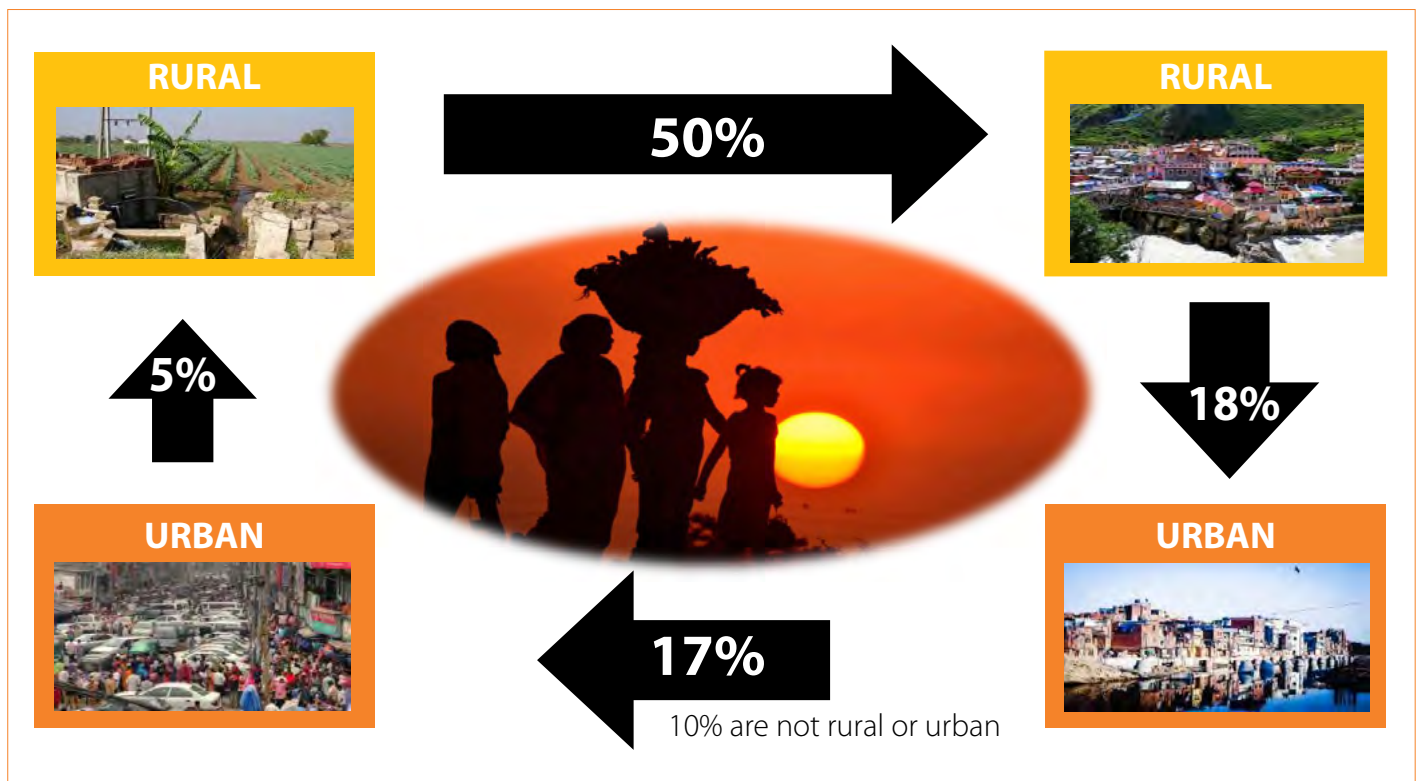
- Within the same state – *intra state* (85%)
- Across states – *interstate* (15%). Generally from high-income states to low-income states.

Four main streams of internal migration

The majority of the internal population movement is from one rural area to another rural area (50%). Even though rural-urban migration is only 18% of total internal migration, it is still huge. In fact every minute, 25–30 people migrate from rural to urban areas. If the pace of migration continues, by 2030 the Indian urban population will reach 600 million.

Delhi is the first choice for internal migrants due to its booming services economy and its high per capita income. In 2016 the population grew by nearly 1,000 a day of which over 300 were migrants.

About 9% could not be classified as 'rural' or 'urban'



Background image: <https://www.theweek.in/news/biz-tech/budget-2018-rural-india-steals-the-show.html>
<https://www.irforum.org/urban-dimensions-matter>; <https://www.indiawaterportal.org/articles/groundwater-depletes-north-and-east-india>;
<https://www.indiawaterportal.org/articles/whats-killing-ganga>

From 2001–2011, the number of migrants (inter-state and intra-state movements) was a staggering 139 million, averaging about 14 million each year. Additionally, the decadal growth in internal migration rose from 35.5% (1991–2000) to 44.2% (2001–2011).

- **Biggest migration source states:** Uttar Pradesh and Bihar, followed by Madhya Pradesh, Punjab, Rajasthan, Uttarakhand, Jammu and Kashmir and West Bengal.

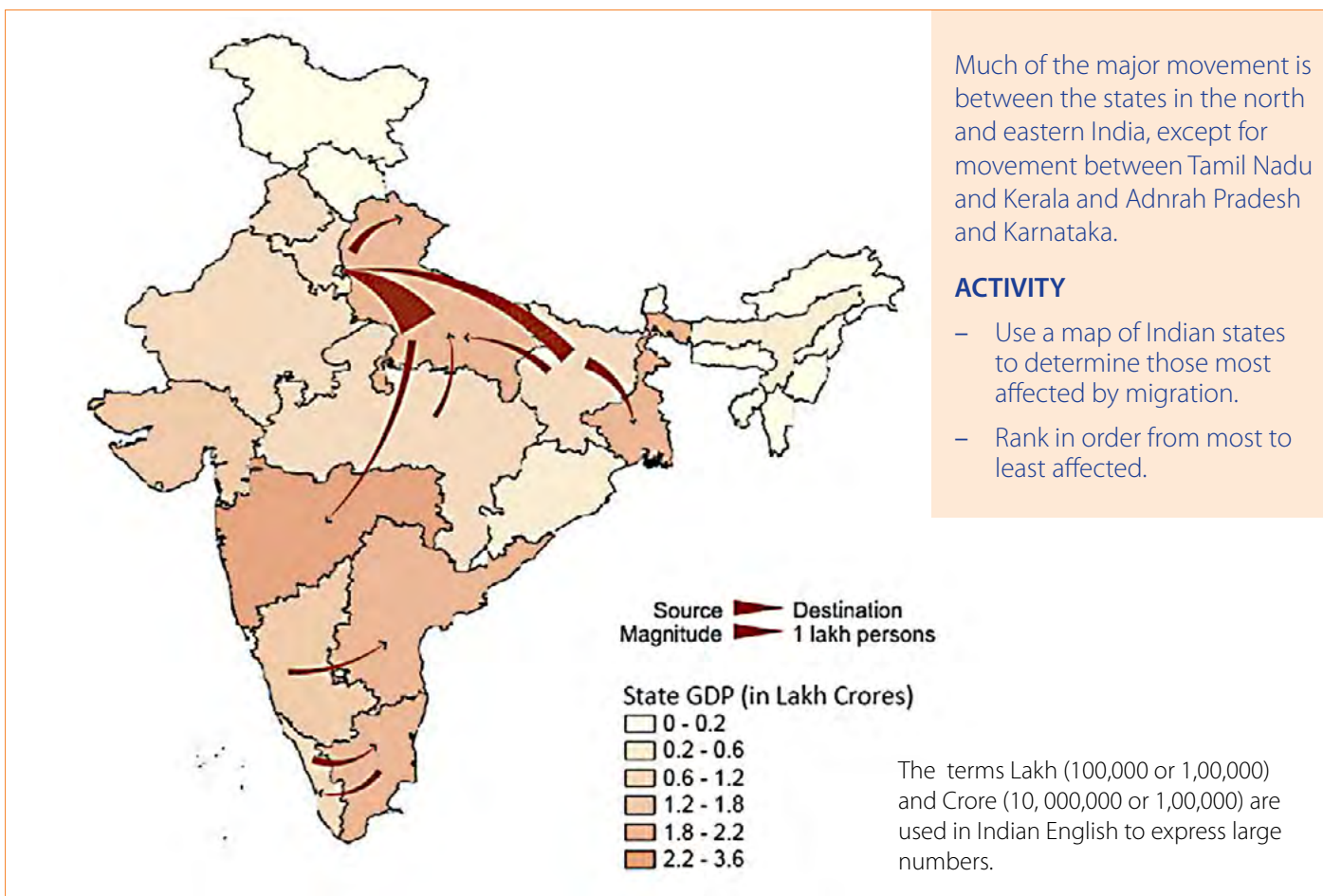
- **Major migration destination states:** Delhi, Maharashtra, Tamil Nadu, Gujarat, Andhra Pradesh and Kerala.

Rural-urban distribution of population (%), 1901, 1951 and 2011

	1901	1951	2011
Rural	89.2%	82.7%	68.8%
Urban	10.8%	17.3%	31.2%

INDIA: POPULATION & URBANISATION

Rural - Urban inter-state migration: sources and magnitude 2001 – 2011



Text edited by GTA NSW & ACT Source: <http://futurechallenges.org/wp-content/uploads/2012/09/Migration-Data.jpg>

International migration

International migration has a major impact on India's total population, its distribution and density.

- **Emigrants:** India has the more people living outside its borders than any other country. Over the past 25 years, the number of Indians emigrating has more than doubled. Approximately 50% reside in the United Arab Emirates, Pakistan and the United States.
- **Immigrants:** India is also one of the world's top destinations for international migrants. As of 2017,

about 5.2 million immigrants live in India, making it the 12th-largest immigrant population in the world. The overwhelming majority of India's immigrants arrive from neighbouring countries such as Bangladesh (3.2 million), Pakistan (1.1 million), Nepal (540,000) and Sri Lanka (160,000). India receives more remittances from migrants than any other country that contributes to economic development and improved human wellbeing.

Major area, region, country or area of destination	Number of international migrants (thousands)		International migrants as percentage of total population		Females among international migrants (percentage)		Median age of international migrants (years)	
	2000	2017	2000	2017	2000	2017	2000	2017
INDIA	6,411	5,189	0.6	0.4	48.5	48.8	50.7	45.6

Source: https://www.un.org/en/development/desa/population/migration/publications/migrationreport/docs/MigrationReport2017_Highlights.pdf

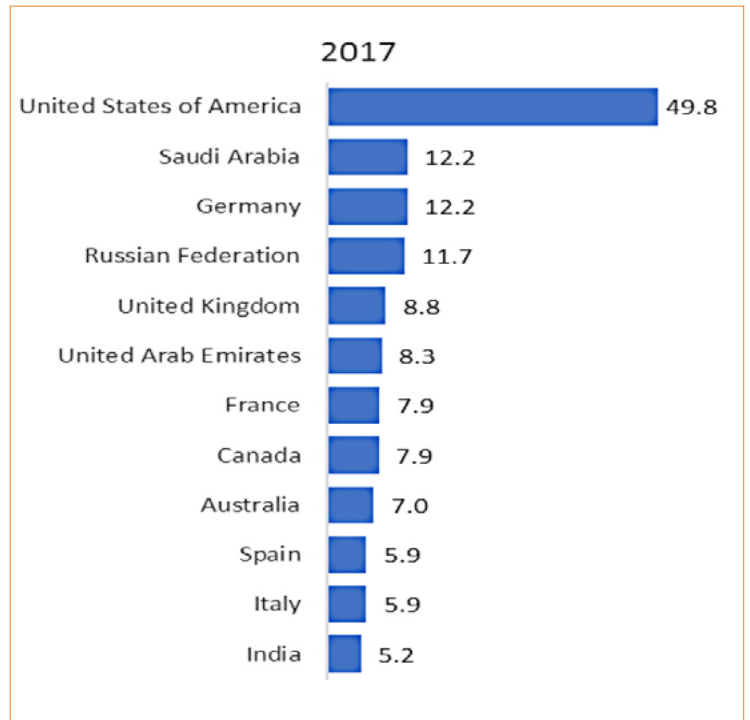
INDIA: POPULATION & URBANISATION

Largest countries of origin of international migrants

India is now the country with the largest number of people living outside the country's borders ("diaspora"),



Countries hosting the largest number of international migrants



Source: https://www.un.org/en/development/desa/population/migration/publications/migrationreport/docs/MigrationReport2017_Highlights.pdf

Interconnected reasons to migrate or stay

- Political: human rights abuses; conflicts; government planned cities
- Personal: age, education, sex, marital status, religion, ethnicity, wealth/poverty
- Social: education, families, health, communities
- Demographic: population size and density (over urbanisation)
- Environmental: exposure to hazards (e.g. floods, droughts, landslides, typhoons, storm surges – sometimes move for a short period of time), pollution, climate change
- Economic: employment, income, cost of living/prices

Migration improves human wellbeing when it:

- Fills in labour gaps (skilled, unskilled and seasonal). Increases workers' disposable income and wealth
- Enables remittances to be sent back home, that is then spent on health, education, shelter and businesses
- Brings new knowledge, skills and innovations to their original home and village

YouTube

- India – Internal Migrants
Source: <https://www.youtube.com/watch?v=aHkzl7kYHvk>
- Internal Migration in India, Significance of migration policy & challenges, Current Affairs 2018
Source: <https://www.youtube.com/watch?v=tylUds9j2Ns>

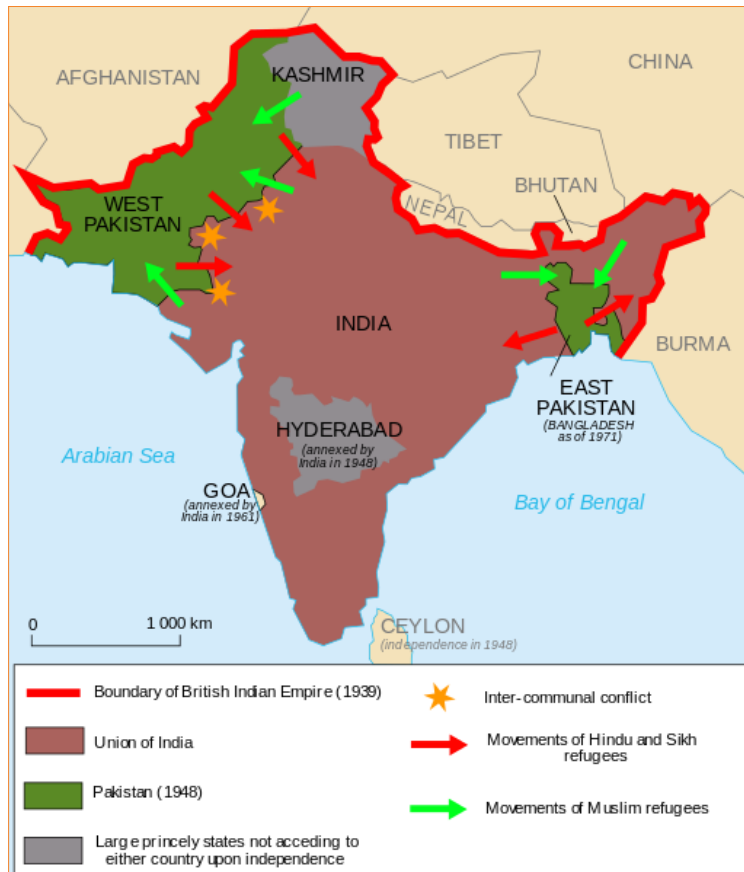
ICT: Interactive origins and destinations of the world's migrants, 1990–2017

Source: <https://www.pewglobal.org/2018/02/28/global-migrant-stocks/?country=IN&date=2017>

HISTORY PLAYS A ROLE IN THE DISTRIBUTION OF INDIA'S POPULATION

History has played an important part in the redistribution of the Indian population, after the partition of India in 1947, when populations moved in opposite directions, such as the outward movement of Muslims and the inward movement of Hindus and Sikhs.

Population exchange: partition of India 1947



Source: <https://courses.lumenlearning.com/cochise-sociology-os/chapter/population-transfer/>



In 1931, the British Raj shifted India's capital city from Calcutta (Kolkata) to Delhi creating changes to the distribution of the Indian population. Delhi was selected as the new capital city because this ancient city had previously been the capital of Mughal India (1649 to 1857). Additionally it possessed the infrastructure for the British administration of the country, rising opposition to British rule erupted in Calcutta, and its links with Hindu "sacred legends".

In 1947, thousands of Hindu and Sikh refugees from predominantly Muslim Pakistan entered Delhi, as well as the ongoing heavy flow of immigrants, mostly from other Indian states or from adjacent countries. Today, Old or Historic Delhi is located in the north of the city, and New Delhi, in the south.

YouTube

- Partition of India and Pakistan 1947

Source: <https://www.youtube.com/watch?v=H3lkxVTnxsg>

PART G: SPATIAL DISTRIBUTION OF INDIAN CITIES

Urbanisation in India is taking place at an escalating rate from 10.8% (1901) to 31.2% (2011), and predicted to reach 50% by 2050. India possesses 25 of the 100 fastest-growing cities worldwide with a few megacities and large metropolises containing a disproportionate large share of India's urban population.

Spatial distribution of Indian cities across states

The spatial distribution of urban centres has been radically transformed from a few port cities during the British rule to the emergence of a large number of cities scattered across the country.

Large cities tend to be located in states where there are more abundant natural resources and the environment more accommodating for human habitat. For example Kolkata is located on the fertile, productive Ganges Plain.

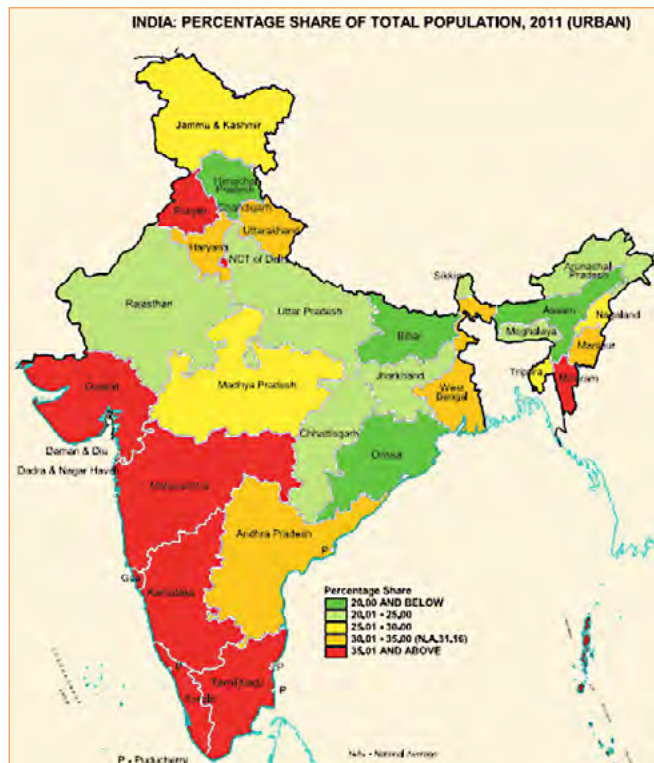
According to the 2011 Census, Maharashtra's total population living in the urban areas is the highest (50,818,259) followed by Uttar Pradesh (44,495,063) and

Tamil Nadu (34,917,440). However, considering the proportion of people living in urban areas Goa ranks first (62.17%), followed by Tamil Nadu (48.40%), Kerala (47.70%) and Maharashtra (45.22%). The Empowered Action Group (EAG) States of Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Orissa, Rajasthan, Uttaranchal and Uttar Pradesh have a lower percentage of urban population (21.13%) in comparison to non EAG States (39.66%). Himachal Pradesh (89.96%) has the largest proportion of rural population and therefore the smallest urban population (10.3%).

INDIA: POPULATION & URBANISATION

Choropleth map: Percentage share of total urban population for Indian states and territories –

Predominantly in East India



Source: https://makanaka.files.wordpress.com/2011/04/census_paper2_urbanpop2011.png

Indian Megacities

In 2016, India was home to five megacities, with a population of over 10 million, but by 2030 this number is predicted to rise to seven (Delhi, Mumbai, Kolkata, Bangalore, Chennai, Hyderabad and Ahmedabad). From 2001–2011, Indian cities witnessed the fastest rate of urbanisation in the world—Delhi's population rose by 4.1%, Mumbai's by 3.1% and Kolkata's by 2%. By 2035 Delhi is predicted to become the largest city in India.

Over the last decade megacities experienced a slower growth rate compared with medium sized cities. For example the megacity of Greater Mumbai UA, witnessed 30.5% population growth during 1991–2001 but declined to 12.1% during 2001–2011.

Indian Metropolises

A city with a population of one million is called a 'metropolis' or metropolitan city. Over time the size and number of metropolitan cities has increased dramatically. In 1901 Kolkata was the only metropolis in India but by 2011 there were 52 metropolises distributed across India such as:

- 14 in the Great Indian Plains
- 15 in coastal areas

- 22 in the peninsular region
- 1 in Srinagar the only metropolis in NW Himalayas
- 0 in NE Himalayas

Over the last decade over 91 million people have been added to metropolitan cities, accounting for 43% of the urban population. These metropolises grew faster in comparison to other cities in their state.

Over Urbanisation

After 1941, a rapid growth of cities across India occurred. The growth was a combination of natural increase (births greater than deaths), rural-urban migration, industrial development and expansion of government infrastructure and services (employment). However the rapid population increase resulted in over urbanisation with the development of slums and air, water and soil pollution, causing a decline in human wellbeing.

Indian cities are not equipped to cater to the accelerated speed of urbanisation and therefore, this trend is taking its toll on basic infrastructure like water supply, electricity lines and roads. As a result, not only is there an increase in slum areas and construction of unsafe and unauthorised buildings. There are issues of water and electricity shortage besides major environmental concerns which is causing a deterioration in the urban standard of living.

Source: <https://www.mapsofindia.com/my-india/society/is-village-life-better-than-city-life>

Indian cities encompass exclusionary urbanisation. This occurs where poor migrants are prohibited or discouraged to move to urban centres. Meanwhile, rich migrants or urban- elites are welcomed. It is defined as 'elite capture' or the 'big-city bias.' As a result shiny, high rise structures are displacing slums

Source: https://www.jstor.org/stable/23251688?seq=1#page_scan_tab_contents

You Tube

- Top 10 Largest Cities in India
Source: https://www.youtube.com/watch?v=LkSWrKQJ_FU
- 35 India, Delhi - City Tour
Source: https://www.youtube.com/watch?v=SGtRK_H_HNg
- Inside the Dharavi slums of Mumbai
Source: <https://www.youtube.com/watch?v=PBMDGcYWPvU>



Government responses

The inflows of migrants from rural areas and small towns to big cities has contributed to urban congestion and housing shortages in cities across India. Mumbai, Delhi, and Kolkata are known for the proliferation of slums and pavement dwellings.

One of the policy conclusions is that governments should prevent internal migration, through rural employment programs. For example, the national Inter-State Migrant Workmen Act of 1979 addresses unjust working conditions of migrant workers, such as the right of workers to equal wages to those of local employees, the right to return home periodically without losing wages, and the right to medical care and housing at the employment site. In practice, however, this act is overwhelmingly ignored by state governments.

Source: <https://www.migrationpolicy.org/article/internal-labor-migration-india-raises-integration-challenges-migrants>

New Smart Cities for tomorrow

Aimed to improve human wellbeing in Indian cities, the government has introduced its Smart Cities Mission or urban renewal program to develop 100 cities making them sustainable and liveable.



Source: <https://www.tomorrowmakers.com/real-estate/what-rise-smart-cities-means-indian-investors-article>

YouTube

- What is a smart city?
Source: <https://www.youtube.com/watch?v=Br5aJa6MkBc>
- How Successful Is Modi Government's Smart Cities Mission? Urban Reality
Source: <https://www.youtube.com/watch?v=4flqJFcADCE>
- Top 5 Smart Cities in India 2018
Source: <https://www.youtube.com/watch?v=HEGmRxTs9Jw>
- You Won't Believe This Is India!
Source: <https://www.youtube.com/watch?v=xUKjK1CfE18>

PART H: CLIMATE MIGRANTS FUTURE POPULATION MOVEMENTS AND DISTRIBUTION

Mass migration from climate change will alter the distribution and density of the Indian population. Even today, extreme weather events like cyclones, droughts, floods and tropical storms in India's disaster-prone regions have forced climate migrants to either adapt or move to big cities.

NEW DELHI, July 26 2016 (IPS)

Displacement of populations due to erratic and extreme weather (a fallout of climate change), has become a reality for millions of people across India. Flooding in Jammu and Kashmir (2015), in Uttarakhand (2013) and in Assam (2012) displaced 1.5 million people.

Deepa Kumari, a 36-year-old farmer in the Himalayan state of Uttarakhand, lives in a one-room tenement in south Delhi's Mongolpuri slum with her three children. Flash floods and incessant rain engulf Uttarakhand every year, causing casualties, deaths and loss of property. As a consequence many people like Kumari are abandoning their hilly homes to seek succour in the plains. "I was tired of putting back life's pieces again and again after massive floods each year".

Evidence of mass migration is obvious in villages that are emptying out. As per Census 2011, of Uttarakhand's 16,793 villages, 1,053 have no inhabitants and another 405 have less than ten residents. The number of such 'phantom villages' has surged particularly after the earthquake and flash floods of 2013.

Cyclone Phailin, which swamped the coastal Indian state of Orissa (2013), triggered large-scale migration of fishing communities. Researchers in the eastern Indian state of Assam and in Bangladesh estimated that around a million people have been rendered homeless due to erosion in the Brahmaputra river basin over the last three decades.

Drought-impacted Maharashtra and Andhra Pradesh are seeing a wave of migration as crops fail. Many people have been forced to leave their parched fields for India's cities in search of work. Drought has affected about 25% of India's 1.3 billion people.

Source: <https://reliefweb.int/report/india/climate-migrants-lead-mass-migration-india-s-cities>



Source: [https://commons.wikimedia.org/wiki/File:India_-_Kanchipuram_-_010_\(1885517933\).jpg](https://commons.wikimedia.org/wiki/File:India_-_Kanchipuram_-_010_(1885517933).jpg)

Over the first few months of 2018, a large section of Northeast India was ravaged by flash floods with over 100,000 affected in Assam. The situation is equally bad in the states of Tripura, Meghalaya, Manipur and Mizoram.

Caught in an endless negative spiral of instability, poverty and desperation, this is the sad plight of a growing number of people, now referred to as climate migrants or climate refugees.

A number of climate migrants from the South have moved to Mumbai as a result of land degradation and desertification, while migrants from the North have largely moved to Mumbai because of drought.

Source: <https://thediplomat.com/2018/08/taking-indias-climate-migrants-seriously/>



Source: [https://commons.wikimedia.org/wiki/File:An_aerial_view_of_flood-affected_areas_of_Assam_on_July_02,_2012_\(1\).jpg](https://commons.wikimedia.org/wiki/File:An_aerial_view_of_flood-affected_areas_of_Assam_on_July_02,_2012_(1).jpg)

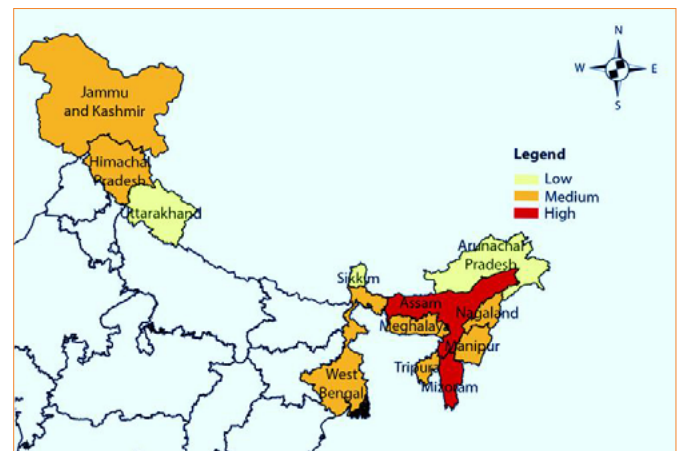
CASE STUDY: Assam – Climatechange and population movements

The large number of Bangladeshi climate migrants, have changed the demographic makeup of India's north eastern states. The most well-known case is Assam, which has long provided asylum to Bangladeshi migrants. However, tensions are brewing because the increasing number of Bangladeshi's moving across the border to Assam is threatening land, resources, rights, and identity of the state, especially the ethnic Bodo group. Growing tensions between the two groups led to violence against Bengali-speaking Muslim villages.

In recent elections in Assam, proposals for Bangladeshi deportation were at the centre of the political debate. With the already high tensions between Bangladeshi and local Indian communities, and the Indian government's security approach towards undocumented migrants, a sudden influx of Bangladeshi climate-induced migrants will not be warmly welcomed.

Source: <https://www.asiapacific.ca/blog/climate-change-redefining-migration-example-bangladesh>

Climate Change Vulnerability Index for Indian Himalayan Region (IHR)



Source: http://dst.gov.in/sites/default/files/IHCAP_Climate%20Vulnerability%20Assessment_30Nov2018_Final_aw.pdf

You Tube

- Climate refugees in Bangladesh
Source: <https://www.youtube.com/watch?v=co5uywe-1Z8>
- Bangladeshi Immigrants in India?
Source: <https://www.youtube.com/watch?v=15VQkurX5yk>
- Bangladesh: climate refugees already a reality
Source: <https://www.youtube.com/watch?v=h9FGe1sPB6Q>



Severe flooding in Bangladesh. Source: https://commons.wikimedia.org/wiki/File:Flooding_after_1991_cyclone.jpg

Assam is the most vulnerable state in the Indian Himalayan Region (IHR) to climate change due to its:

- Geographic proximity to the delta region. The region experiences a tropical monsoon climate, receives high precipitation and experiences annual floods from the Brahmaputra and other rivers.
- Poor socio-economic conditions with almost 32% of the population living below the poverty line

The majority of Assam's population is dependent on agriculture, which is subjected to floods and droughts, as well as farmers lack alternative sources of income. Rural-urban migration will rise when agriculture-dependent livelihoods come under increasing climate stress, and urban areas will be required to encompass the growing number of people.

The Climate Change Vulnerability Index, noted that Assam with an index score of 0.72 was the most vulnerable Indian state. In contrast Sikkim, with a smaller index score of 0.42 was relatively less vulnerable. Assam was exceptionally vulnerable because of high population density, over dependence on food grains and low per capita income.

PART I: ACTIVITIES

- Explain the following terms in relation to India:
 - Rural versus urban settlements
 - Interstate versus intrastate population movements
 - Emigrants versus immigrants
 - Push-pull forces in relation to migration
 - Megacity versus a metropolis
 - Over urbanisation
 - Exclusionary urbanisation
 - Smart cities
 - Fertility rate versus crude birth rate.
- Explain why you prefer a gridded population cartogram or a proportional circle population map to illustrate the scattered population distribution across India. List the six largest centres indicated on both maps.
- In pairs, summarise India's demographics as a TV report using photographs.
- Compare population growth and structure of India with China in the past, present and predicted future, using maps, graphs and tables. Present research using ICT.
- Explain what is meant by the fertility rate and how it differs between states, rural-urban areas, religions and castes in India.
- Provide two examples of the following in India – sparsely populated states and highly populated states. Provide reasons for the differences.
- India is predominantly a rural country. Explain this statement using current statistics.
- Compare density of rural population between the Thar Desert and the Ganges Northern Plain. Provide reasons for the differences.
- Distinguish between the three main types of urban settlements.
- Examine the multiple reasons for the uneven distribution of India's population. Present as a short response.
- List the four main streams of internal migration and how it impacts on population distribution.

- Review the role of history on the changing population distribution in India.
- List the reasons why Indians move to different places across the country.
- Argue how climate change is predicted to change the distribution of India's population.
- Discuss how India's population distribution and density is scattered across the country's states, using a variety of maps.

Let's go forward!

- How can policymakers integrate resilience into India's agricultural system affected by natural disasters?
- How do governments ensure that megacities are less vulnerable to mass urbanisation?
- What is India's long-term plan for rehabilitation and reconstruction in the event of climate-induced disasters?

ICT

- India population 2019
Source: <http://worldpopulationreview.com/countries/india-population/>
- List of states and union territories of India by population
Source: https://en.wikipedia.org/wiki/List_of_states_and_union_territories_of_India_by_population
- India Population
Source: <https://www.worldometers.info/world-population/india-population/>

YouTube

- Demography of India
Source: <https://www.youtube.com/watch?v=1ail-D-XIng>
- Why do some places have a greater population density than others
Source: <https://www.youtube.com/watch?v=hMOat3MAxIw>
- Population of India and the factors affecting population
Source: <https://www.youtube.com/watch?v=SisxGBUif88>

Unleashing our inner geographer: Sharing your stories and building a geographical narrative

Martin Pluss
Dean of Learning, Loreto Normanhurst

Introduction

Have you unleashed your inner geographer? If you have, your students will bounce off your enthusiasm and passion, and engage in geography in a positive manner. Hopefully, this can lead to improved numbers in the subject and then we can build student learning outcomes.

One way to unleash your inner geographer is for you and your students to connect with your local geography and then get your students to connect with their local area. If you walk, drive, run or cycle in your local area take your mobile phone and take photos. An individual photo might not appear to mean much but if you repeat this often you might see change over time and geographical patterns.

What do you do with your local geographical learnings?

Although the former Research Action Plan is no longer required in the new 7–10 Geography Syllabus, original primary research is imperative to the Stage 4 and Stage 5 classroom. Currently, the Senior Geography Project is integral to the current Stage 6 syllabus which is 19 years old. The new Stage 6 Syllabus for NSW which will draw on the Australian Curriculum, being written in 2019, will have a primary research component.

The sharing of these local geographical examples could be like the following. The two examples I would like to share concern homelessness in Hornsby and parking and water draining issues in Berowra.

Homelessness in Hornsby: Sharing a story and building a narrative

I shared this narrative with the students with a PowerPoint of photos I took over a three-month period. It was written in late 2015.

"Each time I go to Hornsby I park the car in the car park on the old side of the township and walk over the railway via the foot bridge over George Street. As I left the bridge a few months ago I spotted a homeless man who had set himself up with gear to keep warm, a bed and was doing art work. I thought to myself that was a good spot to stay essentially out of the elements.

A few months later during a run I was back at the shops and wanted to take a photo. Though I felt guilty about this as I walked down the stairs pretending to look at my phone, I quickly took a photo. I just thought it would be a good photo for my interest in Geography.



A few months later on the routine run in the area the man was gone and the area was caged off with a sign from Hornsby Council and the NSW Government explaining this was the site of a new railway pedestrian bridge. There was no reason for the caged off area. Clearly the homeless person had been moved on. With much less guilt I took another photo.

I was now evolving a story and a geographical narrative I could share with my Geography students.

A few months later a woman was found dead on one of the trails I run on in Hornsby and a week later I saw an article disclosing that the deceased woman was homeless. Though there was no causal connection I was thinking about the relationship between the two photos and the article.

I combined all three into a Twitter and Facebook post with a neutral comment or statement of concern. The next morning, I was overwhelmed with likes and comments which pointed me in the direction of people who could help me address the situation.

There is an increasing number of homeless people in the Hornsby Shire, from Brooklyn to the bush behind the pool. Perhaps they are being moved on from the CBD or the Global Financial Crisis is still spreading its tentacles. Either way it is an issue for the local area.

Personally, this is where I am struggling. I want to make a difference and don't seem to have the courage. I am involved in many worthwhile projects which help others at school. A close friend kindly said my role for making a difference was in helping shape the attitudes of the students I teach so what they do makes a difference. This gives me a false sense of satisfaction.

Increasingly over the last 12 months I have been overwhelmed with the scale of issues affecting the world in which we live, and it is just daunting to know where to start to make a difference. To cope I looked inward and started thinking about engaging more locally. To this end I committed to attending the Hornsby Shire Council meeting with the personal brief of just observing. Having attended half a dozen meetings, I have learnt a lot and am trying to shape a path forward to make a difference.

This evening I attended a meeting at school where we were asked what good news, can we offer the disregarded. At first, we struggled to find anything then we talked a bit more about some of the different things groups, organisations and individuals do, such as the CEO sleep out.

The issue of homelessness raises more questions than answers for me. The questions we were asked tonight

circled around the question 'what can we do?' For me it crystallised the need for local engagement and empowerment of people to know they can make a difference and do something in their local area.

Perhaps I can take a three-minute time slot at a council meeting to make a case for the council to look after the homeless in the park near the pool instead of moving them on. My issue is challenging myself to put myself out there, commit to an opinion and move beyond just thinking raising awareness is making a difference.

Anything to repair the world.

How to use a narrative story telling approach in the geography classroom?

To engage the students, I unpacked the above narrative by going into details about how in the following weeks I started to keep track of homelessness issues as they came to my attention in my local area.

There was the homeless man that would walk the streets and bush trails of Hornsby all day and in the evening, he would appear outside Pennant Hills Harris Farm markets to get some food, then retreat into the bush near Cheltenham for the evening.

I explained how the homeless were moved on from Martin Place a few years ago and prior to that how spikes were put on the concrete ledges around the State Library in Macquarie Street. This having the effect of moving the homeless from the CBD only to populate the bushland between Hornsby and Brooklyn. Once I engaged the students, they had examples of their own experiences in their own local areas.

The final example was about how homeless people can be in your family or friends of you or students' parents. One only needs to fall on hard times, get a divorce or lose a job and before they know it, they might have only \$100 to their name and if they are not prepared to move to regional NSW, they end up homeless, couch surfing or calling on favours of friends and family. Throw into the mix mental health issues and the situation is exacerbated.

The story has to be more than doom and gloom. The active citizenship that you can share will engage the students even more to research and become active citizens. I shared how I did a Facebook post about the issue, went to bed and then next morning I had over 60 comments. Some of which shared concern, but others gave me contacts with homeless groups in NSW to make a difference which I did follow up and shared the stories with students.

In short, I became a committee member of Pennant Hills District Civic Trust, attended Hornsby Council meetings, introduced myself to the members of the Hornsby

homeless committee which I did not know existed. Though there is more to my story, the impact on the students was made and they were now engaging with local issues where they lived.

How does this approach translate into the classroom?

It is good to use an approach like this in Stage 5 whereby you get engagement in Geography that may transfer into Stage 6 student numbers. I have used this approach several times in my classrooms since 2015 when I first made these observations about local homelessness. For example, in Year 10 Integrated learning teachers presented workshops on poverty, refugees, homelessness and racism. This year I personalised homelessness through the above narrative story telling approach.

The students then engaged in their own research with a focus of starting local and expanding the geographical scale of the research. The success is best illustrated through this edited response I received from a student:

"That is so sad that the homeless person had all his stuff there and then when you go back its closed. It's just sad. I am thinking I want to do homelessness for our assignment. Every day there is one homeless person sitting on the same bench everyday morning and night. So after school I decided to go to the shop opposite that bench (it was a little IGA) and I bought him some pringles because I felt bad for him because there was a flock of people walking past him (it was opposite a train station) and no one stopped to say hello or anything so I got the pringles for my lunch tomorrow but I decided to give them to that man because I feel it might not be that big and important for me but for him I saw him smile :)"

This response reflects a passion for a topic, a willingness to learn more and a desire to engage in active citizenship. All this prior to starting any primary or secondary research.

Berowra Station Shops: Parking and drainage issues

Another topic of local interest which I have found useful for Stage 6 and the SGP has involved an in-depth investigation of a local issue in Berowra, at a small scale as it is happening now.

In the final Hornsby Council meeting I attended in December 2018 there was an item put forward by Councillor Tilbury of Ward A for the council to fund some parking improvements for the areas of the shops behind the RSL near the station.

The motion was not carried, and this sparked my interest. It made sense to fix the parking at a local suburb which is inundated by commuters from Galston and Dural to the



west and the Central Coast to the north, let alone the locals. Why the resistance?

On closer investigation it was a classic case study of competing perspectives and a great topic for an SGP for any of my students living in that area. At the very least, an inspiration to students to see if they can find a similar case study in their local area.

The competing interests and perspectives are as follows. The club and its ownership, the Hornsby Council associated land and the Crown land which is passed through to access the club car parks. I found out about this issue while listening to Triple H 100.1 FM's local community radio programme StreetBeat, on Friday 22 February 2019. It has been bubbling along since 1989.

Although I have been to the site several times on the March 3, 2019, I decided to visit the site with a specific focus on the issues. The parking issues were evident, but what jumped out at me was the additional issue of associated drainage issue when my thongs got stuck ankle deep in slushy grass.

In the February Hornsby Council meeting \$10 000 was allocated to address the parking issue by fixing the surface. This can become the final focus of any potential primary research. How far will \$10 000 go to address the issue? Will it be successful given the drainage issues in the areas? Should the drainage issues be addressed first? Are the other stakeholders going to contribute in dollars or kind?

Conclusions

Once your inner geographer is unleashed, you should have dozens of examples to share with students.

Thirty years of insights and photos of coastal deposition, coastal erosion and beach formation at Avoca Beach and its impact on housing and planning indicates considerable change over time.

It is easy to develop several case studies of small country towns and their changing residential, retail and recreational land use in areas like Bulahdelah, Yass and Dunedoo.

Years of visiting rural friends in Tamworth has provided several insights into irrigation along the Peel River and the fruit bat colonies along the river as one enters the township.

All these insights reflecting the integration of the biosphere, lithosphere, atmosphere and hydrosphere.

In this digital age much insight is gained from online council documents that are then used to spark interest in relevant issues in my local area (Hornsby), which is also the location of my school.

There are so many local examples to unpack and guide student research whether they be evaluating the

success of the NorthConnex project and getting 5000 truck off Pennant Hills, Road, giving the streets back to the locals and the impacts of digging a tunnel below homes (including mine); the filling of Hornsby Quarry and building the Centennial Park of the north; the strategies in place to rebuild the oyster industry in the Hawkesbury River; investigations the impact of Airbnb on the locals of Dangar Island and the leasing of boat sheds, the provision of NBN to rural areas of Hornsby Shire; the cycle path between Pennant Hills and Epping; the plethora of proposed urban subdivisions in areas like south Dural and the liveability issues of high rise in Asquith and Waitara; and the parking and traffic implications of commuters along the railway stations on the shire – to name a few great areas to research my local area.

If you unleash your inner geographer, pay closer attention to your local area and collect your own evidence, you can build your own story and geographical narrative to share with your students and hopefully inspire them to unleash their inner geographer.

Martin Pluss
martinpluss@gmail.com
Twitter: @plu



Sources: <https://www.dailytelegraph.com.au/newslocal/hornsby-advocate>
<https://www.thebushtele.com.au/archives/270619.pdf>
<https://www.facebook.com/HornsbyCouncil/>

FIELDWORK COMPETITION 2019



Geography Teachers' Association of NSW & ACT

ARTHUR PHILLIP GEOGRAPHY FIELDWORK COMPETITION 2019

The Geography Teachers' Association of NSW & ACT (GTA NSW & ACT) organises an annual competition for students and schools to foster an enthusiasm for Geography through engagement and awards. The emphasis of the competition is the use of fieldwork and the gathering of primary and secondary data as core skills in students' study of Geography. Teachers are encouraged to use the competition as a form of authentic assessment for their teaching and learning programmes. The competition is open to all primary and secondary schools in NSW and ACT. Entries are welcome from both members and non-members of GTA NSW & ACT.

The submission of entries and the prize categories have been updated to better reflect the requirements of the new Australian K-10 Geography Curriculum and the central place that inquiry holds within Geography. The categories have been modified to reflect the Australian K-10 Geography content now used in both NSW and ACT. The Brock Rowe Senior Geography Fieldwork Competition is open to entries of HSC Senior Geography Projects, International Baccalaureate Diploma Geography Internal Assessments or fieldwork based Depth Studies for ACT participants. There is a form available on the GTA NSW & ACT website to submit digital entries. Entries must be submitted either by mail or online by Wednesday 20 November 2019.

Please complete and return a student entry form either by mail or online with all student entries by Wednesday 20 November 2019.

NATURE OF THE COMPETITIONS

1. The "Investigating Places" Primary Fieldwork Competition
Three subcategories: Years K-2, Year 3-4, Years 5-6

This section is open to Primary Students across NSW and ACT. Entries can be made by individuals, groups or classes.

- Identify a Geographical inquiry that demonstrates the interaction of People, Places and Environments
- Undertake fieldwork to gather primary data
- Support fieldwork with secondary data if required
- Present research findings

2. The Geographical Fieldwork and Research Competition:
Five subcategories: Years 5-6, Year 7-8, Year 9-10, Life Skills and Year 11-12

This section is open to all Geography students across NSW and ACT. Entries can be made by individuals or groups. Inquiry topics must be clearly relevant to the Australian K-10 Geography Curriculum, the NSW Elective Geography Syllabus or the IB Geography courses at any level. There is an expectation that geospatial technologies will play a role in either the gathering, organising or presentation of student research.

- Identify a Geographical inquiry topic relevant to any of the Geographical concepts (Place, Space, Environment, Interconnections, Scale, Sustainability, Change) or the Australian cross-curricular priorities (Aboriginal and Torres Strait Islander histories and cultures, Asia and Australia's engagement with Asia or Sustainability)
- Undertake research using both secondary data and primary fieldwork such as that obtained during interviews, questionnaires or other fieldwork methods
- Analyse data gathered
- Present research findings

ARTHUR PHILLIP GEOGRAPHY FIELDWORK COMPETITION 2019

NATURE OF THE COMPETITIONS

3. The Dr Don Biddle Places and Environments Study (Year 9 and 10 only)

Entries are open to NSW or ACT schools teaching the Australian K–10 Geography Curriculum content. Inquiry topics must be relevant to the Year 9 and 10 syllabus. There is an expectation that geospatial technologies will play a role in either the gathering, organising or presentation of student research.

- Undertake research into a place or environment relevant to the Year 9 and 10 Australian Geography Curriculum
- Undertake fieldwork to gather primary data
- Support fieldwork with secondary data if required
- Organise and analyse the data gathered
- Present research findings

4. The Brock Rowe Senior Geography Fieldwork Competition

This section is open to Senior Geography Students across NSW and ACT. Only individual entries will be accepted. The competition is open to either Senior Geography Projects, International Baccalaureate Geography Internal Assessments or a Depth Study for ACT participants.

- Undertake an HSC Senior Geography Project, International Baccalaureate Internal Assessment for Geography or ACT Depth Study that uses fieldwork to gather primary data
- Support fieldwork with secondary data if required
- Analyse data gathered
- Present research findings
- Evaluate the research methodologies used and the ethical aspects of research undertaken

5. The Dr Susan Bliss Cross-Curricular Priority Awards

The Dr Susan Bliss Awards are available for entries from any category or subcategory that demonstrates significant achievement or development of understanding in any of the three Australian K–10 Geography Curriculum cross curricular priority areas; Aboriginal and Torres Strait Islander histories and cultures, Asia and Australia's engagement with Asia or Sustainability.

6. The Dr Maurine Goldston-Morris Civic and Citizenship Awards

The Dr Maurine Goldston-Morris Civic and Citizenship Awards are available for entries from any category or subcategory that demonstrate civic action has occurred at either the individual or group level, as a result of the research/fieldwork activity.

7. The Dr Maurine Goldston-Morris Teacher Awards

The Dr Maurine Goldston-Morris Teacher Awards will be allocated to teachers for outstanding involvement in the Geography Fieldwork Competition during 2019.

ARTHUR PHILLIP GEOGRAPHY FIELDWORK COMPETITION 2019

ENTRY INFORMATION

A competition entry fee of \$20 per school, regardless of the total number of entries submitted.

Each school can submit a maximum of FOUR (4) entries in each competition category.

To enter the 2019 Arthur Phillip Fieldwork Competition [CLICK HERE](#)

Final date for competition entries to be received

Wednesday 20 November 2019

All postal entries MUST be clearly marked as Geography Fieldwork Competition.

Entries can be mailed to:

GTA NSW & ACT Office (PO Box 699 Lidcombe 1825)

Please contact our office on 9716 0378 prior to delivering entries to the following location:

**PTC NSW Office and Training Rooms
Ground Floor, Community First Credit Union Building
Cnr. Hall and Percy Streets, Auburn**

Enquiries via email to the GTA NSW & ACT office – gta.admin@ptc.nsw.edu.au

Hardcopy entries may be in a book, as loose leaves (with reinforced rings) or mounted on cardboard (limit 2 sheets of 65 x 55cm).

All digital entries MUST be submitted as a hyperlink through the online entry form available on the GTA NSW & ACT website. All digital presentation formats, such as videos, web pages and podcasts are welcome. Slide presentations (such as PowerPoint, Slides or Pages) will have a maximum slide number of 20. It is the responsibility of the student and supervising teacher to ensure hyperlinks are functional and able to be accessed by markers.

No models will be accepted.

All entries will be available for collection at the end of the Arthur Phillip Award ceremony. GTA NSW & ACT is unable to return uncollected entries to schools.

PRIZES:

Prizes will be awarded for the first, second, third and highly commended place entries in each competition category or subcategory where available.

AWARDS:

Awards will be allocated to each category according to marking criteria. The presentation of awards will take place at the Arthur Phillip Awards ceremony in early 2020. Award recipients, their parents and teachers will receive invitations to the event.

ADVICE TO CONTRIBUTORS

Geography Bulletin guidelines

1. **Objective:** The Geography Bulletin is the quarterly journal of The Geography Teachers' Association of NSW & ACT Inc. The role of the Geography Bulletin is to disseminate up-to-date geographical information and to widen access to new geographic teaching ideas, methods and content. Articles of interest to teachers and students of geography in both secondary and tertiary institutions are invited, and contributions of factually correct, informed analyses, and case studies suitable for use in secondary schools are particularly welcomed.

2. **Content:** Articles, not normally exceeding 5000 words, should be submitted to the GTA NSW & ACT Office by email gta.admin@ptc.nsw.edu.au

Submissions can also be sent directly to the editors:
Lorraine Chaffer (lchaffer@tpg.com.au)

Articles are welcomed from tertiary and secondary teachers, students, business and government representatives. Articles may also be solicited from time to time. Articles submitted will be evaluated according to their ability to meet the objectives outlined above.

3. **Format:** Digital submission in Word format.

- Tables should be on separate pages, one per page, and figures should be clearly drawn, one per page, in black on opaque coloured background, suitable for reproduction.
- Photographs should be in high resolution digital format. An indication should be given in the text of approximate location of tables, figures and photographs.
- Every illustration needs a caption.
- Photographs, tables and illustrations sourced from the internet must acknowledge the source and have a URL link to the original context.

Note: Please try to limit the number of images per page to facilitate ease of reproduction by teachers.

Diagrams created using templates should be saved as an image for ease of incorporation into the bulletin.

All assessment or skills tasks should have an introduction explaining links to syllabus content and outcomes. A Marking Guideline for this type of article is encouraged.

4. **Title:** The title should be short, yet clear and descriptive. The author's name should appear in full, together with a full title of position held and location of employment.

5. **Covering Letter:** As email with submitted articles. If the manuscript has been submitted to another journal, this should be stated clearly.

6. **Photo of Contributor:** Contributors may enclose a passport-type photograph and a brief biographical statement as part of their article.

7. **References:** References should follow the conventional author-date format:

Abbott, B. K. (1980) *The Historical and Geographical Development of Muswellbrook* Newcastle: Hunter Valley Press.

Harrison, T. L. (1973a) *Railway to Jugiong* Adelaide: The Rosebud Press. (2nd Ed.)

Refereeing

All suitable manuscripts submitted to the Geography Bulletin are subject to the process of review. The authors and contributors alone are responsible for the opinions expressed in their articles and while reasonable checks are made to ensure the accuracy of all statements, neither the editor nor the Geography Teachers' Association of NSW & ACT Inc accepts responsibility for statements or opinions expressed herein.

Books for review should be sent to:

The GTA NSW & ACT Council
PO Box 699
Lidcombe NSW 1825

Editions

There are four bulletins each year – two published each semester. Special Editions are created on need.

Notice to Advertisers

'Geography Bulletin' welcomes advertisements concerning publications, resources, workshops, etc. relevant to geography education.

FULL PAGE (26 x 18cm) – \$368.50
Special issues \$649.00

HALF PAGE (18 x 13cm or 26 x 8.5cm) – \$214.50
Special Issues \$382.80

QUARTER PAGE (13 x 8.5cm or 18 x 6.5cm) – \$132.00
Special issues \$242.00

All prices include GST

Advertising bookings should be directed to:

GTA NSW & ACT Office
Telephone: (02) 9716 0378
Fax: (02) 9564 2342
Email: gta.admin@ptc.nsw.edu.au





The
Geography Teachers Association
of NSW & ACT Inc.