National Certificate of Educational Achievement
TAUMATA MĀTAURANGA Ā-MOTU KUA TAEA

Exemplar for Internal Achievement Standard

Geography Level 2

This exemplar supports assessment against:

Achievement Standard 91241

Demonstrate geographic understanding of an urban pattern

An annotated exemplar is an extract of student evidence, with a commentary, to explain key aspects of the standard. It assists teachers to make assessment judgements at the grade boundaries.

New Zealand Qualifications Authority

To support internal assessment

	Grade Boundary: Low Excellence
1.	For Excellence, the student needs to demonstrate comprehensive geographic understanding of an urban pattern. This involves: • fully explaining the spatial and/or temporal variation in the urban pattern • fully explaining the factors and/or circumstances that contribute to this variation • integrating case study evidence using geographic terminology and a relevant geographic concept related to the pattern, showing insight. The student has directly identified a temporal variation in the pattern of London's population growth, using statistical evidence (1). The explanation of the variation is developed throughout the response and a supplied graph is annotated to support the explanation. Transport has been fully explained as a factor that has contributed to the variation by improving the accessibility of London. The student included evidence for road, rail and the port (2). Comprehensive understanding is evident when the student makes clear links between the contributing factors of transport, manufacturing and immigration, resulting in accelerated rates of population growth (3). The effective inclusion of the multiplier model provides further evidence of comprehensive understanding (4). When the student discusses spatial patterns relating to the temporal variation (5), they demonstrate a comprehensive understanding of the urban pattern. Geographic terminology is used throughout, and the concept of accessibility is effectively integrated in most sections, showing insight. For a more secure Excellence, the student could more effectively integrate detailed supporting case study evidence when explaining contributing factors. For example, further statistical detail could be provided for immigration and place names, etc.

The response included
- an annotated graph showing the pattern of population growth and a temporal variation in the pattern,
- an accurate map showing major transport networks with areas of manufacturing and
- a model showing the multiplier concept.

Part 1 focused on describing the urban pattern and explaining its contributing factors.

Part II

The growth of London's population from an estimated 200,000 in 1600 to currently over 7 million clearly shows a temporal pattern of growth, however there is one definite variation in the rates of growth over time that occurs. From 1600 to 1800 population growth was relatively steady but slow, when compared to the rapidly accelerated rate of growth from 1800 to 1939 with the population reaching 8 million by 1930…   ①

This first period of slow growth was prior to the industrial revolution… However, by 1800 London had become the world's largest city, and the process of urbanization became accelerated, stimulated by the technological advances of the Industrial Revolution particularly those that focused on the development of transport and manufacturing e.g. textiles. The Industrial Revolution supported the expansion of the ports (London's docks), railways (Kings Cross, Paddington) and roads which improved the accessibility of London... The development of transport technology, which occurred with the Industrial Revolution lead to a network of railways across the city, this resulted in the first development of suburbs as the city extended in to Islington and Paddington showing clearly the spatial expansion of London… Public transport continued to expand through the 1900s when the rail was electrified, development of the London Underground and road transport increased in importance as the private motor vehicle became a common feature… The idea of commuting was started, which is evidence of improved accessibility of London for the people…   ②

A map of London showing transport and early manufacturing zones was incorporated here.

The industrial revolution and transport development encouraged the growth of manufacturing, much of which became concentrated around the main access routes to the city like the ports in the East End and along major road and rail routes … The process of industrialisation and expansion of manufacturing encouraged immigration, as London was perceived as more prosperous than many of the European cities...   ③

Immigration was a major element of population increase in this stage of London's growth; firstly, with people from within the British Isles notably the Irish, who were the largest immigrant group between 1815 and 1860. Later immigrants were from poorer parts of Europe, Asia and the colonies. In 1851 38% of Londoners were born somewhere else. In the later nineteenth and early twentieth centuries natural population increase became more important as sanitation improved and more babies survived. This was a period of accelerated population growth and by 1939 the population of London was 8.6million.

An upward spiral of growth caused by the multiplier effect explains the period of rapid population growth as the Industrial Revolution encouraged manufacturing which attracted people who had improved accessibility as a result of the transport developments. The increasing trade also stimulated manufacturing supported by the port and rail. This economic and population growth caused expansion of the service industry areas such as finance, education and health, and construction industries, all offering further employment opportunities' … **(4)**

Multiplier model was incorporated here with London specific evidence.

It is evident that transport development from the Industrial Revolution through to the early 20th century has played a significant part in the variation in the pattern of population growth of London; encouraging periods of accelerated growth and causing spatial patterns of concentration and dispersal, through improving accessibility … **(5)**

	Grade Boundary: High Merit
2.	For Merit, the student needs to demonstrate in-depth geographic understanding of an urban pattern. This involves: • describing in detail, the spatial and/or temporal variation in the urban pattern • explaining, in detail, the factors and/or circumstances that contribute to this variation • including detailed supporting case study evidence, and applying a geographic concept related to the pattern. The student has described, in detail, a variation in the temporal pattern of London's population growth, with supporting statistical evidence. They have introduced major contributing factors responsible for this variation (1). The explanation of the contributing factors, e.g. housing shortage, are directly linked to the variation in the pattern, demonstrating understanding of the causal relationship (2) (4). Political decisions and policies are explained with some detail, using case study evidence (3). The geographic concept of change is integrated throughout the response, providing some evidence at Excellence. To reach Excellence, the student could show how the two factors discussed as contributing to the variation in the pattern are linked, which would demonstrate insight, for example by showing the link between the shortage of housing resulting from the war and the local authority policies relating to the housing issue. While the use of geographic terminology reflects geographic understanding, more detailed case study evidence could be integrated into the response. Detail could be provided by naming specific policies such as the New Towns Act 1946, which provided for high rise council housing, e.g. Churchill Gardens in Westminster. The pattern aspect needs to be extended to show a full explanation.

The response included a graph showing London's population change overtime.
Part 1 focused on the describing a temporal urban pattern and explaining contributing factors.

Part 2: In the graph drawn previously it shows a steady pattern of upward growth for London, but a variation to this trend occurred in the middle of the 20th century, when the population declined before slowly continuing its growth. This variation is shown as a population fall from 8.6 million people in 1939 to just 6.3 million in 1991. This variation can be partly explained as a consequence of World War 2 and political decisions which influenced residential opportunities in the city.

①

The first reason that contributed to this was the Second World War and the immediate years that followed. During the war, many people moved away from London due to the danger of bombing... Many evacuees (mainly school children) were sent to live in the countryside... This emigration resulted in a significant change to both the size of the population and the structure of London's population…

The response by London's local authorities to the shortage of housing in the 1950-60's is a second factor which contributed to this continued decline in the population. Local authorities decided that a solution to the housing problem was high-rise blocks of flats that were erected during the 1950's and 60's in the following areas … These were unpopular and unsafe… Many were demolished… Following this a change in strategy by city planners saw policies that encouraged people to move into areas beyond the greenbelt. The greenbelt was introduced into London during 1938 and its goal was to implement restrictions on urban growth… Londoners were attracted to a different lifestyle with semi-detached houses and more park space in the suburbs which reached the rural-urban fringes of Essex, Kent and Surrey. They could commute to the city as the rail network including the underground provided relatively cheap efficient transport to the city ...

②

③

A map of London was incorporated here showing the greenbelt and affected suburbs.

The policy encouraging suburbanisation and people moving away from the inner city and into more rural areas grew in popularity and in many cases while this resulted in a fall in the inner-city population it did not seriously impact on much of the available labour force as these people commuted in to the city. This policy changed the spatial pattern of the city as London's population became more spread out and was located further from the inner city than ever before… This process of suburbanisation resulted in people who considered themselves "Londoners" not being included in census and statistical data which contributes to the decline in population shown on the graph.

④

	Grade Boundary: Low Merit
3.	For Merit, the student needs to demonstrate in-depth geographic understanding of an urban pattern. This involves: • describing in detail, the spatial and/or temporal variation in the urban pattern • explaining in detail, the factors and/or circumstances that contribute to this variation • including detailed supporting case study evidence and applying a geographic concept related to the pattern. The student has demonstrated understanding of the spatial pattern relating to urban malls (for KGA, a fictional city), and a variation in this pattern is directly addressed (1). Annotated maps showing the location of malls and transport links, and other key features were included to illustrate the pattern (4) and a variation in it. Economic factors contributing to the variation in the pattern include discussion of land costs (2), competition (3) and market accessibility. Depth of understanding is shown though reference to the bid rent model (2) and the economic factors selected. The geographic concept of location has been applied in a manner that demonstrates understanding of the relevance of this concept to the context/urban pattern (1) (3). For a more secure Merit, the student could include more detailed case study evidence such as place names, size of population, mall size, distances, etc. The bid rent model could be more explicitly related to the selected urban pattern, and links between the map and model would further demonstrate in-depth understanding. This could be achieved by presenting the model and map together, and linking the annotations.

Two maps were included, showing the location of the malls, major transport links etc. and annotations identifying the spatial pattern and variation in the pattern.

KGA city has mainly a linear pattern of malls as 7 of the total of 9 malls are along the two main roads coming in to the city. 4 malls are along the Main North Motorway stretching about 25 km out of the CBD one of these is a mega mall. On the Ranges Road, the other main road in to the city there are 3 malls and two of these are mega malls... The pattern of mega malls is more dispersed than the smaller malls this shows a variation in the linear pattern. The geographic concept of location is relevant because while the overall urban pattern of malls shows a linear pattern, there is a more dispersed pattern of the mega malls further away from the CBD and spaced from each other, this is shown on the map. ①

The variation of spacing and location of the mega malls is related mostly to economic factors as they need to make more profit and are expensive to build and run... The bid rent model helps explain the dispersed pattern created by the mega malls. This model shows that land is cheaper further from the city centre and as the mega malls need a lot of space they have either been built on vacant land on the edge of suburbs or... parking space is important so people can easily access the mall, the largest mega mall has 4000 car park spaces... ②
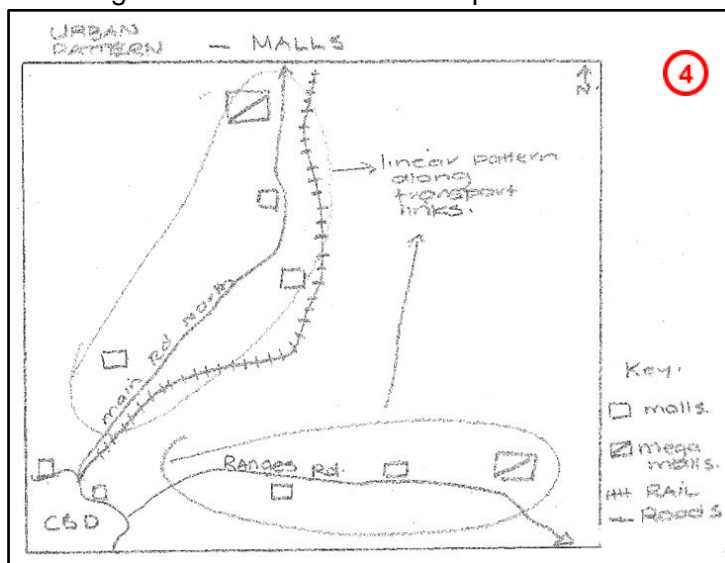
There has been a trend of smaller malls closing as the mega malls develop especially when there is sufficient space available. The spacing and location of the mega malls is totally planned to make sure there are enough people to support them... The location of these mega malls has resulted in a dispersed pattern as they try to reduce competition and attract people from a bigger area, not just locals... These malls often include theatres and restaurants. They are located near the motorways and railways to ensure that they are attractive and accessible to the wider public. ③

Even when a mega mall has been built on the edge of a suburb they have links to main transport networks to provide accessibility. This has been achieved through the construction of on/off ramps from motorway...

Map 1 showing identification of the urban pattern.

	Grade Boundary: High Achieved
4.	For Achieved, the student needs to demonstrate geographic understanding of an urban pattern.

This involves:

- describing the urban pattern
- explaining the factors and/or circumstances that contribute to this pattern
- including supporting case study evidence and a simple explanation of a geographic concept related to the pattern.

The student has clearly described linear pattern of shopping malls in the fictional city of KGA. The supporting case study evidence is in detail (1).

A range of factors have been explained as contributing to the linear pattern, e.g. relief, transport and government policy. The factors have been explicitly linked to the pattern (2) (3) (4), demonstrating understanding of the interactions contributing to the selected spatial pattern. This aspect of the explanation reflects the quality of evidence expected at Level 7 of the New Zealand Curriculum.

Direct reference is made to relevant geographic concepts, with 'accessibility' clearly explained and related to the explanation (6).

To reach Merit, the student could further develop the idea of a variation in the pattern, which is suggested when reference is made to the mega malls being more widely spaced (5). A variation in the pattern could also be shown by identifying differences in mall development on the two lines. |

The student evidence was supported with a map showing the linear pattern (see student 3) and a diagram illustrating the process of agglomeration with case study evidence.

KGA city has a linear pattern of malls. There are 12 malls as shown on the map and 7 of these are along two main roads coming in to the city. 4 malls are along the Main North Motorway stretching about 25 km out of the CBD, one of these is a mega mall which is located 18km from the CBD. It is called Coventry and is the newest and biggest of the malls, built in 2008 with 1885 car parks and 36,700 m², of shopping space. This motorway also has the oldest of the malls Gracefield, which is just 10 km from the CDB and was built in 1972… On the Ranges Road, the other main road in to the city, there are 3 malls and two of these are mega malls. Both of these malls have been built since 2001 and are marginally smaller than Coventry. ①

This linear pattern of malls follows the main arterial routes in to the city and there are also rail lines following them. The transport links provide easy access to the malls for the people… The urban pattern is influenced by the relief which is very hilly with two main river valleys the Mangaroa and the Waiariki… KGA was built near the port and the main access roads with rail were established early. As the population of KGA grew the city expanded along the two valleys forming lines, one to the north and one to the east and this shows the linear pattern. ②

The area of KGA is restricted due to a shortage of flat land and as the population grew it became very congested, especially the roads to the city. The government used a policy of decentralization to encourage industry away from the port out in to the valleys and to support this policy the transport links were made very efficient. With jobs available in the suburbs more people moved out. With this population and economic growth happening in the suburbs it didn't take long for there to be demand for the commercial centres to grow and this is when the suburban shopping centres began to evolve as malls. The linear pattern of malls is mainly influenced by the overall pattern of KGA's growth, but with industry moving in to the valleys the processes of agglomeration and grow spirals stimulated more growth and then the mega malls. ③ ④

The malls need both a market (customers), and space to build. The mega malls are fewer and more widely spaced as they need access to a bigger market and like industry they couldn't build on the steep hills so were restricted to the valleys… ⑤

The study of the spatial patterns of malls in KGA shows a clearly two lines each matching the patterns of settlement and transport. Accessibility and process are two concepts that relate to the study, but I consider accessibility the most important and therefore explained transport as a major contributing factor to the linear pattern. If people couldn't easily access the malls the loss of customers would result in shops closing… ⑥

	Grade Boundary: Low Achieved
5.	For Achieved, the student needs to demonstrate geographic understanding of an urban pattern. This involves: • describing the urban pattern • explaining the factors and/or circumstances that contribute to this pattern • including supporting case study evidence and a simple explanation of a geographic concept related to the pattern. The student has identified a pattern of steady growth for London's population (1), using supporting statistical evidence and including a graph. A range of factors contributing to London's population growth are explained using a chronological approach. These factors include the industrial revolution (2), immigration (3) and the growth of the service industries and tourism (4). The student demonstrates understanding of relationships between these factors and how they resulted in London's population growth (2) (3). The explanation of the geographic concept of change clearly shows its relevance to the selected urban pattern (5). For a more secure Achieved, the student could apply the evidence to more directly explain how the factors contributed to the temporal pattern of steady growth. For example, describing the part immigration played in helping to maintain the pattern of steady growth, would show the relevance of this process to the pattern (3). The response is largely an overview of London's population growth.

The urban pattern relating to London's population is one of steady growth which can be seen on the graph. It went from about 1 million in 1807 to 7 million in 2001... ①

The industrial revolution was the cause of the early growth because factories were started and these gave the people jobs. Lots of these jobs were close to London's port which was one of the largest in the world in the 1800's, so they could easily get their raw materials and export their products. The industrial revolution helped transport develop with both steam ships and trains playing a big part in London's growth. People, raw materials and products to be sold could easily get in to and out of London, this encouraged the city and port to grow. ②

Immigrants were a big part of the population growth in London and in 1851 38% of people in London were born somewhere else. The number of ships coming in to the port also grew which meant more jobs, especially since the port wasn't mechanised and lots of these jobs attracted immigrants from overseas. The port is still important today but it has moved east from the original docklands so it could handle bigger ships… ③

As the population grew there needed to be more services such as hospitals and schools… The financial area also grew and today the IT and tourism industries employ a lot of people. Tourism will create a lot of jobs when the Olympics are on, people have moved in to London to work on the Olympic construction sites and many of these will probably stay. ④

The statistics show that change is important to the pattern of population growth. London's population is still growing and is expected to be over 8 million by 2031. The change in population is also related to other changes like the moving of the port and types of industries. ⑤

The student included a line graph from the resource material to illustrate a pattern of steady population growth.

	Grade Boundary: High Not Achieved
6.	For Achieved, the student needs to demonstrate geographic understanding of an urban pattern.

This involves:

- describing the urban pattern
- explaining the factors and/or circumstances that contribute to this pattern
- including supporting case study evidence and a simple explanation of a geographic concept related to the pattern.

The student has shown understanding of a spatial urban pattern in the fictional KGA city, with some supporting case study evidence (1). The student refers to several appropriate factors that contribute to the pattern, e.g. settlement, relief and transport.

A brief explanation of the linear pattern relating to mall development is given (2) (3).

To reach Achieved, the student could use more of the case study evidence, specifically information that relates to the pattern or factors that contribute to the pattern, such as place names, distances, etc.

Some of the evidence provided (4) does not support a description of the linear nature in the urban pattern - much of the case study evidence provided, describes characteristics of individual malls. |

Student 6 – High Not Achieved

A map was included showing the location of malls and main roads.

The city of KGA has 9 malls that show a linear pattern, this is a line which follows the main roads and links up the suburbs and smaller towns. One of the lines has 4 malls. The newest mall is a mega mall built in 2008 called Coventry. ①

The linear pattern follows the main road away from the city centre and some of the malls are located near this road e.g. Coventry which has its own off ramp. The other older malls are a couple of streets away from the motorway but they still show the linear pattern… It is important that the malls have good road links so people can easily get to them and they can get supplies. ②

The land around KGA is very hilly and the city has spread up the valleys, this shows that relief has influenced the linear pattern. The suburbs spread along the valley which was the easiest land to build on and they followed the main road out of town. The malls have followed the linear pattern set up by the settlement and transport. The malls need the people and the transport. ③

The government encouraged some industries to locate out of the CBD and this resulted in … and some people worked here instead of going into the city each day. As population grew in these outer suburbs they needed shops, but there was a shortage of land on the valley floor so the solution was to build multi storey malls with all the shops in one place. The largest of these malls has a huge carpark, movie theatre … The second biggest mall was built in … it is two storey with… ④