MILE END CIRCUS

Exploring A New Centrality For East Enders towards Social Integration in the Post Olympic Age

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Thanks to London.
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London is a major global city and one of the world’s largest centres for global trade, finance and business services, but the east part of London, which used to be a gathering area for immigrants, workers and relative deprived people, has always been in a bad state concerning living environment, employment, income and education (GLA, 2007). In order to improve the east part, the government proposed a series of new and existing significant developments in 1990s, such as Canary Wharf and dockland regeneration contribute to the changing face of the city.

However, these upgraded master plan projects in the east are generating new pieces of city, and doesn’t provide any benefit to the local communities, meanwhile, it increase the social segregation to some extends. At this moment, the government introduces the mega-event, the Olympic Master Plan into the east again with the same aims. Through the analyzing of the new plan, the proposal still only provide a new city for London, but no benefits for the local communities in Post-Olympic Age. So the plan would increase the social segregation as Canary Wharf did. How to create a new centrality which can not only improve the local living conditions but also promote social integration in Post-Olympic Age in east London is the main issue in my graduation project.
It is a major global city and one of the world’s largest centres for global trade, finance and business services. London’s influence in politics, finance, education, entertainment, media, fashion, the arts and culture in general contributes to its global position.

London has a wide range of peoples, cultures, and religions, and more than 300 languages are spoken within its boundaries. In July 2007, it had an official population of 7,556,900 within the boundaries of Greater London, making it the most populous municipality in the European Union.
London begun its urbanisation near the First Industrial Revolution. The government put its focus on the west part of London before London sprawled. In the times of the Second Industrial Revolution, the east of London begun to develop into one part of London from a countryside because of the location of the heavy industry and the construction of the railway and docks. As a result, hundreds of thousands of workers came to the east London to work and live there, and a great many of immigrants came as well. Since the heavy industry and crowded people, the east London's environment becomes worse and worse. During the Second Industrial Revolution, the east London expanded more than the west London.

After the transformation from the Industry Age to Information Age, the east London get worse and worse because of the consequence of the heavy industry and the living area of the workers and immigrants. Today, most boroughs in the east are the most deprived boroughs in Greater London.
Since the economy changed from industry to service economy. Compared between the distribution of employment by industrial sectors from 1995 to 2000, there are 69,420 more people who get employed in 9 years, it seems the employment has an increase trend. However, there are 58,714 people who are employed in banking, finance and insurance, about 85%, meanwhile, the percentage of the manufacturing decreases from 13.07% to 6%, and the percentage of the banking, finance and insurance increases from 36.54% to 53.86, about 17.32% increase. The people who lost their jobs in manufacturing would not be the same people who got jobs in banking, finance and insurance. So there is a huge group of people who lost their jobs behind the increase trend of employment. And most of them are living in the east part of London because the east London used to be a heavy industry spot.
Change of the Distribution of Employment by Industrial Sector from 1995 to 2006

Banking, finance and insurance: 58,714
- Increase in number of people employed

Manufacturing: 69,420
- Increase in number of people employed

Public administration, education and health: 54,74

Energy and water: 52,36

Construction: 59,86

Other services: 52,36

Transport and communication: 49,61

Hotels and restaurants: 49,61

Source: ONS, Annual Business Inquiry
In recent years, London’s position as a centre for global trade, finance and business services, combined with its diversity and tolerance, skilled and dynamic workforce have combined to produce a remarkable expansion of jobs, business and population. In many fields, the city is now an acknowledged global leader, challenging New York as the world’s finance capital, playing host to the world’s greatest sporting and cultural events and setting the pace amongst major cities in working to tackle climate change.

However, the east part of London has always been in a bad state concerning living environment, employment, income and education (GLA, 2007). In the late 19th century, the expansion of the population of London led to extreme overcrowding throughout the area and a concentration of poor people and immigrants in the East End. These problems were exacerbated with the construction of St Katharine Docks (1827) and the central London railway termini (1840–1875) that caused the clearance of former slums and rookeries, with many of the displaced people moving into the East End. Over the course of a century, the East End became synonymous with poverty, overcrowding, disease and criminality.

Official attempts to address the overcrowded housing began at the beginning of the 20th century under the London County Council. World War II devastated much of the East End, with its docks, railways and industry forming a continual target, leading to dispersal of the population to new suburbs, and new housing being built in the 1950s. The closure of the last of the East End docks in the Port of London in 1980 created further challenges and led to attempts at regeneration and the formation of the London Docklands Development Corporation. The Canary Wharf development, improved infrastructure, and the Olympic Park mean that the East End is undergoing further change, but some of its parts continue to contain some of the worst poverty in Britain.

More than 100 years have passed, the borough of Tower Hamlets is still one of the most deprived borough in Greater London. In the labour pool of Greater London, the residents doesn’t have much more competitive than the other districts in London. And it has the highest level of unemployment in the country, about 11.7 per cent. Furthermore, it is the area that has the most percentage if people aged 16 to 74 who never worked in Greater London as well. In the term of income, the residents has the lowest income in Greater London.
Throughout the city, projects for new centers are emerging that will inscribe their character into London’s polycentric network. Some will succeed in becoming a part of the city’s urban fabric and refocusing activities in new areas, whilst others will remain disconnected and mono-functional. The significance and scale of these emerging developments are beginning to shape the bigger picture of London’s future; posing questions about where and how the city grows, regenerates itself, and what will be the social-economic, cultural and demographic effects on the city as a result of these new development projects?

A series of new and existing significant developments, across London, such as Canary Wharf, Brent Cross and White City collectively contribute to the changing face of the city. It is evident that the largest developments are taking place in the east of the city where London has the biggest reserve of development potential and opportunities. While most projects in the west are articulated around existing urban features that are upgraded, masterplan projects in the east are generating new pieces of city. While the west is mainly regenerating itself, the city as a whole is growing eastwards.
Urban Gentrification

source: Legacy Masterplan Framework by KCAP
Although the government propose these new large urban projects in the east with the goal to develop the area and improve the living condition of local community, the result is opposite. The illustrate on the right shows the social segregation result by the large urban project. Take Canary Wharf as an instance, it is designed as a central business district which is focused on the financial and business. It brought a highly good image to the city of London. Many of the tallest buildings in London are located in Canary Wharf, and it contributes a great many economic increasing to Greater London’s economy. Furthermore, it brings a lot of jobs to the deprived area.

However, there is no benefit for the local communities from these new large urban projects. Firstly, because the processing of urban gentrification, the deprived people have to leave their living place to other places which is cheap, and the urban problems are not solved, but move to other areas. Secondly, the jobs provided by Canary Wharf are to the people from outside of the area, who have more education and skill, not to the local people who always in a low education and training skill. Thirdly, there is no interaction between the deprived people and the rich people who are working in Canary Wharf. Although there is some good facilities constructed in Canary Wharf, the deprived people will never use them.
After Canary Wharf, the Olympic Master Plan, Stratford City and international railway station will be constructed on the east of the deprived area. These large urban projects are introduced into the east London because the government would like to use the Mega-event as a strategy to develop the east London. The LDA (London Development Agency) is fully supportive of hosting the Games in east London. The event would bring significant social-economic benefits to the local community and London as a whole, and it would also be of benefit to the rest of the UK.

Will the Olympic Games improve the east London like the case in Canary Wharf?

No. The Canary Wharf is a case which only brought the benefits to the city, but not to the local communities. Large urban projects is one type of urban gentrification which has strong consequences for the emergence of socio-spatial segregation forms. The Olympic Master Plan will increase the social segregation as Canary Wharf did.
The LDA (London Development Agency) is fully supportive of hosting the Games in east London. The event would bring significant social and economic benefits to the local community and London as a whole, and it would also be of benefit to the rest of the UK.
## When Olympic came before...

### Evaluation of Barcelona Olympic in 1992

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### Evaluation of Sydney Olympic in 2000

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<td>Proportion of high quality sports facilities, Infrastructure development, Removing pollution sources, Developing fast public transportation system, Introducing mix-function land use.</td>
<td>Housing affordability, Property price increase, Metropolitan economic growth, City-wide employment growth, Revenues to the event organisers, Attracting business, Increase in tourism during &amp; after the event, Local merchants benefiting.</td>
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<td>Tourism growth</td>
<td>Improving retail and service sector, Creating business network strategy, Real Estate development, Focus on tourist planning.</td>
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<td>Foreign direct investment</td>
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<td>Improving city competitiveness</td>
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In both the case of Barcelona Olympic and Sydney Olympic, it is clear that the Olympic would bring the benefits on economic and spatial development to the city at the urban scale as a strategy. But there is few benefits on the social aspects. Although the government would like to achieve the social improvement in their motives and strategies for the urban development.

In the Pre Olympic stage of Barcelona, the regeneration rehoused the local community of gypsies in apartment blocks on the periphery of the city. And in the Post Olympic stage, there were no plans post the games to keep any of the newly created housing for social housing. At last, the city has recognized this need now and they introduced about 25% of new units as social housing in the new developments.

In the Pre Olympic stage of Sydney, further extensive developments have taken place around the park thus alienating the poorer social classes even further, but none of the properties have been kept for key workers thus having integrated housing. And in the Post Olympic stage, there was little post games planning for the facilities. What we learn from is that the local council did not have an open relationship with the Games organizers and thus their role as stakeholders with in the pre and post planning stages was largely ignored.
### Tower Hamlets – Olympic Programme and Legacy SWOT Analysis

#### Strengths
- Location between west end and the Games.
- Strong Council leadership.
- Youth and enthusiasm.
- Borough is a strong supporter of the Games.
- Engagement in Olympic Programme and Legacy planning by stakeholders.
- Successful Local Strategic Partnership – experience in maximising opportunities.
- Effective Local Area Partnerships.
- Integrated Community Plan.
- Good community relations.
- Improving schools and pupil attainment levels.
- Large number of cultural institutions.
- Local enthusiasm for the Games.
- Up-to-date regeneration strategies.

#### Weaknesses
- Lack of experience in large hallmark events.
- Borough possibly not viewed as a main player.
- Most of the Games activities lie outside the Borough boundary.
- Suspicion in some parts of the community that the event is not for them.
- Experience of other major regeneration initiatives that have not delivered benefits to local people.
- Benefits of the Games could easily by-pass Tower Hamlets.
- High level of worklessness in the Borough.

#### Opportunities
- Tower Hamlets as the Gateway to the 2012 Games.
- Opportunity to capture the transformative potential of the Games to catalyse regeneration in the Borough.
- Galvanising all partners in regeneration and most importantly the community.
- The London 2012 regeneration commitment.
- Presence of Canary Wharf – Olympics HQ.
- Many large corporate headquarters in the Borough.
- Renewed emphasis on Corporate Social Responsibility.
- Largest Bangladeshi community in the UK.
- Youthful population.
- The Lower Lea regeneration being the ‘biggest show in town’.
- Renewed emphasis on the Western London Thames Gateway.
- The four year Olympic cultural programme post Beijing 2008.
- Tower Hamlets as an Olympic Site.
- Olympic visitors have to pass through the Borough.
- Volunteering and participation by local residents.
- Potential to re-image the Borough amongst local residents, regionally, and internationally.
- Developing the tourist industry, particularly the MICE market.

#### Threats
- The Games may stall or threaten other key elements in the Borough’s Regeneration Strategy – for instance, delays to Crossrail and/or the scrapping of Whitechapel as a station.
- The Games may be all pain and no gain for local residents – having to live with construction impacts, increased traffic and crowds during the event, but not being able to afford to attend the Games.
- Olympic tourists may never stop to visit the Borough.
- The regeneration of the Lower Lea Valley may increasingly be driven by the requirements of the event itself.
- Games budget blow-outs may limit regeneration initiatives.
- Security considerations may over-ride urban design considerations about access through the Olympic site.
- A new ‘red line’ may occur dividing the Olympic site and areas to the west of the River Lea.
- Employment opportunities may by-pass Tower Hamlets’ residents if skills base not improved.
- Local businesses and people may miss out on Olympic contracts.
- Funding bodies may perceive Tower Hamlets as well-resourced, hence loss of potential programmes.

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How about the Olympic in London in 2012?
In the SWOT analysis of the Olympic Programme and legacy in Tower Hamlets, the government worried a lot on the social threats by the Olympic Strategy.
The Mayor’s Vision

The London Plan = Economic Growth + Social Inclusivity + Improved Environment

“to develop London as an exemplary, sustainable world city, based on the three balanced and interwoven themes of strong, long-term and diverse economic growth, social inclusivity and fundamental improvements in the environment and use of resources”

source: London Plan
In the post-Olympic Stage, How to promote the urban development towards social integration based on the existing situation and the opportunity by the Olympic Strategy to achieve the mayor's vision of London that a global city with economic growth, social inclusivity and improved environment in the five deprived borough of London?
Compared with Randstad in the Netherlands, London’s metropolitan area is about two times the metropolitan area of Randstad and a half more population than Randstad’s.

source: http://www.polynet.org.uk/docs/1_1_randstad.pdf  http://www.citypopulation.de/world/Agglomerations.html
Population Growth

Compared with other major cities in northern Britain, such as Glasgow, Liverpool, Newcastle, which had recorded population declines, London and the South East have had the fastest growing populations in the past 10 years (Halifax Bank, 2004).

In Roman Times, the population of London was around 60,000 inhabitants. Later in Norman and Medieval Times, the population reached more than 15,000, and by 1300, it had grown to roughly 80,000. But the Black Death had taken at least half of the London's population in the mid-14th century. In the period of Tudor, London's population rose from an estimated 50,000 in 1530 to about 225,000 in 1605. The growth of the population and wealth of London was fuelled by a vast expansion in the use of coastal shipping to import coal from Newcastle.

In 18th century, more immigrants moved to London making the population greater. In 19th century, London's population expanded from 1 million in 1800 to 6.7 million.

London entered the 20th century at the height of its influence as the capital of the largest empire in history. The population of London reached an all-time peak of 8.6 million in 1939. Because of the World War, Greater London's population declined steadily from an estimated peak of 8.6 million in 1939 to around 6.8 million in the 1980s. However it then began to increase again in the late 1980s, encouraged by strong economic performance and an increasingly positive image.

The London Plan estimated that the population would reach 8.1 million by 2016 and continue to rise thereafter. This was reflected in a move towards denser, more urban styles of building, including a greatly increased number of tall buildings, and proposals for major enhancements to the public transport network.

Furthermore, the new London government that took office in May 2000 made a decision to contain the anticipated growth within its boundaries and reinforce London's position as a world city.
PROBLEM REDEFINE
After the problem define, I would like to choose Tower Hamlets as my study site because the borough is sandwiched between the Central Activity Zone and Olympic Site, Stratford and the new business center - Canary Wharf which result in the increase of social segregation was constructed inside the borough. Furthermore, it is one of the deprivest borough in Greater London and one target which the Olympic Strategy would like to develop. Tower Hamlets would be consider as a strategy spot for the social inclusivity improvement in the East London's development even the London Plan. the project would be a case for the other deprivest boroughs in the East London as well.
Density: 4,761/km²
Area: 19.77 km²
Employment: 58.4% (London 71%)
Social Segregation in Spatial Condition

In the spatial condition, the social segregation manifes on spatial usage and transportation usage.

In the spatial usage, there is no interface between the global people and local people. The global people's activities gathered in the West End, and the new business district Canary Wharf. A few global activities will happen at the west edge of Tower Hamlet. Because the construction of Stratford International Railway Station and Olympic Site, the new area will become another global centrality. After that, Tower Hamlets will become a blank area, and three centralities are located on three sides of the borough as islands. Although there are some developments happened in the East London, the local communities would still feel isolated.
Global and Local Interface
Mobility in Private Transportation
Canary Wharf is connected with the motorway which is on the periphery of London, more than the inner city of London because it is not a centrality for local community but for the city.
In the term of public transportation, there are more egress flows than the access flows in the tube station of Canary Wharf, it means Canary Wharf is connected with the area outside of Tower Hamlets, and many of the jobs from Canary Wharf are to the people from the outside.

Source: London Borough of Tower Hamlets AAP - Public Transport Review 2006
Usage and service area of the Public Transportation

90%-100%
80%-90%
70%-80%
60%-70%
50%-60%
40%-50%
30%-40%
20%-30%
10%-20%

% Capacity used of public transportation during peak hour

Tube   Lightrail   Overland   Crossrail

90%-100%
80%-90%
70%-80%
60%-70%
50%-60%
40%-50%
30%-40%
20%-30%
10%-20%
People who live in Tower Hamlets would rather go to West End rather than Canary Wharf. Compared with other local centers both inside and outside the site, the other centers in this borough is highly unpopular, the local would like to go the centers outside the site.
From this diagram, there is lacking of social housing and the mobility of the social housing.

A Summary of the Number of Households Living in Unsuitable Housing for Each of 13 Different Factors

Source: London Borough of Tower Hamlets - Housing Needs Survey 2004
overcrowded mobility and/or health problems subject to major disrepair or unfitness by the survey respondent family unable to live together children living in high rise accommodation harassment need to give or receive care/support accommodation too expensive
council difficulty maintaining home need to live closer to employment /other essential facilities sharing kitchen, bathroom end of tenancy lacking kitchen, bathroom 6,000 4,000 2,000 0 2,000
9,543 4,470 3,788 2,979 2,325 1,914 1,120 1,089 1,085 311 232 190 62
A Summary of the Number of Households Living in Unsuitable Housing for Each of 13 Different Factors
Source: London Borough of Tower Hamlets - Housing Needs Survey 2004

Population Pressure

Cummulative percentage increase based on area's population for year 2001

Cummulative Percentage Increase

Tower Hamlets Inner London London

17.9%
The employment of the local community

Most of the local people lost their jobs because they used to work in the manufacturing industry and the low skill could not bring the jobs to them in the background of changing economy. As the municipality’s report said, employment opportunities may by-pass Tower Hamlets’ residents if skills base not improved.
No Interaction:
There is no interaction between the local people and the global people. There is no overlap between their activity zones.

Pass-by Area:
The area is a pass-by area, although it has a good public transportation accessibility level.

Weak Connections:
There is a gap between the light rail and the tube.

Lack of Centrality:
The local centrality is declining with no attractives.

Social Housing:
There is a lack of social housing, and it will have a huge pressure because of the high population growth.

Unemployment:
A lot of local people are in unemployment not because there is no job opportunity, but due to their low skill base.

Objective

To create a new centrality in order to attract global people from outside to interact with the local people based on the existing situation and the opportunity of Olympic Master Plan, meanwhile, improve the living conditions of the local communities towards social integration.
CENTRALITY
What is Centrality?

The centrality would refer to the Agglomeration of different Activities, such as retail, market and entertainment. Since the activities are for the people from the metropolitan scale, middle scale and neighbourhood scale, we could consider the cluster as centrality on different scales.

For the goal to understand the centrality of London, the mapping of centrality is the first step to find a successful centrality in the urban fabric of London. I mapped agglomeration of activities based on different actors -- tourists, businessmen, local people, students and Londoners-- and destinations, such as attractions, shops, event, bar, restaurant, hotel and university plus office. After overlaped each activity's distribution in urban context map of London, I get the centrality map of London. This map is important because it shows which area is a centrality in London's urban fabric in large scale or middle scale.
Distribution of Activities
Centality of London
What’s the spatial layout of the centrality of London?

**Large Scale Centrality**
- West End --- Piccadilly Circus, Oxford Circus, Charing Cross, Cambridge Circus

**Middle Scale Centrality**
- Camden Town, Islington, Bond Street, Brick Lane, Kensington, Shoreditch
Large Scale Centrality

Middle Scale Centrality
Camden Town, King's Cross, Bond Street, Brick Lane, Knightsbridge, Waterloo
Middle Scale Centrality

Bond Street and Edgware Street
The Centrality forms at the place where different flows intersect.

These centralities in London all not only have a central position in a more local area, but also are connected to a higher scale movement flows. The area with an interchange between different tube lines or railway would increase the different flows intersect, In other words, the interchange public transportation spot would form a centrality as well.
Where’s the new centrality?

Trunky Roads and Primary Roads
Where’s the new centrality?

Nodes
Where’s the new centrality?

Nodes

- Camden Town
- Upper Street
- Shoreditch
- Brick Lane
- Canary Wharf
- Stratford
- Elephant & Castle
- West End
- Edgware Road
Where’s the new centrality?

The Potential Area as the New Centrality

- The Node of Mile End is connected with the Stratford and City Center by A11.
- It is connected with Blackwall Tunnel Northern Approach, which is a heavy traffic road at a global scale.
- There is a junction between the trunky road and primary road which have different flows.
Two tube stations are linked to the city center and Stratford.
One light rail station is linked to Canary Wharf and Stratford.
There is two railway passed through this area.
There are heavy flows in the public transportation both on tube and railway.
• The new centrality will be link to metropolitan scale centralities by the trunk road and to the neighbourhood scale centralities by the trunk road and primary road.
• The primary road would have more different flows intersect to become a CIRCUS.
Existing Situation of Bow

- Roman Road Street Market
- Mile End Park
- Mile End Road
- The Elevated Railway
- Olympic Facility
- Stratford International Railway Station
- Intervention Area
Strategy

• **Spatial Layout of the New Centrality**

  Road Network Transformation

  Integrate Public Interchange System

• **The Needs of the Locals on Socio-economic Aspect**
Based on the conclusion of the spatial layout of centrality in London, two offline of the main road, which have the potential to emerge activities, are evaluated. But both of them stop in the middle, in other words, both of them are only linked to the main street with one crossing. That's a reason why this spot doesn't emerge to a centrality refer to the research before.
• Road Network Transformation

Proposed Road Network

In order to make the centrality work successfully, a further evaluation on the possibility of the extension of the two offline of main street is necessary. The Tredegar Road has the biggest potential to extend to be linked to the main street, because it would extend to a local street which is along the elevated railway and there is one building which was built 20 years ago on the way of the road's extension. I proposed to extend the Tredegar Road, and strengthen the connection between the main street which it offset from and itself.
Integrate the Public Interchange System

Existing Public Transportation Network

There are two tube stations, one light rail station and one bus terminal in this area. But there is a gap between the Bow Road Tube Station and Bow Church Light Rail Station, they have a distance of about 300 meters. This causes that the tube network and the light rail network are not integrated, and it's very difficult for people to interchange between the tube and light rail. The Mile End Bus Station is located on the entrance of the Mile End Park, and it is about 50 meters far away from the Mile End Tube Station.
• **Integrate the Public Interchange System**

**Proposed Public Transportation Network**

It's obvious that the interchange will increase the different flows of people to form a centrality, so the Bow Church Lightrail Station is demolished and move to the north to the junction of the railway and the tube, and introduce a stop on both the railway and the Central Tubeline. Due to the overground and underground network and the elevated railway, the railway and lightrail are separated from the tube, and they create a three-dimensional Interchange spot. After the transformation, the proposed stations become more intensity and the light rail is integrated with the tube line and the railway.
Strategy

• **Spatial Layout of the New Centrality**
  
  Road Network Transformation
  
  Integrate Public Interchange System

• **The Needs of the Locals on Socio-economic Aspect**
  
  Developing Ethnic Cultural Identity & Ethnic Economy
  
  Diverse Layers
- Developing Ethnic Cultural Identity & Ethnic Economy

Existing Situation

Bad Quality Social Housing

Open Space

Commerce Activity

Learning Center
Transform the market into a cultural area
Explore the ethnic economy
Regenerate the social housing
Introduce education centers
• Developing Ethnic Cultural Identity & Ethnic Economy

- Isolated ➔ Attract the people from outside to have interacting with the local people by creating the centrality

- Decline of the market ➔ Develop the market into a culture area with the identity of the local community.

- Lack of social housing ➔ Add more social housing with good living conditions

- Low skill labour force ➔ Add education center to improve the local's skill base.

And develop the ethnic economy here for the income of the locals.
- Diverse Layers
Why A Loop?

1. Efficient

Compared with a line, a loop is more efficient, because a loop has a continuous running track which would have more spots to act than a line. And a loop would cover more space than a line.

2. Network

The two interchange spots, considering as two points on a continuous loop would attract people enter into the loop and reach to each areas along the loop easily. Furthermore, the loop would form a network on both a high scale and a low scale, which is a good model for creating a centrality on the site.
Concept

Transit area
Loop
Phasing & Stakeholders

- Interchange Station
- Road System
- Social Housing
- Learning Center
- Cultural Area
- Commercial Area
- Mile End Tube Station
- Office Units

Centrality

Public Transportation Network

tube
bus
railway
lightrail
The new station strengthens the intensity of the public transportation and link the light rail to the tube by the interchange system.
The project provides 3,000 social housing units for the locals in total, including 650 units which are demolished.
Social Inclusivity

Learning Center & Local Market

- The project provides some learning center so that the locals would improve their skill base to get more job opportunities, and there will be office programmes for them, even their next generation in the future.
- The project explore the identity of the local market and transform it into a ethnic cultural area, and develop the ethnic economy for the locals.
The project provides a lot of diverse public space, including public space, semi-public space, private public space. Furthermore, the proposed public space will form a public space network with the existing public space by the loop.