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Candidate session number			
Candidate name			
School name			
Examination session (May or November)	May	Year	2015

Diploma Programme subject in which this extended essay is registered: Geography
(For an extended essay in the area of languages, state the language and whether it is group 1 or group 2.)

Title of the extended essay: Spheres of influence of
malls in Kiev.

Candidate's declaration

This declaration must be signed by the candidate; otherwise a mark of zero will be issued.

The extended essay I am submitting is my own work (apart from guidance allowed by the International Baccalaureate).

I have acknowledged each use of the words, graphics or ideas of another person, whether written, oral or visual.

I am aware that the word limit for all extended essays is 4000 words and that examiners are not required to read beyond this limit.

This is the final version of my extended essay.

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Name of supervisor (CAPITAL letters) _____

Please comment, as appropriate, on the candidate's performance, the context in which the candidate undertook the research for the extended essay, any difficulties encountered and how these were overcome (see page 13 of the extended essay guide). The concluding interview (viva voce) may provide useful information. These comments can help the examiner award a level for criterion K (holistic judgment). Do not comment on any adverse personal circumstances that may have affected the candidate. If the amount of time spent with the candidate was zero, you must explain this, in particular how it was then possible to authenticate the essay as the candidate's own work. You may attach an additional sheet if there is insufficient space here.

The candidate enthusiastically approached the topic and generally had a good grasp of the concepts. Difficulty in attaining an appropriate number of malls only became apparent well into the process and unfortunately time did not allow for greater data collection.

This declaration must be signed by the supervisor; otherwise a mark of zero will be issued.

I have read the final version of the extended essay that will be submitted to the examiner.

To the best of my knowledge, the extended essay is the authentic work of the candidate.

As per the section entitled "Responsibilities of the Supervisor" in the EE guide, the recommended number of hours spent with candidates is between 3 and 5 hours. Schools will be contacted when the number of hours is left blank, or where 0 hours are stated and there lacks an explanation. Schools will also be contacted in the event that number of hours spent is significantly excessive compared to the recommendation.

I spent hours with the candidate discussing the progress of the extended essay.

Supervisor's signature: _____

Date: Jan. 20, 2015

Assessment form (for examiner use only)

Candidate session number		
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Achievement level

Criteria	Examiner 1 maximum	Examiner 2 maximum	Examiner 3
A research question	2	2	2
B introduction	2	2	2
C investigation	2	4	4
D knowledge and understanding	3	4	4
E reasoned argument	2	4	4
F analysis and evaluation	2	4	4
G use of subject language	3	4	4
H conclusion	2	2	2
I formal presentation	3	4	4
J abstract	2	2	2
K holistic judgment	2	4	4
Total out of 36	25		

Name of examiner 1: _____ Examiner number: _____
(CAPITAL letters)

Name of examiner 2: _____ Examiner number: _____
(CAPITAL letters)

Name of examiner 3: _____ Examiner number: _____
(CAPITAL letters)

IB Assessment Centre use only: B: _____

IB Assessment Centre use only: A: _____

To what extent are the spheres of influence of malls
in Kiev affected by their accessibility?

Geography Extended Essay

Word Count: 3913

Abstract

The question that was chosen to be the focus of this essay was “To what extent are the spheres of influence of malls in Kiev affected by their accessibility?” The proposed hypothesis stated that the higher the level of accessibility the larger the sphere of influence of the mall would be. The essay considers three malls in Kiev, Ukraine and analyses the relationship between their spheres of influence and accessibility level.

The three malls chosen for this observation were Gulliver, Ocean Plaza and Terminal. In order to quantitatively establish the accessibility of each of these malls, an original composite indicator was created, taking into account three major accessibility factors: number of parking spots, number of bus lines reaching the mall and number of metro lines within 500 meters of the mall. Due to people’s unwillingness to share information of where they live, the sphere of influence in this observation was represented in the number of visitors that each mall received through the main entrance, throughout 30 minutes. The results of both data sets were presented in a graph and analyzed, exploring numerous reasons for the results that were obtained.

The conclusion found that the original hypothesis was not entirely true. Although accessibility may affect a mall’s sphere of influence to a certain extent, there are other factors that may also contribute to a larger or smaller sphere of influence, including size, location and goods and services offered by the mall.

Word count: 240

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Introduction

Kiev is the capital of Ukraine and, as seen on Map 1, is located in the north of the country. It is the most economically developed region of Ukraine with approximately 2.8 million citizens¹ and, like most other large cities, offers a wide variety of services such as malls, museums, restaurants and movie theatres. With so many services available to the population, it is important for the business to be able to reach its threshold population in order to be successful. A threshold population is defined to be “the minimum number of people required to support a particular good, shop or office”.²

There are many factors that may influence the service’s success or failure and one of those factors is its sphere of influence, which is a component of the Urban Environments topic of IB Geography. It can be defined as “the area that is served by a settlement, for a particular function”³. This means that the sphere of influence shows the maximum distance people are willing to travel from their homes to reach a particular service, such as a store or movie theatre. The larger the sphere of influence, the more people will visit it, spend money there and thus make the service more successful. The sphere of influence can be affected by several different factors including the distance from the Central Business District, the size, the services it offers, and its accessibility.

An important theory linked to the sphere of influence is Reilly’s law of retail gravitation, which states that: “Two centers attract trade from intermediate places in direct proportion to the size of the centers and in inverse proportion to the square of the distances

¹ Worldatlas.com, (2012). population of the capital cities of the world capital city populations. [online] Available at: <http://www.worldatlas.com/capcitys.htm> [Accessed 4 Jun. 2014].

² Geographyfieldwork.com, (2014). *Urban Geography Glossary*. [online] Available at: http://geographyfieldwork.com/urban_geography_glossary.htm [Accessed 28 Sep. 2014]

³ S-cool.co.uk, (n.d.). *GCSE Geography Settlements Revision - Urban Hierarchies* | S-cool, the revision website. [online] Available at: <http://www.s-cool.co.uk/gcse/geography/settlements/revise-it/urban-hierarchies> [Accessed 4 May. 2014].

from the two centers to the intermediate place”⁴. However, this law makes assumptions that people shop in a logical way and will travel to the center that is nearest to them. This is not always the case - people may be willing to travel further distances in order to, for example, obtain slightly different services or goods. There are other factors that may affect the popularity of a mall and accessibility is one of them. The ease of access to a mall is an important factor that people consider (e.g. bus and metro stations nearby, number of parking spots available) when choosing which mall to visit. Kiev’s public transportation system is less advanced (see Figure 1 on page 9) than in some of its Western neighbors’ capitals, however its citizens still rely heavily on public transport to move around. Therefore, I became interested in finding out how accessibility of a service, such as a shopping center, influences the service’s sphere of influence.

For this research paper I will be focusing on the question: “to what extent is the sphere of influence of a mall affected by its accessibility?” In an attempt to answer this question I will examine the difference in the sphere of influence of three malls: “Terminal”, “Ocean Plaza” and “Gulliver”, shown on Map 2, in Kiev Ukraine, and their accessibility. It is an important aspect to consider when planning on opening a service, because it enables insight into a factor that could have an effect on the potential success of the business or service.

It is important to note that the sphere of influence in this observation will not be measured by the distance people travel to reach the mall, as people are unwilling to tell strangers where they live. Instead, the number of people entering the mall in the span of 30 minutes will be counted.

Not measuring sphere of influence then which has to be a 2 dimensional space

Accessibility of these malls will be assessed on the number of metro and bus lines that reach the mall and the number of parking spots available at the three malls. My hypothesis is

⁴ Waugh, D. (2002). *Geography An Integrated Approach*. 1st ed. Cheltenham: Nelson Thornes, pp.410-411.

that the easier the access to the mall, such as more bus numbers and metro lines that reach the mall and more parking spaces, the more people will be able to access it from various parts of the city, drawing a larger number of people and therefore the mall will have a larger sphere of influence.



Map 1: Map of Ukraine ⁵

Methodology

⁵ Worldatlas (n.d.) 'Ukraine', Tile SP 47N/62N. Available at: <http://www.worldatlas.com/webimage/countrys/europe/ua.htm> (Accessed Sept. 18, 2014)

1. Sphere of influence

Due to the fact that people are not keen on giving information about where they live, especially to strangers, it would be difficult to figure out the sphere of influence based on how far people travel to a mall. Instead, I will count how many people enter a mall in a certain amount of time and from those results establish the sphere of influence, as technically, a greater sphere influence should mean a greater number of visitors. *Depends on pop. density*

More specifically, I will count the number of people that enter the mall through the main entrance in half an hour at noon on two Sundays and one Saturday.

2. Accessibility

This variable will be measured by counting:

1. Number of parking spots provided by the mall
2. Number of bus routes that reach the mall
3. Number of metro lines that reach the mall

Road access?

I have created an original composite indicator to describe and compare the ease of access of the three malls in a numerical way. The three components listed above will be measured at each mall and each of them will be assessed using separate scales. The higher the number on the scale, the better the access to the mall. The number of points from each component will be added up to give an overall numerical value of the accessibility of the mall. ✓

1. Parking spots provided by the mall

Points	Descriptor
0	No parking space
1	1-100 parking spots
2	101-300 parking spots
3	301-500 parking spots
4	501-700 parking spots
5	701- 900 parking spots
6	900+ parking spots

I have chosen to include the number of parking spots as one of the components of accessibility because it reflects the mall's ability to accommodate for the people who reach the mall by car. If a mall is unable to provide enough parking space people who prefer to travel by car will be less keen on visiting that mall.

2. Number of bus numbers reaching the mall (including marshrutkas (Figure 1), trolleybuses, buses)

Points	Descriptor
0	No bus lines reach the mall
1	1-4 bus lines
2	5-10 bus lines
3	11-16 bus lines
4	17-22 bus lines

Frequency of buses might be a better indicator?



Figure 1: Marshrutka ⁶

3. Number of metro lines present within 500 meters of the mall

Points	Descriptor
0	No metro lines reach the mall
1	1 metro line within 500 meters of the mall
2	2 metro lines within 500 meters of the mall
3	3 metro lines within 500 meters of the mall

I chose to include the metro and bus factors in this composite indicator, as public transportation in Kiev is very cheap – a metro ride is 2UAH, while bus fares range from 1.50 to 4UAH a ticket ⁷. Therefore, the majority of citizens choose to travel using public transport, thus the presence of a metro station and bus stops near a mall could greatly affect its popularity.

⁶ Boyer, J. (2011) *Marshrutka*. Available at: <http://inturism.com/articles/ukraina-turisticheskaia-chto-o-nei-dumaiut-inostrantsi/> [Accessed: Sept 13th 2014]

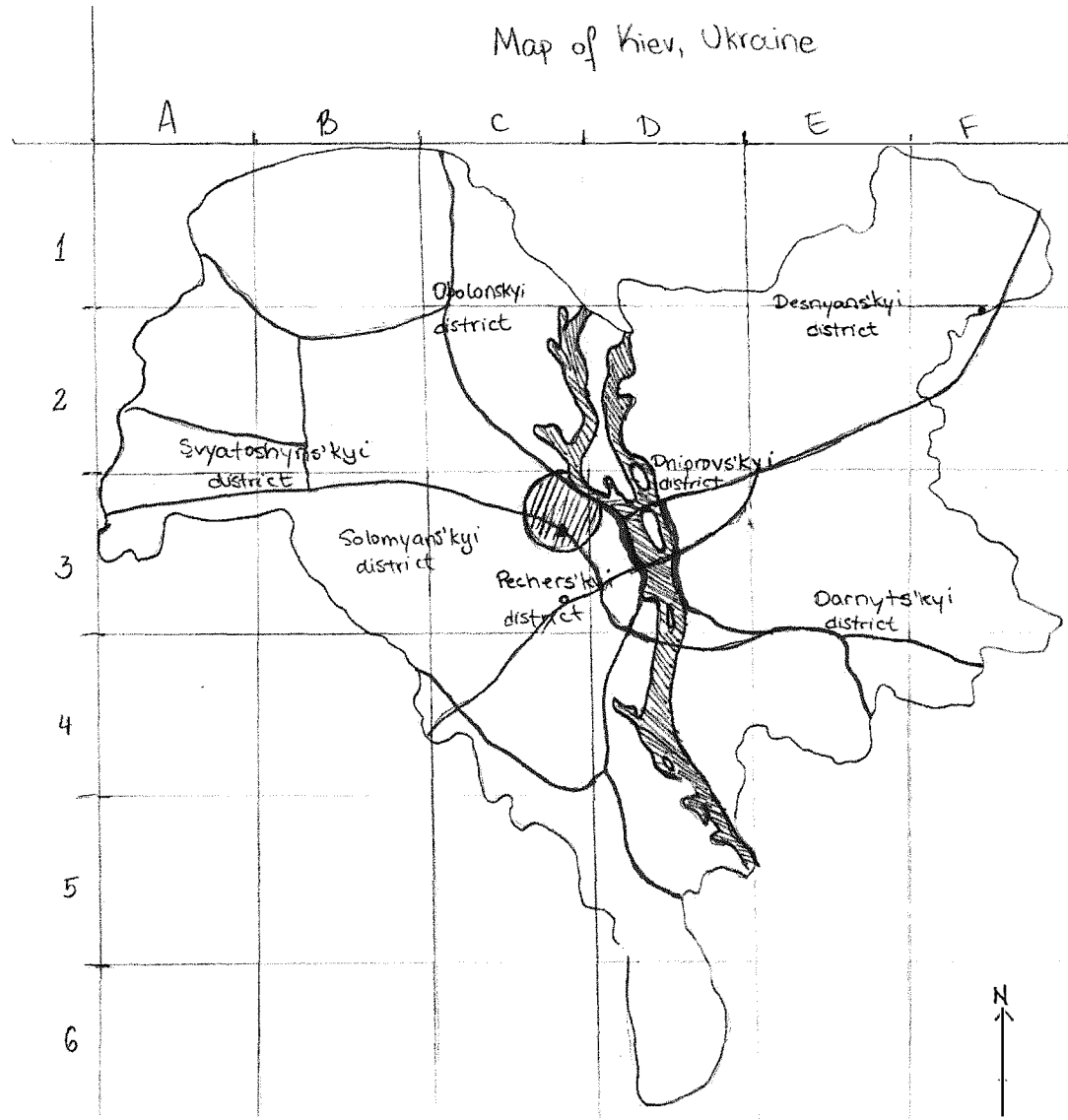
⁷ Kiev4Tourists, (n.d.). Kiev Ukraine - Travelling by Bus and trams in Kiev, Bus station, Public transport in Kiev. [online] Available at: <http://kiev4tourists.com/BusesandTrams.html> [Accessed 12 Aug. 2014]

i

4. Overall ease of access of mall

Points added up from the three criteria	Level of Accessibility
0-3	Low accessibility
4-8	Medium accessibility
9-13	High accessibility

Map of Kiev, Ukraine



- Key:
- ◉ - central Business District
 - ▲ - "Gulliver" mall
 - - "Ocean Plaza" mall
 - - "Terminal" Mall
 - ▨ - Dnipro River
 - Main roads

Map 2: Kiev City Map

See Appendix for detailed city map



Data Collection - Accessibility

This data was collected using both primary and secondary sources. I counted the number of bus numbers that stop at the stations near the malls as well as the number of metro lines reachable within 500 meters of the malls. The number of parking spots was taken from secondary sources, mainly the malls' websites.

Mall	Number of parking spots	Number of bus routes that reach the mall	Number of metro lines that reach the mall
Terminal	850	9	0
Ocean Plaza	3000	21	1
Gulliver	450	5	2

Terminal

The mall can be found in grid F2 on Map 2. This shopping center is located on the left side of the river, on the borders of the city, approximately 25km away from Kiev's central business district which is situated on the right bank. It is situated quite close to one of Kiev's main roads, leading to the center of the city. This feature may prove to be an important factor in accessibility. Terminal's location, far from the center, allows for a large area and therefore a vast amount of goods and services to be offered. It occupies over 70 000 square meters and, apart from 27 stores and a supermarket⁸, includes an ice rink, a bowling alley, a cinema, a fitness center and a karting center⁹.

⁸ Терминал торговельно-позважальчий центр, (n.d.). БУТИКОВАЯ ГАЛЕРЕЯ. [online] Available at: <http://trc-terminal.com.ua/butik.php> [Accessed 8 Aug. 2014].

Mall	Number of parking spots	Number of bus routes that reach the mall	Number of metro lines that reach the mall	Total number of points
Terminal	850 (5 points)	9 (2 points)	0 (0 points)	7 points = Medium Accessibility

As seen on the table above, public transport to the mall is limited to buses, as the center is located 9.2km from the nearest metro station. It does, however, have quite a large parking space of 850 spots (some can be seen in Figure 2). The final result of 7 points represents medium accessibility of the mall.



Figure 2: Terminal Mall

Ocean Plaza

Ocean Plaza is situated in grid C3 on Map 2. It is located on Gorkovo Street, approximately 5km away from the city's central business district and is one of Kiev's newest

⁹ Kievcity.com.ua, (n.d.). Terminal « KievCity.com.ua – Kiev City Information Guide. [online] Available at: <http://www.kievcity.com.ua/entertainment/entertainment-centers/terminal> [Accessed 7 Aug. 2014].

¹⁰ Mikolajczak, G. (2014) *Terminal*.

shopping centers. It is as big as Terminal, also occupying 70 000 square meters¹¹. It offers a variety of services including 197 stores, car wash, travel agencies, an outdoor swimming pool, a karting center and a movie theatre.

Mall	Number of parking spots	Number of bus routes that reach the mall	Number of metro lines that reach the mall	Total number of points
Ocean Plaza	3000 (5 points)	21 (4 points)	1 (1 points)	10 points = Good Accessibility

As seen on the table above, Ocean Plaza can be reached through 21 different bus routes (Figure 4), one of three metro lines and offers 3000 parking spots¹² (Figure3), consequently ranking the mall with high accessibility.



Figure 3: Over ground parking in Ocean Plaza

¹¹ Oceanplaza.com.ua, (n.d.). *ТРЦ Ocean Plaza – Ласкаво просимо!*. [online]. Available at: http://oceanplaza.com.ua/uk/projects/about_us/ [Accessed July 20, 2014]

¹² Kandevlopment.com, (n.d.). KAN Development Ocean Plaza. [online] Available at: <http://www.kandevlopment.com/en/projects/?ID=36> [Accessed 20 Jul. 2014].

¹³ Mikolajczak, G. (2014) *Ocean Plaza Parking*.

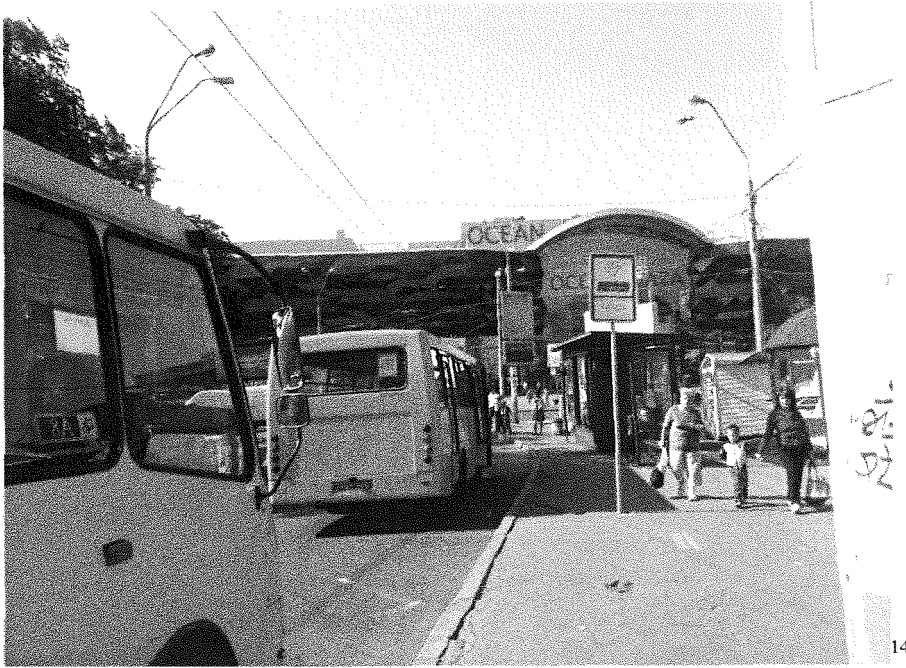


Figure 4: Bus stop at Ocean Plaza

Gulliver

Gulliver can be found in grid C3 on Map 2. It is located on Sportivna Square, approximately 1.8km away from Kiev's main square Maidan Nezalezhnosti. It holds 130 stores, a supermarket, a swimming pool, 13 restaurants, a bowling center and a movie theatre¹⁵.

Mall	Number of parking spots	Number of bus routes that reach the mall	Number of metro lines that reach the mall	Total number of points
Gulliver	450 (3 points)	5 (2 points)	2 (2 points)	7 points = Adequate accessibility

¹⁴ Mikolajczak, G. (2014) *Ocean Plaza Bus stop*.

¹⁵ Gullivercenter.com, (n.d.). *Про ТРЦ*. [online] Available at: <http://gullivercenter.com/about/> [Accessed 22 Jul. 2014].

As seen on the table above Gulliver scored “medium accessibility” based on the data collected. The Kiev metro is the most popular mean of public transport¹⁶ and although 2 lines reach the mall, with one station 200 meters from the mall (see Figure 5), the fact that Gulliver provides only 450 parking spots¹⁷ and just 5 bus routes reach the mall may explain why the accessibility can be ranked as medium rather than high.



Figure 5: Metro station near Gulliver

Predictions

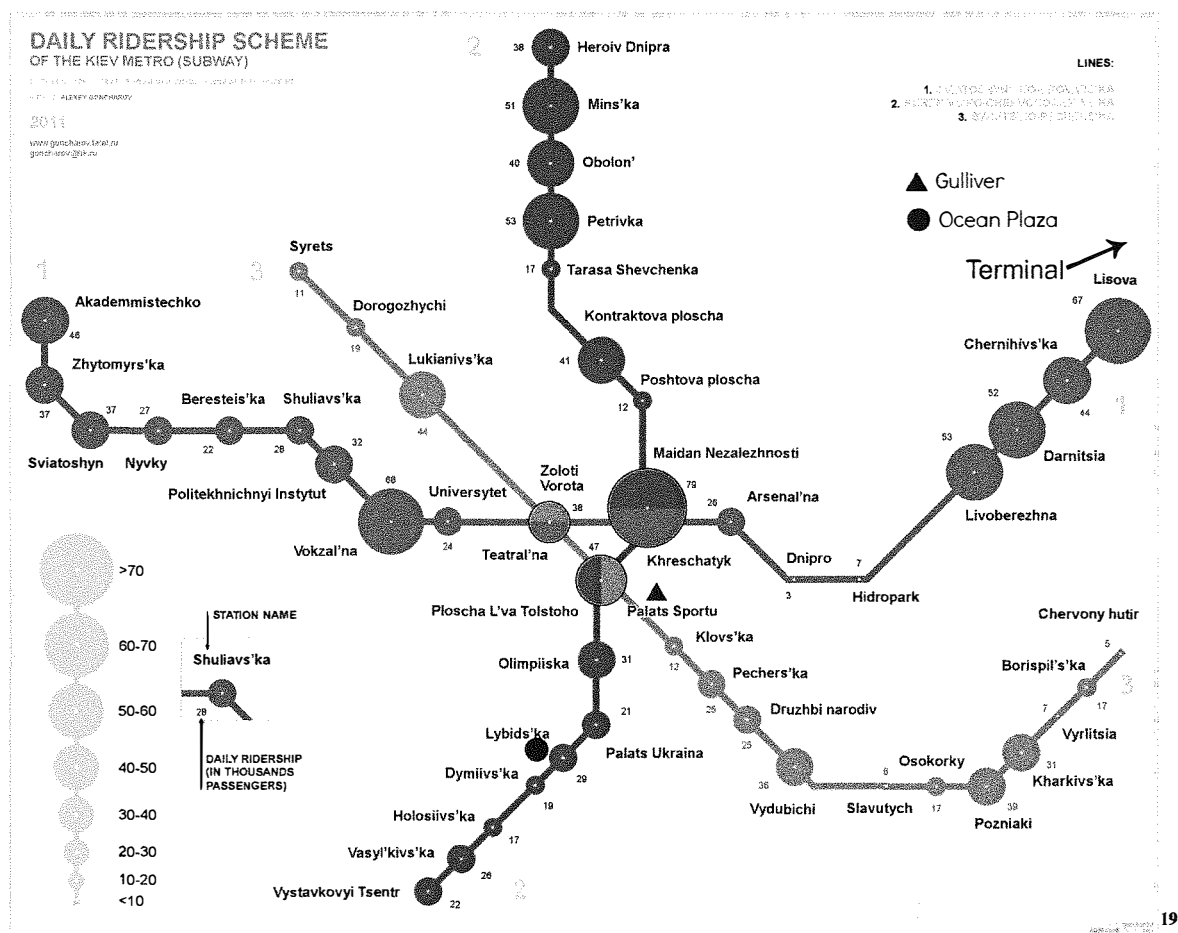
If my initial hypothesis were to be true, based on the results of the assessment of accessibility, it could be assumed that Ocean Plaza would have the highest number of visitors, due to its high accessibility, while Gulliver and Terminal would have approximately the same number of visitors as their accessibility rank is the same.

¹⁶ Bestofukraine.com, (2010). Transportation in Kyiv, Ukraine. Kiev metro system, public transport BestOfUkraine.com - The Best Travel Guide to Ukraine. [online] Available at: <http://www.bestofukraine.com/ukraine-travel-center/north/kyiv/transportation/> [Accessed 21 Aug. 2014].

¹⁷ Gullivercenter.com, (n.d.). *Про ТПУ*. [online] Available at: <http://gullivercenter.com/about/> [Accessed 22 Jul. 2014].

¹⁸ Mikolajczak, G. (2014) *Metro near Gulliver*.

Furthermore, as mentioned above, the Kiev metro is the most used and fastest means of public transportation. Taking this into account, it could be predicted that Ocean Plaza and Gulliver would receive the greatest number of visitors, as they are located within 500 meters of at least one metro line, while Terminal, situated over 9km from the nearest metro station, might have a smaller visitor flow.



Map 3: Kiev Metro Daily Ridership Scheme

Map 3 shows the daily ridership of each metro station in Kiev in thousands. The size of the station shown on the map corresponds to the number of passengers it receives daily. I

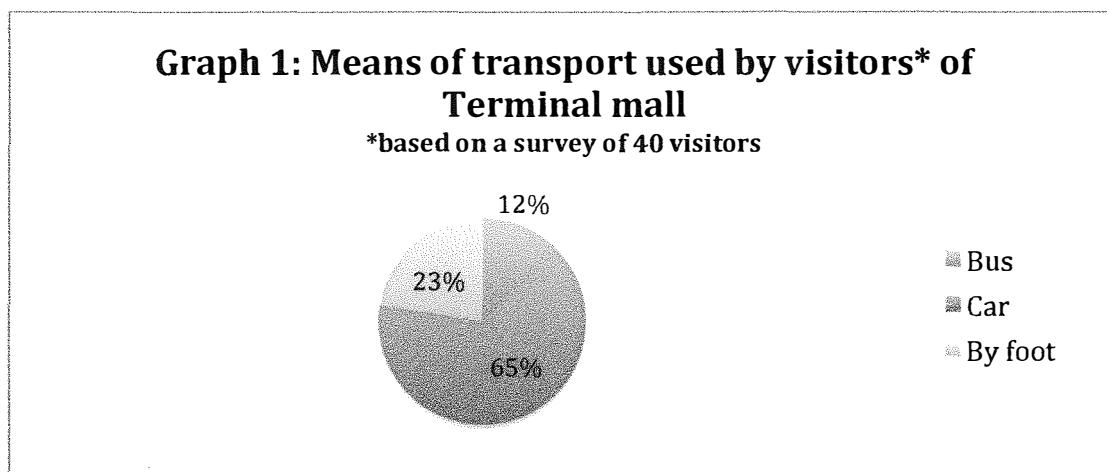
¹⁹ Gorchanov, A. (2011). *The daily ridership scheme of Kiev Metro (Subway)*. [Image] Available at: http://www.goncharov.fatal.ru/goncharov.fatal.ru_kiev_metro_passengers_2011-english.gif [Accessed 29 Sep. 2014].

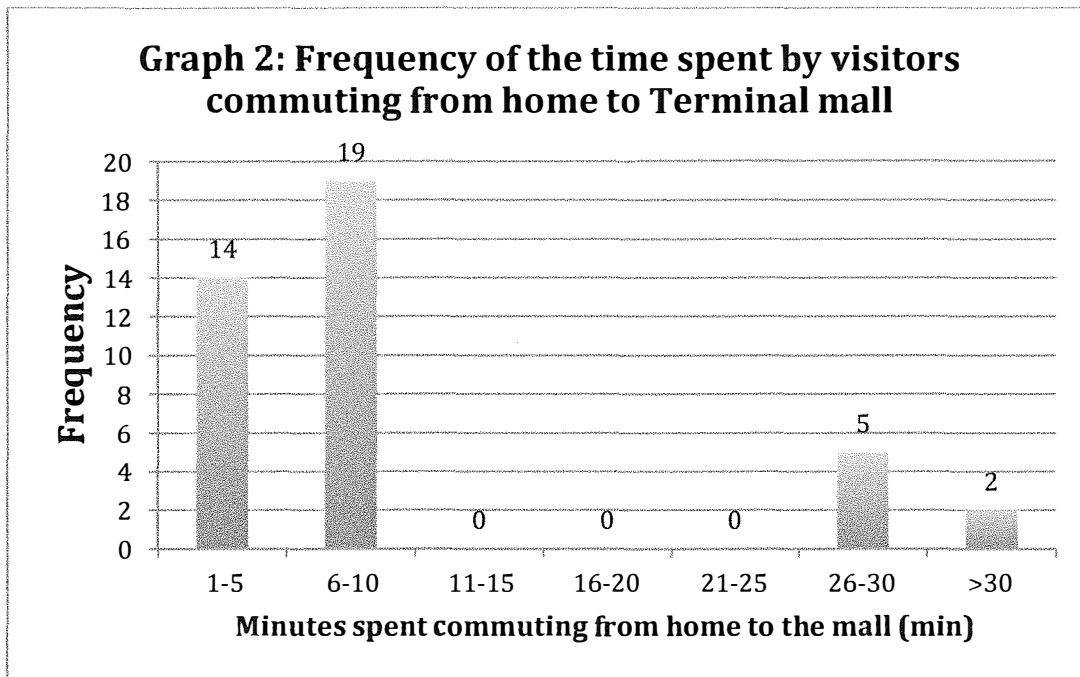
added the locations of Gulliver and Ocean Plaza to the map. Terminal was not added as it is too far from the nearest metro station (Lisova). It can be noted that Gulliver is located near a station that receives approximately 47,000 passengers daily (Plats Sportu/Ploscha L'va Tolstoho), while Ocean Plaza's station, Lybids'ka, receives about 29,000 – over 38% less than Gulliver. Without further data collection, it could be assumed that Gulliver would see a larger flow of visitors, as it is located near a busier metro station than Ocean Plaza.

Time and Means of Transport of Visitors

In order to get more in-depth information about how far people travelled to a certain mall, without explicitly asking about their home address, I surveyed 40 people in each of the malls asking them what means of transport they used to get there and how long it took them.

Terminal



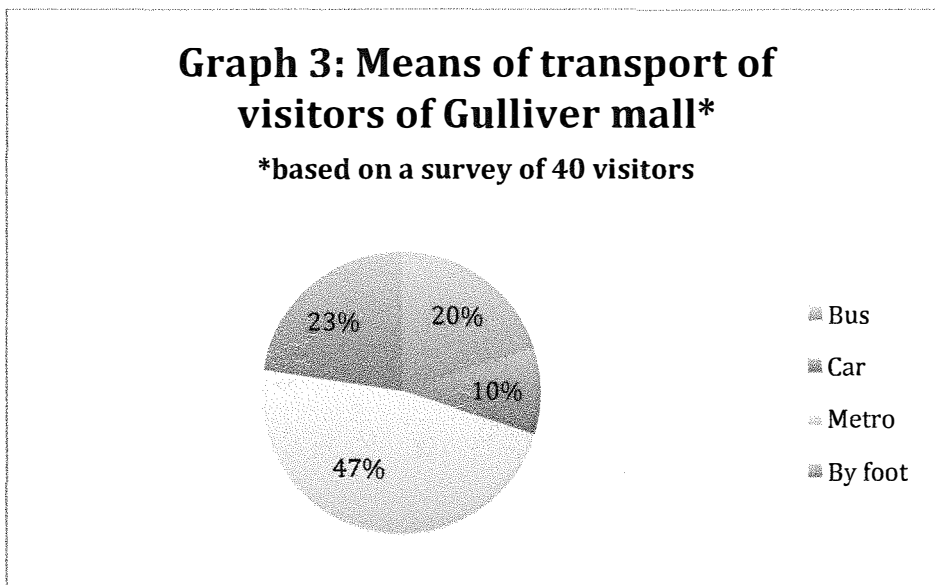


As seen on Graph 1, nearly two-thirds of Terminal’s visitors travelled to the mall by car, while 23% got there by foot and only 12% commuted on a bus. This would suggest that Terminal’s position near a major road is convenient for people with cars. Also, the fact that it is situated near a residential area (see Figure 6) could explain why more people travelled to the mall by foot than by buses. Graph 2 suggests that the visitors mostly traveled from nearby places, as the majority of the surveyed people spent only between 1 and 10 minutes commuting to the mall.

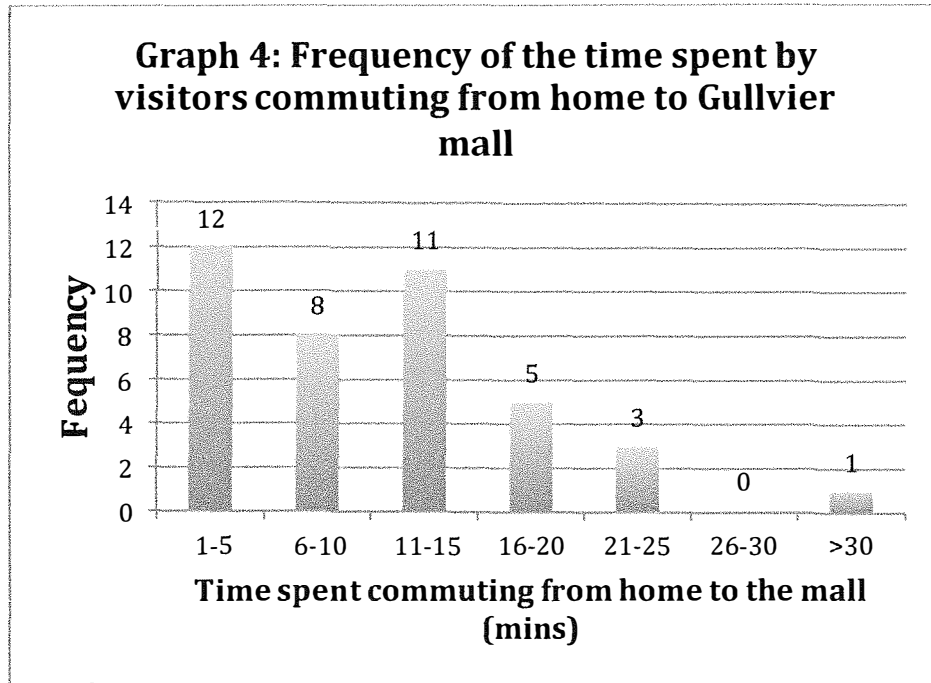


Figure 6 – Showing residential areas near Terminal’s parking lot

Gulliver



²⁰ Mikolajczak, G. (2014) *Terminal parking and residential areas*

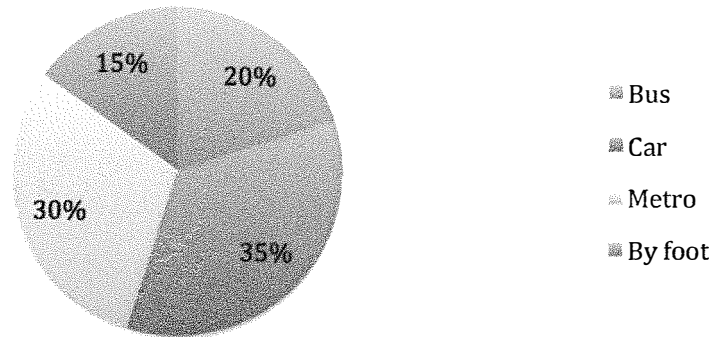


As seen on Graph 3, the most popular mode of transport to the Gulliver mall was the metro, which could be explained by the fact that there are two metro lines that reach the mall, making it a convenient way of transport to the mall. Also, as seen on Graph 4, the two highest frequencies of time taken to commute to the mall were 1-5 minutes and 11-15 minutes, and there was only 1 person who travelled for more than 30 minutes, suggesting that people did not travel from very far to reach Gulliver, in turn suggesting that the mall does not have a large sphere of influence.

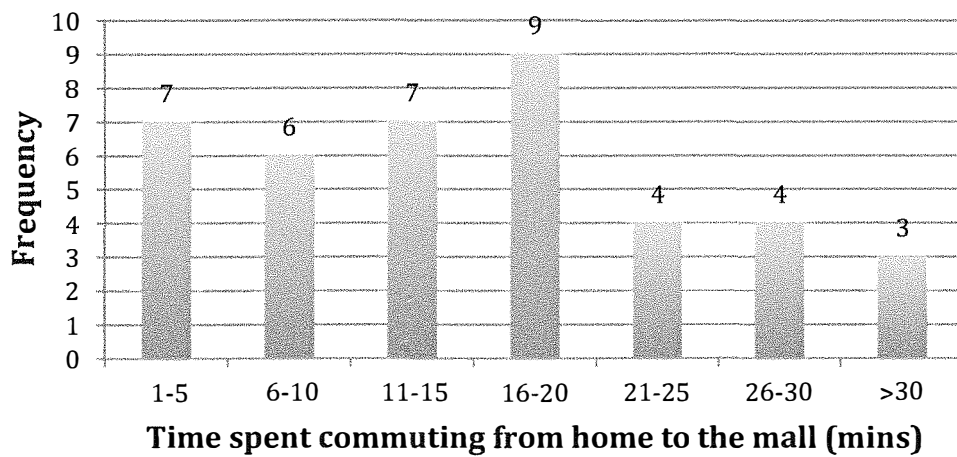
Ocean Plaza

Graph 5: Means of transport of visitors of Ocean Plaza mall*

*based on a survey of 40 visitors



Graph 6: Frequency of the time spent by visitors commuting from home to Ocean Plaza mall

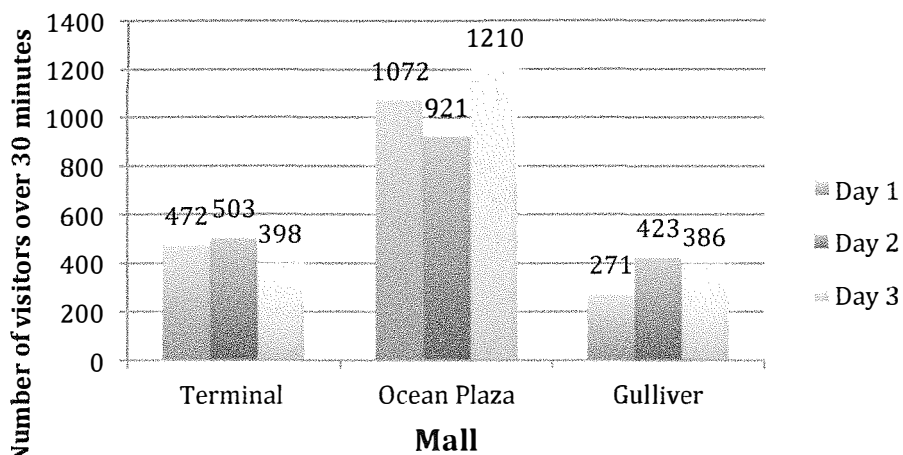


Although the means of communication are more balanced in Ocean Plaza compared to the other malls, the dominant mode of transport were cars, which could be explained by the large number of parking spots that Ocean Plaza offers. Also, the time spent travelling to the mall is similarly more balanced compared to the other malls and there is a higher frequency of visitors who travelled more than 25 minutes to get to the mall, suggesting that its sphere of influence is larger than the two other malls'.

Data Collection – Sphere of Influence/Popularity

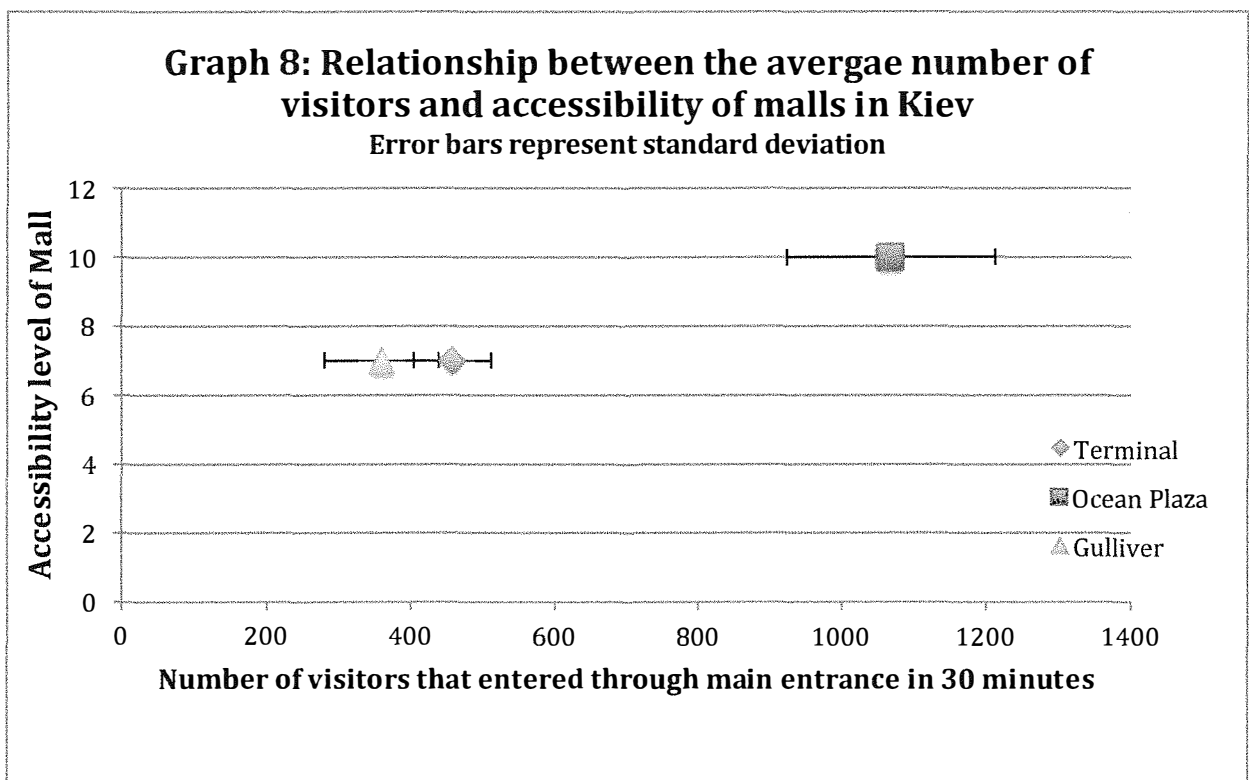
Mall	Date of data collection	Number of visitors in 30 min (main entrance)
Terminal	Day 1: Sunday, May 25th, 2014	472
	Day 2: Saturday, May 31 st , 2014	503
	Day 3: Sunday, June 9 th , 2014	398
	Average	457.7
Ocean Plaza	Day 1: Sunday, June 1st, 2014	1072
	Day 2: Saturday, June 8 th , 2014	921
	Day 3: Sunday, June 15 th , 2014	1210
	Average	1067.7
Gulliver	Day 1: Sunday, July 20th, 2014	271
	Day 2: Saturday, July 26 th , 2014	423
	Day 3: 591 Sunday, July 27 th , 2014	386
	Average	360

Graph 7 : Comparison of the number of visitors in three malls on three different days over 30 minutes



As seen on Graph 7, Ocean Plaza had the highest number of visitors over 30 minutes on all three days. The same can be said about the constantly lowest visitor numbers at Gulliver and the constant medium numbers at Terminal. This suggests that the obtained results did not happen by chance and similar data would probably be obtained if the investigation were to be carried out again

Data Analysis



As seen on Graph 8, Ocean Plaza, scoring highest on the accessibility scale also had the largest amount of visitors (average of 1068), while the malls that scored less on the accessibility scale in turn received fewer visitors. Accessibility could be correlated to size, meaning that larger malls could cater for more people and therefore have a high popularity. Ocean Plaza has high accessibility and high popularity and is roughly the same size as Terminal. However, it scored higher than Terminal on the accessibility scale, which may suggest that the popularity of a mall may be influenced by accessibility, which supports my initial hypothesis. However, the hypothesis falls short when comparing just the two malls

with worse access– Terminal and Gulliver. Although both malls scored the same number of points (7) on the accessibility scale Gulliver had significantly fewer visitors than Terminal (and average of 360 as opposed to 478). This is a surprising result, as Terminal is situated on the left side of the river, while Gulliver is located in the center of the city, therefore is technically more accessible to a large portion of the population. Also, while there are no metro lines that reach Terminal, there are two that reach Gulliver. This is a very significant factor because, as mentioned earlier, the metro is the most popular mean of transport in Kiev. However, it cannot be assumed that accessibility and distance from the Central Business Districts are the only factors that affect the popularity of mall. The results that were obtained could have been caused by several different factors.

Firstly, due to the fact that Gulliver is located within the Central Business District, parking spaces are limited, which may be inconvenient for many citizens who travel by car, resulting in lower numbers of visitors than in Ocean Plaza or Terminal. Also, the number of cars in Kiev rose over 600% in 30 years, reaching 1.5million in 2007²¹. The Central Business District, where Gulliver is located, is the most congested area of the city, which may potentially repel people from coming to shop at this mall. Also, as mentioned earlier, the size of the mall can influence its number of visitors – the larger the mall the more people it can cater for. Seeing as Terminal is larger than Gulliver it could be possible that it is one of the reasons for the difference in the number of visitors.

Secondly, the reason why Terminal may be a more popular than Gulliver is that it has less competition in the nearby area. It is located in the Desnjans'kyi district on the left bank, far away from the city center, with fewer services available to the citizens. This means that a larger number of people are “limited” to the services and entertainment offered by Terminal,

²¹ Madera, C. (2007). Kiev Struggles With Rising Car Ownership. [online] Planetizen: The Urban Planning, Design, and Development Network. Available at: <http://www.planetizen.com/node/24893> [Accessed 27 Sep. 2014].

than those living in Pechers'kyi district that have a larger amount of options to choose from.

Furthermore, according to Christaller's Theory²², people usually travel the smallest distances possible, to reach a particular service. Assuming that this theory is true, it could provide another explanation as to why Terminal would receive more visitors. There are approximately 364,000 people living in this district, as opposed to 146,800 people living in the Pechers'kyi district²³ where Gulliver and Ocean Plaza are located, meaning that a larger population would be attracted to that particular mall, rather than travelling further for the same services. Aside from high order goods and services such as clothing and entertainment, Terminal offers low order goods such as food products²⁴. Abiding this theory, people will not travel far to get low order goods, therefore the larger population of the Desnjans'kyi district will choose the closest mall get these products. Terminal, located on the edge of the city, may also attract people from suburbs and nearby towns to get high order goods, such as clothing and electronics.

We could make the assumption that if Ocean Plaza had not been built, Terminal would receive more visitors, as it would provide a lot of entertainment that Gulliver does not, such as a karting center, an ice rink and a fitness center. Such entertainment services require large spaces, usually unavailable in the city center, which would explain why Terminal is situated on the outskirts of the city. These services can be considered high order goods which people are willing to travel further distances for. This could further lead us to believe that if

²² Briney, A. (n.d.). *What Do You Know about Christaller's Central Place Theory of Urban Geography?*. [online] About. Available at: <http://geography.about.com/od/urbaneconomicgeography/a/centralplace.htm> [Accessed 17 Aug. 2014].

²³ City, K. and Київ, м. (2014). *Kiev City (Ukraine): City Districts - population statistics and maps*. [online] Citypopulation.de. Available at: <http://www.citypopulation.de/php/ukraine-kievcity.php> [Accessed 21 Aug. 2014].

²⁴ BBC, (n.d.). BBC - KS3 Bitesize Geography - Changing shopping patterns : Revision, Page 2. [online] Available at: http://www.bbc.co.uk/bitesize/ks3/geography/human_processes/changing_shopping_patterns/revision/2/ [Accessed 11 Aug. 2014].

Terminal had better accessibility, it would draw even more visitors, as it provides some services that the conveniently-located Ocean Plaza does not, such as an ice rink.

Another aspect, which could potentially explain why Terminal received more visitors than Gulliver, is Gulliver's interior. The mall has 8 floors occupied by various shops and services, with the bottom floor containing the most prestigious and expensive stores. This may intimidate and repel some lower-class citizens, before they have the chance to explore the rest of the mall.

Evaluation

After the analysis of the obtained results, it is important to note that this observation has its weaknesses, which may have contributed to inaccurate results. Firstly, the observation considered only three different malls in Kiev. If more malls were studied, the analysis would most probably give a more accurate and in-depth answer to the research question, as it would provide more evidence to support or oppose the hypothesis.

Furthermore, it should be noted that data was collected only at the main entrance of each mall, therefore did not include the underground parking lot entrances in Ocean Plaza or Gulliver (there is no underground parking in Terminal). This could mean that the number of visitors in Ocean Plaza would have been a lot higher, as it was observed that the parking lots were almost completely filled up each day that data was collected. This cannot be said for Gulliver, as very few cars were parked in the underground parking lot on each day of data collection. This would suggest that if the number of visitors entering from the parking lot was also counted, the result would increase insignificantly.

Furthermore, the flow of visitors was only counted for half an hour each time. This could have resulted in inaccurate representations of the mall's actual number of visitors. To limit this error, data could be collected for longer periods of time and several times per day.

Additionally, the method could have been further improved by selecting malls that are similar in size, to limit the potential difference in visitor numbers due to the mall's capacity. Although Ocean Plaza and Terminal are approximately the same size, Gulliver is significantly smaller. Due to this fact it is hard to establish the real extent of a mall's relationship between accessibility and sphere of influence.

Lastly, the composite scale I came up with for the purpose of evaluating the accessibility of each mall is completely subject to my own perception of the importance of the factors that were included. If someone else did this investigation, the indicators could consider different factors of accessibility or awarded a different amount of points for each of them, resulting in a different assessment of the overall accessibility of the mall.

On the other hand, the method had its strengths as well. Firstly, the three malls all offer similar services and entertainment, which would mean that people visit the three malls for similar purposes, allowing analysis of the relationship between accessibility and sphere of influence.

Secondly, the data of visitor numbers was collected at the same time and one Saturday and two Sundays for each mall. This limited the variation between the flow of visitors on other, perhaps less or more busy days of the week, as all malls were investigated on the weekends.

Thirdly, the assessment of the accessibility was done using a composite indicator. This allowed for a better-rounded evaluation as opposed to using a single indicator to assess the accessibility.

Conclusion

In conclusion, it may be said that accessibility of a mall may affect its sphere of influence, as seen by the example of Ocean Plaza, but this does not necessarily have to be

true in all cases, as suggested by the results of Terminal and Gulliver. As seen in the case of Ocean Plaza, its high accessibility correlated with its high visitor numbers. However, as seen in the case of Gulliver, medium accessibility did not necessarily affect its sphere of influence as much as perhaps its size or offered services had, as it received less visitors than Terminal, which has the same accessibility level. Therefore it should be recognized that the sphere of influence of malls is affected by accessibility to a certain extent, as it may also be influenced by a variety of other factors including size, location and offered goods.

These should have been investigated to answer the question "To what extent" part of the RQ.
Well written with some good observations but the essay does not examine relative spheres of influence as no customer distances/locations are involved!

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