A Ferrytale: Exploring the meaning of place of Amsterdam's ferry lines

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Abstract

A key characteristic of Amsterdam are its ferries. This study researches which factors ferry travelers perceive as contributing to the meaning of place of the Amsterdam ferries, whether travelers see the ferries as an important place, what influences this and what ferry lines are the most well-liked. Previous research on commute and public transport perception combined with water and in-vehicle activity research suggests that the ferries are generally regarded positively by their travelers. The current mixed methods research makes use of a survey (n=394) and visual methodology (n=36). Water and visible scenery contribute the most to the meaning of place, along with travelers experiencing the ferry as a break or a moment of rest in their journey. An overwhelming majority (92.9%) of the respondents personally considers the ferry an important place. Local residence, (to a lesser extent) frequency of use and destination influence this. The Centraal Station – Buiksloterweg ferry is the most well-liked as well as the most used ferry in the research.

Introduction

Background

Ferries have always been a staple of Amsterdam. Ever since people started living on the northern shore of the IJ, there has been transportation by boat.

Large-scale traffic picked up in the 1900s, when various industries moved from the city center to Amsterdam-Noord. Workers for the shipbuilding, chemical and manufacturing industries needed to go to work on the other side of the IJ, and did so by ferry. Starting with the construction of the characteristic Tuindorpen (Garden towns, inspired on Howard's garden cities) in the 1920s, population in Amsterdam-Noord has increased to nearly 100.000, approximately 10% of the Amsterdam population (Municipality of Amsterdam, 2021).

While many bridges over the IJ have been theorized, designed and (in one case) even built (Smit et al., 1996), the main way to traverse Amsterdam's largest landmark on foot or by bike[1] to this day remains one of the 6 ferry connections operated by GVB[2]. The busiest of which is also the ferry with the shortest route: just 300 meters between the Central Station and the Buiksloterweg. Other ferries connect the Central station with two other destinations in Amsterdam-Noord, with two additional lines in the west and one in the east (see table 1 and figure 1). Every day, thousands of people make their way from Amsterdam-Noord to the rest of the city and vice versa for work, school or other reasons. While some people might consider the ferry journey just a mandatory part of the daily commute, to others it might be more than that. Do these ferries as a place have meaning aside from being a way to go from point A to point B? The goal of this research is to discover whether ferry travelers consider the ferry a meaningful place, and what factors influence this.

The meaning of a place as dynamic as a moving ferry has not been researched previously, with previous research focusing on commercial aspects of ferries or on attachment to non-ferry places. Concepts in this mixed methods geographic research will be pulled from different related researches in order to form expectations. Based on various place attachment studies, being around water (Blue space), scenery, local residence and frequency of use are all factors that may influence the degree to which the passengers feel attached to the ferry. Aside from adding to the academic discourse, this research will also help assessing the impact of a possible policy change regarding the ferries as well as to act as an assessment of the travelers' opinion on the ferries.

Table 1: All currently operating IJ ferries in Amsterdam. The missing F5 ferry is a night service that is currently not offered due to COVID-19. Data from GVB (2021) and GVB veren B.V. (2019).

City	North	GVB code	Frequency	Duration
Centraal Station	Buiksloterweg	F3	Every 4 minutes	5 minutes
Centraal Station	IJplein	F2	Every 7-8 minutes	5 minutes

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[1]Cars used to be allowed on the Amsterdam ferries as well up until 2007 for the Distelweg ferry (Damen, 2006), this job has since been taken by various tunnels and the Schellingwouderbrug bridge.

[2]The Amsterdam public transport company. The letters formerly stood for Gemeente Vervoers Bedrijf, the municipality's transport company. Nowadays, GVB is no longer part of the municipality and the letters don't stand for anything.

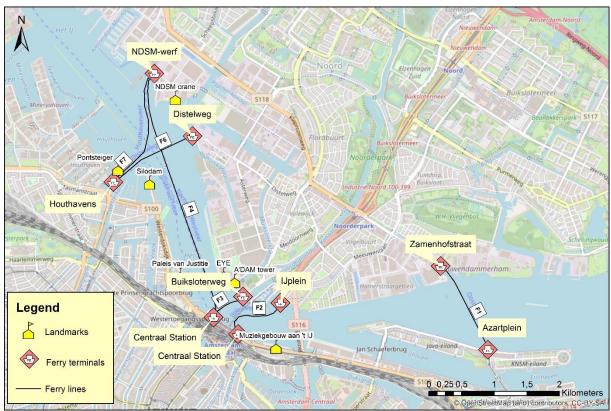| Centraal Station	NDSM-werf	F4	Every 30 minutes	14 minutes
Houthavens[3]	Distelweg	F6	Every 30 minutes	7 minutes
Houthavens	NDSM-werf	F7	Every 20 minutes	6 minutes
Azartplein	Zamenhofstraat	F1	Every 20 minutes	6 minutes

Figure 1: The ferry routes, ferry terminals and waterfront landmarks in Amsterdam. Based on OpenStreetMap (2021).

Research problem

This research is centered around the question *"What factors do ferry travelers perceive as contributing to the meaning of place of Amsterdam ferries?"*

Not everybody will find the ferry ride more than just spending some time in public transport going from point A to point B. In order to predict the effect of for example a policy change regarding influential factors, it is important to have an understanding of how large the share of people is on which the change will have effect. Hence, the sub-question *"Do ferry travelers perceive the ferry as an important place and what factors influence this?"* will also be part of the research.

A final addition made in the light of the size of the research area (all 6 ferry lines instead of just one or two) is the question *"Which ferry lines are the most well-liked?"*. Answers to this question can also uncover possible spatial differences upon which future research can be built.

Structure

First, relevant previous research will be discussed, followed by the methodology and the results. The research will be concluded with the conclusion and discussion, with extra information available in the appendices.

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[3] Officially called the Pontsteiger terminal. To avoid confusion with the building carrying the same name, the terminal will be called Houthavens (after the neighborhood it's located in).
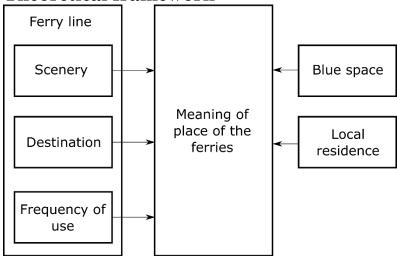
Theoretical framework

Figure 2: the conceptual model of the research

In the conceptual model, five concepts that may have influence of the perception of the meaning of place of the ferries are implemented.

Starting with scenery, this covers the various landscape elements and landmarks that can be seen from the ferry lines. Because there is a large variety in buildings visible from the ferry lines, the contributions of scenery to the meaning of place will be researched both quantitatively and qualitatively.

Destination is based on Moore and Scott (2003)'s Pursuit of Activities. In this place attachment study, different activities of users of a park are considered, with recorded differences between the various activities. While Moore and Scott (2003)'s research focusses on the current activity (walking, biking, etc.), this research will look at the ferry travelers' final trip destination, as people using the ferry to commute may experience it different as people using it for other purposes.

In the same research, Moore and Scott (2003) also found that frequency of use had influence on the attachment visitors felt to a park and a trail within that park, with visit frequency having a positive relation with place attachment. More frequent visitors were more attached to both the park and the trail.

An element that will be present on every ferry ride will be water. As a counterpart to green space, water areas are often referred to as blue space (Britton et al, 2018). In literature, this blue space is commonly assumed to have restorative capabilities and acts as a therapeutical landscape (Gesler, 1992). Spending time in or around blue space benefits both the physical (Bauman et al., 1999) and mental health (Völker and Kistemann, 2013).

The ferry line section covers both the different ferry lines in this research and the ferry line being part of a public transport system. In previous research, public transport has often been compared with automotive travel. Public transport users have found to have improved physical and mental health as opposed to their car-traveling counterparts (Rambaldini-Gooding et al., 2021).
Time spent in public transport is not always regarded positively. Commuters for example often see their commute as one of the least appreciated times of the day (Kahneman et al., 2004). Stress caused by using public transport also increases with the complexity of the route (Olsson et al., 2012) and the crowdedness of the vehicle (Singer et al., 1978).

Jain and Lyons (2008), examine the perception of travel time among commuters. What is described as a time-out, a moment to be alone, or catch up with reading or social contacts on the phone is greatly

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appreciated by participants. 'Anti-activities' like resting or daydreaming (Mokhtarian, 2001) also fall into this category. A study by Ettema et al. (2012) reinforces this with relaxing and entertaining activities being the most frequent pastimes during commutes.

Although the ferry is public transport, ferry travelers mainly consist of cyclists and pedestrians that have a small public transport leg in their journey rather than using public transport for the majority of their journey[4]. According to Olsson et al. (2012) "slow" commute modes such as cycling and walking result in more satisfaction than using public transport or going by car.

Local residence has also been researched previously in the place attachment context. Kaltenborn and Williams (2002) and Budruk et al. (2011) both found a difference between distant and proximate visitors in three different areas (Illinois, USA and Fermundsmarka national park, Norway).

Hypotheses and expectations
Blue space is expected to be the largest contributor to the meaning of place of the Amsterdam ferries among the ferry travelers. Water is in literature often associated with restorative landscapes and improved mental and physical health.

Within scenery, one of the most diverse parts of the research, waterfront buildings like the A'DAM tower, EYE, NDSM crane, Centraal Station and the Pontsteiger building are expected to be photographed and mentioned the most.
Other noteworthy structures like the Silodam and Paleis van Justitie are expected to generate less pictures and mentions due to being further away from the ferry routes.
Although spending time in public transport is not always appreciated, the expectation is that due to the relatively short amount of time spent on the ferry (14 minutes at most), negative effects (for example crowdedness) will be outweighed by positive effects like rest or health benefits associated with public transport. The expectation is that a majority of the respondents will personally regard the ferry an important place.

In previous research, frequency of use, local residence and destination can have influence on place attachment. The hypothesis is that these factors will be of significant influence to people considering the ferries an important place or not.
As frequent visitors had a stronger bond in Moore and Scott (2003), the most used ferry (Central Station – Buiksloterweg) will likely be the most well-liked ferry.

Methodology
Design
This research makes use of a mixed methods approach using both a survey for quantitative data collection and visual methodology for qualitative data.
A survey was chosen because of the size of the research area and the time available. Surveys can be filled in simultaneously on different locations without the need for the researcher to be present. Using surveys, a large amount of responses can be obtained in a relatively short amount of time.

Visual methods, in this case photography, provide a rich data source that goes beyond the elements in the frame. Aside from those, the angle, positioning and context of a picture can also be analyzed (Banks, 2001). This methodology allows the participant to elaborate on one of the most diverse visual elements of the ferry ride: the visible scenery.
The visual methodology used in the qualitative part consisted of the participant sending in a picture of their favorite view from the ferry with a small description of the picture.
The analysis of this media was done according to the approach that images can be "decoded" or read like text (Roberts, 2016). Because landscapes, besides physically, also exist in the eyes and mind of

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[4]Transfers can be made at bus stops (nearly all terminals), tram stops (Azartplein, Centraal Station) and subway stations (Centraal Station).

the beholder (Cresswell, 2003), this qualitative analysis will also include non-visible notions or feelings.

Recruitment
The recruitment of participants (for both the quantitative and qualitative parts) has been done by means of an online survey, available in both Dutch and English. The survey (appendix 1) contained basic questions (like age, gender, frequency of ferry use and municipality of Amsterdam residence) as well as questions about whether the participant personally considers the ferry a meaningful place. The aim for this survey was it to be short and easy enough so the participant can fill it in in the time they would have spent waiting for or on the ferry anyway.
Before the respondents got to the questions, they needed to agree with an informed consent notice (see appendix 1) as the first question. In case of a respondent not agreeing, the survey was ended without asking further questions. At the bottom of the survey, respondents got the option to participate in the qualitative part of the research. Photography was mentioned upfront.

Data collection instrument – operationalization of the conceptual model
The concepts from the conceptual model have been operationalized into a survey (appendix 1). Using the order of concepts from the conceptual model (figure 2), these are the operationalizations of the concepts:

Ferry line is covered by questions 1-3. Because there are large differences in the travel time and visible scenery between ferry lines, it is interesting to see what the current, favorite and least favorite ferries of the respondents are.
Scenery is the broadest concept from the model, and will be covered in question 6a as well as the qualitative part of the research, which exclusively focuses on views.
Destination is the subject of question 4. Participants can choose from four common destinations or fill in an answer of their own.
Frequency of use is operationalized into question 5, where participants can choose between five frequency categories, where one passage counts as 1 and a round trip as 2.
Blue space will be covered in both question 6a, where being on/near water is an option and the qualitative part of the research, where views will most likely include water.
Question 7 is the operationalization of local residence. Participants answer the question whether they live in the municipality of Amsterdam or not. Participants can also choose not to answer this question.

Data collection
The survey was spread in three stages. For the first stage, the link to the survey was shared on two Instagram pages with most followers coming from Amsterdam. In the 24 hours for which the posts were active, this yielded roughly 40 responses (~10%). For the second and third stage, posters (see appendix 2) were used. These posters were hung up at different locations around the ferry terminals for the second stage, and on the ferries and ferry terminals themselves for the third stage. Poster placements included coffee stands, waiting shelters, and 14 GVB ferries. Permission for this was granted by GVB.
The ferry posters have been active for 15-17 days, the waterfront business posters for 21-24 days. After the data collection period ended, all posters have been removed.

Qualitative data has been gathered by email conversations with respondents who left their email address at the bottom of the survey. Respondents were sent an email with instructions (appendix 4) and would reply with their pictures and descriptions.

Quantitative data analysis
Before performing statistical tests, the quantitative dataset had to be cleaned up first. This involved removing duplicate responses, categorizing open question answers and removing invalid responses. Responses that were identical in terms of open answers as well as closed answers were deemed

duplicate and removed. In case of a respondent giving an irrelevant answer[5] to an open question or using the open answer option to give more than one answer when only one was permitted, the case was labeled as missing.

The remaining cases were analyzed using descriptive statistics, frequency tables, chi square tests and binary logistic regression.

Qualitative data analysis

The qualitative dataset consists of pictures and descriptions. These pictures and descriptions have been analyzed using Atlas.ti, a software package for qualitative data analysis. Before the start of the analysis, various deductive codes connected to the conceptual framework were added. During the analysis however, reoccurring themes emerged that deserved their own codes. These inductive codes have also been used extensively. A full list of all codes used in the qualitative analysis can be found in appendix 5.

The pictures itself have been coupled with their descriptions, which can sometimes help identify the intended main subject of a picture. These main subjects, as well as which ferry line the picture was taken from have also been noted.

Ethics

The dataset (with the exception of respondents that left their email address in order the participate) was anonymous. The qualitative participants' email addresses will be destroyed when the research is concluded. All data was stored in a secure environment with no outside access. My contact information was visible at the start of the survey so participants could contact me in case they wanted to drop out of the research, which was of course possible.

For the qualitative part, it was the participant's initiative to email the photo and description, keeping the threshold to not participate low (which around 70% of the 120 initial qualitative participants did).

Results
Quantitative part

Out of the 431 responses, one invalid and 36 duplicate responses were removed. The analysis has been performed on the remaining 394 valid responses.

In order to answer the first secondary research question, respondents were asked whether they considered the ferry an important place to them. The overwhelming majority of 92.9% of the respondents answered yes.
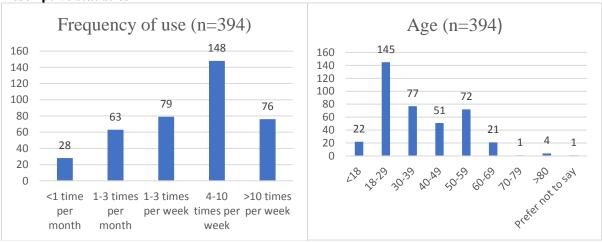
Descriptive statistics

Figure 3 and 4: The frequency of use and age of survey respondents

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[5] Answers not answering the question.

Table 2: Frequencies of answers to three questions in the survey (n=394).

	Frequency	%
Do you live in the municipality of Amsterdam?		
Yes	353	89.6
No	41	10.4
What is your gender?		
Male	198	50.3
Female	187	47.5
Other	5	1.3
Prefer not to say	4	1.0
What is your usual destination when on the ferry?		
Work	188	50.3
Visiting friends or family	74	18.8
Recreation*	35	8.9
Public transport	27	6.9
Education*	23	5.8
Sports	11	2.8
Invalid	36	9.1

* Category added during data analysis, not an option in the survey. These categories emerged from custom answers.

In the ferry usage (figure 3), groups get progressively larger with the exception of the drop off at >10 times per week. This category was created to filter out those who use the ferry more than twice a day on workdays to go to and from work.

In age (figure 4), people between 18 and 29 are most strongly represented. People between 30 and 60 have a steady representation with a strong drop off at ages above 60.

Nearly all the respondents live in the municipality of Amsterdam (table 2).

Current, favorite and least favorite ferries
In order to gain an insight into where the data came from, respondents were asked on which ferry they were currently on or waiting for. An option for no ferry was also included.

Table 3: Answers to the question "Which ferry are you currently on or waiting for?".

	Frequency	%	% (ferries only)
Azartplein – Zamenhofstraat	39	9.9	12.5
Centraal Station – Buiksloterweg	144	36.5	46.2
Centraal Station – IJplein	26	6.6	8.3
Centraal Station – NDSM-werf	51	12.9	16.3
Houthavens – Distelweg	10	2.5	3.2
Houthavens – NDSM-werf	42	10.7	13.5
Not on/ waiting for a ferry	82	20.8	
Total	394	100.0	100.0

While GVB does not provide public figures on the amount of passengers per ferry line, the Centraal Station – Buiksloterweg line is regarded as the busiest. This is reflected in the short waiting time at the terminals, the 24/7 operation and the amount of ferries in service. It also shows in table 3. When only taking into account respondents on ferries, nearly 50% used the Centraal Station – Buiksloterweg ferry line.

Aside from their current ferry, respondents were also asked what ferry routes were their favorite and least favorite.

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Table 4: The frequencies and calculated score of the favorite and least favorite ferries.

	Favorite ferry frequency	*Least favorite ferry frequency*	*Score (favorite – least favorite)*
Centraal Station – Buiksloterweg	114	59	55
Houthavens – NDSM-werf	66	31	35
Centraal Station – NDSM-werf	92	66	26
Centraal Station – IJplein	38	60	-22
Azartplein – Zamenhofstraat	61	92	-31
Houthavens – Distelweg	23	86	-63

The Centraal Station – Buiksloterweg ferry, which has the shortest transit time and the most visitors, comes out on top. In second place comes the Centraal Station – NDSM ferry, which has the longest transit time, but also one of the most scenic routes.
A possible explanation of the bottom two places is the type of land use around the northern terminals. In both cases, a large share of the buildings is either industrial or commercial. In the case of the Houthavens-Distelweg ferry however, construction of residential buildings in close proximity to the ferry terminal is already in progress. Repeating this research in the future might yield more positive results here.

Answering the second secondary question, the Centraal Station – Buiksoterweg ferry emerges as the clear favorite, while the Distelweg ferry is the least appreciated of the lines.

Contributing factors
In the survey, respondents got the question whether they would consider the ferries an important place to them. If not, the following question (What factors contribute to you considering the ferry an important place?) was skipped. This survey question is both key to the answer to the main research question and a key flaw in the research design (see: Strengths and weaknesses).
There were five pre-made categories to this question:

Table 5: The frequencies of the four pre-made answers to the question about contributing factors.

Water	*%*	*Outside*	*%*	*Busyness*[6]	*%*	*Scenery*	*%*	*Other*	*%*
203	55.5	166	45.4	105	28.7	231	63.1	144	36.5

From these answers in the "other" category, some themes emerged:

Utility – 97 people praised the function the ferry has to them or to the city. This was unaccounted for when creating the survey and would make a helpful inclusion if this research were repeated in the future.

Relaxation, calmness and other feelings – 21 respondents named the ferry as a moment of relaxation, calmness or contemplation. Other respondents considered the ferry as a poetical spot or a place with sentimental value.

Aside from the question about contributing factors, all respondents have answered all other questions. These answers have been analyzed using binary logistic regression, using the variable measuring if the respondent considers the ferry to be an important place to them ("important" for short) as the dependent variable. The variables have been entered into the regression model in five steps. The order of which is as follows:
Frequency of usage – This is a categorical variable. The reference category is 4-10 times per week, which is the largest group (37.6%).

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[6] Being away from the busyness of the city for a while

Destination – For this question, four pre-made answers were available as well as an option for respondents to give their own answer. Despite the majority of people choosing one of the pre-made answers, some sizeable new categories emerged from these custom answers: Education (people travelling to high school or university) and Recreation (ranging from going shopping to visiting the zoo). Among the custom answers there were also invalid answers (See Qualitative data analysis). These cases (9%) have been labeled as missing variables. The reference category is the largest group, work (47.7%).

Municipality – This is a binary variable indicating whether a respondent lives in the municipality of Amsterdam or not.

Age – The same categories as used in the survey have been used here. Note that the response rate in the categories 70-79 and >80 is very low.

Gender – In this research, respondents also got the option to identify themselves as "other" besides male and female. Hence, this too is a categorical variable (instead of a binary variable). Respondents could also choose not to mention their age. One case with this answer (0.3%) was labeled as missing.

Table 7: The result of the binary logistic regression with the Important variable as dependent variable.

	df	Sig.	Exp(B)
4-10 times per week*	4	0.117	
Less than 1 time per month	1	0.055***	0.205
1-3 times per month	1	0.957	0.957
1-3 times per week	1	0.709	1.350
More than 10 times per week	1	0.816	0.832
Work*	5	0.503	
Education	1	0.682	1.643
Visiting friends or family	1	0.098***	0.314
Public transport	1	0.917	1.113
Recreation	1	0.362	0.435
Sports	1	0.485	0.417
Municipality*	1	0.049**	3.281
18-29*	7	0.998	
<18	1	0.532	0.560
30-39	1	0.866	1.117
40-49	1	0.641	1.486
50-59	1	0.997	97728599.642
60-69	1	0.979	1.023
70-80	1	1.000	79595549.439
>80	1	0.999	326621389.088
Male*	2	0.509	
Other	1	0.999	267154886.306
Female	1	0.245	1.764
Constant	1	0.017	5.976

*reference categories **significant at 5% *** significant at 10%

The model is significant (Sig. = 0.001) with a Nagelkerke R square of 0.279[7].

Using the common 5% confidence interval, the variable Municipality is significant. The Exp(b) indicating that a respondent from the municipality of Amsterdam is 3.281 times as likely to personally

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[7] Pseudo R square

consider the ferry an important place than a person living outside of the municipality of Amsterdam. This is in line with findings by Kaltenborn and Williams (2002) and Budruk et al. (2011).

When using a 10% confidence interval, two more categories are significant. Just barely missing the 5% mark is the frequency category less than 1 time per month, indicating that those respondents using the ferry the least are 79.5% less likely to personally consider the ferry an important place than the more regular (4-10 times per week) users. Though only explaining a small amount of variance, Moore and Scott (2003) also found frequency of visit to be significantly influential.

The last category significant at a 10% level is the Visiting friends or family category in the Destination variable. This considerably less significant figure indicates that respondents visiting friends or family are 68.6% less likely to consider the ferry important than their commuting colleagues.

Using a chi square test of independence with only work or visit-related responses selected, a significant difference between these two groups in terms of ferry usage is uncovered. Commuters tend to use the ferry significantly more than visitors.

The remaining categories did not differ significantly from their respective reference categories, most of them being very insignificant. Three age categories stand out here because of their very high Exp(B) values. In the case of the aforementioned 70-79 and >80 groups, a very low response rate is the culprit. In the 50-59 category, the second most populous age group, the extreme Exp(B) is due to a very stark contrast between values in the Important variable: 98.5% against 1.5%.

This part serves to understand the relation between various factors and whether respondents consider the ferry to be an important place to them. All significant influences are able to be traced back to the frequency of use. Local residents use the ferry more than people from elsewhere. Travelers traveling to visit someone also use the ferry less than work visitors. In general, less frequent users tend to consider the ferry less important than more frequent users.

Qualitative part

Out of the 395 respondents, 120 people wanted to join the qualitative part of the research. 36 of them responded, all with a photo and description.

The participants of the qualitative part of the research are mainly regular ferry visitors. Descriptive statistics of the qualitative part participants can be found in appendix 3.
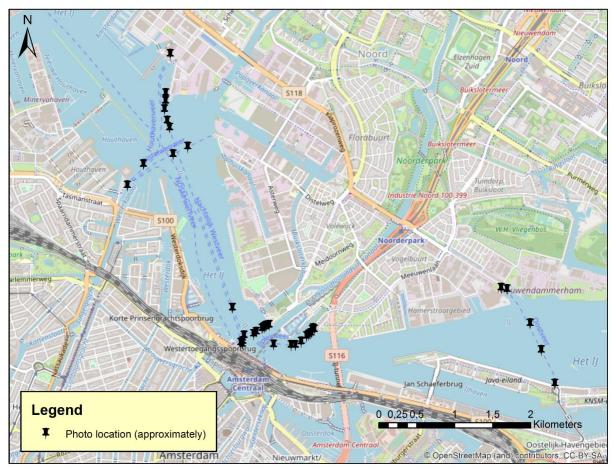

Figure 5: The approximate location from which every photo used in this research has been taken. Based on OpenStreetMap (2021).

When coding the photos and descriptions, the need arose to also use inductive codes alongside the deductive codes made beforehand. These inductive codes cover findings that are not covered by the conceptual model and other unexpected subjects that emerged during the analysis. All codes can be found in appendix 5.

Water
The one element that will be present during every ferry ride and also present on every picture in this research is the deductive code water. Most participants talking about water praise the IJ as a view rather than mentioning water explicitly. The large, flat body of water ensures that one can see for quite a distance without being interrupted by the shore or buildings. A view that was sent in by several participants is from one of the NDSM ferries looking at the Centraal Station area. No buildings or landmarks in particular are the main subject of these pictures, rather the perspective the water provides. This perspective or point of view from the water is also often mentioned when the main subject of a picture was a building.

"It's one of the only places in Amsterdam where the horizon is visible without requiring elevation"

In these cases, the ability to discover new things within the view due to the perspective or the complementary blend of water and waterfront buildings were mentioned.

Another visual aspect that relates to the ability to see far are cloud formations, which two participants explicitly mentioned. Like the ferry, the water also enables Amsterdam's water-based wildlife, whose seagulls and coots are most frequently mentioned.

Reeling more into the described experience rather than visible things, feeling the wind on the water and the sounds of the water enhance the experience for some participants.
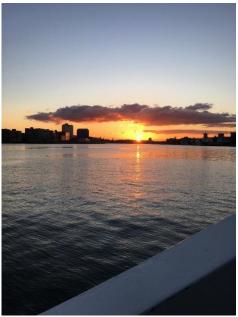

Figure 6 and 7: pictures with the IJ itself as the main subject. Taken from F1 (left) and F4 (right).
"This view from the ferry always makes us happy and gives us a feeling of freedom" (figure 7).

Landmarks

Within the code group Scenery (see appendix 5), every noteworthy building along the shore of the IJ visible from the ferries got its own code. Most of these codes are deductive, with some remaining relatively unused. A single inductive code also emerged during the analysis. These are the most photographed and mentioned landmarks:

The A'DAM tower[8] (deductive) is the tallest building in Amsterdam-North as well as a popular tourist attraction. Its location close to the ferry terminal at the Buiksloterweg makes it hard to miss for ferry travelers. Besides being the most photographed building, it is also frequently mentioned in descriptions. Being a staple of Amsterdam-Noord, the building is commonly associated by participants with coming home. Another participant describes the view of the tower as a *"trusted view"*.

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[8] Formerly known as the Shell tower

Figure 8 and 9: pictures of the EYE and A'DAM tower taken from ferry F3
"... there is nothing more soothing than sailing into the quietness after a wild night of partying, with the A'DAM tower acting as a lighthouse that guides northerners home." (Figure 8)

The A'DAM tower's neighbor, the EYE film museum (deductive) is also photographed and mentioned often. Contrary to the former, which has been finished in 1971, the EYE has only been around since 2010. With its eye-catching angular shapes and spectacular overhangs it is a sight to behold. Participants praise the architecture, and speak positively about the building.
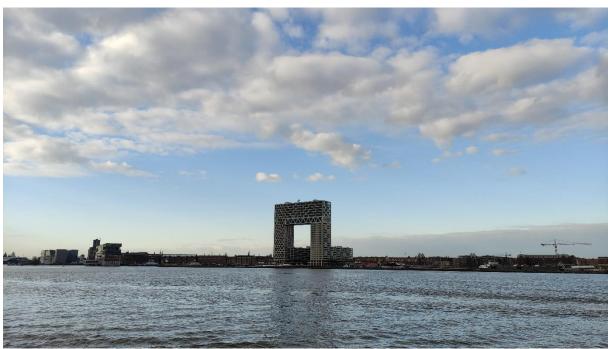

Figure 10: The general view just outside the NDSM terminal (F4).
"This view is my favorite for a very simple reason: I've seen it nearly every day for 6 years on the way to school. The area has changed a lot over the years. Because of this, I regularly discovered new things staring at the shore in the morning." (Figure 10).

Moving westwards, the stretch of land that houses the Houthavens ferry terminal also houses the Pontsteiger building (deductive). This monolithic residential building also makes for a popular shot. Participants describe the building as *"A gate to the city"* or *"A landmark that serves as a grounding point and orientating site for the Amsterdam metropolis within the flat polder"*.

Figure 11: The Pontsteiger building as seen from the ferry (F6 or F7)

Other deductive building codes like the NDSM crane[9] and Silodam (visible on figure 10) building remained relatively unused. Despite being striking, monumental waterfront buildings, neither building was the main subject of a picture and mentions were scarce.

The Paleis van Justitie (deductive) was the only building to receive a negative reaction from one of the participants.

An unexpected addition to the roster was the Muziekgebouw aan het IJ which was coded inductively. Primarily visible from the IJplein and Buiksloterweg ferries, this building was photographed and mentioned by two participants.

Ships

Another regular sight that was mentioned and photographed by participants are (other) ships on the IJ. This inductive code was added during the analysis to accommodate for the photographs and descriptions featuring ships. These ranged from smaller inland vessels, which are nearly always in sight when standing on a ferry to the much larger and uncommon seaworthy cargo and cruise ships.

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[9] Also known as the Faralda Crane Hotel

Figure 12 and 13: Cruise ships on their way to (left) and docked at (right) the Passenger Terminal (F2)

While larger cargo ships mainly stay in the western part of Amsterdam, cruise ships regularly make their way to the Passengers terminal east of the Centraal Station. These *"floating apartment blocks"* add to the dynamic experience a ferry passage entails. It is these *"unexpected encounters"* that make every passage unique. The sight of ships from far away also provoked a train of thought with one participant about Amsterdam's connectivity over water: *"... also the thought that, starting from here on the IJ, you can go all over Europe's waterways."*

Figure 14: an inland cargo vessel sailing westwards (F3)

Relaxation and calmness
A code used in the analysis which is exclusive to the descriptions is the theme of participants experiencing the ferry ride as a break, a moment of calmness. This inductive code was used the most out of all codes, and ties into the survey results, where a considerable amount of people specifically answered that the ferry trip was a moment of relaxation (in line with research done by Jain and Lyons (2008)).

"The view gives me a moment of contemplation when returning home from activities, like a natural moment of calm."

15

Reasons for this vary from observing fellow travelers to enjoying a coffee on the rear deck. Most commonly however are the participants that declare the ferry ride a break in their journey.

"After a strenuous bike ride, the ferry ride is a delightful intermission."

A mandatory stop to activities, where one can only wait to be transported to the other side. Time to look around, time to contemplate or time to catch a breath when the door closes behind you. Some participants called the ferry ride a miniature vacation. The ferry ride is also commonly associated with the beginning or the end of a workday.

"At the end of a work day (…) it always felt like I was returning to my island"

Figure 15: Enjoying a coffee on the rear deck of the IJplein ferry (F2)

Conclusion

The factors that ferry travelers perceive as most contributing to the meaning of place of the Amsterdam ferries are water (blue space) and scenery.

From the qualitative part of the research, we can conclude that an overwhelming majority of the participants would personally consider the ferries an important place. The factors local residence and (to a lesser extent) frequency of use and destination influence this significantly. Frequency of use and destination also relate to each other. Work travelers and travelers on their way to visit someone differ significantly in terms of frequency of use. In general, less frequent ferry users are less likely to consider the ferry an important place. This is in line with previous research.

Aside from being a means of transportation, the ferries represent a break, both physically and mentally. A moment to rest after a strenuous bike ride or a moment to contemplate. Mandatory slow-travel in-between legs of a journey.

To other people, the ferry ride signified the beginning or the end of a workday.

Elements that most frequently contribute to this are being around water, being outside and the visible scenery. Among the many views visible from the ferries, various buildings on the shore and water vistas were most frequently marked as favorite by participants. The water provides an opportunity to look far in an urban environment and provides views to the city's waterfront landmarks.

Discussion

Strengths and limitations

A strong point of this research is the substantial sample size of both quantitative and qualitative parts as well as the mixed methods approach itself. Digging deeper into the scenery part of the research not only made this rather broad term more detailed but also uncovered information about the feelings and associations of the participants, painting a more complete picture in the findings. This research adds to the academic discourse on transport (ferries relative to other forms of public transport or commuting) and blue space (experiences water provides in an urban public transport situation).

Non-response bias is one of the limitations of this research. While most responses have come from the ferries itself, where the poster was visible to everyone, this way of recruiting respondents might be flawed as only people interested in participating filled in the survey. An alternative way to recruit participants would be standing on the ferry in person and asking around. Non-response in higher age groups is also a common issue (McLafferty, 2016) which also occurred in this study. Another underrepresented group was respondents on their way to sports. During the data collection period (Q2 2021), sports facilities were closed due to COVID.

Difficulties arose when analyzing the data for the quantitative part. Rather than being able to split the groups of respondents that filled in various contributing factors between attached and non-attached people, only people that considered the ferry an important place to them got this option. The result of this is that 100% of any given contributing factors group consisted of people that considered the ferry an important place.

An unexpected (but limiting) result was the very high percentage of people that considered the ferries an important place, resulting in less filled categories than desired in some cases. A longer data collection period would also allow for more respondents, making more thorough statistical analysis possible.

Future research recommendations

If this research were to be repeated, the survey structure would need to be modified. Respondents should be able to fill in contributing factors regardless of their stance on the ferries.

Repeating the research after COVID will likely yield more responses in more balanced groups due to a higher number of travelers and sports facilities opening again.

Another possible adaptation might be recording if respondents come from Amsterdam-Noord or not, as (though there are no hard figures on this) most commuting travelers live in Amsterdam-Noord but are employed elsewhere in the city. Polling interest for a possible future bridge or new ferry line might also be interesting recommendation, as well as repeat a research similar to the current one when a bridge, tunnel or other connection is constructed in the future.

Policy implications

This research can be used in the discussion around building a bridge over the IJ. Ferry travelers consider the ferry to be an important place. Aspects of the ferry ride like water sounds, water vistas and the physical as well as the mental break might not be present when crossing the IJ without using a ferry.

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Appendices

Appendix 1: Survey

No.	Question	Options	Data type
1	Which ferry are you currently on or waiting for?	Centraal Station – NDSM-werf Centraal Station – Buiksloterweg Centraal Station – IJplein Houthavens – Distelweg Houthavens – NDSM-werf Azartplein – Zamenhofstraat I'm currently not on/waiting for a ferry	Nominal
2	What is your favorite ferry?	Centraal Station – NDSM-werf Centraal Station – Buiksloterweg Centraal Station – IJplein Houthavens – Distelweg Houthavens – NDSM-werf Azartplein – Zamenhofstraat	Nominal
3	What is your least favorite ferry?	Centraal Station – NDSM-werf Centraal Station – Buiksloterweg Centraal Station – IJplein Houthavens – Distelweg Houthavens – NDSM-werf Azartplein – Zamenhofstraat	Nominal
4	Where are you usually travelling to when you're on the ferry?	Work Sports Visiting friends/family Transfer (public transport) Other	Nominal
5	How often do you use the ferry?	Less than 1 time per month 1-3 times per month 1-3 times per week 4-10 times per week More than 10 times per week	Ordinal
6	Would you consider the ferry (any in Amsterdam) an important place to you?	Yes No[10]	Binary
6a	What factors contribute to that? Multiple answers are possible	Being on/near water Being outside Being away from the busyness of the city Views/ scenery Other	Nominal
7	Do you live in the municipality of Amsterdam?	Yes No Prefer not to say	Nominal
8	What is your age?	<18 18-29 30-39	Ordinal

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[10] If the answer was No, question 6a was skipped.

		40-49 50-59 60-69 70-79 >80 Prefer not to say	
9	What is your gender?	Male Female Other Prefer not to say	Nominal
10	Would you like to participate in the in-depth part of the research?	Yes No	Binary

Informed consent notice survey respondents needed to agree with before answering survey questions was possible[11]:

Dear Respondent,
This research is about to what extent ferry travelers feel attached to the Amsterdam ferries as a place and what factors contribute to that.

Participation in this research is completely voluntary. Data will be collected and stored anonymously. Survey responses will not be able to be traced back to the respondent. Participation can be halted at any point.

For questions about the research, the usage or storage of data, feel free to contact me:

Sjoerd Hoogerhuis - s.hoogerhuis@student.rug.nl

The first question was the agreement to the informed consent notice:

I have read the text above and want to take part in this research (answer options: Yes, No).

Description of question 10:

If you participate, you will be asked to take a picture of your favorite view from the ferry with a small accompanying description, and email it to me. Participation is NOT mandatory.

If the respondent answered question 10 with "Yes", this text would accompany the box where the respondent could fill in their email address:

I will contact you via this email. Your email address and photo will be stored privately and securely. Your email address will also be used to link your photo to your survey responses. Participation is NOT mandatory. If you prefer not to participate, just type something so your survey response will not be lost.

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[11] If a respondent answered "No" to this consent notice, the survey would end without asking further questions.

Appendix 2: Poster

Appendix 3: Qualitative part descriptive statistics

Frequency of use (n=36)

Age (n=36)

	Frequency	%
Do you live in the municipality of Amsterdam?		
Yes	30	83.3
No	6	16.7
What is your gender?		
Male	21	58.3
Female	15	41.7
Other	0	0.0
Prefer not to say	0	0.0
What is your usual destination when on the ferry?		
Work	12	33.3
Visiting friends or family	4	11.1
Recreation*	5	13.9
Public transport	5	13.9
Education*	4	11.1
Sports	0	0.0
Invalid	6	16.7

* Category added during data analysis, not an option in the survey. These categories emerged from custom answers.

Appendix 4: Qualitative participant email template

This email was sent to all survey respondents that left their email address at the bottom of the survey:

Dear participant,
Great that you want to participate in the qualitative part of my research!

I'm looking for the following two things:
1. A picture of your favorite view from one of the ferries
2. A small (<150 words) description/caption to go along with the picture

You can send the picture and description to this email address. This is possible until the 18th of April. Pictures sent after the 18th are likely unable to be part of the research.

If you have any questions about the methodology, theoretical background or other things regarding the research, please let me know.

Thanks in advance, I'm looking forward to the view!

Sjoerd Hoogerhuis

One picture has been sent after the deadline but was still used in the research because there was plenty of time to do so.

All participants that sent a picture were thanked personally with non-standardized replies, usually reacting to something in the picture or description.

Appendix 5: List of used codes

Code	Theme	Description	Usage frequency	Inductive/deductive
A'Dam toren	Scenery	Code for mentions of the A'DAM tower	7	Deductive
Azartplein	Ferry line	Code for mentions of the Azartplein ferry terminal	3	Deductive
Buiksloterweg	Ferry line	Code for mentions of the Buiksloterweg ferry terminal	2	Deductive
Centraal Station (destination)	Ferry line	Code for mentions of the Centraal Station ferry terminal	7	Deductive
Centraal Station (building)	Scenery	Code for mentions of the Central Station building	6	Deductive
Distelweg	Ferry line	Code for mentions of the Distelweg ferry terminal	2	Deductive
Eye	Scenery	Code for mentions of the Eye building	5	Deductive
IJ (view)	Water	Code for mentions of the IJ as a water body	10	Deductive
IJplein	Ferry line	Code for mentions of the IJplein ferry terminal	3	Deductive
IJpleinbuurt	Scenery	Code for mentions of the IJplein neighborhood as a view	1	Inductive
Industry	Scenery	Code for mentions of industrial areas	1	Inductive
Ferries (material)	Miscellaneous	Code for mentions of the ferries themselves	4	Inductive
Muziekgebouw aan 't IJ	Scenery	Code for mentions of the Muziekgebouw aan 't IJ building	2	Inductive
NDSM (view)	Scenery	Code for mentions of the NDSM area as a view	2	Deductive
NDSM (destination)	Ferry line	Code for mentions of the NDSM-werf ferry terminal	4	Deductive
Amsterdam-Noord	Miscellaneous	General code for participants	7	Inductive

		mentioning living or working in Amsterdam-Noord		
Overhoeks (neighborhood)	Scenery	Code for mentions of the Overhoeks neighborhood[12] as a view	2	Inductive
Paleis van Justitie	Scenery	Code for mentions of the Paleis van Justitie building	1	Deductive
Pontsteiger	Scenery	Code for mentions of the Pontsteiger building	9	Deductive
Relaxation/calmness	Miscellaneous	General code for mentions of relaxing feelings or expereinces	16	Inductive
Ships	Water	Code for mentions of ships on the IJ (excluding ferries)	6	Inductive
Silodam	Scenery	Code for mentions of the Silodam building	1	Deductive
Skyline	Scenery	Code for mentions of the Amsterdam skyline as viewed from the ferries	5	Inductive
Water	Water	Code for explicit mentions of water or the water perspective	10	Deductive
Zamenhofstraat	Ferry line	Code for mentions of the Zamenhofstraat ferry terminal	1	Deductive

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[12] The neighborhood west of the A'DAM tower and Eye