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# Resources for Cycling-Interested Tourists in Copenhagen

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# Resources for Cycling-Interested Tourists in Copenhagen

May 4, 2011

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An Interactive Qualifying Project submitted to the faculty of Worcester Polytechnic  
Institute in partial fulfillment of the requirements for the Degree of Bachelor of Science



## **Abstract**

The goal of this project was to develop material that aided in the creation of an accessible and dynamic compendium of cycling resources to make cycling more attractive and available to short-term tourists to Copenhagen. As part of the Danish Cyclists Federation's effort to develop a comprehensive information gateway to encourage Denmark's tourists to cycle, we collected and assessed information regarding bike rentals, safety, culture, routes, and guided tours, conducted interviews with cycling and tourism professionals, and researched Copenhagen tourist demographics. In addition to fully documenting our results in this report, our research helped us create a model information gateway with example content and recommendations for further improvement and development.

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## Chapter 1: Introduction

Danish citizens have long seen the bicycle as a healthy, convenient, and low cost form of transportation that reduces carbon dioxide emissions, fossil fuel consumption, and traffic congestion. In the capital city of Copenhagen alone, it is estimated that 55% of commuters who both live and work in the city cycle each day, resulting in the International Cyclists' Union declaring Copenhagen its first "Bike City" (City of Copenhagen, 2009). Since cycling is such an integral part of the city's character, it is natural that visitors to the city should be provided an accessible and convenient method through which they can experience the pleasure of biking in Copenhagen.

Although 11% of the city's visitors cite "possibility of bicycling" as a motive for their visit (Marcussen & Zhang, 2007), tourists looking to cycle generally face significant challenges, particularly in adjusting to Copenhagen's bicycle culture. Some common aspects of this culture that may overwhelm or confuse inexperienced urban cyclists include bicycle lanes and etiquette, street signs and lights, and city traffic (Tragellis, Lopez, & Ilyashenko, 2010). Another difficulty tourists encounter is planning a cycling trip from abroad due to a lack of and trouble accessing resources that would allow travelers to find information on bike rentals and both guided cycling tours and unguided routes. Since short-term tourists, those who are in the city for less than a week, are less likely to do extensive research on bicycling opportunities, problems accessing bike specific resources could deter them from cycling. Therefore, tourists to Copenhagen need an easily accessible place from which to obtain the necessary information to make their cycling excursions successful.

Short-term tourists, in particular, require focused information and convenient services to simplify the process of adjusting to the cycle culture, renting a bicycle, and planning routes. Fortunately, the need for improved short-term visitor cycling resources is a well known problem, and cycling resources for visitors to Copenhagen are developing in three key areas. These areas are:

- Cycling safety and etiquette
- Bike rental services
- Route planning

For comparison, an example of an all-inclusive resource that has been developed for cycling tourists in North America is Rent a Bike Now<sup>1</sup>. Through this site, one can reserve a bike at over 220 participating rental locations. This site also contains links to safety information, detailed route maps, and organized group rides throughout the United States and Canada (Rent a Bike Now, 2009). In Denmark, several organizations are making efforts to create a similar resource. For example, the Dansk Cyklist Forbund sponsored a 2010 WPI project team that created the "Cycle Guide"<sup>2</sup>. This online safety guide for visitors to Copenhagen, the first of its kind, provides Copenhagen-specific etiquette and safety tips (Tragellis, Lopez, & Ilyashenko, 2010). Similarly, several of Copenhagen's rental outlets have websites with product and pricing information. As for navigating Copenhagen, Bike with Mike<sup>3</sup> offers guided tours of the city,

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<sup>1</sup> [www.rentabikenow.com](http://www.rentabikenow.com)

<sup>2</sup> [www.cycleguide.dk](http://www.cycleguide.dk)

<sup>3</sup> [www.bikecopenhagenwithmike.dk](http://www.bikecopenhagenwithmike.dk)

and Cycle Copenhagen<sup>4</sup> allows users to plan their own routes. All of these sources provide a solid foundation for the kind of resource Copenhagen's tourists need.

It is obvious the resources that are currently available need to be improved and more clearly focused on Copenhagen's short-term visitors in order to encourage them to cycle and enable them to see the city in a new light. The "Cycle Guide", though informative, is targeted at long-term tourists who will have time to adjust to the Copenhagen cycle culture. Similarly, none of the rental outlets with websites offer online reservations, and it is hard to quickly compare one business's locations, products and prices to another's. Also, routes short enough to allow short-term tourists to guide themselves along a tour of Copenhagen are not well documented. An all-in-one bicycling resource would be exceptionally useful to short-term tourists interested in cycling in Copenhagen because it would allow them to plan enjoyable outings, experience a deep-rooted aspect of Danish culture, and perhaps gain a new appreciation for cycling.

The goal of this project was to develop methods and material to encourage more short-term tourists in Copenhagen to cycle and to improve their cycling experience by recommending the content and organization of an accessible and dynamic online compendium of cycling resources. To accomplish this goal, our team first assessed currently available resources for cycling-interested short-term tourists. Then, we compared and contrasted marketing techniques to make cycling more appealing to these tourists. To generate our recommendations, we identified impediments to safe cycling by short-term tourists and provided key points that will help them cycle safely, as well as proposed and evaluated routes to fit short-term tourists' specific needs. We also gathered information from various rental outlets and developed a plan to collaborate with these businesses to keep the information current. Finally, we created a model of and made recommendations for a comprehensive, up-to-date, and community-supported online information gateway of Copenhagen cycling resources.

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<sup>4</sup> [www.cyclecopenhagen.dk](http://www.cyclecopenhagen.dk)

## Chapter 2: Background

Copenhagen has fully embraced the bicycle as an alternative mode of transportation, and more than a third of all commuters, including people who live outside of the city, cycle to work or school on a daily basis (City of Copenhagen, 2009). While Danes seem to fully appreciate the advantages of cycling, visitors to the city can be reluctant to participate in Copenhagen's rich bicycle culture. In order to address this reluctance, we must first identify and understand the impediments to short-term tourists cycling in Copenhagen. This section presents an overview of the current state of tourism in Copenhagen, the factors that influence tourists' decision to cycle, and a review of a few ways to market and present cycling information to tourists. Since the sponsor of this project was the Dansk Cyklist Forbund, we start with a short background of the organization.

### 2.1 Dansk Cyklist Forbund

The Dansk Cyklist Forbund (DCF), or the Danish Cyclists Federation, is an organization that has been working to increase bicycle safety and use in Denmark for over a hundred years. For example, the DCF, whose storefront is shown in Figure 1, organizes several promotional campaigns each year and is currently working on over thirty grant-funded projects. A few examples of their campaigns and projects include:

- Bike to Work – encourages Danes to cycle to work during the month of May
- All Kids Bike – promotes cycling among school-aged children
- Lights on with Ludvig – teaches children to assess and use bicycle lights properly
- Big Biking Day – a one-day event that supports recreational family cycling
- Safe and Secure to School – a research project studying the health effects of cycling and safe cycling infrastructure on children, particularly in school areas
- Cycling Friendly Work Place – a certification process that encourages businesses to become more cycle friendly

More recently, the DCF has begun to focus on visitors to Copenhagen as well. The DCF's goal is for tourists to be able to actively participate in the city's bicycle culture in order to gain a better appreciation for cycling and to experience Copenhagen fully (Dansk Cyklist Forbund, 2011a). Last year, in connection with Worcester Polytechnic Institute, the DCF sponsored a project that focused on making cycling easier for long-term visitors to Copenhagen. A major outcome of this project, *Communicating Danish Bicycle Culture to Visitors in Copenhagen*, was the Cycle Guide<sup>5</sup>, which is a blog-style website that provides helpful tips and links for those interested in participating in Copenhagen bicycle culture (Tragellis, Lopez, & Ilyashenko, 2010).

In cooperation with Klean, a web design and development company, the DCF has been developing an online route planner<sup>6</sup> for cyclists since January 2011. Based on the Open Street Map platform, the planner

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<sup>5</sup> [www.cycleguide.dk](http://www.cycleguide.dk)

<sup>6</sup> [www.cyclistic.dk](http://www.cyclistic.dk)

incorporates points of interest in categories such as food, nature, and culture. The user inputs start and finish addresses to create a route and may add via points by selecting points of interest. The result is a route drawn on the map and a written set of directions. The route planner was launched as a beta version on April 13<sup>th</sup>, 2011 and is eventually going to be a major component of an information gateway for cycling in Denmark. The DCF has asked us to make recommendations regarding the content and features of this information gateway to make it useful for cycling-interested tourists who visit Denmark.



**Figure 1:** The Dansk Cyklist Forbund Storefront (Aubin, 2011)

## 2.2 Tourism in Copenhagen

Tourism is an important part of the Danish economy and is becoming more significant each year. The revenue generated by tourism grew from USD 6.2 billion in 2006 to 7.1 billion (DKK 32.6 to 37.3 billion converted March 2011) in 2010 (Euromonitor International, 2011). This section discusses the characteristics of short-term tourists, the difficulty of measuring tourism, and cruise ship and cycling tourism in Copenhagen.

### 2.2.1 Characteristics of Short-term Tourists

Tourists can be classified according to many characteristics, including the transportation they use at their destination, their previous travel experience, and the duration of their stay. This project is concerned with short-term tourists to Copenhagen, defined by the following attributes:

- Generally perform limited tourism-related research beforehand
- Spend anywhere from a few hours to a few days in Copenhagen
- Are often part of a tour group with a schedule or set time limit for their stay

For comparison, long-term tourists:

- Generally have the initiative and time to perform extensive travel research
- Spend more than a week in Copenhagen
- Are more likely to view the bike as a form of transport instead of a tourism activity

Based on the characteristics above, it is clear that the experiences short-term tourists have in Copenhagen are strongly influenced by the availability and completeness of easily obtainable information.

### **2.2.2 Measuring Tourism**

Our project research and interviews have revealed that tourism is an industry in which statistics are difficult to measure. There is limited border control between Sweden, Norway, and Denmark, which makes counting the number of tourists entering these countries challenging. In addition, the number of turnarounds by cruise ships in Copenhagen suggests that many of those cruise passengers stay overnight, but no data is available on the validity of this assumption or the possibility that many of these passengers are from Copenhagen to begin with. While we do have numbers for tourism revenue, it is very difficult to measure the amount of money a tourist actually spends while they are in country. Overall, tourism is one area where numbers are often educated guesses extrapolated from small samples.

### **2.2.3 Cruise Ship Tourism in Copenhagen**

One important way short-term visitors access Copenhagen is by cruise ship. Baltic cruises in particular are becoming more popular among the world's tourists, and Copenhagen is a common port of call, as shown in Appendix B. Cruise ships arriving in Copenhagen dock at the Copenhagen Malmö Port shown in Figure 2. The twin ports of Copenhagen, Denmark and Malmö, Sweden have room to dock ten cruise vessels at a time, allowing the city to host about 330 calls from cruise ships per year (Wonderful Copenhagen, 2011b; Copenhagen Malmö Port, 2010). Approximately 150 of these calls are turnarounds, meaning that the passengers of the incoming ship disembark and new passengers board for the next cruise. Consequently, close to half of the almost 800,000 cruise ship passengers who spend time in Copenhagen each year begin or end their journey at the city's port (Copenhagen Malmö Port, 2010).



**Figure 2:** Cruise Ship in Copenhagen Port (Godlewski, 2008)

Copenhagen is the starting point for cruises to many different destinations: Baltic cruises to Helsinki, Tallinn, Riga, Stockholm, and St. Petersburg, cruises to the British and North Atlantic Isles, and trips to Norway's west coast all depart from the city. This popularity has caused international travel agents to name Copenhagen as Europe's Leading Cruise Destination five times since 2004 (Wonderful Copenhagen, 2011b). Cruise ships and their passengers certainly play a major role in Copenhagen's tourism industry; according to Wonderful Copenhagen, cruise tourists make up a quarter of all tourists (Wonderful Copenhagen, 2007).

Tourists who arrive in Copenhagen on cruise ships typically have just a few hours to spend on land; in May 2011, cruises were in port for an average of 9.5 hours each (Copenhagen-Malmö Port, 2011). Fortunately, the two passenger piers, Langelinie and the Freeport Terminal, shown in Figure 3, are located only seven minutes from Copenhagen's Central Station and five from the city center by taxi (Wonderful Copenhagen, 2011b). The piers' locations put visitors in close proximity to transportation as well as to a variety of activities to enjoy while they are in port.





**Figure 3:** Proximity of Transportation in Copenhagen (Google Maps, 2011)

Although not unexpected, most travelers choose a walking or bus tour of the city; very few choose to cycle. In a study of maritime travel, the behavior of tourists arriving in Copenhagen by ship was observed. Four cruise ships were studied, and out of the 3100 passengers who disembarked, only 20 were observed taking a cycling tour. These tourists brought their own bikes on the ship and participated in a guided tour of the city. Bus tours and self-guided walking tours were much more popular choices among the groups examined (Nilsson, Marcussen, J. Pedersen, & K. Pedersen, 2005), suggesting that tourists want to see the city, but do not choose cycling as their mode of transportation.

### 2.2.4 Cycling Tourism in Denmark

A relatively recent survey of tourists to Copenhagen showed that the “possibility for bicycling” contributed as a motive to visit the city for only 11% of all visitors (Marcussen & Zhang, 2007). This is a small number for the “bike city,” particularly since more than half of Copenhagen’s residents use bicycles to commute within the city each day (City of Copenhagen, 2009). In addition, about 40% of visitors to Bornholm, an island known for its bike trails, noted cycling as a reason for their visit. By contrast, Copenhagen’s guests were primarily interested in visiting attractions (53%) and having a safe place to stay (44%) (Marcussen & Zhang, 2007), indicating by the lack of response that cycling is not a major focus or interest of short-term tourists who travel to Copenhagen.

## 2.3 Factors Influencing Tourists' Cycling Habits

In order to understand why the majority of short-term tourists are not cycling in Copenhagen, we must investigate the factors that affect tourists' desire to cycle. We will examine the following crucial factors:

- Bicycle Rentals
- Perceived and Actual Cycling Safety
- Cycling Routes
- Accessibility and quality of cycling information

Researching these factors will help us identify barriers to cycling by short-term tourists and develop a plan to overcome them. Through this process we will achieve a better understanding of the information and services necessary to increase cycling levels among short-term tourists in Copenhagen.

### 2.3.1 Bicycle Rentals in Copenhagen

There are several bicycle rental outlets in Copenhagen, shown on the map in Figure 5. Of the places on the map, there are three businesses that are prominent on the internet:

- Baisikeli<sup>7</sup>
- Københavns Cykelbørs<sup>8</sup> (Copenhagen Bicycle Exchange)
- København Cykler<sup>9</sup> (Rent a Bike)

Each business rents, sells, and repair bicycles of varying prices and quality. Another rental option is Copenhagen-Tours' Hotel Bikes program, which offers bike rentals at many hotels in the city. In addition, an interview with the 2010 DCF WPI project team revealed that there are a number of small bike shops located all over Copenhagen. Further, the city bike program allows users to borrow a bicycle for free, for use within central Copenhagen. Below, each of the primary rental options, including city bikes, will be described, followed by a comparison of the options' offerings and prices.



**Figure 4:** Project Advisor Fred Looft at Baisikeli  
(Kantesaria, 2011)

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<sup>7</sup> <http://www.baisikeli.dk/EN/index.html>

<sup>8</sup> <http://www.cykelborsen.dk/en/>

<sup>9</sup> <http://www.rentabike.dk/English/firstpage.htm>



## **Baisikeli**

Baisikeli, named after the Swahili word for bicycle, rents secondhand bicycles in Copenhagen, shown in Figure 4. The company uses the proceeds to expand their bike collection and send shipments of refurbished bikes to Tanzania, Sierra Leone, and Ghana (Wonderful Copenhagen, 2011a). Baisikeli believes that “the bike is one of the simplest and most effective ways of creating better lives for the poor population of the world” (Baisikeli, 2011). They believe that bicycles offer “low-cost mobility,” enabling many people who might otherwise not be able to do so to get to work, school, health care, and markets each day. In their Copenhagen location, point A on the map in Figure 5, Baisikeli has a large selection of bikes available for rent. Their five price options are budget, lux, tour, road/mountain, and family, and they offer LED lights, rain ponchos, and helmets as useful add-ons. The company also offers group rentals, delivering up to 650 bicycles at a time, as well as pickup and delivery for an extra fee (Baisikeli, 2011).

## **Copenhagen Bicycle Exchange**

The Copenhagen Bicycle Exchange, point B on the map in Figure 5, is another place to rent a bicycle in Copenhagen (Wonderful Copenhagen, 2011a). Founded in 1881, they carry three types of bicycles: deluxe, all-terrain, and mountain, in two price categories. A deposit of 300 DKK is required for all rentals in the deluxe price group, and a 500 DKK deposit is required for an all-terrain or mountain bike. Customers can rent anywhere from 1 to 500 bicycles at a time. The Exchange offers delivery and pickup anywhere, as well as their mysterious “bicycle picnic with everything” special (Københavns Cykelbørs, 2011).

## **Rent a Bike**

Rent a Bike is Copenhagen’s largest bicycle rental company. They supply mountain, children’s, tandem, Christiana, and 3-speed touring bikes. They also offer child seats, bike trailers, and bags. Their bikes are split into three price groups, and a deposit is required for all rentals. Rent a Bike has two locations from which the company does business, shown on the map in Figure 5. The main store, point C, is located next to track 12 at Copenhagen’s Central Station. The smaller shop, point D, is at Østerport Station next to track 13 (Rent a Bike, 2011).

## **Copenhagen-Tours**

Copenhagen-Tours<sup>10</sup>, which offers audio, bike, and rickshaw tours of the city, also rents bicycles. Bikes are available through their office, point E on the map in Figure 5, as well as at about 50 hotels located throughout Copenhagen. They rent 3-gear bicycles for one day at a time. The company requires a 500 DKK deposit in addition to the 100 DKK daily rental fee. No reservation is required unless you want to rent more than five bicycles at a time (Copenhagen-Tours, 2011).

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<sup>10</sup> <http://copenhagen-tours.dk/eng/engindex.html>



Figure 5: Bike Rental Locations in Copenhagen (Google Maps, 2011)

### Local Shops

The WPI project team that worked with the DCF in the spring of 2010 stated in an interview that there are small bike shops all over Copenhagen, such as the one shown in Figure 6. Most of these shops do not have websites but would be apparent to a tourist walking down the street. The group also thought it would not be overly difficult for English-speaking tourists to rent a bicycle from one of these shops, since most Danes speak at least some English (Tragellis, Lopez, & Ilyashenko, 2011).



**Figure 6:** A Local Bike Shop (Aubin, 2011)

### City Bike Program

Another way to access a bicycle in Copenhagen is the city bike program<sup>11</sup>. From April to November, 2000 bicycles such as those in Figure 7 are spread between 110 bicycle racks in the center of the city. The user inserts a 20 kroner coin to free the bike from a rack, then can use the bike and return it to another rack to get their coin back (The Copenhagen Post, 2010).

The city bike program has encountered many problems since it was introduced in 1995. For example, bicycles are often broken or missing from racks, and if found outside the city center the user can be charged a fine. City officials are planning to replace all of the old bikes with more contemporary models that include technology to address these issues. The new bicycles, which should be on the streets in early 2013, will be equipped with locks to allow users to keep bikes safe while running errands, and kickstands to prevent damage caused by leaving them on the ground. City bike users will also be allowed to take bicycles out of the city center overnight. They will no longer be free, however, but the proposed price has not yet been announced (The Copenhagen Post, 2011).

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<sup>11</sup> <http://www.bycyklen.dk/english/thecitybikeandcopenhagen.aspx>





**Figure 7: Copenhagen's Current City Bikes (Carvin, 2004)**

### Comparison of Rental Options

For tourists, it is important to have the ability to compare the quality, price, and location of rental bikes in order to find the deal best suited to their situation and location. The group's research indicates that currently the only way to compare shops is through extensive research. In order to gather product and pricing information, the tourist would have to investigate many different websites, which is time consuming and can be frustrating if the information is not in their native language.

Based on our analysis of website information, the Copenhagen Bicycle Exchange has the lowest priced rentals, but few choices. Baisikeli has many different bicycle style choices over a wide price range, as well as helmets, lights, and ponchos to improve the cycling experience. Rent a Bike's prices are the highest of all bike options, but they replace their bicycles every two years and have more options for families with children. Hotel Bikes would be convenient for many tourists staying overnight and offers guided tours, but the rental must be repeated each day. Local bicycle shops can be found all over the city, but signs written only in Danish indicate that they do not cater to tourists. The city bike program is free, but the bikes have a reputation for being hard to find or in bad physical condition. A table such as Table 1, below, could be of use to a tourist looking to compare their rental options.

**Table 1: Price Comparison for a One Day Rental (DKK)**

Price Category	Baisikeli	Bicycle Exchange	Rent a Bike	Hotel Bikes	City Bikes
Budget	80		85		
Deluxe/ Lux	110	75	115	100	
Tour	140	150			
Road/ Mountain	200	150	230		
Family	300		230		
Deposit	-	300/500	500/1000	500	20

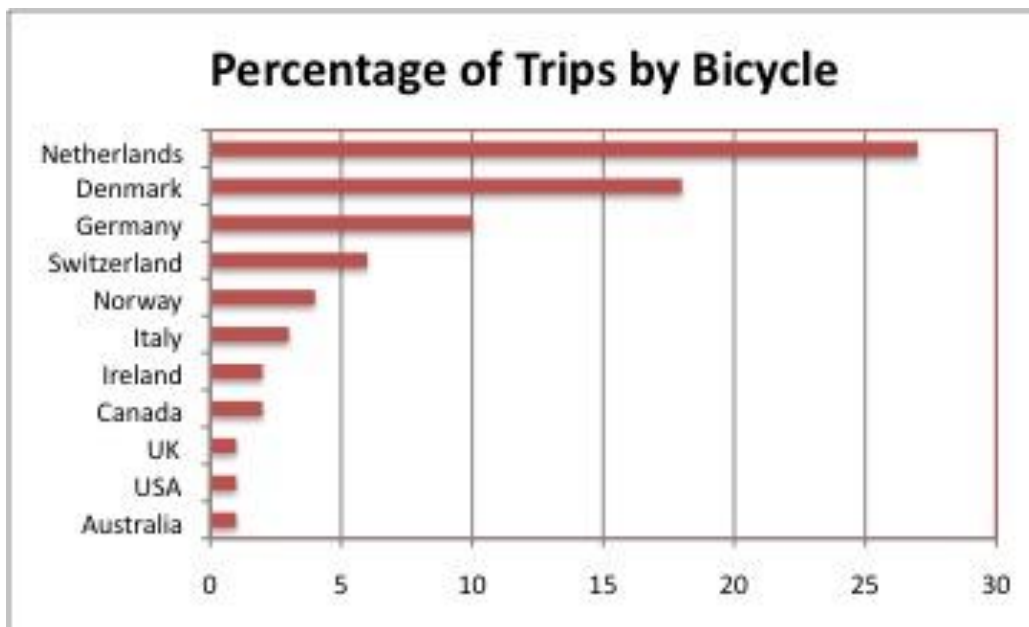
*Excerpted from (Baisikeli, 2011), (Københavns Cykelbørs, 2011), (Rent a Bike, 2011), and (Copenhagen-Tours, 2011).*

### 2.3.2 Perceived and Actual Cycling Safety

Confidence in cycling safely is one of the challenges that short-term tourists face when cycling in Copenhagen. Emphasizing the safety of cycling in Copenhagen could make cycling more attractive to these tourists. Also, providing the basic tips and rules necessary for cycling in the city will allow them to have a safe and successful cycling experience.

#### Tourists' Perceptions of Cycling

A tourist's perception of urban cycling will no doubt vary according to place of origin. This is an important point in trying to attract tourists to cycle in Copenhagen. One critical factor that could color a tourist's view of Copenhagen's vibrant bicycle culture is how much cycling is done in his or her own country. For example, many countries have a much lower level of cycling participation than Denmark, and in particular Copenhagen. One of these countries is the United States, where only 1% of all trips taken are by bicycle (US Department of Transportation, 2010), compared to 18% in Denmark and 29% in Copenhagen center (Pucher & Buehler, 2008). A great variation in the level of cycling exists in many other countries as well, as shown in Figure 8. Tourists who have yet to experience cities with high levels of cycling could be uneasy about participating in the flourishing bicycle culture of Denmark.



**Figure 8:** Bicycle Use as a Percentage of All Modes of Transportation by Country (Pucher & Buehler, 2008)

#### Cycling Safety in Copenhagen

To understand how a lack of knowledge can inhibit a person from cycling, let us take a look at the population of Copenhagen. A report published in 2008 by the City of Copenhagen defined a "Copenhagen cyclist" as "a person for whom the bicycle is the preferred mode of transport, or a person who uses a bicycle a minimum of once a week." Though 71% of respondents were considered cyclists, only 51% of Copenhagen residents felt safe cycling in the city. This is not very different from the twelve preceding years, when only 50-60% felt secure in riding their bicycle around town, despite the fact that

the number of serious bicycle related injuries dropped significantly during the same twelve year period. In fact, between 1996 and 2008, serious cycling related casualties went from 252 to 121 per year. In order to fully grasp the decrease in cycling accidents, the number of kilometers cycled should also be taken into account. Toward this end, it is worth noting that the number of kilometers cycled per weekday in Copenhagen rose by 26% between 1996 and 2008. As a result, in 1996 there was one cycling casualty per 1.2 million kilometers cycled, while in 2008 only one cyclist was injured per 3.2 million kilometers cycled. Hence, it became significantly safer to ride a bicycle in Copenhagen, despite an increase in the amount of cycling (City of Copenhagen, 2008).

The discrepancy between Copenhageners' safety risks and their sense of safety highlights the need for campaigns to help people feel more comfortable cycling in the city. As Copenhagen's Cycle Policy for 2002-2012 reports, *"An enhanced sense of security and the opportunity to travel at a high speed by bicycle would help retain present cyclists and get more people to use their bicycles."*



**Figure 9:** The DCF distributing bread for the "Bike to Work" Campaign (Hytting, 2010)

The DCF is taking an active role in addressing the issue of perceived bicycle safety among Copenhageners. Through programs such as "Bike to Work," shown in Figure 9, and "All Kids Bike," the DCF's goal is to engage more people in Copenhagen's bicycle culture and show them what a safe and pleasant experience it can be (Dansk Cyklist Forbund, 2011a). Campaigns such as these are suggested as part of the City of Copenhagen's Cycle Policy as one method to obtain the city's goal: for 80% of all Copenhagen cyclists to report that they feel "safe" – rather than "partially safe" or "unsafe" – riding their bicycle by 2015 (City of Copenhagen, 2002).

What many tourists may not be aware of is that an increase in cyclists in Copenhagen would actually make cycling in the city safer. Statistics gathered by Pucher and Buehler in *Transport Reviews* (2008) show that bicycle casualties are inversely proportional to the amount of cycling occurring in the area. In this study, cycling levels in relation to cycling injuries for three different countries (Denmark, Germany, and the Netherlands) were analyzed to provide the data for the conclusion that more cycling leads to fewer cycling-related injuries. It is believed that the reduction in casualties is due to "safety in numbers." Another way to view this is that cycling within a city, once it has gained enough momentum as a form of transport, creates a positive feedback loop. More cycling leads to increased municipal funding for cycling

facilities to make cycling safer, which in turn attracts more cyclists. As a result of this positive feedback loop, cycling in Copenhagen is continually becoming safer.

### **Avoiding Problem Areas for Tourists**

Besides encouraging tourists to try cycling in the city by underscoring how safe cycling can be, we must also consider how to reduce the more obvious risks to tourists who are unfamiliar with the bicycling policy in Copenhagen. Identifying potential areas of risk or discomfort for inexperienced cyclists is one way to achieve this reduction.

An analysis of risk areas can be found in the WPI Project Report, *Communicating Danish Bicycle Culture to Visitors in Copenhagen* (2010). The focus of the project was to acquaint long-term visitors to Copenhagen with the core information necessary to safely and competently cycle in the city. One area identified as hazardous for the inexperienced rider was intersections, which are potentially overwhelming for first time cyclists in Copenhagen as there tends to be a lot of traffic and hesitation is not well tolerated by the locals. Also, rush hour bicycle traffic, or the Green Wave, should be avoided. The Green Wave, as shown in Figure 10, is when bicycle traffic is given priority over cars on the main streets of Copenhagen. Cyclists hit green light after green light, enabling them to ride in and out of the city faster. This occurs in the morning when commuters are going to work and in the opposite direction in the afternoon. During this time period, the cycling traffic can move quickly, up to 20 km per hour (approximately 12 mph), which would make many tourists feel unsafe (Tragellis, Lopez, & Ilyashenko, 2010). In an interview with the IQP team who did this analysis, a few other areas were noted as likely problematic for short-term tourists to Copenhagen, including:

- Bicycle lanes along highways
- The downtown portion of Copenhagen where cobblestone streets are common
- Streets that do not have cycle lanes



**Figure 10:** Green Wave Traffic (Colville-Andersen, 2007)



### 2.3.4 Cycling Routes in Copenhagen

Denmark has scores of bicycle routes that Danes and tourists use every day. The network of bike routes spans more than 4,200 km (Visit Denmark, 2006). There are many different kinds of routes to travel, including national routes, historical routes, and contemporary routes. Geographically, Denmark is relatively flat, so riders do not generally encounter steep elevation changes while navigating routes through Denmark. In addition, more than 80% of the bicycle routes in the country are paved, as shown in Figure 11 (Visit Denmark, 2006).



**Figure 11:** Bicycle Lanes in Copenhagen (Colville-Andersen, 2008)

#### Types of Routes

As riders explore Denmark they will come across a variety of different routes, each with its own benefits and attractions. Countrywide, Denmark has mapped a network of eleven national cycling routes. As illustrated in Figure 12, these routes link the major cities and suburbs and make it easier for visitors and Danes to travel around the country by bicycle. While traveling down many of these cycling routes, you can expect to come across the wonderful scenery and attractions that Denmark has to offer (Visit Denmark, 2006). For example, national route 3 follows small county roads, forest paths, and field lanes. While exploring these roads, cyclists also pass by runic stones and medieval churches (Visit Denmark, 2006). Among other routes, the national route 4, shown in Figure 13, is a more temperate voyage, venturing across beaches and the sand dunes of the North Sea and eventually leading into Copenhagen. Though many of these routes are rather lengthy, ranging from 105 km to over 400 km, cyclists could choose to travel only selected portions of them. For example, national route 2 starts off in the Danish countryside but eventually ends up in Copenhagen; for a short-term tourist it may be feasible to cycle only on the portion of the route that travels through Copenhagen.





Figure 12: Denmark's National Cycling Route System (Road Directorate, 2011)



Figure 13: National Route 4 (Road Directorate, 2011)



**Figure 14:** Bike Mike at Nyhavn  
(Kantesaria, 2011)

Within Copenhagen, Bike with Mike Tours<sup>12</sup> has three different guided tours available for tourists. The “city tour” takes people down cobblestone streets through the Latin Quarter and Old City Square. The paths go along the harbor and pass by Copenhagen’s famous Little Mermaid. In addition, these routes go through Christianshavn and Nyhavn, shown in Figure 14, and lead tourists to the Royal Palace. The “contemporary tour” guides riders through the neighborhoods of Copenhagen and its modern architecture. Using the green cycle routes, one can view Copenhagen’s different “socio-economic neighborhoods.” This route also crosses the harbor and takes explorers to Brygge Island, where they can find the salt-water pools built into the harbor. The “evening tour” shows a different side of Copenhagen. The route leads tourists by some lesser known icons of Copenhagen such as the public spaces in Vesterbro, the Carlsberg “Elephant Gate”, and the Opera House. These routes, though not available publically, are an option for tourists looking for guided sightseeing around Copenhagen. Bike Mike’s tours are a suitable option for tourists who are on a tight

schedule, as a tour typically lasts two to three hours (Bike Copenhagen with Mike, 2011).

Another option for tourists looking to cycle around the city of Copenhagen is the green cycle routes. These routes are separate from the car roads, making them attractive to those uncomfortable with mixed traffic. Also, since the green routes cross many main roads, they are a practical way to get from place to place. A map of the green cycle routes is available for download on the City of Copenhagen website<sup>13</sup>.

Those tourists interested an architecture themed route can find such routes on the Copenhagen X<sup>14</sup> website. Copenhagen X is a tour guide company devoted to showcasing the city’s diverse architecture. They provide walking, cycling, and canal tours for free in Danish; the same tours are available in English for a fee. The routes published on their website include:

- *New Urban Life on the Water Front*
- *New Life on the Old Goods Yard Site*
- *Islands Brygge and Frederiksberg Get Connected*
- *The Future Moves In*
- *Experience the Changes of Amager on Your Bike*

<sup>12</sup> <http://www.bikecopenhagenwithmike.dk/>

<sup>13</sup> <http://www.kk.dk/>

<sup>14</sup> <http://www.cphx.dk/>

The maps included with these routes make them appropriate for guided or self guided tours of Copenhagen.

### Selecting Routes

Since Denmark has such a wide variety of bicycle routes, it can be difficult for the average tourist to select a route that is right for them. Finding the appropriate route is critical for a tourist because it makes it much easier for the rider to learn about and enjoy Danish culture. In order to assist in the route selection process, we have identified a few critical factors that are important to determining the optimal route:

- Ride difficulty
- Route length
- Traffic
- Sights and scenery

As noted earlier, route lengths and types vary tremendously, but short-term tourists interested in sights and scenery will likely favor a shorter and easier tour within Copenhagen. One useful tool for tourists looking to guide themselves around Copenhagen is a route planner. Several websites offer maps, route-planning guidance, and predesigned routes to users (screenshots from these websites can be found in Appendix C), including:

- OpenCycleMap<sup>15</sup>
- Velomap<sup>16</sup>
- Netkvik<sup>17</sup>
- GPSies<sup>18</sup>
- Bikely<sup>19</sup>
- CycleCopenhagen<sup>20</sup>

Based on the OpenStreetMap platform, OpenCycleMap is a detailed map that includes national, regional, and local cycle routes for much of Europe. It also includes such useful information as cycle parking, toilets, and good road crossings for cyclists. The user can “jump to” a location or zoom in on the area slowly.

Velomap offers a downloadable cycling map of Europe that is optimized for use with a Garmin GPS unit. Once the map is on your GPS, you can input your destination, and then choose the “shortest route” or the “cycle friendly” route. Also based on the OpenStreetMap platform, the detailed maps feature drinking water, bike shops, and other useful landmarks.

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<sup>15</sup> <http://www.opencyclemap.org/>

<sup>16</sup> <http://www.velomap.org/>

<sup>17</sup> <http://kort.netkvik.dk/>

<sup>18</sup> <http://www.gpsies.com/>

<sup>19</sup> <http://www.bikely.com/>

<sup>20</sup> <http://www.cyclecopenhagen.dk/3c/master.php>



Using Google Maps, Netkvik gives you the option to plan a route “by bike.” The site features a map of the world, with the option to show pictures of major landmarks and street views. It assists with route planning and provides an estimated travel time based on the user-inputted cycling speed. It also features a wind function, where the user enters the wind direction (in degrees) and the application produces the percentage of headwind, crosswind, and tailwind the rider will experience.

GPSies maintains a database of user generated routes for many different methods of travel, including “by foot,” “wheel,” “motor,” “on water,” and “at winter.” The site is available globally, in many languages. The website carries applications for the iPhone and Android. Based on Google maps, the application tracks the elevation, distance, and completion time of all of the indexed routes, and includes pictures, Wikipedia, YouTube, and webcam options for additional information.

Bikely “helps cyclists share knowledge of good bicycle routes” in over 40 countries (Bikely, 2011). It is completely user driven, allowing users to upload their own routes and view, tour, and comment on routes shared by others. A forum encourages knowledge and idea sharing among users. The map uses Google maps and includes an elevation graph for all routes.



**Figure 15:** Cycle Copenhagen Route Planner (Cycle Copenhagen, 2011)

Cycle Copenhagen, a bicycle route planner made specifically for Copenhagen, produces the ideal route based on the user’s start, stop, and optional via points. In addition, the user chooses a route type from the following choices:

- Shortest route – “Just get me there”
- Copenhagenize – “Use bike lanes whenever possible”
- Safer route – “Intends to steer you away from major traffic”
- Green route – “For better flow with a touch of nature”
- Quiet, please – “So you can actually hear what’s playing in your iPod”

The planner produces a cycling route based on user preferences, as shown in Figure 15. Cycle Copenhagen also provides written route directions, and the estimated distance and time required to complete the route (Cycle Copenhagen, 2011). The route planner is not aimed at tourists, however, so it does not include any points of interest and locations must be searched by address. In addition, the site is still a beta version so one may encounter bugs in the software.

Of the above websites, Netkvik would be the most useful to tourists because it includes photos and landmarks, and plans a route based on the origin and destination of your choice. If you carry a GPS unit, Velomap would be very useful because it plans routes for you on demand. It is not useful, however, on a computer. Cycle Copenhagen plans routes on the computer only, but has many different options for each route. On GPSies, the user must draw their own route, but the map includes photos and pre-uploaded routes can be synced to a GPS unit or smartphone. Bikely also requires you to draw your own route, but the community setup allows for a lot of information sharing among users. Finally, OpenCycleMap does not have any route features, but it does provide a detailed map with cycle routes and landmarks.

## 2.4 Marketing Cycling to Tourists

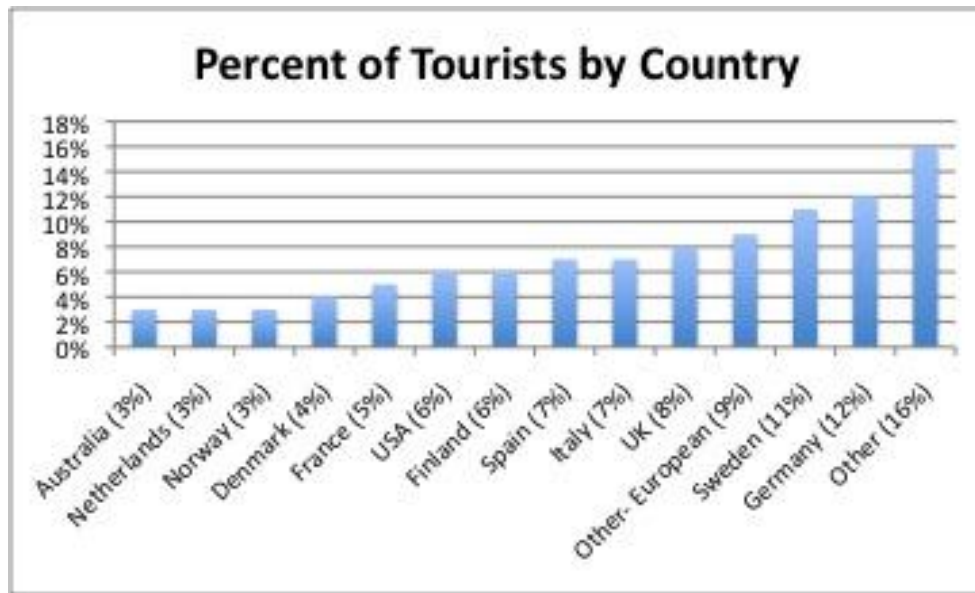
Marketing is critical in inspiring tourists of all levels, abilities, and desires to cycle in Copenhagen. Even if the cycling resources for tourists improve, little will change if visitors to Copenhagen are unaware of what is available. Therefore, a few factors in reaching our target audience, short-term tourists, should be considered. These factors include:

- Demographics of tourists
- Modes of advertising
- Previous attempts to compile cycling resources

In order to target our audience we must first know the demographics of the visitors. According to *Experience Design in City Tourism* (2008), a study on tourism in fourteen Nordic and Baltic cities, including Copenhagen, 75% of tourists to these fourteen cities are from other European countries. The one country outside of Europe with a significant percentage of tourists visiting the fourteen Nordic and Baltic cities is the United States at 6%. Figure 16 shows a more precise breakdown of the percentage of tourists by country. This figure clearly shows that to capture the largest market segment marketing techniques should focus on the nearby European countries such as Germany (12%), Sweden (11%), Finland (6%), Norway (3%), and the Netherlands (3%). Other areas of focus should include the UK (8%), Italy (7%), Spain (7%), and the US (6%).

To choose a medium for an information gateway, the different modes of advertising should be analyzed. Invaluable to this analysis is a sense of what tourists consult while visiting and preparing to visit Copenhagen. The top three sources of inspiration for visitors to the city are recommendations from others who have previously visited the city (cited by 35.1% of tourists), the Internet in general (23.0%) and guidebooks (20.9%) (Mansfeldt, Vestager & Iversen, 2008). As we have no control over people's recommendations, the survey shows that websites are the best way to promote cycling among tourists to Copenhagen.

One website that has already accomplished an all-in-one source of cycling information is Rent a Bike Now<sup>21</sup>. The goal of the site, as stated by its founder George Gill, is to make it easier for cyclists to obtain a bike while traveling. The site provides online rentals of bicycles at over 200 independent bicycle dealers in over 167 cities across North America. The ability to book bikes online in combination with the ability to compare rental outlets has proven to be a big draw for tourists, contributing to the site's rapid growth (Rent a Bike Now, 2009). One interesting feature of the website is the Route Explorer, an application that allows people to share their favorite cycle routes with others. Users can map out their suggested routes and upload them to the site. The routes are then organized by location, and can be rated by other users.



**Figure 16:** Breakdown of Tourists to the Nordic/Baltic Area (Mansfeldt, Vestager & Iversen, 2008)

## 2.5 Information Gateways

In order for short-term tourists to consider bicycling around Copenhagen, information on biking must be easily accessible to them. The information they would need access to has been highlighted in our factors of influence section above, and includes biking rentals, safety, and routes.

The concept of an information gateway is having a location, whether cyber or otherwise, to store and provide public access to a broad base of information pertaining to a particular subject. In addition, the

<sup>21</sup> [www.rentabikenow.com](http://www.rentabikenow.com)

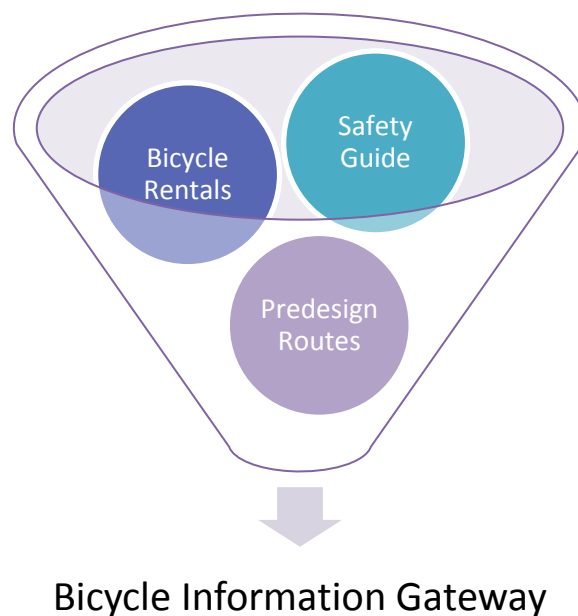
gateway must contain the most up-to-date information available, which can be achieved either by active moderation by a host organization or by linking to other websites and extracting their data.

An information gateway can be implemented on a variety of different platforms, including:

- Website
- Dynamic platform such a wiki
- Smartphone application
- Pamphlet

Each one of these platforms has its advantages and disadvantages, however creating an online information platform would likely be the most useful and easiest to disseminate. It can fill the niche of providing information on cycling to short-term tourists and perhaps boost business for many of the organizations involved with cycling in Copenhagen.

A conceptual flowchart of the information gateway is shown in Figure 17. Regardless of the specific content and structure, it is essential that the information gateway be easy to use and provide pertinent up-to-date information to the end user, allowing them to successfully participate in and enjoy cycling in Copenhagen.



**Figure 17:** Bicycle Information Gateway Concept

## 2.6 Summary

This chapter has provided an overview of the current state of tourism and cycling in Copenhagen, and explained that many factors contribute to a tourist's motivation and ability to plan a cycling trip. These factors include bicycle rentals, knowledge of Copenhagen's bicycle culture, and effective route planning. We have also discussed several options for information gateways and techniques to market cycling to

short-term tourists, for whom ease of access is critical. These techniques can be used to achieve the Danish Cyclists Federation's goal of increasing the number of short-term tourists who cycle in Copenhagen and across the country. In the following chapter, we will present our methodology, as well as a detailed review of our goals and objectives.



## Chapter 3: Methodology

The goal of this project was to encourage more short-term tourists to Copenhagen to cycle and to improve their cycling experiences by aiding in the creation of an accessible and dynamic compendium of cycling resources. Specifically, our team researched, explored ideas on, and proposed and developed a plan for creating an information gateway for the Danish Cyclists Federation to implement. Our team fulfilled these goals through the following objectives:

- Assess currently available resources to cycling-interested tourists
- Compare and contrast techniques to make cycling more accessible to short-term tourists
- Identify impediments to safe cycling among tourists and provide key points to help them feel comfortable cycling
- Propose interesting and informative bicycle routes for short-term visitors
- Propose a plan to collaborate with rental outlets to keep rental information up-to-date
- Create a model of an information gateway with recommendations for inclusion and maintainability

### 3.1 Assess Currently Available Resources to Cycling-Interested Tourists

In our first objective, we fulfilled the Danish Cyclists Federation's request to assess the cycling resources currently available to short-term tourists to Copenhagen. The goal of this objective was to evaluate the resources that currently exist to identify which areas lack information and need improvement. In order to complete this objective, we:

- Explored the web presence of cycling
- Investigated offline and online sources of information available in the United States
- Examined tourist information available in Copenhagen
- Visited Langelinie cruise terminal

#### 3.1.1 Web Presence of Cycling

To assess the web presence of Copenhagen cycling, we began with broad Google searches aimed at finding general information on activities popular in Copenhagen to see if cycling appeared in the results. Examples of some search terms:

- What to do in Copenhagen
- Activities for tourists to Copenhagen
- 6 hours in Copenhagen
- Cruise excursions in Copenhagen

This was applicable to the project because it demonstrated whether the small number of short-term tourists cycling in Copenhagen is due to a lack of effective marketing or a lack of motivation by tourists.

### 3.1.2 Online and Offline Information Available in the United States

After evaluating the web presence of cycling, the team performed a variety of cycling-targeted searches with a focus on rental options, bicycle safety, and route availability. While performing these searches, we recorded the strengths and weaknesses of the resources. One of the areas of cycling-specific information we investigated was rental options in Copenhagen. We explored the process of renting a bicycle by viewing rental company websites as well as travel sites. Safety for new cyclists was also considered; the most relevant websites regarding cycling safety in Copenhagen were the 2010 Cycle Guide sponsored by the DCF, the city bike program<sup>22</sup>, and Wonderful Copenhagen. Route planning was an area that also received close consideration. Online searches for Copenhagen cycle routes led us to several websites, including Bike with Mike Tours, Visit Denmark, Copenhagen X Tours, and Cycle Copenhagen.

In addition to online cycling resources, we analyzed offline cycling resources tourists can access prior to a trip. AAA is a popular tourist resource, so we examined their European Guidebooks for information on cycling in Denmark. We also investigated several other guidebooks on Copenhagen and Denmark for the mention of cycling. The guidebooks we reviewed included:

- *Frommer's Copenhagen Day by Day*
- *Lonely Planet Copenhagen Encounter*
- *Insight Guides Copenhagen Step by Step*
- *Insight Guides Denmark*

### 3.1.3 Resources Available in Copenhagen

After researching information available in the United States, the next step was to examine information presented to tourists upon their arrival in Copenhagen. The team visited the Tourist Information Center to procure and review the information they carry regarding cycling. We scrutinized brochures, advertisements, and computer kiosks for cycling activities and tours. Also, the DCF provided the team with a free city cycle map and the Copenhagen Cycle Tracks guide, an insider's guide to the city. It was important to analyze these resources for noticeability, ease of use, and helpfulness to understand the challenges that cycling-interested short-term tourists in Copenhagen faced.

### 3.1.4 Resources Available to Cruise Passengers in Port

In addition to researching what information was available to all short-term tourists to Copenhagen, we went into more depth concerning a specific group, cruise ship passengers. To find out what information is available to cruise ship passengers upon disembarking in the city, the team went to the Langelinie passenger pier on April 4<sup>th</sup> and 10<sup>th</sup>, when cruise ships were scheduled to arrive. We observed the activity on the pier, the passengers and their behavior, and looked for kiosks and advertising for bike rentals and routes.

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<sup>22</sup> <http://www.bycyklen.dk/>

## **3.2 Compare and Contrast Techniques to Make Cycling More Accessible to Short-Term Tourists**

An important aspect of our project is reaching our target audience, short-term tourists, with the cycling information they need in a way that they will use and understand. In order to do this, the goal of this objective is to determine the best method to present cycling to tourists in Copenhagen in an appealing way. This objective was accomplished in two separate steps. The first step was research into the demographics and psychology of tourists (e.g., what are they looking for in a vacation to Copenhagen?). The second step was to further this research through primary sources of data, such as interviews with professionals who have experience with tourists to the city.

### **3.2.1 Tourist Surveys**

Preliminary research regarding tourist demographics and marketing was completed before arrival at the project site and is reported in the Background chapter, Sections 2.2 and 2.4. This data was gathered from Wonderful Copenhagen, the organization that concerns itself with tourism in the Copenhagen area. We found, however, that it was often not possible to obtain concrete numbers for tourist demographics. One aspect that we were able to investigate in Copenhagen was the type of mobile devices that tourists typically bring on vacation. On April 16<sup>th</sup> the group surveyed 96 tourists outside the Tourist Information Center in central Copenhagen. We asked whether they carried a smartphone, what type (iPhone, Android, Blackberry, Palm), and if they had a data plan. The team used the results of this survey to determine if a smartphone application of the information gateway would be useful to short-term tourists and, if so, what platform would reach the most tourists.

In addition, on April 1<sup>st</sup>, we joined in one of Bike Copenhagen with Mike's city tours. While on the tour we informally interviewed the other guests to gain basic information including where they were from, how long they were staying, and how they found out about the tour. The team considered this primary data on the demographics of Copenhagen's tourists, and used it to determine what subgroups the information gateway should target for maximum effectiveness.

### **3.2.2 Interviews of Tourism Professionals**

Another way we were able to collect marketing information was through interviews with cycling and tourism professionals. The types of people we interviewed were:

- Tourism Experts
- Tour Guides
- Bicycle Rental Outlet Owners
- Urban Cycling Culture Experts

The tourism experts we interviewed included Visit Denmark and Anders Sørensen of TourismLab, and the guided tour companies we spoke to were Bike Copenhagen with Mike, Copenhagen X, and the newly created Sweetspot CPH. The bicycle rental outlets we interviewed included Copenhagen Bicycle Exchange, Rent a Bike, and Copenhagen-Tours. Finally, we also interviewed one of Copenhagen's urban

cycling culture experts, Mikael Colville-Andersen, writer of the blogs Copenhagenize and Copenhagen Cycle Chic.

### **3.3 Identify Impediments to Safe Cycling Among Tourists and Provide Key Points to Help Them Feel Comfortable Cycling**

The purpose of this objective was to gather information to create the top five tips for cycling in Copenhagen, one section of the information gateway. In order to complete this objective, we conducted research on Danish cycling safety and culture from the United States, surveyed new cyclists in Copenhagen, recorded our own observations and experiences, and conducted interviews with cycling and traffic professionals in Copenhagen. This research helped us create a list of tips that would be most useful to new cyclists in Copenhagen.

#### **3.3.1 Cycling Safety and Culture Research**

Before arriving in Copenhagen, the team researched the safety risks of cycling in Copenhagen. The resources we investigated, articles published by the City of Copenhagen, the journal *Transport Reviews*, and the 2010 IQP report *Communicating Danish Bicycle Culture to Visitors in Copenhagen*, indicated the areas of higher risk in Copenhagen traffic, which are detailed in our Background Section 2.3.2.

Our research also helped us determine what safety information was available to visitors in Copenhagen wishing to cycle. One important resource was the Cycle Guide, the product of the aforementioned IQP. We also browsed other websites such as Cycle Chic and Copenhagenize to learn about Copenhagen's cycle culture. We evaluated these websites as outsiders and made note of what aspects of the safety and culture may confuse someone new to Denmark.

#### **3.3.2 On-site Observation and Cycling Experiences**

During our first week in Copenhagen, the team did not cycle but walked and used public transportation. We did, however, observe the bicycle lanes and traffic. Based on our observations and previous safety and culture research, we created a survey to record our initial cycling experience. It was designed to be completed by the team and other members of the Copenhagen Project Center. The survey, available in Appendix A, asks for the subject's cycling experience level, descriptions of the trips they took that day, and a series of questions regarding concerns and confusion, route planning and traffic, and overall comfort.

After a week in Copenhagen, the team experienced cycling firsthand. Our DCF liaison took us to Baisikeli, where we rented bicycles. We started by spending most of a day cycling and followed a green route through Copenhagen. We also cycled everywhere we went on a daily basis. We paid attention to what we had trouble with and recorded our observations in the forms we created previously.

#### **3.3.3 New Cyclist Survey**

In addition to filling out the surveys ourselves, we asked three of our peers as well as our advisor, who had also obtained bicycles, to fill out the survey form. Each person filled out the form for two to five days of cycling and recorded any issues relating to their cycling that day. Several days worth of cycling allowed us to track how a new cyclist learns and progresses.

### **3.3.4 Interviews with Cycling Professionals**

Finally, we conducted several interviews with cycling professionals in Copenhagen. The team interviewed John Skaletz and Mogens Knudson from the Copenhagen Police Department concerning cycling safety. We also interviewed the Copenhagen Bicycle Exchange and Rent a Bike about tips to help new cyclists feel comfortable. These interviews provided insight into what information professionals feel is most important for new cyclists.

### **3.3.5 Top Five Tips for Cycling in Copenhagen**

After completing our research regarding safety, the team analyzed the information we had gathered to determine the five most appropriate tips to be included in the information gateway model. Five tips were selected instead of ten in order to make it easier for new urban cyclists to remember. The five tips needed to be succinct, informative, and based on the most important information a new cyclist needs. The key tips provided the basis for the “Tips” page on our information gateway.

## **3.4 Propose Interesting and Informative Bicycle Routes**

In this objective, we proposed short interesting bicycle routes for tourists in Copenhagen. The goal of this objective was to use our findings on what makes a good bicycle tour route and create informative routes to fill the void of short routes in Copenhagen. By providing more short routes through Copenhagen, we hope to encourage more short-term tourists to cycle. In order to complete this objective, we:

- Determined route features
- Investigated pre-existing routes
- Designed routes around Copenhagen

### **3.4.1 Determine Route Features**

While several types of bike routes exist in Denmark, we chose to focus specifically on designing short routes through Copenhagen in order to promote cycling among short-term tourists. We interviewed tourism professionals such as Bike Copenhagen with Mike and multiple bike rental outlets to find out what should be included in bicycle routes for tourists. To experience a tour firsthand, the team accompanied Bike with Mike on a tour of Copenhagen. Based on this research and these interviews, we compiled the following key features to be aware of while planning a cycle route:

- Ride difficulty
- Route length
- Traffic
- Sights and Scenery

### **3.4.2 Investigate Pre-existing Cycle Routes**

By completing the first objective of our project, assess currently available resources to cycling-interested tourists, we were able to catalogue the routes that already exist for tourists. Online research on websites

such as Copenhagen X, Visit Denmark, and the City of Copenhagen revealed a few different pre-existing routes that have been documented in our background section. Knowing these routes enabled us to create new routes that are interesting and informative to visitors.

### **3.4.3 Design Cycle Routes Around Copenhagen**

Beyond existing routes, we designed supplemental routes to target different groups of short-term tourists based on criteria for route features listed above. Using the tourist information we collected, along with the chosen route criteria, we designed example routes that would fit the timeframe and interests of short-term tourists to Copenhagen. We focused on designing themed routes, for example:

- Urban nightlife
- Parks & Leisure
- Historical

After creating routes, the team evaluated them by cycling on the routes to test their difficulty and suitability for short-term tourists.

### **3.5 Develop a Plan to Collaborate with Rental Outlets to Keep Rental Information Up-to-Date**

Bicycle rentals is one area that is likely to change as time goes on, so it is important to develop a plan to keep the gateway up-to-date. In this objective, the team proposed a plan to keep rental information in the gateway current after brainstorming and investigating different ways to achieve this goal. The research consisted of interviewing the main bicycle rental outlets in Copenhagen, namely:

- Copenhagen Bicycle Exchange
- Rent a Bike
- Baisikeli
- Copenhagen-Tours Hotel Bikes
- Copenhagen City Bike Program

We discussed the idea of an information gateway with these companies and gathered their feedback, and then analyzed this feedback to determine the feasibility of collaborating with rental outlets.

### **3.6 Create a Model of an Information Gateway with Recommendations for Inclusion and Maintainability**

After compiling safe cycling tips, bicycle routes, and rental resources, we provided the DCF with recommendations of content for their information gateway. The most significant portion of this objective was the gateway model we created using the webs.com website builder. This model included many sample pages, including:

- Tips
- Routes
- Tours
- Bike Rentals
- Selecting a Route

The sample pages were created to complement the DCF's route planner and illustrate content for the information gateway.

In addition to the model gateway, the team submitted written recommendations to the DCF. The recommendations concerned the maintainability of the gateway and critiques of the route planner with suggestions for improvement. In order to evaluate the route planner, we planned a variety of routes and made observations regarding the usability of the site (e.g., site layout and features).

### **3.7 Summary**

The goal of this project was to aid the DCF in the creation of a cycling information gateway and provide useful recommendations in order to encourage more short-term tourists to Copenhagen to cycle. Our objectives to achieve this goal included assessing the current cycling resources available to tourists, evaluating marketing techniques most appropriate for short-term tourists, and researching and proposing cycling safety tips and informative routes for these visitors. In addition, we created a model of an information gateway with recommendations for inclusion and maintainability, including a plan to collaborate with rental outlets. Progression on these objectives occurred concurrently, and together they provided a methodical approach to completing our goal.

## Chapter 4: Results

This section presents our results from the completion of the tasks outlined in the methodology. The results are the basis for the conclusions and recommendations in Chapter 5.

### 4.1 Currently Available Resources to Cycling-Interested Tourists

In order to create an effective information gateway, it was necessary to first assess the cycling resources available to short-term tourists visiting Copenhagen. The team accomplished this by examining and analyzing the following:

- Web presence of cycling
- Online information and published guidebooks available in the United States
- Cycling information present in Copenhagen
- Cycling resources targeted at cruise ship passengers

Analyzing the available information helped us determine which areas lack the necessary information and resources, allowing us to make recommendations and suggestions for an effective cycling information gateway.

#### 4.1.1 Web Presence of Cycling

The team's online searches for popular tourist activities in Copenhagen revealed that cycling is not one of Copenhagen's most recommended activities. Tivoli Gardens, museums, historical sights, and castle tours come well recommended, as do bus, canal, and walking tours of the city. Several travel websites, however, link to information regarding cycling in Copenhagen. Visit Copenhagen's "by bike" tab links to Bike Copenhagen with Mike, Hotel Bikes, and guided tours with Copenhagen X. Trip Advisor<sup>23</sup>, a forum style website on which travelers rate tours and activities around the world, also provided some results. On the Copenhagen page, Bike Copenhagen with Mike is third in the "Tours" category under "Top-Rated Things To Do." General searches for popular activities in Copenhagen did not lead directly to cycling, but tourists willing to explore slightly deeper would be able to find some information on cycling in Copenhagen.

#### 4.1.2 Online Information Available in the United States

Online searches targeting various aspects of cycling produced mixed results, and most of this research is presented in the Background Section 2.3. The websites of Baisikeli and Rent a Bike were both prominent when search terms such as "bike rentals Copenhagen" were used. Baisikeli's website is readily available in both English and Danish. The Rent a Bike home page is in English, but the location specific pages of Københavns Cykler and Østerport Cykler are in Danish. Google translate provides a reasonable translation of the pages that makes them usable to English-speakers. Each website contains price and location information, as well as business hours and descriptions of the types of bikes available. Copenhagen Bicycle Exchange information was more difficult to find, and though it has a button for an

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<sup>23</sup> www.tripadvisor.com



English translation, the English version of the site is hard to navigate and understand. However, the site does include prices, location, business hours, and photos of the different bicycle categories available for rental. Copenhagen-Tours' website was also difficult to locate, but is offered in Danish, English, French, and German and is easy to navigate. The rentals page includes prices, bike information, and a list of hotels that rent the hotel-bikes. As discussed above, only about half of the rental information available online is easily accessible to tourists and it can be difficult to compare one site to another, so the accessibility of these websites needs to be improved.

Searches for Copenhagen cycling safety information online yielded few resources for tourists. Much of the material available on the subject was academic papers or studies of Copenhagen traffic, such as *Making Cycling Irresistible: Lessons from the Netherlands, Denmark, and Germany* (Pucher & Buehler, 2008). Wonderful Copenhagen, the city's official tourist organization, suggests cycling to tourists, but provides no practical information, such as traffic rules or hand signals. Linked to by Wonderful Copenhagen, the website for the Copenhagen city bike program does provide a list of rules for tourists to follow. The list includes areas where cycling is not allowed (pedestrian streets, crosswalks, sidewalks, parks) and key tips, for instance, "keep to the right" but fails to address basic traffic regulations such as hand signals and traffic etiquette.

Potentially the most useful online resource for tourists is the 2010 Cycle Guide sponsored by the DCF. The blog-style website features the "Top Ten Tips for Urban Cycling". The tips are fully explained with both pictures and video. In addition, it is the only website where one can find Danish cycling laws translated into English. In the case of the Cycle Guide, the obstacle is not lack of information but rather accessibility, since it is not one of the top hits on Google nor linked to by the more popular tourist websites. Hence, information about cycling rules in Copenhagen is difficult for tourists to access, which could deter many tourists from cycling.

Bicycle route information was also difficult to access. Denmark's extensive national route system is accessible through Visit Denmark's website, but these routes are not appropriate for short-term tourists in Copenhagen. Despite a lack of recommended routes around Copenhagen for tourists online, searching "bike routes in Copenhagen" did yield some results. Though most of the user-created routes on Bikely are fitness or commuting routes, Copenhagen X offers information on the green routes and has maps available for five self-guided architecture tours. Except for those architecture routes, no other self-guided tours were found online.

Another area of routes that has some web presence is guided bicycle tours. Copenhagen X offers guided tours by special request, and Baisikeli's website links to Bike Copenhagen with Mike, who also appears in bike tour search results. Cycle Copenhagen, a bicycle route planner for Copenhagen, is also available online, but the user must know their origin and destination in order to plan a route – something that is not likely to be true for a short term tourist. Overall, there are few resources for a tourist who chooses to see the city by bike, unless they want to see architecture, purchase a guided tour, or research their own destinations.

#### **4.1.3 AAA and Other Guidebooks**

A visit to AAA in Raynham, MA yielded few results concerning cycling in Copenhagen. The AAA agent provided three guidebooks on Europe but could not supply any on Denmark specifically. The 2011

Europe guidebook included Denmark on the “Scandinavia” page and noted four hotels and two city tours of Copenhagen. *Essence of Europe 2011* afforded Copenhagen one third of a page in the “Scandinavia” section as well, but mentions six hotels and nothing else. The *Trafalgar Europe and Britain* guidebook does not mention Denmark at all. The travel agent also offered a book from the company *DuVine Adventures*, which organizes bike tours all over the world. The company is present in several European countries including Italy, Ireland, and the Czech Republic, but they offer nothing in Denmark.

The team also examined several commercial guidebooks for signs of cycling, and the results were more useful than the AAA information. *Frommer’s Copenhagen Day by Day* mentions cycling several times and features a cyclist on the front cover. In the “Copenhagen Outdoors” section, “Cycling in the City” is a featured item. The book encourages use of the free city bikes and suggests riding on Langelinie to see the Little Mermaid, shown in Figure 18, or cycling down to Amager beach. It also mentions that bikes can be taken on the metro for no extra charge, which is misleading: bicycles can be taken on S-trains for free but not on the metro. On another page of “Copenhagen Outdoors,” cycle hire is suggested. The city bikes are suggested with price and season information, and the city bike and Baisikeli websites are included. Cycling is also recommended in “Getting Around,” “Outdoor Kids,” and as number nine of “17 Favorite Moments,” which refer to the cycle hire page for more details. Regarding safety, the book says “older children are perfectly safe getting around the city center cycle lanes by bike.” Considering the small size and large scope of the book, cycling was well recommended by *Frommer’s*.



**Figure 18:** The Little Mermaid at Langelinie (Hinnosaar, 2005)

*Lonely Planet’s Copenhagen Encounter* also recommends cycling several times. The front cover features a shop window, in front of which many bicycles are parked in a bike rack. In the “Snapshots” section, cycling is a full-page feature. The page describes cycle lanes and the popularity of cycling in Copenhagen. It gives information on city bike prices and season, S train bike rules, and a few tips for safe cycling including how to turn left and when cyclists have the right of way. It suggests obtaining a cycle map from the DCF and refers readers to the DCF website. Cycling is also mentioned twice in the directory in the back of the book. First, in “Getting Around,” the book describes the city bikes and notes Rent a Bike, located in the basement of Central Station. In “Walking and Cycling Tours,” *Lonely Planet* recommends City Safari, which runs cycling tours of the city departing from the Danish Architecture

Center. The City Safari website, however, has not been updated since 2009 and did not appear during any of the team’s online searches for guided tours, so we believe that City Safari has gone out of business or changed names since *Copenhagen Encounter* was published in September 2007. Overall, Lonely Planet gives cycling in Copenhagen considerable attention and provides most of the information necessary to plan a successful cycling trip.

*Insight Guides’ Copenhagen Step by Step* is informative regarding cycling in the “Transport” section of “Getting Around.” It notes that cycling in Copenhagen is a fast, safe, and popular way to travel, and recommends that tourists keep to the right and use bicycle lights at night. It suggests using the city bikes, which it describes in detail, and presents price ranges for bicycle rentals from one to three days. The page notes the address, hours, phone number, and website for both the Copenhagen Bicycle Exchange and Rent a Bike. In addition, it mentions City Safari bicycle tours. Though this page has a lot of information on cycling, it is the only page in the book that mentions cycling at all.

*Insight Guides Denmark* mentions cycling many times, but few of those times relate to Copenhagen. It recommends cycling in many parts of Denmark, including Bornholm, Funen, Aero, Langeland, Tasinge, Aarhus, and North Jutland. The book does note that cycling can be fast in the city, tells readers to observe lights and signs and use bicycle lights at night, and suggests using the city bikes in a “tip” box on the side of a Copenhagen page. In addition, the Copenhagen page includes a photo of a person at a city bike rack full of bicycles. Perhaps because the book covers the entire country of Denmark, the information on cycling in Copenhagen is limited.

#### 4.1.4 Cycling Information Available in Copenhagen



**Figure 19:** A City Bike at the Tourist Information Center  
(Aubin, 2011)

To find out what information is available to tourists upon arrival to Copenhagen, the team visited the city’s Tourist Information Center<sup>24</sup>. When one enters the center, a city bike is immediately noticeable hanging on the wall, shown in Figure 19. In the “Museums, Galleries, Attractions” section, there are small flyers from The Copenhagen Bicycle Exchange and Baisikeli bike rentals. On the “Transport” board, shown in Figure 20, a large yellow advertisement urges tourists to “Rent A Bike” from Københavns Cykelbørs, the Copenhagen Bicycle Exchange. There is also a smaller advertisement for Baisikeli with photos and pricing. For routes, a board titled “Self-Guided Walk” contains a map and suggests a self-guided walking tour;

<sup>24</sup> Copenhagen Visitor Centre, Vesterbrogade 4A, DK-1620 Copenhagen V

this tour could probably be completed by bicycle. A small section of the “Sightseeing” board, “Bicycle Architecture Routes,” shows a map that includes five routes featuring city architecture. This board also presents a “Bike Copenhagen with Mike” advertisement that includes some information including a map leading to the tour’s starting point, and a Copenhagen Bicycle Exchange advertisement with business hours. General activity pamphlets, however, did not mention cycling. The “Copenhagen Sightseeing Tours” pamphlet contains no indication of cycling, and the “Copenhagen Guide,” though it features two Danish women cycling on its cover, does not contain any information on biking in the city.



**Figure 20:** The "Transport" board at the Tourist Information Center (Aubin, 2011)

The Tourist Information Center also has several computers that can be used to research activities in the city. The “Bicycles” page discusses city bikes and bike rentals, but does not have much information on where a tourist should go once they have obtained a bicycle.

The team also obtained cycling information that would typically be available to a tourist from a few other sources in Copenhagen. The DCF provided us with a “Cycling Map Copenhagen,” which highlights the cycle tracks, green routes, and S train stations. Though it does not feature any tourist attractions, it is useful for day-to-day cycling in the city because it helps users plan routes most appropriate for cycling. We were also given a “Cycle Tracks” book, an insider’s guide to Copenhagen that concentrates less on tourist attractions and more on places native Copenhageners might go, focusing on the bicycle as a method of travel. Interviews with Rent a Bike and The Bicycle Exchange revealed that the rental agencies give their customers tips on how and where to cycle. Rent a Bike carries a 3-dimensional map of Copenhagen that they sometimes hand out to tourists and use to point out things the tourists might want to



see. There are advertisements for Bike with Mike Tours around the store, and if tourists ask for cycling advice, Rent a Bike usually tells them to watch and follow traffic. The owner of the Bicycle Exchange, Ole Jensen, takes a personal interest in his customers and suggests activities to them based on their interests. He also asks about cycling experience and gives tourists tips on how to behave in cycle traffic and what hours they should avoid the roads. For tourist interested in cycling in Copenhagen, a significant amount of information is available once they arrive in the city, especially if they go to a bicycle rental shop.

#### 4.1.5 Langelinie Cruise Terminal

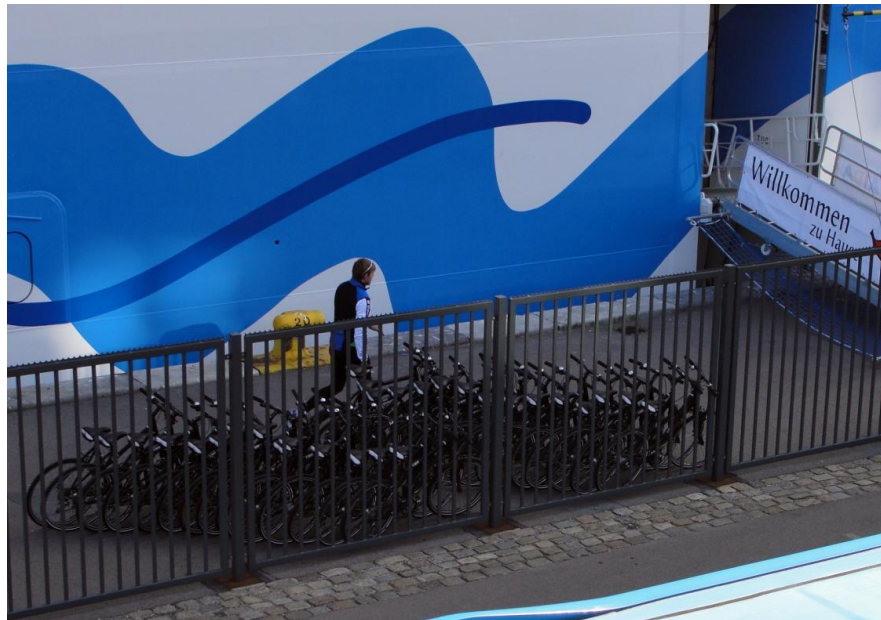
Finally, the team visited the Langelinie Pier several times to observe resources available to tourists who arrive in Copenhagen on cruise ships. The first visit was at 17:00 on Monday, April 5<sup>th</sup>, when the Ocean Countess arrived for one night in port. Most of the passengers of this ship were part of an older age demographic, and as such, less likely to be interested in a cycling tour. The only tourism information that was available at the pier was one company running Hop-On Hop-Off bus tours. Two buses were there, and tours were leaving about 30 minutes after the ship arrived. The passes for sale were valid for 48 hours, so tourists could start the tour Monday night and continue the next day. It seemed that the majority of passengers chose to walk around the Langelinie area on their own instead of getting on a bus. The team returned to the pier the next day at 9:00 to see if any other companies were there. This time, there were two Hop-On Hop-Off bus companies and the cruise ship but nothing else. In general, there was little activity on the pier at that time.



**Figure 21:** Aidasol Cruise Passengers Boarding an Excursion Bus (Aubin, 2011)

The team again visited Langelinie for the arrival of the second cruise of the season at 12:00 on Sunday, April 10<sup>th</sup>. This ship, Aidasol from Germany, was much larger than the ship we previously visited during its arrival less than a week earlier. There were many buses lined up, including Hop-On Hop-Off, regular bus tours, and cruise-organized excursion buses, shown in Figure 21. In addition, the team noticed several

cruise ship employees dressed in cycling gear unloading about 30 bicycles from the ship and lining them up behind the fence, shown in Figure 22, and people slowly gathering around the bicycles. The participants were clearly outfitted by the cruise line as each person had a matching helmet, backpack, and water bottle, and several were wearing cycling shirts or pants with the Aida logo on them. We asked one of the cruise employees when the excursion was leaving, but the language barrier prevented us from learning anything more from them.



**Figure 22:** Bicycles from the Aidasol Cruise Ship (Aubin, 2011)

As discussed in Background Section 2.2.3, cruise tourism makes up a significant portion of Copenhagen’s tourist industry. However, our visits to the cruise terminals indicate that these tourists make only a minor contribution to the bicycle tourism market in the city. Passengers on the cruise ships have few options if they want to cycle in Copenhagen. They can go on prearranged cycling excursions set up by the cruise line or research bicycle rental shops themselves. However, not many choose the second option as cruise tourists typically spend little time planning and tend to spend their short time in port on more structured activities.

## **4.2 Marketing to Short-Term Tourists**

In order to determine the best way to effectively present cycling information and the value of cycling to Copenhagen’s tourists, the team needed information concerning the demographics, phone usage, and research habits of tourists to Copenhagen. The team collected this information by:

- Conducting preliminary research as detailed in the background chapter
- Interviewing
  - Tourist organizations and experts
  - Bicycle rental outlets
  - Bicycle tour companies
  - Mikael Colville-Andersen of Copenhagenize
- Accompanying Bike Mike on his “city tour” of Copenhagen
- Surveying tourists outside the Tourist Information Center in central Copenhagen

Collecting and analyzing this information helped the team determine the best ways to market cycling in Copenhagen to tourists and make recommendations for the information gateway.

#### **4.2.1 Tourist Demographics**

The first step in marketing research was investigating the demographics of tourists who travel to Denmark. The team’s interviews with bike rental and tour agencies yielded some useful results on the ages and origins of Copenhagen’s tourists. In answer to the question “What countries do most of your customers come from?,” Sweden, Norway, and the United States were the most common answers, followed by Germany, the United Kingdom, Holland, and Australia. Rent a Bike indicated “Southern Europe” while Belgium, Canada, Switzerland, and Asia were mentioned as well.

The rental outlets identified that tourist ages range from 20 to 50 years old. The Copenhagen Bicycle Exchange stated that they rent many bikes to backpackers 21 years and over who are looking for low budget travel. Rent a Bike stated that their southern European customers are usually 25-35 old, while Americans are slightly older at 30-40 years of age. Bike Mike stated that his tours are popular with all ages, but noted that the average customer is in their early 40s. Sweetspot CPH, though not operational at the time of our onsite research, is preliminarily planning to target the 25-35 age group, and Visit Denmark targets two groups: families with children and couples aged 40 and above with no children in tow. These answers indicate that young to middle-aged adults from Europe and North America should be targeted because they are most likely to cycle in Copenhagen. The location demographics are consistent with the report discussed in Section 2.4, *Experience Design in City Tourism* (2008), which stated that most tourists to the Nordic and Baltic region are from European countries (75%) and the US (6%).

On Friday, April 1<sup>st</sup>, the team accompanied Bike with Mike on a Copenhagen City Tour. During the tour, we spoke to the other tourists to obtain demographical and tourist information firsthand, and the results supported the interview findings. The other tour members were a middle-aged British couple, an uncle and his adult nephew from the Netherlands, and a man from New York City who was around thirty years of age. The British couple and the Dutch men both stated that they cycle at home, while the American stated that he would bike in New York but it is much too dangerous.



### **4.2.2 Length of Stay in Copenhagen**

Most of the rental outlets we interviewed noted that rentals are generally for short periods. The Bicycle Exchange most commonly rents for a period of one day to one week, though semester-long rentals are also popular with students studying in Copenhagen. Rent a Bike and Copenhagen-Tours both stated that most bicycles are rented for one to two days. All three of the parties on the Bike with Mike tour were in the city just for the weekend (Thursday or Friday to Sunday) and planned their trip on short notice. In an interview, Bike Mike stated that the average tourist stay in Copenhagen is just 40 hours. This information validates our goal of creating a resource to make cycling more accessible for short-term tourists to Copenhagen.

### **4.2.3 How Tourists Get Information**

As previously examined in Section 2.4, in order to effectively market to tourists it is important to know what recourses they use to gain inspiration for their travel activities. The interviews indicate that there are several places from which tourists find information on cycling in Copenhagen. All of the rental outlets indicated that their websites bring in a lot of tourists. In addition, Rent a Bike garners many customers through flyers they have available for tourists in hotels near their location. Copenhagen-Tours indicated that the advertising on their rickshaws, which can be hired for tours and traveling around the city, bring in the most customers. The Copenhagen Bicycle Exchange stated that partnerships with travel agencies, schools and universities, and Copenhagen's Tourist Information Center generate most of their business. Tourists to Copenhagen X learn about the tours from the Wonderful Copenhagen and Copenhagen X websites and by word of mouth. The newly created Sweetspot CPH will be completely web-based; the website will match tourists with similarly-interested local guides to provide individualized insider's tours of Copenhagen.

Bike Mike stated that many of his customers find him through the Tourist Information Center and online sources such as his website and travel sites. When asked how they found out about Bike with Mike, the tourists on the city tour confirmed this statement. The British couple and the American man both found the tour on Trip Advisor, while the Dutch men discovered it by visiting the Tourist Information Center. Anders Sørensen of TourismLab asserted that word of mouth is the best marketing tool. He also noted that short-term tourists may plan more than long termers in order to get the most out of their short time in the city. In addition, backpackers, especially those from Europe, will not plan much, while American tourists are likely to plan more thoroughly. The information from these interviews allowed the team to determine what methods of marketing would be most effective for the cycling information gateway.

### **4.2.4 Smartphone Usage by Tourists**

On Saturday, April 16<sup>th</sup>, the team surveyed tourists outside the Tourist Information Center in central Copenhagen about their smartphone usage in Denmark. Of 96 tourists surveyed and represented in Figure 23, 31 (32%) carried a non-smartphone, while 33 (35%) carried no phone at all. The most popular smartphone was the iPhone with 21 (22%) users. Android had 8 (8%) users and Blackberry had 3 (3%). Of tourists who carried cell phones, the number who had a data plan that provided internet access varied between smartphone and non-smartphone users, shown by Figure 24. Just 7 (23%) of the non-smartphone users had a data plan, while 67% of Blackberry and iPhone users and 75% of Android users had a data

plan. This information provided a basis for the team to make appropriate recommendations regarding the feasibility of a smartphone application version of the information gateway.

### Tourist Cell Phone Survey

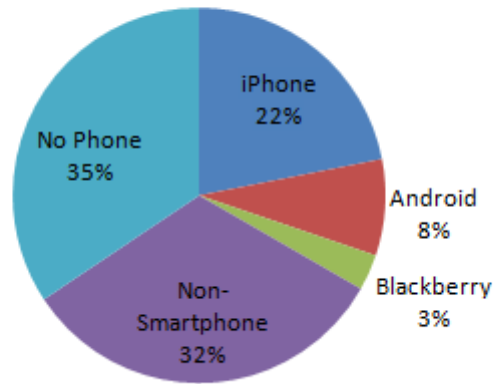


Figure 23: Tourist Cell Phone Breakdown

### Tourist Mobile Internet Access Survey

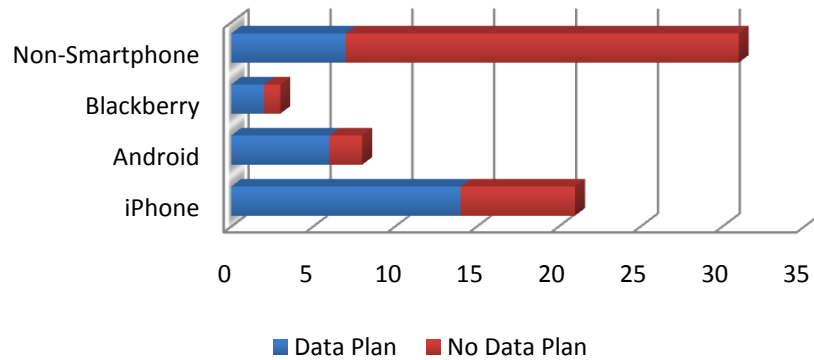


Figure 24: Data Plans Among Tourists with Cell Phones

#### 4.2.5 Motivation to Cycle

Mikael Colville-Andersen, writer of the Copenhagenize and Cycle Chic blogs and CEO of Copenhagenize Consulting, advocates the growth and development of cycle cultures all over the world. During an interview, he stated that the main factors that prevent people from cycling worldwide are:

- The perception and reality of safety
- The sub cultural image of cycling
- Lack of infrastructure that directly supports biking

With this knowledge, the team was able to determine how to best present cycling to Copenhagen's tourists. Colville-Andersen suggested that one way to market cycling to Copenhagen's tourists would be to encourage them to "do as the Copenhageners do" by cycling. Another suggestion was to compare the relative cost of renting a bicycle for a day or using public transportation, which is quite expensive in Denmark. This idea is already being put into action by the city of Copenhagen, in the form of the city bike program. The bikes, which are funded by advertising on the racks and the bicycles themselves, are targeted at tourists. Though some Copenhageners do use these bikes, a city bike representative stated in an interview that 61% of city bike use is by visitors to Copenhagen, which indicates that cost and convenience are powerful factors in bicycle use by tourists. These ideas and factors were useful during the creation of the model gateway.

### **4.3 Impediments to Safe Cycling Among Tourists and Key Points to Help Them Feel Comfortable Cycling**

To provide key points in order to help tourists feel comfortable cycling in Copenhagen, the team had to first identify the impediments to tourists cycling safely. This was accomplished through:

- Initial research conducted at WPI
- Survey of visitors new to urban cycling in Copenhagen
- Interviews with the Copenhagen Police Department and Bicycle Rental Outlets

Once these research goals were completed, tips could then be created to inform visitors to Copenhagen how to cycle in the city. These tips are presented in Section 4.3.4.

#### **4.3.1 Initial Research**

The initial research into bicycle safety in Copenhagen was performed at Worcester Polytechnic Institute before the team arrived at the project center. The results drawn from the research can be found in the background, Section 2.3.2. Results of the initial research contributed to the creation of tips to assist tourists in cycling in Copenhagen safely and comfortably.

#### **4.3.2 Survey of Visitors New to Urban Cycling in Copenhagen**

In order to determine the issues visitors new to urban cycling would have the most difficulty with, the team created a survey. We surveyed seven individuals, including ourselves. These individuals had no prior experience cycling in a city environment, though they had varying levels of general cycling experience. The survey participants were asked to rate their cycling experience level on a scale of 1 (novice) to 5 (expert). They were also asked to rate their level of comfort with urban cycling from 1 (not at all comfortable) to 5 (completely comfortable) after each day. A variety of other questions were used to probe what issues the participants were having and can be found in the survey template in Appendix A. After the surveys were completed, we summarized the survey results as shown in Table 2. The summary showed that the most commonly mentioned areas of concern included:

- Traffic Rules
- Bike Mechanics
- Traffic (Cars, Bikes, Pedestrians)
- Turning Left
- Traffic Signs and Lights

It is useful to note that 3 of the 7 survey participants borrowed their bicycle from a co-worker and that these participants (Celena, Eric, and Steph) commented on an issue with their bicycle more often than the other 4 participants. The quality and variety of the borrowed bikes was less than that of the bicycles available for rent at the main bicycle rental outlets of Copenhagen. We would expect that the typical tourist cycling in Copenhagen would not encounter as many difficulties with the bicycle itself. As for the average self-rating of the participants' cycling experience, it was a 3.4 on the 1 to 5 scale. We would anticipate that any tourist cycling in the city would be moderately comfortable on a bicycle, therefore this experience rating is plausible when extending the survey results to the average tourist. For the first day of cycling the average comfort level of the cyclists was a 2.5, while on the second day the comfort level was a 3.1 on the 1 to 5 scale. This limited survey shows that comfort with cycling in a city environment does improve significantly within the first few attempts. The survey results were considered when the team made the "Top Five Tips for Cycling in Copenhagen" page included in our model information gateway.

**Table 2:** Summary of New Cyclist Survey Results

Person	Experience	Comfort	Day of	Issues Mentioned												
	Level	Level	Cycling	A	B	C	D	E	F	G	H	I	J	K	L	M
Alana	3	3	1	X	X	X			X	X				X	X	
Alana		4	2		X	X		X		X						
Alana		4	3		X			X		X				X		
Adriana	3	3	1	X	X											
Adriana		4	2	X											X	
Celena	3	2	1					X	X						X	
Celena		2	2						X	X					X	
Celena		3	3			X			X	X						
Eric	3	2	1		X			X		X					X	
Eric		2	2		X			X		X					X	
Eric		3	3		X	X		X							X	
Eric		3	4			X		X							X	
Eric		3	5	X		X									X	
Frany	3	3	1	X	X	X			X	X				X		
Frany		4	2	X	X					X	X				X	
Frany		4	3	X				X							X	
Fred	5	3	1	X				X	X			X		X		
Fred		4	2	X	X	X									X	
Fred		4	3	X	X	X										X
Shahil	4	2	1		X			X		X				X		
Shahil		3	2					X			X	X		X		
Shahil		4	3	X											X	
Steph	3	2	1		X		X	X				X		X		
Steph		2	2			X		X			X	X		X		
Steph		4	3	X						X		X				
Steph		4	4		X			X								

Key		
<b>A</b> Weather	<b>F</b> Traffic Rules	<b>I</b> Planning Routes/Navigation
<b>B</b> Construction	<b>G</b> Intersections	<b>J</b> Road Conditions
<b>C</b> Traffic (Car, Bike, Pedestrian)	<b>H</b> Turning Left	<b>K</b> Getting Lost
<b>D</b> Traffic Lights & Signs	<b>E</b> Hand Signals	<b>L</b> Bike Mechanics
		<b>M</b> Wondered About Stolen Bike

### 4.3.3 Interviews with Cycling and Safety Professionals

To gain familiarity with the rules on bicycling in Copenhagen, common traffic accidents involving bicycles, and common behaviors of cyclists in the city, the team interviewed John Sckaletz and Mogens Knudson from the Copenhagen Police Department. The police department provided the team with packets of information on traffic accident statistics and the main rules tourists should know. The statistics provided show that it has become increasingly safer to cycle in Copenhagen. While there were 216

reported bicycle casualties in Copenhagen in 1998, this figure dropped to 129 in 2009. The police have attributed the decrease in casualties to new regulations for right-hand turning trucks. The trucks must now have multiple mirrors to reduce the driver's "blind spots." In addition, the cycle lanes were repainted so that cyclists stop ahead of car traffic at intersections, which ensures that the cyclists are visible to the car traffic turning right. Despite the improved regulations at intersections, over half of the accidents in 2009 involved cyclists crossing intersections.

The police department also identified the most important rules for new cyclists to follow: no right on red, use cycle lanes, use the hook turn, stay off sidewalks, keep two hands on the bike, use bike lights at night. Other tips provided for visitors cycling in Copenhagen were: keep right, be attentive and considerate, use signals, wear a helmet, don't drink and drive, stay out of truck blind spots, make sure to lock your bike.

The interviews conducted with bicycle rental outlets provided insight into another method by which cyclists can access bicycle safety information. To each of the rental outlets the team posed the question "Do you give advice to the tourists about safety and rules?" Both the Bicycle Exchange and Rent a Bike stated they give tips to tourists who ask for them or seem unsure. Copenhagen-Tours, which rents bikes through many different hotel locations, does not have employees on hand to explain the rules to tourists. The former two also stated that none of the tourists renting their bikes had major accidents in the past fifteen years. All bicycle rental outlets interviewed provide helmets to their customers at little to no additional cost. However, the outlets have found that few tourists use these helmets.

#### **4.3.4 Top Five Tips for Cycling in Copenhagen**

After obtaining the safety and culture information from our previous research, the survey results, and the interviews with the Copenhagen Police Department and bike rental shops, the team needed to consolidate the information into a format useful to short-term tourists to Copenhagen. We determined that a convenient and non-intimidating way for tourists who spend little time planning to receive this information is in the form of five tips. These tips were the basis of the "Top Five Tips for Cycling in Copenhagen" page included in our model information gateway. The short-version of the tips is as follows:

1. Follow the traffic
2. Stay to the right
3. Pay attention to lights and signs
4. Remember to signal
5. Learn to turn left

The full description of each tip along with accompanying photographs can be seen in Figure 27 – 31 as part of our gateway development recommendations. The tips are the culmination of the team's investigation into safe city cycling within Copenhagen. They highlight the main points that tourists will need to know when navigating the city by bike without causing undue alarm with regards to safety risk. As shown in Section 2.3.2, the perception of cycling as unsafe can be a significant de-motivating factor to tourists who venture to cycle in an urban environment.

## 4.4 Bicycle Routes for Tourists

To supplement the DCF route planner, the team designed and tested several short bicycle routes around Copenhagen. These routes were devised to provide tourists who rent bicycles with suggestions of places they could visit and how best to get there by bike.

### 4.4.1 Pre-existing Cycle Routes

The first phase of proposing bicycle routes for tourists was to investigate the routes that already exist. Descriptions and maps of the national routes are available on Visit Denmark's website, and the City of Copenhagen offers maps of the green routes within Copenhagen. Copenhagen X presents architecture routes appropriate for self-guided tours. Also, Copenhagen X and Bike with Mike offer various guided tours of the city. More detailed information on these routes is available in the background section. Considering the existing cycle routes helped us create routes that would be appropriate for short-term tourists and fill the void in routes.

### 4.4.2 Design Cycle Routes Around Copenhagen

Once we had examined the pre-existing routes and found a way to classify routes, the team designed several routes of our own. When creating the routes, the team took into account the key route features discussed in Section 3.4.1 including ride difficulty, route length, traffic, and sights and scenery. Due to usability issues with the DCF route planner, the team initially used the Netkvik<sup>25</sup> route planner to create examples of routes tourists may want to travel in Copenhagen. We produced two routes based on different points of interest:

- *A Ride in the Park*, which started at the King's Gardens and Rosenborg Castle, then visited Nyhavn and Christiansborg Castle before ending at Tivoli Gardens.
- *Famous People of Copenhagen*, which toured seven graves, monuments, and statues of famous Copenhageners.

The team evaluated these routes as described in Section 4.4.3, and then created three additional routes using Google maps. These routes were based more on personal experiences in Copenhagen to ensure their suitability for tourists. The new routes we created were:

- *A Day Around Copenhagen* visits the Little Mermaid, Royal Palace, Marmorkirken, King's Garden, Rosenborg Castle, Bishop Absalon Statue, City Hall and Tivoli.
- *Beer Monkeys* takes riders to four Copenhagen bars, including the K Bar, the Ruby Bar, Oak Room, and Bar Rouge.
- *Green & Organic* departs from Israel Plads to visit the Botanical Gardens and the Green Lighthouse of the University of Copenhagen. It then follows a green cycle route down Langelinie past the Little Mermaid, Amalienborg, and the King's Garden before stopping at the Organic Hot Dog Stand next to the Round Tower and ending to Israel Plads.

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<sup>25</sup> <http://kort.netkvik.dk/>



These new routes were the basis of the routes page, “Our Favorite Routes”, in the model information gateway. They can be found in Section 4.6.5 of this report.

### **4.4.3 Route Evaluation**

On April 28, the team tested two of the routes we originally created. First, we attempted the *Famous People of Copenhagen* route. We began by cycling from the DCF to the Assistens Cemetery, where Hans Christian Andersen and other famous Copenhageners are buried. Then, we proceeded to the Botanical Gardens, where the statue of Tycho Brahe is located. We had difficulty with this leg of the route because the statue is not visible from the road, and the route contains many complicated left hand turns. The next point on the map was the Little Mermaid statue, but we did not have turn-by-turn directions and the map was not detailed enough to see where to go, so we embarked on the *A Ride in the Park* route instead. This route began at the King’s Gardens, just across the street from the Botanical Gardens. From the King’s Gardens we cycled to Nyhavn and found that this leg would not be appropriate for a tourist. The most straightforward path between the King’s Gardens and Nyhavn is Gothersgade, but Gothersgade is a one-way street going in the wrong direction for the route. As a result, the route travels on other streets that do not have cycle lanes. Despite our considerable Copenhagen cycling experience, the route was confusing to follow. After reaching Nyhavn, we endeavored to follow the route to Christiansborg Palace, but again had difficulty reading the map and left the route midway to return to the DCF.

This experience taught the team several important lessons about route planning. First, it is vital that the person planning the route knows the city sufficiently well to create a route that is easy to understand, navigate, and ride. In this respect, we are not ideal route planners because our knowledge of the Copenhagen city streets is limited. The route planner we used provided a car-appropriate route between points, but cyclists have different needs and capabilities that require special consideration. Fewer turns make the route easier to follow, and left turns in particular should be avoided. In addition, it is very important that routes follow streets that have cycle lanes, and one-way streets must be considered when designing a route. We also found that turn-by-turn directions are necessary because the maps are not big or detailed enough to provide enough guidance between points. Finally, the route should start and stop at places that will be easy for tourists to find and access on their own and will allow them to stand and read the map and directions before embarking.

## **4.5 Rental Outlet Collaboration Feedback**

To design a means of collaboration with the various rental outlets in Copenhagen to keep rental information up-to-date, the team conducted interviews with several different bike rental outlets. Through our initial research presented in Section 2.3.1 we identified the main rental outlets in Copenhagen, which are as follows:

- Copenhagen Bicycle Exchange
- Rent a Bike
- Copenhagen-Tours Hotel Bikes
- Baisikeli

We interviewed the owners of these rental outlets to collect their thoughts on the Dansk Cyklist Forbund information gateway.

Ole Jensen, the owner of Copenhagen Bicycle Exchange, was one of the people we interviewed to discuss the concept of the information gateway. He commented that the information gateway would need to be well advertised and contain an adequate amount of information on bike rentals for bicycle rental outlets to want to participate. When asked if he would be interested in participating in this collaboration, he responded that he needed more information and was not sure whether he would want to participate. Copenhagen-Tours Hotel Bikes also expressed the need for more information before they could commit to the collaboration. Rent a Bike, on the other hand, stated that they would probably be interested collaborating with the information gateway. Despite multiple attempts to contact Baisikeli, the team was unable to set up an interview with an employee. However due to their close relationship with the DCF, the team surmises that they may be willing to collaborate on the route planner. Gathering all of the rental information in one place could bring more direct competition to rental outlets, which would cause rental outlets to be hesitant to collaborate.

After reviewing the responses from the various rental outlets, we determined that the information gateway is not yet at the appropriate stage to pursue collaboration with rental outlets. Rental outlets need more information on the gateway before they will feel comfortable participating. Once the framework has been developed for displaying rental information, it will be easier to market the collaboration idea to rental outlets.

## **4.6 Information Gateway Model**

An evaluation of the platforms suitable for the information gateway, discussed in Section 2.5, led the team to choose an online model as the best way to disseminate information. After analyzing the results obtained in the previous sections, the team was able to create pages for the model information gateway<sup>26</sup>. The pages contained in this model included:

- The Home Page
- Top Five Tips for Cycling in Copenhagen
- Getting a Bicycle
- Select a Route
- Our Favorite Routes
- Guided Tours
- Helpful Hints

This model gateway was created to assist the DCF in generating content for the final version of their tourist-focused route planner and information gateway. Figure 25 shows the organization of the gateway.

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<sup>26</sup> <http://www.cphbiking.webs.com/>

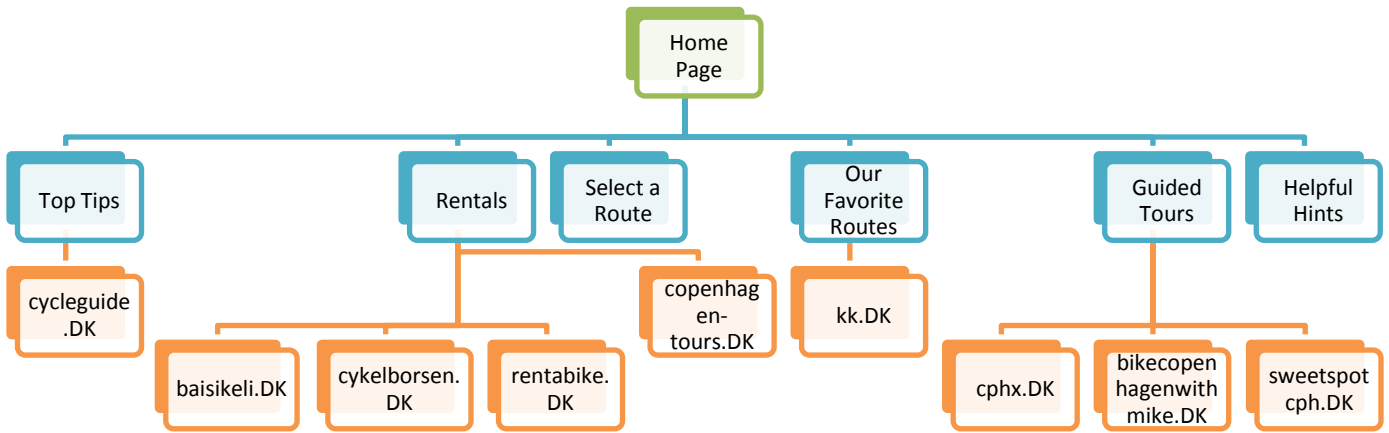


Figure 25: Model Gateway Page Layout and Links

4.6.1 Home Page

The home page of the gateway, shown in Figure 26, is intended to pique the curiosity of the visitor toward cycling in Copenhagen and to encourage them to navigate to the other pages for more specific information. To intrigue the visitor, the home page contains a two-minute YouTube video about cycling in Copenhagen. The video was made and posted by Ryan Van Duzer, an adventure and cycling enthusiast who makes videos from locations around the world. This clip features Copenhagen’s city bikes, bicycle lanes and lights, and several Copenhagen landmarks.

Figure 26: Model Information Gateway – Home

## 4.6.2 Top Tips

The “Top Tips” page features the “Top 5 Tips for Cycling in Copenhagen,” which we created based on the results in Section 4.3.4. The first tip, “follow the traffic” (Figure 27), is explained by a YouTube video that shows people cycling in Copenhagen from the viewpoint of another cyclist. The second (Figure 28), third (Figure 29), and fourth (Figure 30) tips have text and a photo. The fifth tip (Figure 31), learn to turn left, explains two ways to turn left and includes a YouTube clip from the 2010 Cycle Guide as an example of how to perform a hook turn. This page is very visual and designed to make it easy for new cyclists to learn and remember the most important advice for cycling in Copenhagen. At the bottom of the page, there is a link to the 2010 Cycle Guide for people who are looking for more information.

**TOP 5 TIPS FOR CYCLING IN COPENHAGEN**

**1. Follow the Traffic**  
Observe the locals. If you are ever in doubt just do as the Copenhageners do.

The Copenhagen Cycle - Bicycles in the City

1. Follow the Traffic  
Gives the tip and a short explanation

Brief YouTube video shows people cycling in the city from the viewpoint of a cyclist

YouTube

0:00 / 2:53

Figure 27: Model Information Gateway – Tip 1

## 2. Stay to the Right

When cycling in the bike lanes, make sure to stay to the right. The faster, more experienced cyclists will want to pass you on the left.

2. Stay to the Right  
Gives the tip and explains why it should be followed



Photo gives an example of a cyclist “staying to the right”

**Figure 28:** Model Information Gateway – Tip 2



### 3. Pay Attention to Lights and Signs

The cycle lanes often have their own set of lights. They are easily recognizable. If there are no cycle lights, just follow the usual car traffic lights.

3. Pay Attention to Lights and Signs  
Gives tip and an alternative for lack of cycle lights



Photo shows cyclists what they can expect at major intersections

Figure 29: Model Information Gateway – Tip 3

### 4. Remember to Signal

There are a few different signals cyclists use to let others know where they are going. Just remember these three simple hand signals and you'll always know what's going on.

Easy to remember example of hand signals



Figure 30: Model Information Gateway – Tip 4

## 5. Learn to Turn Left

Now, there are a few different ways to turn left. Starting off with the simplest way:

1. Use the crosswalks! Make sure the light is green and there are no pedestrians in the way and just bike across.
2. Copenhageners have a special way of turning left and it's called the hook turn. To perform a hook turn, continue straight through an intersection until you are almost at the other side. Then, using the hand signal you just learned, signal that you are stopping. Finally, "hook" turn so that you are now facing left in front of the bike lane and cycle across. Watch the video below to see the hook turn in action.

5. Learn to Turn Left  
There are two options:  
1. Use the crosswalk  
2. Use the hook turn



Video shows an example of a hook turn

Don't worry if you don't get it on the first try. It takes practice!

For more information check out the [Cycle Guide!](#)

Link to the Cycle Guide for visitors who want more information

Figure 31: Model Information Gateway – Tip 5

### 4.6.3 Rentals

The “Rentals” page provides information regarding the major rental outlets of Copenhagen. It also includes a map of the bike rental locations, and information on the city bike program (Figure 32) with a link to its website. The page features the logo, a short description, and a price chart of Baisikeli




(Figure 33), The Copenhagen Bicycle Exchange, Rent a Bike, and Copenhagen-Tours, in addition to a link to each site. This allows users of the site to compare their rental options easily, and then find more information on the company or companies that interest them.

**RENTING A BICYCLE**

Here you can find information on bike rentals and the free city bikes!

**BYCYKLEN KOBENHAVEN**

bycyklen  
københavn



**Free City Bike Program**


“Free City Bike Program” emphasizes the low-cost possibilities of cycling

110 city bike-racks around the city center have bicycles available from April - November. Insert a 20 DKK coin as a deposit, use the bike, and return it to any of the racks to get your coin back. [Learn more](#)

**Figure 32:** Model Information Gateway – City Bike Program

**BAISIKELI**

Rental outlet name with the logo underneath



Paragraph summarizes the offerings of the rental outlet

**"Bikes for a better life"**

Baisikeli rents used bicycles in several categories - budget, lux, road, mountain, and family. They also carry helmets, ponchos, and LED lights as extras. Each year Baisikeli send shipments of bikes to Africa where the bikes help to create employment, education and better transportation options.

[Learn more](#)

"Learn more" links to the company website

Rental Prices taken from the company website allow for easy product and price comparison between rental outlets

**Baisikeli Rental Prices**

Time	Budget	Lux	Tour	Road/mtn	Family	Panniers	Helmet	Akai
6 h	50	80	110	160	200	50	40	60
24 h	80	110	140	200	300	80	40	80
Add.day	35	50	55	80	100	35	10	40
2 days	115	160	195	280	400	115	50	120
3 days	150	210	250	360	500	150	60	160
4 days	185	260	305	440	600	185	70	200
5 days	220	310	360	520	700	220	80	240
6 days	255	360	415	600	800	255	90	280
1 week	270	385	450	650	850	270	100	300
Add.day	25	30	40	70	90	25	5	10
2 weeks	400	550	700	1100	1400	400	125	350
3 weeks	525	690	900	1500	1950	525	140	450
4 weeks	625	810	1050	1800	2350	625	155	500

Figure 33: Modal Information Gateway – Baisikeli

4.6.4 Select a Route

On "Select a Route," users complete a survey, shown in Figure 34, that asks for city cycling experience, how long they want to spend cycling, interests, and stopping places. On the model gateway, the results of this survey do not lead to anything, but in the real information gateway, the answers would be used to

filter through routes and yield a suggested route from the “Our Favorite Routes” page. Route filtration would be based on the following route characteristics:

**SELECT A ROUTE**

City Cycling Experience

- None
- Some
- A lot

How long do you want to cycle for?

- 1 Hour
- 2 Hours
- 4 Hours
- 1 Day
- 2 Days

I'm interested in...

- Museums
- Historical Sights
- Traditional Architecture
- Contemporary Architecture
- Nightlife
- Nature

Places to stop

- Cafes
- Restaurants
- Ice Cream Shops
- Bars

Submit

Callout boxes:

- Correlates to difficulty and traffic levels of route
- Correlates to route distance and time of completion
- Correlates to sites and attractions on the route
- Correlates to stopping places

- Traffic & Difficulty
- Distance and time to complete
- Attractions

These route characteristics are matched up with the survey questions in order to provide the optimal route options for the tourist. Therefore, routes that are more difficult to cycle (with more turns and heavier traffic) would be eliminated from the options given to a tourist who has selected “None” for “City Cycling Experience” and appear lower down on the list of options for those who chose “Some.” The next question, “How long do you want to cycle for?,” further narrows the choices by only presenting the route options that would fit in the time period chosen. The longer time periods such as one or two days would be more applicable once the gateway is extended to all of Denmark. The routes would also be tagged according to their theme. All the themes that the tourist selects would be included in their route selections. The same system also applies for the sites visited on the route such as cafes, restaurants, ice cream shops, and bars.

**Figure 34:** Model Information Gateway – Select a Route

#### 4.6.5 Our Favorite Routes

This page contains the routes we created, as described in results Section 4.4, and links to other premade routes. For each route that we designed, the page has a description, map, and turn-by-turn directions of the route. The page, shown in Figure 35 and Figure 36, also links to Copenhagen X for five architecture routes and to the City of Copenhagen’s website for a map of the green routes.



## ARCHITECTURE

Themes let users choose their route based on interests

Copenhagen X has designed five routes to help you explore new districts and new architecture. Get maps for each of the routes [here](#).

## COPENHAGEN'S GREEN ROUTES

Copenhagen has an extensive network of "green" cycle routes that take you through parks and waterfront areas and avoid heavy traffic. Download the map from the City of Copenhagen's website [here](#).

"here" links to the maps of these routes

## A DAY AROUND COPENHAGEN

Start off by renting a bike at **Baisikeli**. The day around Copenhagen route will take you by famous attractions of Copenhagen such as the Little Mermaid, Royal Palace, Marmorkirken, King's Garden, Rosenborg Castle, Bishop Absalon Statue, City Hall and finally Tivoli. On this route you will venture by the different neighborhoods which make up Copenhagen, and the lakes and canals located throughout the city. Enjoy a short walk through the King's Garden and visit the famous Rosenborg Castle located inside.

Route begins at a bike rental shop and visits many attractions

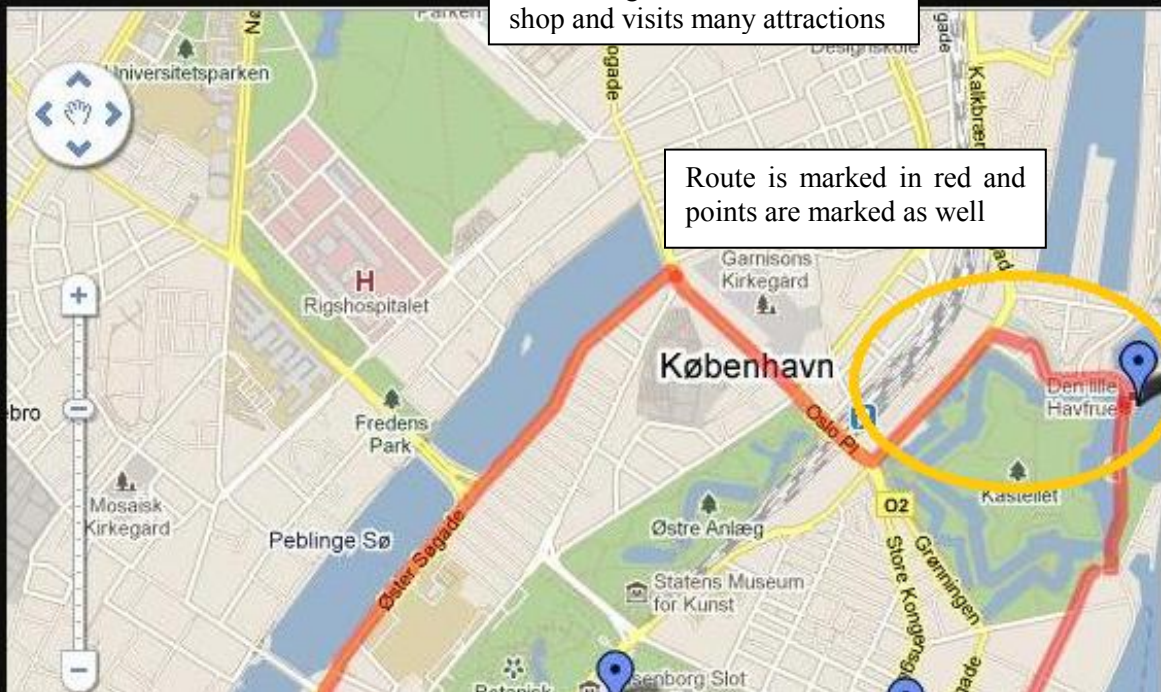


Figure 35: Model Information Gateway – Our Favorite Routes

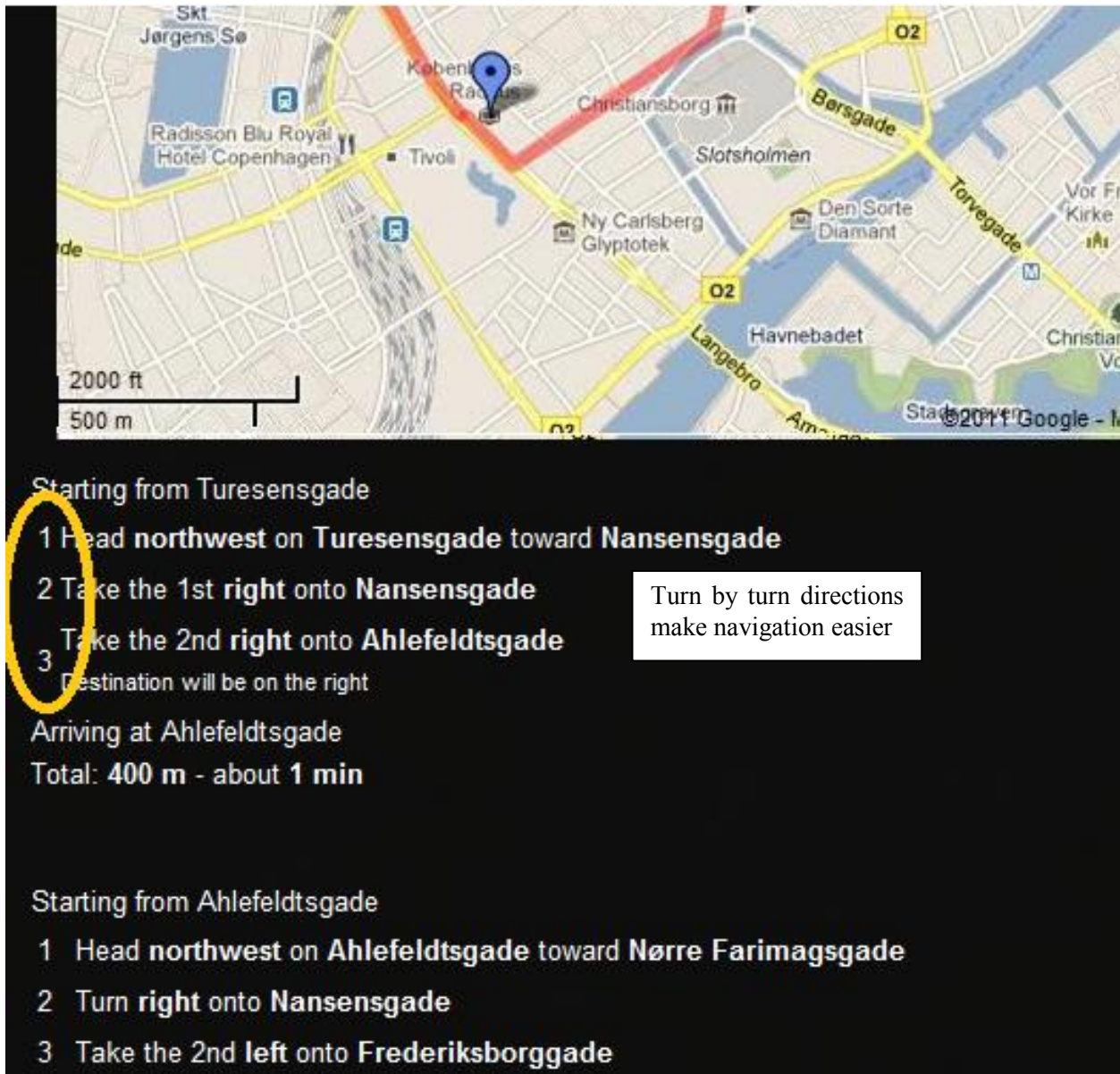


Figure 36: Model Information Gateway – Turn by Turn Directions

#### 4.6.6 Guided Tours

The “Guided Tours” page presents Bike Copenhagen with Mike (Figure 37), Copenhagen X, Copenhagen-Tours, and Sweetspot CPH. The latter contains just a short description and a link since the company has not yet launched, while the other three have information on departure time and place, price, and other useful information in addition to a link. This allows tourists to easily compare tour options and make their decisions accordingly.



# GUIDED TOURS

Here you can find information on various types of guided bicycle tours in Copenhagen!

## BIKE COPENHAGEN WITH MIKE



Paragraph gives general information including cost, language, and address

Experience Copenhagen's unique bicycle culture with Bike Mike. See the big sights and the small things too, guided by a native Copenhagen. Tours cost DKK 260 / 35 Euro including bike rental (cash only), are given in English, and depart from Bike with Mike, Turesensgade 10 in downtown Copenhagen ([map](#), [Learn more](#))

"Learn more" links to the company website

Choose from 4 tours during the March 25th - Oct 31st season:

- [City Tour](#) - 12 km (8 miles) over approximately 3 hours
- [Copenhagen Evening Tour](#) - about 22 km (14 miles) over approximately 2.5 hours
- [Contemporary Copenhagen Tour](#) - about 18 km (12 miles) over approximately 3 hours
- [Copenhagen Unplugged](#) - about 25 km over 3 hours

Tour distance, time, and link

Figure 37: Model Information Gateway – Bike Copenhagen with Mike

### 4.6.7 Helpful Hints

The "Helpful Hints" page, shown in Figure 38, contains several additional tips for Copenhagen cycling. It emphasizes the need to lock your bike and use lights at night, and explains the rules for taking bicycles on public transport. These hints will help users because they point out additional rules and practices new Copenhagen cyclists may not be aware of.

## HELPFUL HINTS

Helpful hints that did not fit in the “Top Tips” section but should still be considered

### LIGHTS ON

If you want to bike at night, turn on your lights! Danish law requires that cyclists have their lights on from sunset to sunrise, and you should have a white light in the front and a red light in the back. You can ask your rental agency or buy an inexpensive set.

### LOCK YOUR BIKE

You are required by law to lock your bike when you park it. It is good practice and will help keep your bike safe!

### YOUR BIKE AND PUBLIC TRANSPORT

Copenhagen has 3 important public transport methods: S trains, regional trains, and the metro. Here's what you need to know about your bike and public transport.

**S trains:** You can bring your bike on the S trains for free at anytime during the day, except departing from or arriving to Norreport Station between 7-8:30 am and 3:30-5 pm due to rush hour.

**Metro:** You can bring your bike on the metro all day except during rush hour (7-8:30 am and 3:30-5 pm) with the purchase of a bike ticket.

**Regional trains:** You can bring your bike on the regional trains all day with the purchase of a bike ticket. During the summer you must also reserve a space for your bike.

Figure 38: Model Information Gateway – Helpful Hints

## 4.7 Summary

The results described in this chapter were used to develop the recommendation for content and organization for an accessible and dynamic online compendium of cycling resources for short-term tourists. Specifically, first, the assessment of current resources available to tourists highlighted the areas that needed more developed resources. Second, investigation of marketing to short-term tourists determined the target group and the best methods to market the cycling resources. Third, research into the impediments that prevent tourist from cycling safely provided content for tips to help them cycle comfortably in city traffic. Fourth, routes were proposed and designed to address the lack of this resource for tourists. Fifth, bicycle rental outlets were approached to promote collaboration between with the DCF on the information gateway. Sixth and finally, we created a model information gateway that encompassed the information gathered in the previous steps. These efforts combined with the following conclusions and recommendations found in the chapter that follows achieved our aim.



## Chapter 5: Summary and Recommendations

This chapter presents our conclusions and recommendations for the DCF's cycling information gateway and route planner. The goal of this project was to develop methods and material to encourage more short-term tourists in Copenhagen to cycle and to improve their cycling experience by recommending the content and organization of an accessible and dynamic online compendium of cycling resources. We completed six major objectives to achieve this goal. The team first assessed the resources currently available to cycling-interested tourists to identify weaknesses, and then compared and contrasted marketing techniques to make the gateway most effective based on Copenhagen tourist demographics. We researched and experienced cycling in Copenhagen to generate safe cycling tips for tourists and, based on route criteria we created, designed example routes to address a lack of routes for short-term tourists. We interviewed several bicycle rental outlets to determine the feasibility of a collaboration that would help keep the information up to date. Finally, we created a model information gateway to demonstrate content and organization for a comprehensive, up-to-date online compilation of Copenhagen cycling resources.

Below, we summarize our project conclusions and recommendations for this information gateway.

### 5.1 Cycling Information Gateway and Route Planner Recommendations

Although our model information gateway would be a good basis for the DCF's cycling resource, we recommend action for future improvement. We suggest the inclusion of themed cycling routes created by partner organizations such as the National Museum of Denmark. Possible themes include:

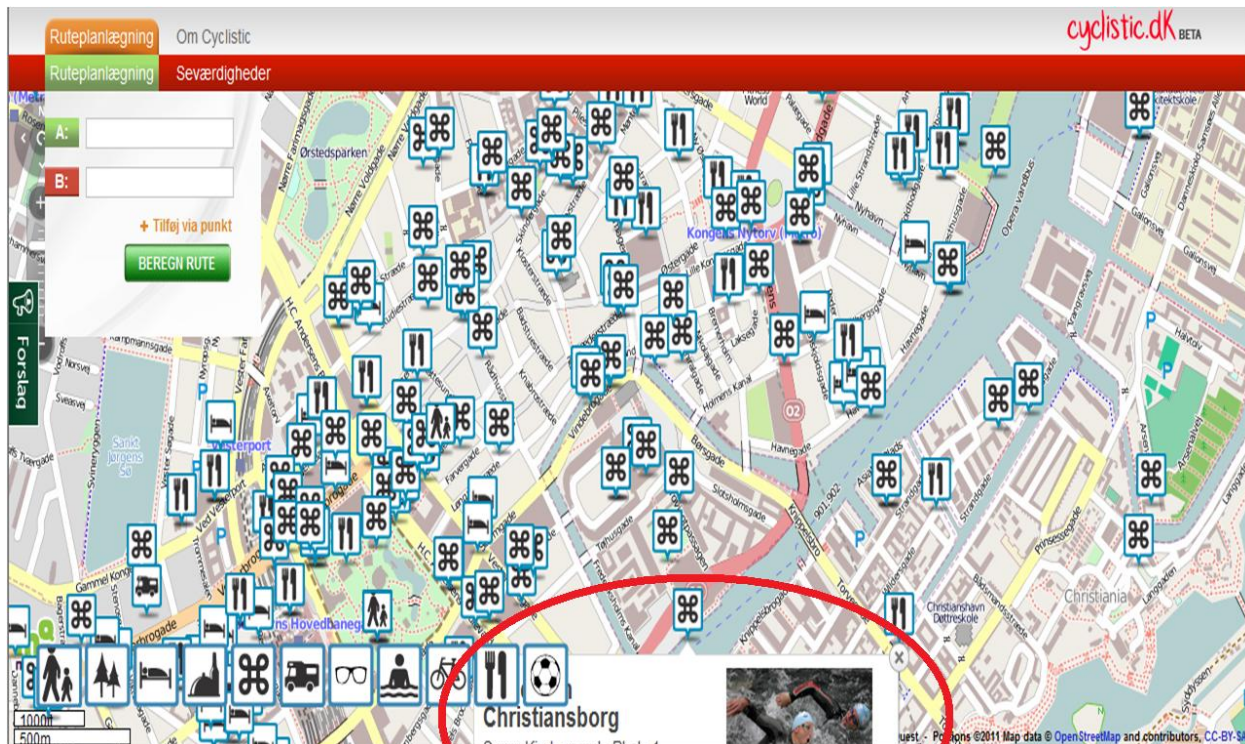
- Museums
- Architecture (Traditional & Contemporary)
- Historical sites
- Nature
- Urban night life

Partner organizations have the resources necessary to professionally create routes that are informative and interesting. New routes should follow a few basic guidelines. All routes should:

- Use cycle lanes whenever possible
- Minimize turns (especially to the left)
- Consider one way streets
- Include turn-by-turn directions
- Incorporate landmarks in directions for increased clarity
- Start and stop in a location that is easily accessed by tourists and would allow them to stand and read a map

In regards to usability of the established route planner, we recommend that all the information boxes associated with points of interest should automatically appear in the center of the screen. Figure 39 shows

the current configuration and the difficulty it presents in reading the information. In addition, the points of interest themselves can be distracting when reading the map. Therefore, we recommend that the default setting for these points of interest be opt-in instead of opt-out. This concern is also illustrated in Figure 39.



**Figure 39:** DCF route planner screenshot with points on interest box and icons (Cyclistic, 2011)

Many of the bicycle rental outlets we approached over the course of our project expressed the need for more information regarding the route planner before committing to collaboration. To address this, we recommend that the rental outlets be re-approached once the information gateway has been more fully developed. Until that time, the team recommends that necessary information such as prices, location, operational hours, and bicycle offerings be collected from the rental outlets’ websites using a website scrape. The same technique should be applied to the guided tour companies.

The pages we have designed for the model information gateway present the information necessary for an all-inclusive cycling resource for tourists. Adaptations of these pages should:

- Present cycling as a key aspect of Danish culture
- Avoid presenting cycling as unsafe but provide necessary safety information
- Emphasize the low cost of cycling in Copenhagen in comparison to other transportation

Through demographic research, the team has found that tourists in the age range of 20 to 50 from English-speaking countries and nearby European countries are the most likely to cycle. They should therefore be the target of marketing of the information gateway. We further recommend that the gateway be linked to the following sites:

- Wonderful Copenhagen
- Visit Denmark
- Virtual Tourist – the Denmark page
- Copenhagenize and other cycling blogs
- Rental outlet websites

To increase the accessibility of the information gateway to more tourists, we recommend the creation of a smartphone application. Our tourist cell phone survey showed that the iPhone was the most carried smartphone by visitors to Copenhagen, making it the ideal candidate for an application. In addition, many smartphone users have data plans that allow mobile internet access; it would be beneficial to create a mobile friendly version of the gateway for these tourists.

## **5.2 Summary**

The Danish Cyclists Federation is working to support cycling in Denmark among both Danes and visitors. They want to encourage tourists to Copenhagen and Denmark to cycle, and through the creation of an information gateway make cycling attractive and accessible to these visitors. Our project has helped achieve this goal by providing recommendations for the gateway based on research, interviews, and experience. The DCF will be able to use these recommendations to develop an effective information gateway to Copenhagen's cycling resources, and eventually extend the gateway to all of Denmark.

## Bibliography

- Baisikeli. (2011). *Baisikeli - Bikes for a Better Life*. Retrieved January 23, 2011, from <http://www.baisikeli.dk/EN/index.html>
- Bike Copenhagen with Mike. (2011). *City Tour*. Retrieved January 23, 2011, from [http://www.bikecopenhagenwithmike.dk/?City\\_Tour](http://www.bikecopenhagenwithmike.dk/?City_Tour)
- Bikely. (2011). *Bike Trails, Paths, & Routes From Over 40 Countries at Bikely.com*. Retrieved March 4, 2011, from <http://www.bikely.com/>
- Carvin, Andy (Photographer). (2004). *Copenhagen Bikes* [Photo]. Copenhagen, Denmark; Creative Commons. Retrieved February 22, 2011, from <http://www.edwebproject.org/scandinavia/copenhagen.html>
- City of Copenhagen. (2008). *City of Cyclists - Bicycle Account 2008*. The City of Copenhagen.
- City of Copenhagen. (2009). *City of Cyclists - Copenhagen Bicycle Life*. The City of Copenhagen.
- City of Copenhagen. (2002). *Copenhagen Cycle Policy*. Retrieved January 23, 2011, from <http://www.kk.dk/sitecore/content/Subsites/CityOfCopenhagen/SubsiteFrontpage/LivingInCopenhagen/CityAndTraffic/CityOfCyclists/CopenhagenCyclePolicy.aspx>
- Colville-Andersen, Mikael (Photographer). (2007). *Bicycle Rush Hour in Copenhagen* [Photo]. Copenhagen, Denmark; Wikimedia Commons. Retrieved February 14, 2011, from <http://commons.wikimedia.org/wiki/File:Bikeycultureincopenhagen.jpg>
- Colville-Andersen, Mikael (Photographer). (2008). *Pink and Copenhagen Blue* [Photo]. Copenhagen, Denmark; flickr.com. Retrieved February 13, 2011, from <http://www.flickr.com/photos/16nine/2752480659/>
- Copenhagen Malmö Port. (2010). *CMP*. Retrieved February 1, 2011, from <http://www.cmport.com/>
- Copenhagen Malmö Port. (2011). *Cruise Ships*. Retrieved April 7, 2011, from <http://www.cmport.com/ShipsinPort/CruiseShips/CallsCalendar.aspx>
- Copenhagen-Tours. (2011). *Copenhagen Tours*. Retrieved February 9, 2011, from <http://www.copenhagen-tours.dk/eng/engindex.html>
- Cycle Copenhagen. (2011). *Cycle Copenhagen - Bike the way you like*. Retrieved February 16, 2011, from <http://www.cyclecopenhagen.dk/3c/master.php>
- Cyclistic. (2011). *Cyclistic Beta*. Retrieved May 1, 2011, from <http://cyclistic.dk/>
- Dansk Cyklist Forbund. (2011a). *Dansk Cyklist Forbund*. Retrieved January 31, 2011, from <http://dcf.dk/>
- Euromonitor International. (2011). *Denmark Statistics*. Retrieved February 6, 2011, from <http://www.euromonitor.com/factfile.aspx?country=DK>
- Godlewski, Maciek (Photographer). (2008). *AIDAbella Cruise Ship in Copenhagen Port* [Photo]. Copenhagen, Denmark; Wikimedia Commons. Retrieved February 12, 2011 from [http://commons.wikimedia.org/wiki/File:DENCopenhagenAIDAbella\\_cruise\\_ship\\_in\\_port.JPG](http://commons.wikimedia.org/wiki/File:DENCopenhagenAIDAbella_cruise_ship_in_port.JPG)

- GPSies. (2011). *GPSies - Tracks for Vegabonds*. Retrieved April 12, 2011, from [http://www.gpsies.com/home.do#10\\_55.693403\\_12.583046\\_p](http://www.gpsies.com/home.do#10_55.693403_12.583046_p)
- Hinnosaar, Toomas and Marit (Photographers). (2005). *Little Mermaid* [Photo]. Copenhagen, Denmark; Creative Commons. Retrieved May 1, 2011 from [http://toomasmarit.hinnosaar.net/en/places/Taani2004/copenhagen/Little\\_mermaid.html](http://toomasmarit.hinnosaar.net/en/places/Taani2004/copenhagen/Little_mermaid.html)
- Hytting, Søren (Photographer). (2008). *Breakfast on Queen Louise Bridge, Copenhagen* [Photo]. Copenhagen, Denmark; 23 Photo Sharing. Retrieved April 13, 2011 from <http://www.23hq.com/cyklisten/photo/3024843?album%5fid=3020066>
- Københavns Cykelbørs. (2011). *Københavns Cykelbørs*. Retrieved January 23, 2011, from <http://www.cykelborsen.dk/en/>
- Mansfeldt, O.K., Vestager, E., Iversen, M. (2008). *Experience Design in City Tourism*. Nordic Innovation Centre.
- Marcussen, C., & Zhang, J. (2007). Comparing tourist motives, activities and satisfaction between first-time and repeat visitors in Denmark.
- Netkvik. (2011). *Google Maps via Netkvik*. Retrieved April 12, 2011, from <http://kort.netkvik.dk/>
- Nilsson, P. A., Marcussen, C. H., Pedersen, J., & Pedersen, K. M. (2005). Cruise Tourism in the Baltic and Bothnian Sea, 33-35.
- OpenCycleMap. (2011). *OpenCycleMap.org – the OpenStreetMap Cycle Map*. Retrieved April 12, 2011, from <http://www.opencyclemap.org/>
- Pucher, J., & Buehler, R. (2008). Making Cycling Irresistible: Lessons from the Netherlands, Denmark and Germany. *Transport Reviews*, 28(4), 495-528.
- Rent a Bike. (2011). *Rent a Bike*. Retrieved January 23, 2011, from <http://www.rentabike.dk/English/firstpage.htm>
- Rent a Bike Now. (2009). *Online Bike Rentals Serve Travelers in 167 Cities Across US/Canada*. Press Release; Go. Play. Everywhere.
- Road Directorate. (2011). *National Routes* [Map]. Copenhagen, Denmark; Trafikken.dk. Retrieved April 12, 2011 from <http://trafikken.dk/wimpdoc.asp?page=document&objno=142441>
- The Copenhagen Post. (2011). *Better Bikes and Better Rules*. Retrieved January 30, 2011, from <http://www.cphpost.dk/culture/culture/122-culture/50793-better-bikes-and-better-rules.html>
- The Copenhagen Post. (2010). *Outdated City Bikes to be Replaced*. Retrieved January 30, 2011, from <http://www.cphpost.dk/news/local/87-local/49847-outdated-city-bikes-to-be-replaced.html>
- Tragellis, A.S., Lopez, K.L., & Ilyashenko, A.V. (2010) *Communicating Danish Bicycle Culture to Visitors in Copenhagen* (Undergraduate Interactive Qualifying Project No. E-project-051110-050433). Retrieved from Worcester Polytechnic Institute Electronic Project Collection: <http://www.wpi.edu/Pubs/E-project/Available/E-project-051110-050433/>
- Tragellis, A., Lopez, K., & Ilyashenko, A. *Personal Interview, 4 February 2011.*

US Department of Transportation. (2010). *The National Bicycling and Walking Study: 15-year Status Report*.

VeloMap. (2011). *Screenshots*. Retrieved April 12, 2011, from <http://www.velomap.org/velomaporg/screenshots/>

Visit Denmark. (2006). *10000 km Biking Routes*. Retrieved January 23, 2011, from <http://www.visitdenmark.com/international/en-gb/menu/turist/inspiration/aktivferie/cykel/10000kmcykelruter.htm>

Wonderful Copenhagen. (2011a). *Bike City Copenhagen - Official Tourist-site about Copenhagen*. Retrieved January 23, 2011, from [http://www.visitcopenhagen.com/tourist/plan\\_and\\_book/transport\\_in\\_copenhagen/bike\\_city](http://www.visitcopenhagen.com/tourist/plan_and_book/transport_in_copenhagen/bike_city)

Wonderful Copenhagen. (2007). *Cruises Create Jobs and Revenue in the Baltic Sea Region*. Retrieved April 12, 2011, from [www.cruisebaltic.com/media\(628.../PM\\_Jan\\_07\\_Cowi\\_jobs\\_UK.doc.doc](http://www.cruisebaltic.com/media(628.../PM_Jan_07_Cowi_jobs_UK.doc.doc)

Wonderful Copenhagen. (2011b). *Port of Copenhagen - Copenhagen Official Cruise Tourist site*. Retrieved February 2, 2011, from [http://www.cruisecopenhagen.com/cruise\\_copenhagen/cruise\\_lines/port\\_of\\_copenhagen](http://www.cruisecopenhagen.com/cruise_copenhagen/cruise_lines/port_of_copenhagen)

## Appendix A: Cycling Experience Log

This appendix contains our observation log, which was used to collect initial cycling experiences and reactions from members of the Copenhagen project site.

### Observation Log – Initial Cycling Experience

Name: \_\_\_\_\_

Date: \_\_\_ / Mar / 2011

Trip Day (mark one): 1 2 3 4 5

Cycling Experience Level: novice 1 2 3 4 5 expert

Trip	Origin	Destination	Time of Day (morn, aft., even., rush hour, etc)	Trip Length (min)	Purpose of Trip/ WX Conditions	Road Types (main/side)
1						
2						
3						
4						
5						

1. What concerns did you have before cycling today?

Response:

2. Were any of these concerns affirmed or dismissed? Please describe.

Response:

3. How did you plan your routes?

Response:

4. What road conditions concerned you?

Response:

5. What did you find confusing (signs, lights, navigation, intersections, etc)?

Response:

6. Did you have any memorable interactions with traffic (vehicular & pedestrian)? Please describe.

Response:

7. What did you find problematic or confusing about your bicycle?

Response:

8. How comfortable were you riding around Copenhagen today?

(mark one) not at all 1 2 3 4 5 completely

Additional comments:

Response:



## Appendix B: Announced Calls to Copenhagen 2011

This appendix includes part of the 2011 cruise ship schedule for Copenhagen-Malmö Port to show the frequency of arrivals and typical length of stay (Copenhagen Malmö Port, 2011).

### ANNOUNCED CALLS IN COPENHAGEN 2011

Arrival		Departure		Ship name	Quay	Agent	T/A
4/4/2011	17:00	4/5/2011	14:00	Ocean Countess	c177	Lehmann Junior A/S	
4/10/2011	12:00	4/10/2011	18:00	Aidasol	c190	Maersk Broker Agency K/S	
4/18/2011	18:30	4/19/2011	17:00	Marco Polo	c190	Lehmann Junior A/S	
4/26/2011	12:00	4/26/2011	21:00	Fram	c190	Franck & Tobiesen A/S	
4/30/2011	10:00	4/30/2011	18:00	MSC Orchestra	c190	Maersk Broker Agency K/S	x
5/3/2011	7:00	5/3/2011	17:00	Vision of the Seas	c254	TR Shipping Denmark ApS	x
5/5/2011	8:00	5/5/2011	17:00	Aidasol	c190	Maersk Broker Agency K/S	
5/7/2011	9:00	5/7/2011	18:00	MSC Orchestra	c190	Maersk Broker Agency K/S	x
5/8/2011	8:30	5/8/2011	18:00	Aurora	c190	Maersk Broker Agency K/S	
5/8/2011	5:00	5/8/2011	17:00	Norwegian Sun	c254	Maersk Broker Agency K/S	x
5/8/2011	7:00	5/8/2011	17:00	Vision of the Seas	c245	TR Shipping Denmark ApS	x
5/9/2011	9:00	5/9/2011	17:00	Aidacara	c190	Maersk Broker Agency K/S	
5/9/2011	8:00	5/9/2011	17:00	Aidasol	c190	Maersk Broker Agency K/S	
5/13/2011	9:00	5/13/2011	17:00	Aidacara	c190	Maersk Broker Agency K/S	
5/13/2011	5:00	5/13/2011	18:00	Emerald Princess	c245	Maersk Broker Agency K/S	x
5/14/2011	8:00	5/14/2011	19:00	Costa Luminosa	c254	Maersk Broker Agency K/S	x
5/14/2011	8:00	5/14/2011	20:00	Empress	c245	TR Shipping Denmark ApS	x
5/14/2011	9:00	5/14/2011	18:00	MSC Orchestra	c190	Maersk Broker Agency K/S	x
5/15/2011	8:00	5/15/2011	14:00	MSC Opera	c190	Maersk Broker Agency K/S	
5/15/2011	7:30	5/15/2011	17:00	Vision of the Seas	c245	TR Shipping Denmark ApS	x
5/17/2011	9:00	5/17/2011	17:00	Aidacara	c190	Maersk Broker Agency K/S	
5/17/2011	9:00	5/17/2011	21:30	Discovery	c190	Maersk Broker Agency K/S	
5/17/2011	12:00	5/17/2011	18:00	Le Boreal	c190	TR Shipping Denmark ApS	x
5/17/2011	5:00	5/17/2011	17:00	Norwegian Sun	c254	Maersk Broker Agency K/S	x
5/19/2011	10:00	5/19/2011	18:00	Aidasol	c190	Maersk Broker Agency K/S	
5/20/2011	8:00	5/20/2011	17:00	Jewel of the Seas	c190	TR Shipping Denmark ApS	
5/21/2011	9:00	5/21/2011	17:00	Aidacara	c190	Maersk Broker Agency K/S	
5/21/2011	9:00	5/21/2011	19:00	Costa Luminosa	c254	Maersk Broker Agency K/S	x
5/21/2011	9:00	5/21/2011	18:00	MSC Orchestra	c190	Maersk Broker Agency K/S	x
5/21/2011	8:00	5/22/2011	18:00	Ocean Nova	c177	TR Shipping Denmark ApS	x
5/22/2011	13:00	5/22/2011	19:00	MSC Poesia	c190	Maersk Broker Agency K/S	x
5/22/2011	7:30	5/22/2011	17:00	Vision of the Seas	c245	TR Shipping Denmark ApS	x
5/23/2011	10:00	5/23/2011	19:00	AIDAblu	c190	Maersk Broker Agency K/S	
5/23/2011	8:00	5/23/2011	18:00	Mein Schiff II	c190	TR Shipping Denmark ApS	
5/23/2011	8:00	5/23/2011	18:00	Saga Pearl II	c177	Maersk Broker Agency K/S	

5/24/2011	13:30	5/24/2011	22:00	Balmoral	c190	Maersk Broker Agency K/S	
5/24/2011	5:00	5/24/2011	18:00	Emerald Princess	c245	Maersk Broker Agency K/S	x
5/24/2011	8:00	5/24/2011	17:00	Eurodam	c254	Maersk Broker Agency K/S	
5/25/2011	9:00	5/25/2011	17:00	Aidacara	c190	Maersk Broker Agency K/S	
5/25/2011	8:00	5/25/2011	17:00	Crystal Serenity	c190	Lehmann Junior A/S	
5/25/2011	8:00	5/25/2011	14:00	MSC Opera	c245	Maersk Broker Agency K/S	
5/25/2011	7:00	5/25/2011	17:00	Seabourn Sojourn	c254	Maersk Broker Agency K/S	x
5/26/2011	5:00	5/26/2011	17:00	Norwegian Sun	c254	Maersk Broker Agency K/S	x
5/26/2011	8:00	5/26/2011	18:00	Ocean Nova	c177	TR Shipping Denmark ApS	x
5/27/2011	7:00	5/27/2011	18:00	Nippon Maru	c190	Sven Hols°es Eftf.	
5/28/2011	9:00	5/28/2011	19:00	Costa Luminosa	c254	Maersk Broker Agency K/S	x
5/28/2011	8:00	5/28/2011	20:00	Empress	c245	TR Shipping Denmark ApS	x
5/28/2011	9:00	5/28/2011	18:00	MSC Orchestra	c190	Maersk Broker Agency K/S	x
5/29/2011	9:00	5/29/2011	17:00	Aidacara	c190	Maersk Broker Agency K/S	
5/29/2011	10:00	5/29/2011	18:00	Aidasol	c190	Maersk Broker Agency K/S	
5/29/2011	8:00	5/29/2011	22:00	Gemini	c254	TR Shipping Denmark ApS	x
5/29/2011	7:30	5/29/2011	17:00	Vision of the Seas	c245	TR Shipping Denmark ApS	x
5/30/2011	8:00	5/30/2011	18:00	Ocean Nova	c177	TR Shipping Denmark ApS	x
5/30/2011	8:00	5/30/2011	18:00	Oriana	c190	Maersk Broker Agency K/S	
5/31/2011	8:00	5/31/2011	18:00	Mein Schiff II	c190	TR Shipping Denmark ApS	
5/31/2011	18:00	6/1/2011	18:00	Ryndam	c254	Maersk Broker Agency K/S	
6/1/2011	8:00	6/1/2011	17:00	Celebrity Constellation	c245	TR Shipping Denmark ApS	
6/1/2011	8:00	6/2/2011	1:00	Celebrity Eclipse	c190	TR Shipping Denmark ApS	
6/1/2011	8:00	6/1/2011	17:00	Jewel of the Seas	c190	TR Shipping Denmark ApS	
6/2/2011	11:00	6/2/2011	18:00	AIDAblu	c190	Maersk Broker Agency K/S	
6/2/2011	9:00	6/2/2011	17:00	Aidacara	c190	Maersk Broker Agency K/S	
6/2/2011	8:00	6/2/2011	18:00	Le Boreal	c190	TR Shipping Denmark ApS	x
6/3/2011	9:00	6/3/2011	19:00	Costa Magica	c190	Maersk Broker Agency K/S	
6/3/2011	12:30	6/3/2011	18:00	Marco Polo	c190	Lehmann Junior A/S	
6/3/2011	7:00	6/3/2011	17:00	Seabourn Sojourn	c243	Maersk Broker Agency K/S	x
6/3/2011	7:00	6/3/2011	17:00	Vision of the Seas	c245	TR Shipping Denmark ApS	x
6/4/2011	9:00	6/4/2011	19:00	Costa Luminosa	c254	Maersk Broker Agency K/S	x
6/4/2011	5:00	6/4/2011	18:00	Emerald Princess	c245	Maersk Broker Agency K/S	x
6/4/2011	9:00	6/4/2011	18:00	MSC Orchestra	c190	Maersk Broker Agency K/S	x
6/4/2011	8:00	6/4/2011	18:00	MSC Poesia	c190	Maersk Broker Agency K/S	x
6/4/2011	5:00	6/4/2011	17:00	Norwegian Sun	c263	Maersk Broker Agency K/S	x
6/4/2011	7:00	6/4/2011	17:00	Rotterdam	c243	Maersk Broker Agency K/S	
6/5/2011	9:00	6/5/2011	19:00	Costa Atlantica	c254	Maersk Broker Agency K/S	x
6/5/2011	8:00	6/5/2011	17:00	Eurodam	c245	Maersk Broker Agency K/S	
6/5/2011	8:00	6/5/2011	18:00	Queen Elizabeth	c190	Maersk Broker Agency K/S	
6/6/2011	9:00	6/6/2011	18:00	Ocean Countess	c177	Lehmann Junior A/S	

6/7/2011	8:00	6/7/2011	18:00	Azura	c190	Maersk Broker Agency K/S	
6/8/2011	10:00	6/8/2011	18:00	Aidasol	c190	Maersk Broker Agency K/S	
6/9/2011	8:00	6/9/2011	17:00	Aidacara	c190	Maersk Broker Agency K/S	
6/9/2011	7:30	6/9/2011	14:00	Braemar	c177	Maersk Broker Agency K/S	
6/10/2011	12:00	6/11/2011	22:00	Marina	c190	Maersk Broker Agency K/S	x
6/10/2011	8:00	6/11/2011	13:00	Prinsendam	c190	Maersk Broker Agency K/S	
6/11/2011	9:00	6/11/2011	19:00	Costa Luminosa	c254	Maersk Broker Agency K/S	x
6/11/2011	8:00	6/11/2011	20:00	Empress	c243	TR Shipping Denmark ApS	x
6/11/2011	9:30	6/11/2011	21:00	Grand Mistral	c252	Maersk Broker Agency K/S	x
6/11/2011	9:00	6/11/2011	18:00	MSC Orchestra	c245	Maersk Broker Agency K/S	x
6/11/2011	11:00	6/11/2011	17:00	Saga Ruby	c190	Maersk Broker Agency K/S	
6/12/2011	11:00	6/12/2011	18:00	AIDAblu	c190	Maersk Broker Agency K/S	
6/12/2011	9:00	6/12/2011	19:00	Costa Atlantica	c254	Maersk Broker Agency K/S	x
6/12/2011	8:00	6/12/2011	17:00	Costa Magica	c245	Maersk Broker Agency K/S	
6/12/2011	8:00	6/13/2011	18:00	Crystal Serenity	c190	Lehmann Junior A/S	x
6/12/2011	8:00	6/13/2011	20:00	Gemini	c252	TR Shipping Denmark ApS	x
6/12/2011	8:00	6/12/2011	17:00	Seven Seas Voyager	c243	Maersk Broker Agency K/S	
6/13/2011	8:00	6/13/2011	21:00	C. Columbus	c177	Lehmann Junior A/S	
6/13/2011	8:00	6/13/2011	17:00	Celebrity Constellation	c245	TR Shipping Denmark ApS	
6/13/2011	7:00	6/13/2011	17:00	Costa Marina	c243	Maersk Broker Agency K/S	
6/13/2011	8:00	6/13/2011	17:00	Jewel of the Seas	c190	TR Shipping Denmark ApS	
6/13/2011	5:00	6/13/2011	17:00	Norwegian Sun	c254	Maersk Broker Agency K/S	x
6/14/2011	9:00	6/14/2011	18:00	Amadea	c190	Maersk Broker Agency K/S	
6/15/2011	5:00	6/15/2011	18:00	Emerald Princess	c245	Maersk Broker Agency K/S	x
6/15/2011	8:00	6/15/2011	18:00	MSC Poesia	c190	Maersk Broker Agency K/S	x
6/16/2011	8:00	6/16/2011	17:00	Aidacara	c190	Maersk Broker Agency K/S	
6/16/2011	7:00	6/16/2011	17:00	Rotterdam	c190	Maersk Broker Agency K/S	
6/17/2011	8:00	6/17/2011	17:00	Eurodam	c245	Maersk Broker Agency K/S	
6/17/2011	14:00	6/17/2011	21:00	Le Boreal	c190	TR Shipping Denmark ApS	
6/17/2011	8:00	6/17/2011	18:00	Saga Pearl II	c190	Maersk Broker Agency K/S	
6/17/2011	7:00	6/17/2011	17:00	Seabourn Sojourn	c254	Maersk Broker Agency K/S	x
6/17/2011	7:00	6/17/2011	22:00	Silver Whisper	c177	Maersk Broker Agency K/S	x
6/18/2011	10:00	6/18/2011	18:00	Aidasol	c190	Maersk Broker Agency K/S	
6/18/2011	9:00	6/18/2011	19:00	Costa Luminosa	c254	Maersk Broker Agency K/S	x
6/18/2011	9:30	6/19/2011	21:00	Grand Mistral	c243	Maersk Broker Agency K/S	x
6/18/2011	9:00	6/18/2011	18:00	MSC Orchestra	c190	Maersk Broker Agency K/S	x
6/18/2011	7:00	6/18/2011	18:00	Sea Dream I	c177	Lehmann Junior A/S	x
6/19/2011	9:00	6/19/2011	19:00	Costa Atlantica	c254	Maersk Broker Agency K/S	x
6/19/2011	10:00	6/20/2011	20:00	Gemini	c245	TR Shipping Denmark ApS	x
6/21/2011	13:00	6/21/2011	19:00	Athena	c190	Maersk Broker Agency K/S	
6/21/2011	13:00	6/22/2011	12:00	Clipper Odyssey	c177	Triship A/S	x

6/21/2011	11:00	6/21/2011	18:00	Queen Victoria	c190	Maersk Broker Agency K/S	
6/22/2011	11:00	6/22/2011	18:00	AIDAbLu	c190	Maersk Broker Agency K/S	
6/22/2011	8:00	6/22/2011	17:00	Costa Magica	c190	Maersk Broker Agency K/S	
6/22/2011	5:00	6/22/2011	17:00	Norwegian Sun	c254	Maersk Broker Agency K/S	x
6/23/2011	8:00	6/23/2011	17:00	Aidacara	c190	Maersk Broker Agency K/S	
6/23/2011	8:00	6/23/2011	16:00	Europa	c177	Lehmann Junior A/S	
6/23/2011	7:00	6/23/2011	17:00	Insignia	c190	Maersk Broker Agency K/S	x
6/24/2011	8:00	6/24/2011	21:00	Deutschland	c190	Maersk Broker Agency K/S	
6/25/2011	8:00	6/25/2011	17:00	Celebrity Constellation	c190	TR Shipping Denmark ApS	
6/25/2011	9:00	6/25/2011	19:00	Costa Luminosa	c254	Maersk Broker Agency K/S	x
6/25/2011	8:00	6/25/2011	20:00	Empress	c243	TR Shipping Denmark ApS	x
6/25/2011	8:00	6/25/2011	17:00	Jewel of the Seas	c190	TR Shipping Denmark ApS	
6/25/2011	9:00	6/25/2011	18:00	MSC Orchestra	c245	Maersk Broker Agency K/S	x
6/26/2011	9:00	6/26/2011	19:00	Costa Atlantica	c254	Maersk Broker Agency K/S	x
6/26/2011	5:00	6/26/2011	18:00	Emerald Princess	c245	Maersk Broker Agency K/S	x
6/26/2011	10:00	6/26/2011	22:00	Gemini	c243	TR Shipping Denmark ApS	x
6/26/2011	8:00	6/26/2011	18:00	MSC Poesia	c190	Maersk Broker Agency K/S	x
6/26/2011	8:00	6/26/2011	16:30	Spirit of Adventure	c190	Maersk Broker Agency K/S	
6/28/2011	10:00	6/28/2011	18:00	Aidasol	c190	Maersk Broker Agency K/S	
6/28/2011	18:00	6/29/2011	18:00	Ryndam	c254	Maersk Broker Agency K/S	
6/28/2011	7:00	6/28/2011	20:00	Seven Seas Voyager	c190	Maersk Broker Agency K/S	x
6/29/2011	7:30	6/29/2011	14:00	Black Watch	c252	Maersk Broker Agency K/S	
6/29/2011	8:00	6/30/2011	1:00	Celebrity Eclipse	c190	TR Shipping Denmark ApS	
6/29/2011	8:00	6/29/2011	17:00	Costa Deliziosa	c190	Maersk Broker Agency K/S	
6/29/2011	8:00	6/29/2011	17:00	Eurodam	c245	Maersk Broker Agency K/S	
6/29/2011	17:30	6/30/2011	17:00	Prinsendam	c245	Maersk Broker Agency K/S	
6/29/2011	7:00	6/29/2011	17:00	Seabourn Pride	c177	Maersk Broker Agency K/S	x
6/29/2011	7:00	6/29/2011	17:00	Seabourn Sojourn	c243	Maersk Broker Agency K/S	x
6/30/2011	8:00	6/30/2011	17:00	Aidacara	c190	Maersk Broker Agency K/S	
6/30/2011	7:00	6/30/2011	23:00	Deutschland	m0602	Baltic Gateway Group	

## Appendix C: Route Planner Interfaces

This appendix includes screenshots from the route planners discussed in Section 2.3.4 of the Background chapter to highlight the features and usability of the different planners. The route planners outlined are OpenCycleMap, VeloMap, Netkvik, Bikely, and GPSies.

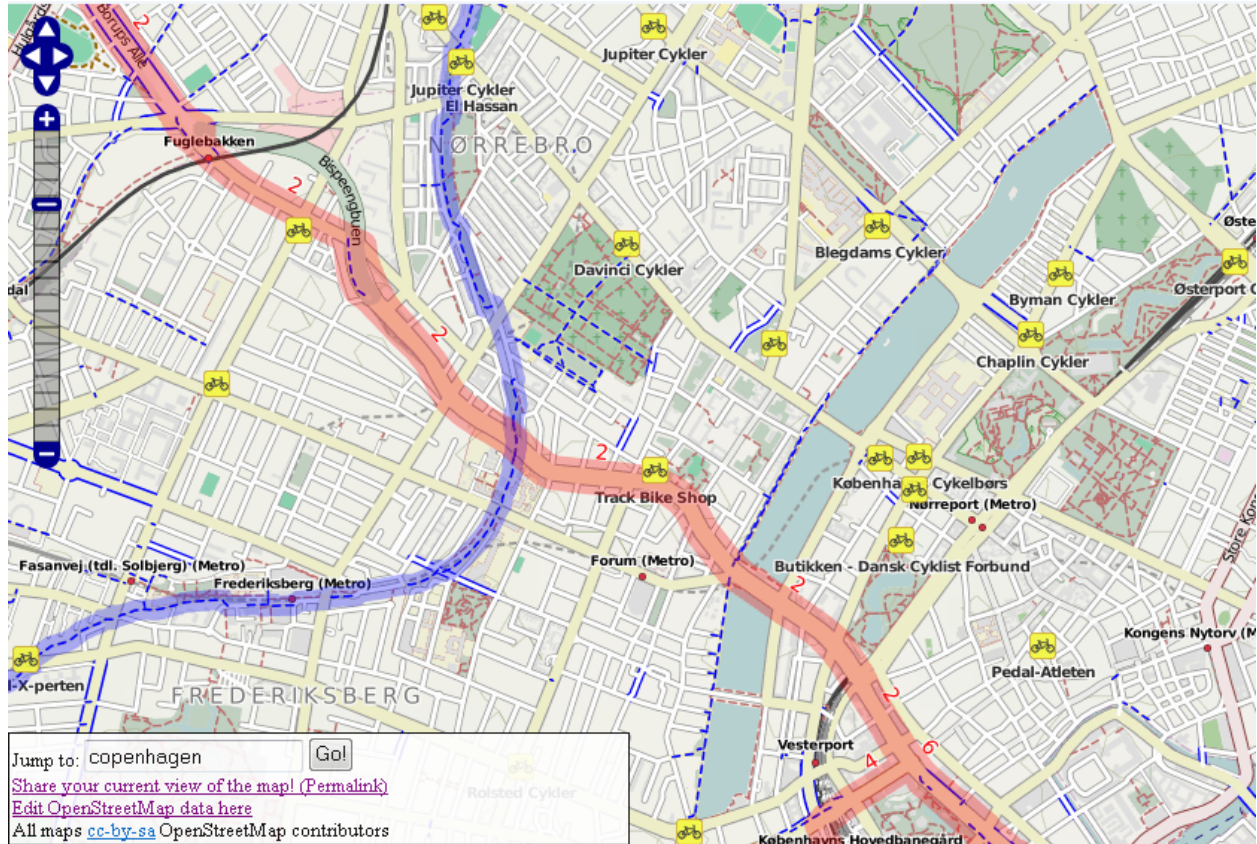


Figure 40: OpenCycleMap (OpenCycleMap, 2011)



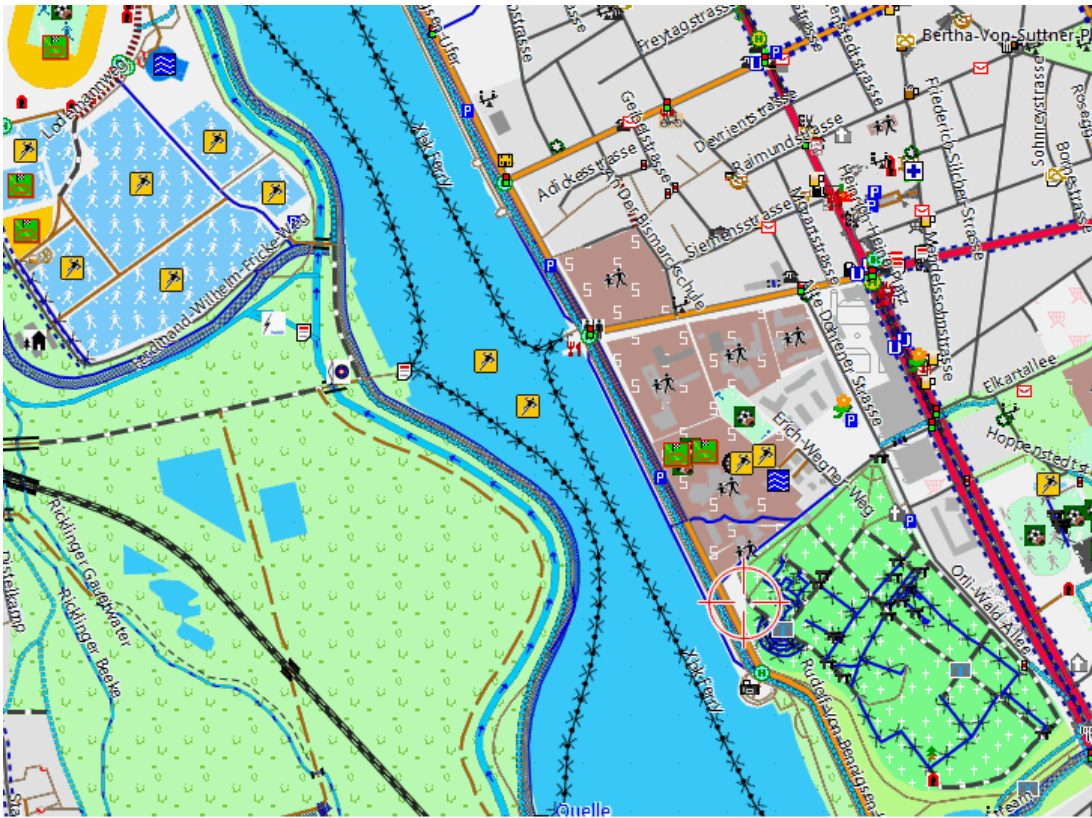


Figure 41: VeloMap (VeloMap, 2011)

Waypoint C:  [New route](#)

Zoom: 14 [Bicycles](#) [Fit](#) [Show data](#) [Export](#) [Link](#) [Directions](#) [Print](#)

2.1 km (about 6 mins)

Street  
City  
Region  
Country  
Continent  
World

Coord.

Map type:  
Map

Function:  
Route-road

Streetview  
Weather  
 Help  
Go 3D  
Photos etc.  
Support  
Home

POWERED BY Google Earth

**For bicycles**

Enter average speed:  km/hr

Your route of  km will take

Enter wind direction(\*):  (0-360°)

% headwind:  % sidewind:  % tailwind:

\*) N = 0, NE = 45, E = 90, SE = 135, S = 180, SW = 225, W = 270, NW = 315.

The wind results should be used as a guide only. Whether the wind is felt as a head-, side-, or tailwind depends not only on the angle between the wind direction and the driving direction but also on the windspeed and the driving speed. % headwind is the part of the route with less than 45° between the wind and the driving direction, % tailwind is the part where the angle is at least 135°, and anything in between is included in % sidewind.

If you don't know the wind direction you may be able to find it at [www.windfinder.com](http://www.windfinder.com). In Denmark, you can find it at [your nearest local](#)

Figure 42: Netkvik (Netkvik, 2011)



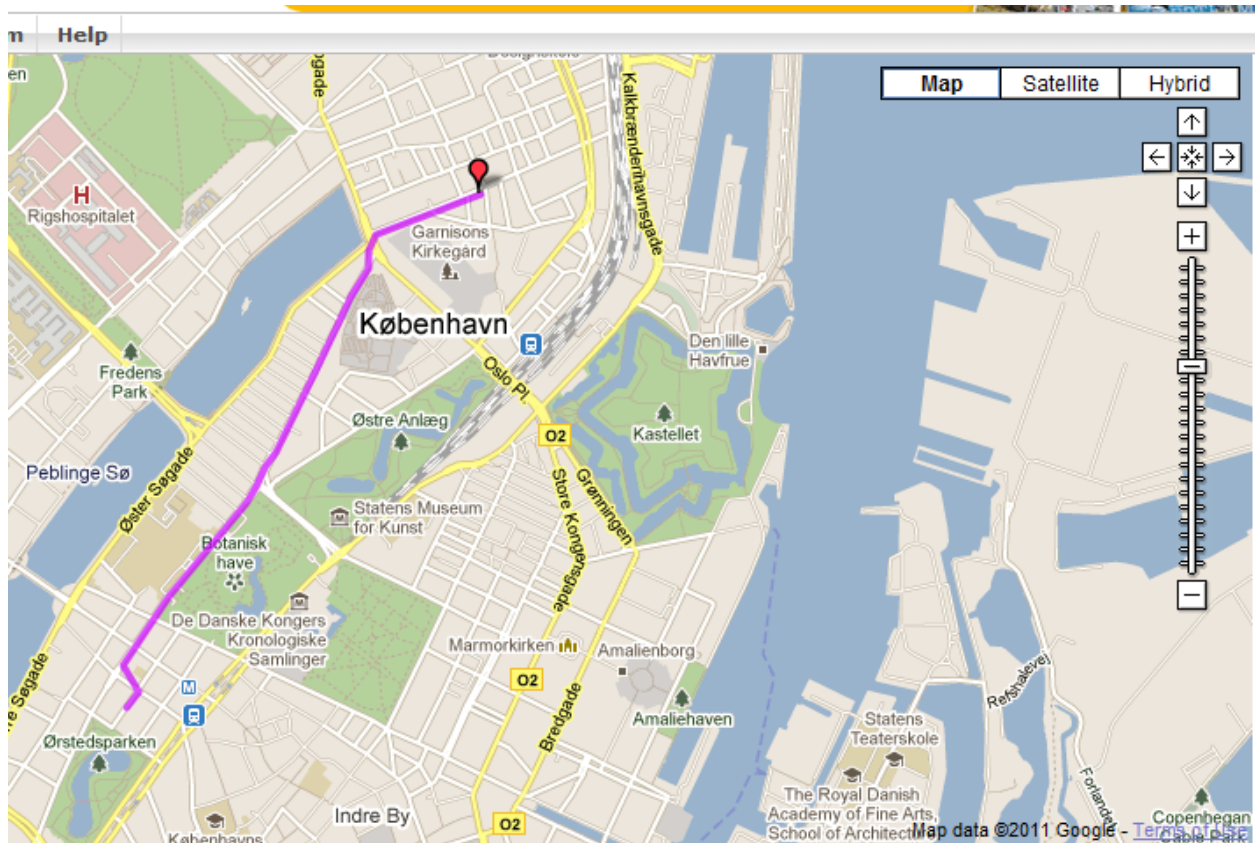


Figure 43: Bikely (Bikely, 2011)

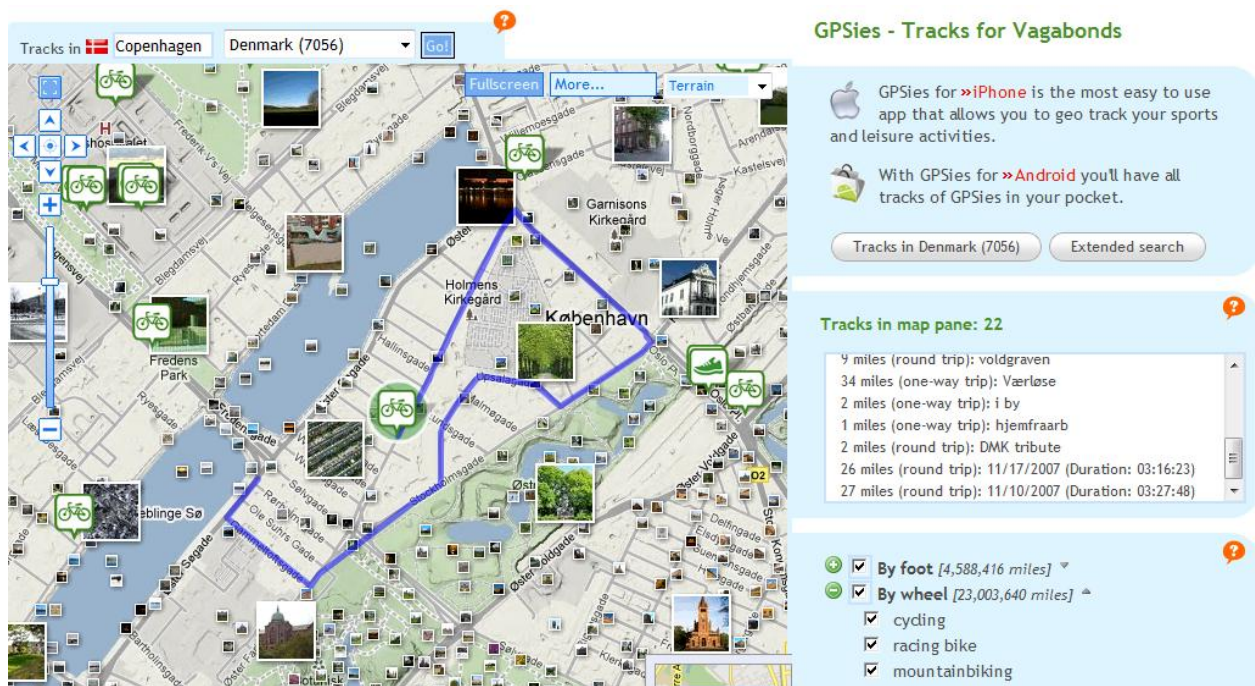


Figure 44: GPSies (GPSies, 2011)

## Appendix D: Interviews

This appendix includes summaries of the interviews we conducted on-site. All of the summaries follow the same format, indicating the interviewers, interviewees, date, time, and location of the interview. Each summary includes the questions that were asked during the interviews and the responses gathered. The interviews in this appendix include the Copenhagen Police Department, rental outlets, guided tour companies, and tourism professionals.

### Copenhagen Police Department Interview Summary

Interviewers: Alana Aubin, Francisca Chichester, Shahil Kantesaria

Interviewees: John Skaletz, Dep. Chief Superintendent, Copenhagen Politi, Traffic Unit

Mogens Knudsen, Operations Leader, Copenhagen Politi, Traffic Unit

Date & Location of Interview: 3/24/2011, 9 am, at Gammel Koege Landevej 1, 2500 Valby, Denmark

1. What does the traffic unit do day-to-day, in particular relating to bikes?
  - Goal is to keep bike-related casualties low - no reported incidents in over 6 months
    - Usually more incidents in the summer due to increased number of cyclists
    - Fine (money) program has not been very successful in changing cyclists' habits:
      - Right on red, running red lights, cycling in crosswalks
    - New technology in bike lights has made cycling at night safer
    - Trucks also have multiple mirrors for better visibility
    - Cars & pedestrians dislike cyclists because they don't stay in their lanes and make others feel unsafe
2. What are the top traffic rules a tourist needs to know before cycling?
  - See packet: keep right, no right on red, use cycle lanes, hook turns, stay off sidewalk, 2 feet and 1 hand on the bike at all times
  - Tourists seem to follow what other cyclists do
3. What are the most important conventions they need to know?
  - Bells & honks are warning signals
  - Go around cars on the left if they are turning right and you are not
  - Pay close attention in close quarters (for example, no bike lane)
4. How prevalent is bike theft in Copenhagen?

- Quite a big problem – 20000/yr in CPH, 70000/yr in DK
  - Numbers have increased recently due to bike gangs – shipping bikes to Eastern Europe
  - Need the bike serial number to report, some people don't keep it
  - Only 1% of stolen bikes are returned
  - Insurance – if your bike is 5 yrs old it is not worth insurance money
    - On the other hand, many people commit insurance fraud on new bikes
- 4a. How worried do tourists need to be about bike theft?
- They do need to be concerned and look out for it
- 4b. What can you do to prevent it (more than the standard wheel lock)?
- Bike cable lock to run through the wheels and frame
- 4c. What do you do if your rented bike is stolen?
- Report to the rental shop who can then report to the police
5. What areas should tourists avoid, especially at night?
- No major areas to avoid
    - Muggings & robberies are not a serious issue – unless you are intoxicated, then it might be
    - Christiania is not too bad
    - In Nørrebro, the gang members are only concerned with each other
    - Only about 50 homicides per year – 40 in 2010
6. If a lot of tourists start cycling in Copenhagen, what kinds of issues could you foresee?
- Would rather have them on bikes than on cars
  - Talk to the DCF & municipality for statistics
  - 70-80% of biking accidents are caused by cyclists themselves
7. What should a tourist do if they get into an accident?
- Depends of severity – someone will probably call the police for them
  - When in doubt call the police – need witnesses for insurance purposes so ask them to stick around or get names and license plates
  - Car insurance will pay for injuries
  - Bike-bike it depends
  - Travelers' insurance would probably cover it

8. Notes:

- Check out floating bike parking in Malmo
- City bikes often stolen
  - Sometimes taken as souvenirs, especially to southern Europe
  - New city bike program to help prevent this
- Most casualties are caused by right turning trucks not seeing cyclists
- Pedestrians & cyclists are “soft”

## VisitDenmark and Østdansk Turisme Interview Summary

Interviewers: Alana Aubin, Francisca Chichester, Shahil Kantesaria

Interviewees: Ditte Møller Munch from VisitDenmark, Jesper Pørksen from Østdansk Turisme

Date & Location of Interview: 3/28/2011, 1:30 pm, at the Danish Ministry of the Environment, Forest and Nature Agency

1. What is your role at VisitDenmark (just Ditte)?
  - Cycling/walking tourism
  - Development and marketing of ActiveDenmark, a quality label for walking, cycling, golfing, fishing, accommodations
  - 400 members of ActiveDenmark in total who must pay and meet criteria
    - Near cycle routes
    - Bicycle repairs
    - Guidance
    - Food
  - ActiveDenmark has a magazine and is working on developing their online resources
2. What is your role in Østdansk Turisme (just Jesper)?
  - Project Manager for cross-border projects between regions in Denmark and Germany
  - Interests in bicycling tourism
  - Plans to connect Denmark and Germany through a tunnel by 2020 (19km)
3. How many tourists come to Denmark each year?
  - Cycle tourism brings in 3 billion kroner
  - Berlin/Copenhagen cycle route is popular but the quality is better in Germany so many cyclists stop at the ferry between the two
  - Approx. 4,000 to 6,000 ride cycles are transported by ferry per year
4. What are the main modes of transport for tourists coming to Denmark?
  - Many tourists drive and stay at a holiday house/camp site and then plan cycle day trips from there
5. How long does the typical cycling tourist stay in Denmark?
  - One to two weeks

- Longer than the average tourist
6. What are the main countries these tourists come from?
    - Denmark, Germany, Holland, Sweden, Norway
    - Areas to focus on in the future: Russia, China
    - English a good universal language for targeted areas
  7. What is the age demographic of the tourists?
    - Target groups:
      - Families with children
      - Couples 40+ with no children
  8. Once they are in Denmark how do cycling tourists typically get around?
    - Two types:
      - One type goes from point A to point B along cycle trails
      - Second group has a central location (drive) and plans day trips (cycle)
  9. Is it more popular to take a tour or explore independently?
    - Not in the city, guided tours not often available
    - Most tourists cycle independently
    - One German company does tours for Germans
    - Danish Ramblers association does guided tours for members
  10. What are the most popular types of tours among tourists (i.e. walking, cycling, etc.)?
    - Walking is the most popular (however no walk tours available)
    - Cycling is second to walking

Notes:

- Tour companies in the city:
  - Bike with Mike
  - Sweetspot
  - Copenhagen-Tours
- Klampenborg is another cruise ship port, however there is no city so less to explore
- US seems to associate Denmark with cycling
- Copenhagen commuter bike city as opposed to cycling tourism city
- No tours at the national level, however local offices may have them



## Kristen Vest Interview Summary

Interviewers: Alana Aubin, Francisca Chichester, Shahil Kantesaria

Interviewee: Kirsten Vest, Landscape Architect for the Danish Ministry of the Environment, Nature Agency

Date & Location of Interview: 3/28/2011, 2:00 pm, at the Danish Ministry of the Environment, Forest and Nature Agency

### 1. What does the Nature Agency do?

- Deals with recreation – national level, 200,000 hectares of state-owned areas, mostly forest
  - Mostly used for walking, but there are 10-20 mountain bike routes
  - Mostly small forests but there are 2 big ones
- These areas are not connected, but they are working with other departments of the state that deal with route planning to try to connect these areas to each other
- Work with nongovernment organizations as well
- [www.sjaellandleden.dk](http://www.sjaellandleden.dk) – site in Danish, English, and German
- [www.udinaturen.dk](http://www.udinaturen.dk) – nature agency's website – only in Danish
- Offers guided tours
- Targeted at Danes
- Mostly popular for day trips
- Working on adding accommodations and activity information
- Can give the info on their site to other organizations who may translate it if they wish and have the money to do so

### 2. How many regions is Denmark split into?

- DK is split into 18 regions – plans for these regions to make better cycling
- Landscape in forest
- Split up the areas for different types of recreation
- How to get into the forest – access
- 3 things: laws, availability of area, plan for tracks - park your car, where to ride, how to get there
- Also deal with canoeing, kayaking, fishing – where can they camp?

## Ole Jensen Interview Summary

Interviewers: Alana Aubin, Francisca Chichester, Shahil Kantesaria

Interviewee: Ole Jensen, owner of Københavns Cyklebørs (Copenhagen Bicycle Exchange)

Date & Location of Interview: 3/29/2011, 4 pm, at Københavns Cyklebørs

1. How did you get into this business?
  - Business was started 130 years ago; he bought it 50 years ago
2. Does Københavns Cyklebørs mostly rent or sell?
  - Even mixture of 4 areas: rentals, sales, accessories, & repairs
3. Does Københavns Cyklebørs rent mostly to tourists or Danes?
  - Rents mostly to tourists
  - They find it through partnerships with
    - Travel agencies
    - Schools & Universities
    - Copenhagen tourist information center
  - Many find it on the internet – website has been important the past 5-7 years
4. Where do most of the tourists come from?
  - Sweden, Norway, Germany, Holland, Asia, Australia, UK
- 4a. What is the typical age demographic?
  - Mostly 21+ who are backpacking and want low budget travel
- 4b. Where do they stay?
  - Bed and breakfasts, hostels, hotels – mostly low budget
5. What is the typical rental period?
  - 1 day to 1 week, but for many students it is a semester
6. What is the most popular time of year for bike rentals?
  - Mid April to October due to the nice weather
7. Do most customers have a good idea of what kind of bike they want or do they need guidance?
  - Most are just looking for a bike
  - Ole talks to customers to make sure they have a bike appropriate for their plans

8. Do you have any tour or route planning information available here?
  - No written routes or plans, but he gives individual oral advice to customers
  - “I know my city”
9. Do you give advice to the tourists about safety and rules?
  - Yes: Asks about cycling experience, talks about cycling behavior in traffic, tells them to avoid peak hours
10. What happens if a bike is stolen or broken?
  - Stolen
    - If they have the key (which means they locked it) – keeps 300 DKK deposit
    - If they don't have the key (they didn't lock it) – they pay for it
  - Broken – customers don't have to pay for issues with the bike

Discuss information gateway – we think it would be a good idea to have rental information in one place – what do you think? Michael Hammel mih@dcf.dk would be the person to contact

- Would have to be well advertised – need lots of information – not sure if he'd want to participate

## Mikael Colville-Andersen Interview Summary

Interviewers: Alana Aubin, Francisca Chichester, Shahil Kantesaria

Interviewee: Mikael Colville-Andersen

Date & Location of Interview: 3/30/2011, 12:00 pm at Bishop Absalon Statue

1. How did you get into blogging about cycling and Copenhagen?
  - By accident – took a street photo of a woman cycling in a skirt – caused “hubbub” on flickr
2. What do you do to promote cycling besides blogging?
  - Company – Copenhagenize Consulting – specializing in bike traffic and culture, infrastructure, behavioral market – planning for cities all over the world – especially US, Australia, Europe
  - Public & Key Note speaking
3. What are the main factors that prevent people from cycling? At home and abroad?
  - Perception of safety, subcultural image, and infrastructure
4. What are the most important things needed to create a bicycle culture?
  - Make the bike normal and feasible
  - Bring from subculture to mainstream culture
5. Do you think tourism to the city is a good way to promote cycling around the world?
  - Amsterdam & Copenhagen – forerunners, inspiration for other countries
  - People might be interested in green city tours
  - Cool, liveable cities include bikes – 12/20 of the most liveable cities in the world have good amounts of biking
6. Have you noticed any cities that promote cycling tourism particularly well?
  - Amsterdam is seen as a cycling city – rental shops go after tourists
  - Paris – good cycling
  - Copenhagen
  - People want to do as the locals do – they want to fit in; they see people like them cycling and think, “Hey, I could do that”
  - Cycle touring – since 1947 – advertised to Britain, now mostly Germans (50%) do it - rural
7. What do you think is the best way to encourage visitors to cycle while in Copenhagen?

- City branding – Copenhagen is becoming more associated with cycling
  - Lots of hotels rent bikes, tourist information center, City of Cyclists publication, City bike maps, cycling map of the city
  - Cycletracks – insider’s guide of what to do while here
  - London – great map – 3 million copies printed – recommended routes
8. How difficult it is for newcomers to the city to adjust to cycling here? What can they do to adapt?
- Not too bad, and easy if you know how to ride a bike already
  - Amsterdam offers a more organic, less structured experience – Copenhagen is more structured
9. Route planner opinions
- Maps here take you down roads anyway, which mostly have cycle tracks
  - CycleCopenhagen – pretty good but it has some bugs
  - Most tourists stay in the city center – walkable
  - However, public transit is expensive – cycling could be more cost effective

## Mike Sommerville Interview Summary

Interviewers: Alana Aubin, Francisca Chichester, Shahil Kantesaria

Interviewee: Mike Sommerville, "Bike Mike"

Date & Location of Interview: 3/31/2011, 2 pm, at the Old Mate Coffee Shop

1. How did you get into cycling tourism?
  - 4 years ago, after a sign from his higher power
2. What countries do most of your customers arrive from?
  - Lots of Americans, Canadians, Australians, British – English speaking countries
  - Also Dutch, Belgians, Germans, Swiss, Swedes, Norwegians
3. What is the typical age demographic?
  - All ages ranging from 9 mos to 87 year
  - Average early 40s
4. How long are most of the tourists in the city for?
  - 40 hours on average
5. Out of all your customers, about how many come to Copenhagen by cruise ship?
  - Many from cruise ships – his first year 350,000 passengers came to CPH on cruises, this year 850,000 are projected
  - Largest bookings come from cruise ships – there are 2000 people per boat
6. How do your customers usually find out about your tours?
  - Website
  - Launching a new website soon
7. What is the general cycling experience level of most of your customers?
  - Can ride a bike, casual and recreational
  - He gives an urbanized city tour
8. Before the tour, how do tourists usually feel about cycling in the city? (Nervous, anxious etc)
  - Sometimes nervous about traffic, especially in couples where one person chose the tour and other is just along for the ride
9. How do they feel afterwards?
  - They feel better



10. When do you have the most customers?

- Early June – mid September – up to 30 people on a tour so it is less personal

11. Do you know whether many insurance companies cover liabilities or other issues associated with biking?

- No accidents, some incidents – the tour is really slow

12. What is your opinion on helmets? (Do you offer them/do people ask for them?)

- Has them available and asks before the tour
- Not commonly worn – people follow the leader and he doesn't wear one

13. What makes a good tour? Would we be able to join you on a tour sometime?

- A positive attitude from the guests – they have to want to do it

## Claus Rex Interview Summary

Interviewers: Alana Aubin, Francisca Chichester, Shahil Kantesaria

Interviewee: Claus Rex of the DCF

Date & Location of Interview: 4/1/2011, at DCF

1. What have you been doing relating to cycle tourism lately?
  - First project (still ongoing) – National routes are made of 400-500 signed km, but nobody is really responsible for their upkeep anymore. In Denmark there is 1 state, 5 regions, and 98 municipalities – since 2007 the municipalities have been responsible for the national routes – now regions are taking a larger part.
  - Now, the gateway project – promote bicycle tourism & present Denmark as a bicycle nation; also a tool to make the DCF be taken seriously as a tourism organization
  - The gateway project is owned by the DCF, with a “council” of people from Wonderful Copenhagen, Turiste, visit Denmark, roads director, Horista (hotel/restaurants), regional organizations
2. Stats on tourists?
  - Need to talk to Wonderful Copenhagen
  - In Germany, 10% of their tourism is cycle tourism
  - In Denmark it is only 4%
  - Apparently 30% of visitors say cycling is a motivation to visit, but only 10% do cycle while here
  - 7/8 of bike tourists say they want short trips
  - Different groups – Germans, Cruisers, outside CPH tourists
3. Route planner?
  - Launches in June – beta launches this week
  - Need to develop points of interest
  - Klean is the contractor working on the technology side
4. Anyone else we should talk to – we have talked to Visit Denmark etc, Colville-Andersen, Bike with Mike, police, Cykelboese, Rent A Bike... waiting on Baisikeli, municipality, WoCo, Copenhagen-Tours
  - Andreas from DCF for info on themed tourism
  - Andreas @ Klean – bike rental places, an updated list

- Fritz – his wife works at Wonderful Copenhagen
  - Email Tina Seest at Wonderful Copenhagen
5. What do you want to get from us?
- Make it easy to cycle
  - Gateway is a tool to promote the bicycle experience
  - Make it simple to explore possibilities
  - Find out what is in existing structures – how to promote and take this further
6. Ideas
- Maybe make packages – with rentals, transport to rental, map, entrance fees
  - Consider themed tours/packages
  - Take the train out and back, cycle around somewhere out of the city
  - Kronberg, lakes, villages, beaches, castles, restaurants
  - Encourage doing as the Copenhageners do
  - A big challenge is motivation to cycle

## Rent a Bike-Copenhagen Interview Summary

Interviewers: Alana Aubin, Francisca Chichester, Shahil Kantesaria

Interviewee: Danny, Rent a Bike-Copenhagen

Date & Location of Interview: 4/4/2011, 10:00 am, at Rent a Bike

1. Does Rent a Bike rent mostly to tourists or Danes?
  - Mostly rent to tourists
2. Where do most of the tourists come from?
  - Southern Europe – Spain, Italy, etc
  - Many Americans, especially those from New York
3. How do tourists hear about Rent a Bike?
  - There are flyers in the hotels – those generate the most business
  - Also some from the tourist information center
  - Some from cruise ships, but not very many
  - A different takes a truck full of bikes to the pier when cruise ships arrive
4. What is the typical age demographic?
  - Southern Europe = 25-35
  - Americans = 30-40
5. What is the typical rental period?
  - Most common is 1 day – just want to see the sights of Copenhagen
6. What is the most popular time of year for bike rentals?
  - June, July, August
7. Do most customers have a good idea of what kind of bike they want or do they need guidance?
  - Usually a for 1 day is a standard 3-speed bike or city bike
  - If customers want a bike to ride in the country, they have those too
8. Do you have any tour or route planning information available here?
  - Bike Mike advertisements & flyers
  - Bike Mike started with this company but has since moved; he has the best tour so they still endorse him

- Bike Mike popular on Trip Advisor and Lonely Planet
  - Also have a cool 3-d map with popular stuff to see that they sometimes give out to tourists, and point them in the right direction
9. Do you give advice to the tourists about safety and rules?
- If tourists ask, they are usually told just to follow traffic – 15 years and no accidents
10. What is your opinion on helmets? (Do you offer them/do people ask for them?)
- Have 20 helmets in stock, 20 kr each (flat rate, not time dependent)
  - Recommend a helmet to those who are not used to cycling
  - Make people feel safer
11. What happens if a bike is stolen or broken?
- Lose the 500 DKK deposit
  - Bikes are unique so they are easily recognizable if stolen
12. Discuss information gateway – we think it would be a good idea to have rental information in one place – what do you think? Michael Hammel mih@dcf.dk would be the person to contact
- Thinks information gateway would be a good idea because Rent a Bike has great bikes and changes them out every 2<sup>nd</sup> year

## Andreas Hammershøj Interview Summary

Interviewers: Alana Aubin, Francisca Chichester, Shahil Kantesaria

Interviewee: Andreas Hammershøj, Tour Guide for Copenhagen X Tours

Date & Location of Interview: 4/6/2011, at DCF

1. Tell us a little bit about the tours you give (how long, where, what).
  - Copenhagen X, the company that gives the tours, is a part of Danish Architecture Center, a network organization of architecture funded by the state and another private organization
  - Some tours are given for free – they are in Danish
  - Tour types include:
    - Walking
    - Biking
    - Canal
  - Usually five stops per hour
  - The canal tours are the most popular
2. What kinds of people go on your architecture tours (demographics – age, background, origin)?
  - Mainly Danes:
    - School Kids (8<sup>th</sup> grade to university students)
    - Employee development for companies, architecture or other
  - Non-Danes that go are usually part of an architecture company/school
  - Canal tours on Sunday at 10am – mainly families or older people
3. How do your guests find out about the tours?
  - Word of mouth
  - Online (both website and on WoCo)
  - Copenhagen X has a booking agent to handle requests for tours
4. How is the route chosen?
  - Tours are usually organized by theme or what's interesting in the area
  - Once points of interest are chosen the routes are drawn out on a map
  - Example tour areas:



- Cycling green route
  - Amager East – new beach park
5. Do you think this kind of themed tour is gaining popularity?
- Thinks they should become more popular
  - Lots of potential short routes around the city and longer ones to North Zealand
  - Bike tours only available from Copenhagen X, Bike with Mike, and Colville (on request) so there could be some improvement in the cycling tourism market in CPH

Notes:

- CPHX has audio tour podcasts made for cyclists
- National Museum, one of CPH X partners, could get into the market by doing history tours

## Martin Strange Persson Interview Summary

Interviewers: Alana Aubin, Francisca Chichester, Shahil Kantesaria

Interviewee: Martin Strange Persson, Senior Project Manager, Wonderful Copenhagen

Date & Location of Interview: 4/11/2011, 11:30 am, at Wonderful Copenhagen

1. Tell us more about the BMX world championships and your role in planning them.
  - Responsible for organizing the whole thing
  - BMX in Denmark is a small federation – not big enough to plan something on this scale
  - Denmark held a World Cup event in 2008, 09, 10 to gear up for the World Championships
  - 2500 riders from 40-50 countries, all ages from 5 to 45+
  - New cycling brings some edge/urban feel to the city
2. What countries do you work with to put on international sports events?
  - USA, South America esp Columbia & Argentina, Australia, New Zealand, South Africa, Europe, Japan
  - Put attention on Copenhagen around the whole world
3. Where is sport cycling the most popular?
  - Netherlands, Italy, France, Belgium – mostly central & southern Europe, but also Denmark and Norway
4. What kind of people to these events usually attract?
  - Many Danes, also Sweden, Norway, North Germany and now Italy, UK, Netherlands
5. BMX is popular in the United States, why do you think this doesn't translate into daily cycling?
  - It is a long process to get cycling up to Copenhagen's level
  - NY infrastructure redesign
  - Melbourne is implementing "Copenhagen lanes"
  - Gehl Architecture – designs architecture with cycle friendly cities
6. Does an interest in sport cycling (BMX, racing, etc.) make people more likely to use a bicycle as everyday transportation?
  - Copenhagen uses these events to get International media coverage to show & promote cycling among Copenhageners

7. Is Wonderful Copenhagen doing anything to promote cycling among tourists? If so, what? If not, why not?
- This summer – launching The Sweetspot
    - Bike trips with local volunteer Copenhageners
    - Behind the scenes – not your typical tourist guide

## Anders Sørensen Interview Summary

Interviewers: Alana Aubin, Francisca Chichester, Shahil Kantesaria

Interviewee: Anders Sørensen, TourismLab

Date & Location of Interview: 4/11/2011, 2:30 pm, at DCF

1. How much time will tourists spend planning their vacation, and how long do they stay?
  - Cruise ship passengers – little or no planning
  - Backpackers will generally not plan much
  - American visitors will spend more time planning
  - The amount of planning will vary if they are first time European travelers or repeat visitors
  - 3 days/2 nights – debatable, usually bring their own vehicles
2. How much planned time vs. free time do they usually have?
  - Depends on age segment
  - Families traveling in cars will have lots of planned time, generally attracted by culture, not too sure about cycling
3. What kinds of things will they plan beforehand?
  - Plan for accommodations
  - The amount of planning and things they will plan is based on the time of stay
    - more planning for short stays because they want to make sure they get the most out of the experience
4. How much money will they spend?
  - Collect information from United Nations World Tourism Organization
  - Warning: numbers are vague enough that they can fit into anything you want them to illustrate
5. What is the best way to market to tourists?
  - Denmark has no “flagship” sites to distinguish it in the world as a place to visit
  - “Word of mouth” is still the most powerful marketing technique
  - Any way to make an activity into a “flagship” attraction might work
6. Would it be better to give tourists do’s or don’ts for tips?
  - Visitors want both do’s and don’t

7. Perception of safety

- Perception does depend on country of origin and the cycle culture that exists there
- “You’ll be safe if you do this...”
- Have button for level of experience on route planner

8. Notes:

- Collect and present information on bringing bikes on S trains and the metros and what hours you are allowed to do this

## Johannes Bjerrum Interview Summary

Interviewers: Alana Aubin, Francisca Chichester, Shahil Kantesaria

Interviewee: Johannes Bjerrum , City bikes

Date & Location of Interview: 4/12/2011, 1:30 pm, at DCF

1. What do you do relating to the city bikes?
  - Incita runs the city bikes program day to day operations in conjunction with the City of Copenhagen and an advertisement company
  - Income is generated from advertisements on the bikes and racks
2. Where are all the city bikes?
  - Currently all of the city bikes are at the repair facility in Valby
  - City bikes are seasonal and only out during April through November
  - A new model of the city bike is being released this season; the bikes are made out of aluminum to make them lighter
3. What are the biggest problems with the current city bike program?
  - Way too successful – can't keep up
  - Lose about 200 bikes a year to theft and vandalism
  - Advertisement revenue is based on good economic times
  - Implementing a bike tracking system is still too costly and not precise enough for the city bike program's needs
4. What is in the works for the new city bike program?
  - Copenhagen is expecting a new bike program by 2013
  - DSB will be the new designers for this system, but they are currently in a leadership crisis
  - The hope is to have commuter bikes at S train and Metro stations to alleviate the congestion at train stations from bikes coming on and off of the trains
5. What cities is the new program being modeled from?
  - The city of Copenhagen is trying to set a new standard for the city bike program
6. Do you know if it is mostly tourists or Danes who use the city bikes?
  - Tourists make up about 61% of the city bike usage – these numbers have been calculated by multiple student research projects

- Old city bikes cost 2300 DDK
- New city bikes cost 3000 DDK
- 200 new city bikes are added every year to make up for lost/stolen bikes.
- The City bike program is a social project that helps get unemployed citizens back into the cycle of working. Many of these people have been unemployed for long periods of time, and may have brain damage, fears, and other handicaps. Almost 20% of these people find a normal job afterwards.



## Mikkel Rathje Interview Summary

Interviewers: Alana Aubin, Francisca Chichester, Shahil Kantesaria

Interviewee: Mikkel Rathje, Sweetspot CPH

Date & Location of Interview: 4/15/2011, 11:30 am, at DCF

1. We have heard a little bit about Sweetspot, can you tell us more?
  - Local Danes showing what sites they like to tourists
  - More fun to travel when you know a local
  - “My version of Copenhagen”
2. Where did the Sweetspot idea come from?
  - 7 months ago, Mikkel gave two German girls a personal tour around Copenhagen and realized it could be a good business idea
3. What kind of tours do you give? (walk, cycle, etc)
  - They plan to first start out with bike tours, and may expand into walking tours as well
4. What would you see on a tour / where would you go?
  - This is based on what tour guide you select and the tags that are searched for on their website
5. Who guides the tours?
  - There are 20 interested tour guides currently
  - More will be added as Sweetspot becomes more popular
6. How long do they last?
  - A typical tour will last 3 hours
7. What is the tour schedule? (how often/what times do they start)
  - The schedule is based upon what the user selects on the website for a particular tour guide – everything is customizable
8. How much do they cost?
  - Pricing is still not settled, initial estimates is 20 euros, not including the bike rental cost
9. Who do you expect to be the target market for these tours?
  - The target age group ranges from 25-35 years old
10. What languages are the tours available in?
  - The tours will be in English and Danish and possibly other languages – Italian is in the works

## Copenhagen-Tours Interview Summary

Interviewers: Alana Aubin, Francisca Chichester, Shahil Kantesaria

Interviewee: Copenhagen-Tours

Date & Location of Interview: 4/18/2011, 11 am, at Copenhagen-Tours

1. Does Hotel-bikes rent mostly to tourists or Danes?
  - They rent bikes mostly to tourists
2. Where do most of the tourists come from?
  - Sweden, Norway, United States
3. How do tourists hear about Copenhagen-Tours?
  - A lot of advertisement is through the rickshaw service they provide
  - The website also brings in business
4. What is the typical rental period?
  - The typical rental period is usually 1 to 2 days max
5. How do the audio tours work?
  - MP3 players are given out for tourists to take with them
  - Not a big success because most tourists aren't very interested in history
6. Do you give advice to the tourists about safety and rules?
  - No need to, because Copenhagen has a well developed bicycle infrastructure
  - Most of the bikes are rented at the hotels so there's no one there to explain the rules
7. What happens if a bike is stolen or broken?
  - The company will absorb the loss
8. What is your opinion on helmets (Do you offer them/do people ask for them)?
  - They do offer helmets but few use them