

Quick Service Restaurants on the Rise: How Charging Infrastructure is Powering the Future

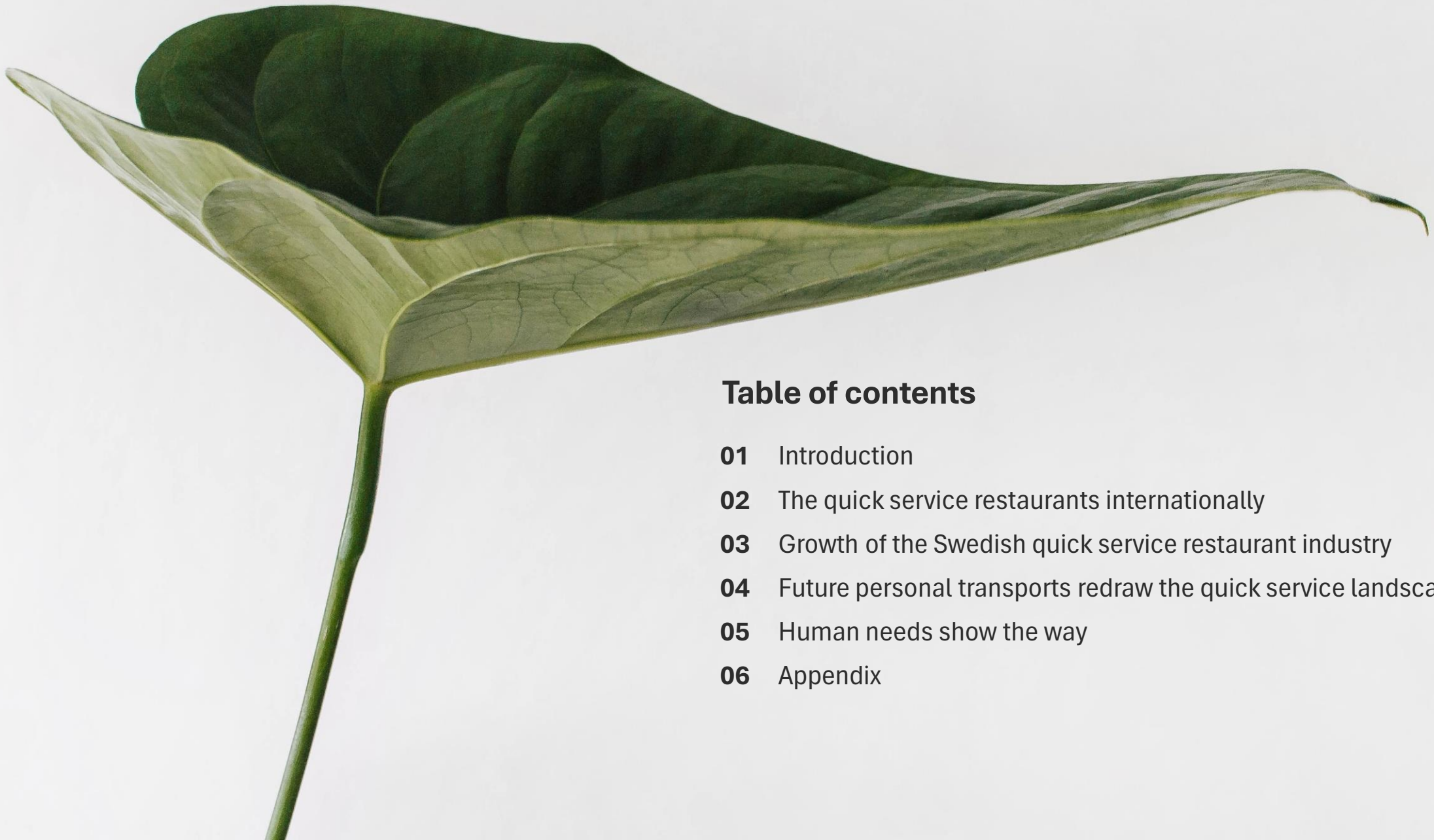


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Foreword

During the 1900s, the restaurant industry saw a revolutionary shift. For centuries, the industry was mostly characterized by independent entities such as urban eateries and roadside inns. However, in early 20th century, with the rise of industrial processes and standardisation, the modern quick service restaurant (QSR) chain was born.

From their humble beginnings in the US, with maybe a few locations in one specific region of the country, the quick service restaurant chains started to grow rapidly with the advent of franchising in the 1940s. This allowed chains to take less risk in their expansion and therefore enabled growth to new geographies, first in the US, and then globally.

In the post-war decades, the global expansions of the quick service restaurant chains became increasingly prominent, not least in Europe and the Nordics. Global entities like McDonalds and Burger King made their entry and reshaped the local restaurant market. The industry has become well established and in for instance Sweden, its growth has outpaced that of the broader restaurant market since 2019.

In recent years, another shift in the quick service restaurant market has started to take place, not least in Sweden. Several legacy quick service restaurant, has announced their intention to close outlets that have been in the same place for decades. To many, this has indicated a shift away from the industry in general. However, a more likely explanation is that the decisions reflect a shift to emphasizing roadside locations instead of urban ones. There may be several reasons for this, but part of the explanation probably lies in the changing personal transport landscape. A shift towards electric vehicles mean longer roadside stops due to the time it takes to charge an electric car, and with that follows a need for activities to do in the meantime, among others visiting quick service restaurants.

In this report we examine the increasing prominence of quick service restaurants, electric vehicles and charging infrastructure, and how they are related. Our hope is that this report will be as useful to its readers as it has been for the report authors.

What is QSR?

QSR stands for **quick service restaurants** and is a term used to denote restaurants with less focus on table service and more focus on serving customers quickly. It is traditionally associated with, but not limited to, what is known as fast food, and it encompasses locations along the road network and in urban areas.

01 | Introduction

Swedish quick service restaurant (QSR) industry likely to grow

Key insights of the report



Swedish QSR industry is behind the international curve but has potential



- Sweden has 11 quick service restaurants per 100 000 inhabitants, corresponding figure in for instance the US and UK is 37 and 17, respectively
- Local and global brands already have a strong presence in Sweden, but expansion plans from global brands indicate growth potential



Growth of Swedish quick service restaurant industry outpaces broader restaurant market



- Sales in the Swedish quick service restaurant industry has grown faster than the total restaurant market between 2014 and 2023, 78%, compared with 48%
- The gap between the quick service restaurant industry and the broader market widened during the pandemic and has since persisted



Future personal transports likely to redraw the quick service landscape



- The share of fully electric cars on Swedish roads has increased by almost 900% since 2019
- Electric vehicles take some time to charge, leading to increased “stop times” along the roads
- Longer “stop times” are likely to drive an increase in demand for roadside service including quick service restaurants



Human needs show the way



- Though technology has its role to play, consumer demand is likely to play the largest role in shaping the future of road infrastructure and quick service restaurant industry
- What the future will hold is impossible to know but one hypothesis are that roadside stops due to charging will encompass a number of productive and social activities

The global growth story of the quick service restaurant industry

Quick service restaurants emerged in 1920s America

Quick service restaurants are an American invention and tradition. The concept was formed in the early 1900's, pioneering standardised menus, food preparation and quick service. This enabled affordability and speed in the restaurant industry, creating a new experience suitable for on-the-go meals. Quick service restaurants reshaped consumer habits and changed expectations on restaurants.

QSR franchising revolutionized the restaurant industry and facilitated globalization

The initial growth in the quick service restaurant industry was driven by increased urbanisation and motorisation. However, what allowed the quick service restaurant industry to boom was its franchising model and standardized outlet concepts. This enabled expansion across the United States and worldwide.

Intensified competition and broadened scope of offerings

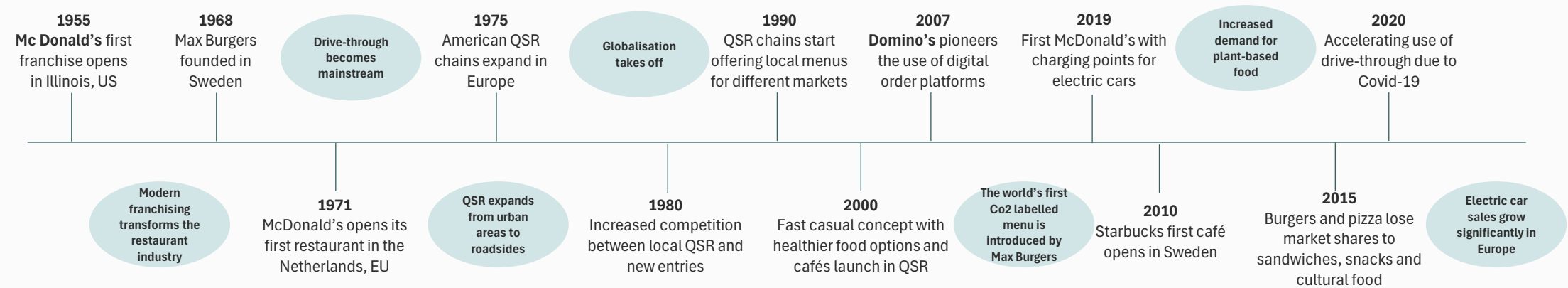
A growing global presence of American quick service restaurants in Europe intensified competition with local entities. They could replicate the concept and customize it to better align with consumer preferences, which pushed international quick service restaurants to adapt their offerings to stay competitive.

Increased emphasis on roadside locations rather than urban areas

Recently, mainly outside the US, legacy quick service restaurants have faced weak demand in urban areas. This is partly an effect of shifting consumer preferences. To meet the shift, quick service restaurant chains are increasingly targeting roadside locations. This trend is somewhat enhanced by higher electric vehicle ownerships and the longer roadside stops that follow due to charging.

70 years of development in the global quick service restaurant (QSR) industry

Timeline of key events in the global quick service restaurant industry



Source: Company websites, news media, QSR magazine, European Environment Agency

Broad range of entities in the Swedish QSR landscape

A mix of local and global favourites

The Swedish quick service restaurant scene blends local chains such as Sibylla and Max with global chains like McDonald's, Subway and Burger King. Recently, the offering has become more diversified with growth of "non-burger" chains like ChopChop and KFC.

Opening of roadside outlets makes up for urban closures

Quick service restaurant chains in Sweden are shifting focus from city-centre locations to outlets along highways and other major roads. This current trend can be seen among chains like McDonald's and KFC, who are increasingly relying on less urban locations.

Both local and global entities have a heavy presence in Sweden

Largest quick service restaurant chains in Sweden by number of outlets

Chain	Number of outlets	Year established in Sweden
McDonald's	200	1973
Subway	162	1999
Max	154	1968
Sibylla	140	1932
Burger King	114	1976

Source: McDonald's, Subway, Max, Sibylla, Burger King

Popular quick service restaurant chains in Sweden



Electrification likely to drive QSR expansion

Expansion of electric vehicle fleet creates new opportunities along the road network

Electric vehicles take longer to charge than fossil-fuel vehicles take to refuel, meaning that drivers will spend more time at charging stations, which creates new opportunities for roadside businesses. Since charging points can be located beyond traditional petrol stations, roadside businesses are now installing EV chargers on their properties to increase the activity and attract potential customers. Studies show that charging stations boost spending at nearby businesses, especially those within 100 meters, highlighting the value of strategic locations.¹

Quick service restaurants attract customers with EV chargers

Since fast DC chargers can charge electric vehicles in the same amount of time as a typical quick service restaurant visit, quick service restaurant chains in Sweden are starting to recognize the benefits of installing fast DC chargers at their locations. Chains like McDonald's and Max are already offering chargers at several restaurants. As the electric fleet expands and the electric vehicles become more modern with higher battery capacity, there is a growing need for faster DC chargers along the Swedish roads.

Global initiatives like Subway's planned EV charging oasis in the US, illustrate how quick service restaurants are expanding in tandem with the charging infrastructure. By offering charging stations with amenities such as Wi-Fi, playgrounds and rest areas, Subway is creating convenient hubs for both EV drivers and traditional customers.²

The future of QSR is electric

Subway's planned EV charging oasis in the US offers a glimpse into the future



Photo by PRNewsfoto/Subway Restaurants

1. [Nature Communications](#) 2. [Forbes](#)

02 | The quick service restaurant industry internationally

Swedish QSR industry is behind the curve but has potential

Chapter summary



US leads the way with the world's most developed QSR-industry



- The US has the highest rate of quick service restaurant chain outlets of the countries examined, 37 outlets per 100 000 inhabitants
- Franchising enabled the quick service restaurant industry to expand across the US and the rest of the world



The Nordics have relatively underdeveloped QSR-markets



- Sweden and Norway have between 11 and 12 quick service restaurants per 100 000 inhabitants, the corresponding figure for the US is 37
- Finland has the highest rate of quick service restaurant outlets per capita in the Nordics (20)
- Local and global brands already have a strong presence in the Nordics, but expansion plans from global brands indicate growth potential



Europe likely to follow in US footsteps with a more developed and road-linked QSR-industry



- European quick service restaurants are relocating from urban to roadside areas, making the European market more similar to the US
- The closure of urban-based quick service restaurants does not aim to decrease the total number of outlets, but rather to change their locations to enhance road presence and meet consumer demand

Europe's QSR-market still lags behind the US

Franchising enabled the quick service restaurant industry to expand quickly in the US

During the 1950's, the US saw a boom in quick service restaurant franchises, partly driven by the Lanham Act which allowed trademark owners to license their trademarks. By the 1960's, many quick service restaurant chains had reached at least 500 locations within the US.

American quick service restaurant chains went on to conquer the world

Following the rapid expansion in the US, many quick service restaurant chains turned their attention abroad. Using the franchise model, many established themselves globally.

The US has the highest rate of quick service restaurants per capita

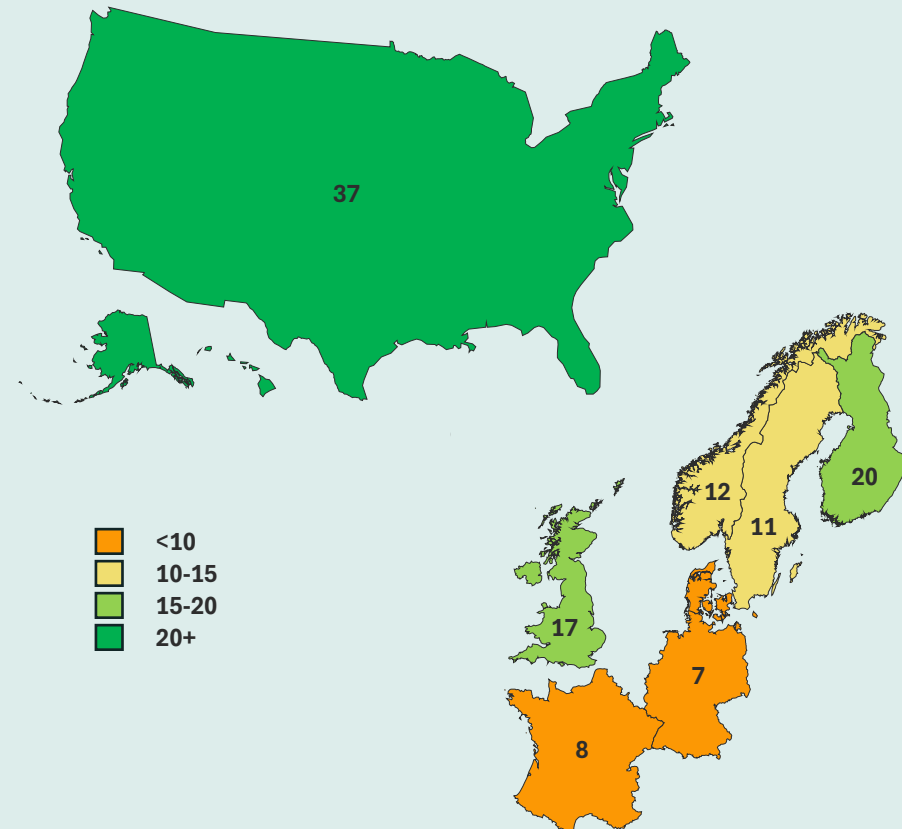
Number of quick service restaurant outlets belonging to chains, per capita

Country	Population	Outlets	Outlets / 100K inhabitants
USA	336 million	123 679	37
Finland	5.6 million	1 143	20
UK	68 million	11 559	17
Norway	5.5 million	669	12
Sweden	10.5 million	1 180	11
France	68 million	5 119	8
Germany	84 million	6 167	7
Denmark	6 million	385	6

Source: Worldbank, news media, company filings, company websites, own calculations

Quick service restaurant prevalence highest in the US

Number of quick service restaurants per 100 000 inhabitants



Source: Worldbank, news media, company filings, company websites, own calculations

US market still the most developed with broad range of entities

American quick service restaurant chains are established across the country

Quick service restaurants were first established in inland USA. The first chains offered burgers due to their quick preparation time, low cost and portability. As chains expanded, this dish became the quintessential quick and affordable food.

American quick service restaurant chains relatively more roadside-oriented

The development of the Interstate Highway System in the 1950's created a demand for food stops for travellers and commuters. This spurred establishments to open at nearly every highway offramp, revolutionizing roadside dining.

McDonald's is the leading quick service restaurant in the US

Largest quick service restaurants in the US ranked by sales

Chain	Outlets	Net sales (\$1 million)
McDonald's	13 457	53 135
Starbucks	16 346	28 700
Chick-fil-a	2 552	21 586
Taco Bell	7 405	15 000
Wendy's	6 030	12 285

Source: News media, company filings, company websites

The US is the birthplace of multiple quick service restaurants

Map of the original locations for American quick service restaurant chains



Source: News media, company filings, company websites

Less developed QSR landscape in the Nordics

Quick service restaurants less prominent in the Nordics compared to the US and UK
The Nordic quick service restaurant industry is relatively undeveloped. For instance, in Sweden and Norway, there are between 11 and 12 quick service restaurants per 100 000 inhabitants. The corresponding figure for the US and the UK is 37 and 17, respectively.

Wide range of entities in the Nordics, domestic chains relatively prominent
Many popular quick service restaurants in the Nordics are domestic, like Sibylla in Sweden and Pizzabakeren in Norway. Global brands are also established and are likely to grow further. In Sweden, KFC is expanding, and Five Guys has entered the market.

Finland has the highest rate of QSR outlets per capita in the Nordics

Number of quick service restaurant outlets belonging to chains, per capita

Country	Population	Outlets	Outlets / 100K inhabitants
Finland	5.6 million	1 125	20
Norway	5.5 million	667	12
Sweden	10.5 million	1 180	11
Denmark	6 million	383	6

Source: World Bank, Company filings and media sources, Own calculations



Photo by [Clem Onojeghwo](#) on [Unsplash](#)

Will Europe follow in America's QSR-footsteps?

American influences have shaped the Nordic quick service restaurant scene

Classic American quick service restaurant chains, such as McDonald's and Burger King, established themselves in the Nordics in the 1970's.^{1,2} Since then, American quick service restaurants have expanded rapidly in the Nordics, influencing local tastes and shaping the strategies of regional actors.

Further Americanisation? More emphasis on roadside outlets

European quick service restaurant markets have shown signs of becoming even more American. In recent years, some chains have gone from having a strong presence in urban and roadside areas to relocating urban quick service restaurants to the roadside. Closure of urban restaurants herald a shifted focus to roadside locations. In Sweden this got highlighted when McDonald's closed their first Swedish location on Kungsgatan in Stockholm after almost 50 years in service.² However, this does not suggest a broader strategy of decreasing the number of outlets permanently. Instead, the chain has focused on opening new outlets along major roads like E4 and E6.^{4,5}

What will happen if the European quick service restaurant markets become even more like the American? To get a sense of the magnitude of the possible shift, a numerical example may be helpful. If Sweden was to increase its number of quick service restaurants per 100 000 inhabitants from the current level (11) to a level closer to that in the US (37) there would be a big increase in the number of outlets. Even going halfway to the US level (18.5) would mean that 750 new restaurants would have to open.⁶

Whether this scenario becomes a reality or not remains to be seen, but it gives an indication of the difference between the Swedish quick service restaurant market and the American, a market that Sweden usually follows.



03 | Growth of the Swedish quick service restaurant industry

The Swedish quick service restaurant industry is growing

Chapter summary



Quick service restaurant chains in Sweden shifting towards the road network



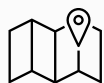
- Shifting consumer preferences have led quick service restaurant chains to increase their roadside presence
- For example, McDonald's in Sweden has closed several urban locations in recent years while opening, and planning to open, about as many or more restaurants in more external locations



Growth of Swedish quick service restaurants outpaces rest of the industry



- Sales in the Swedish quick service restaurant industry has grown faster than the total restaurant market between 2014 and 2023, 78%, compared with 48%
- The gap between the quick service restaurant industry and the broader market widened during the pandemic and has since persisted



Several international brands expanding in Sweden and the Nordics



- Existing international quick service restaurant chains such as KFC, McDonald's, and Subway are planning to expand with new restaurants in Sweden, to keep up with shifting consumer preferences, most of them will be located in external rather than urban areas
- New international entrants are opening in the Nordic market. For example, Five Guys will open its first restaurant in Stockholm in 2025 and Pizza Hut is planning to return to Denmark after 15 years

Quick service restaurants becoming more intertwined with road network

Roadside diners; a tradition in American history

Independent restaurant owners opened roadside diners before quick service restaurants emerged. These roadside diners initially catered to a small community of motorists and drivers passing through routes. The community of road travellers grew as the road infrastructure improved and car ownership became more common, leading to a further increase in demand. Their accessibility and convenience made these locations attractive for travellers needing food, rest, or to refuel their vehicles.

Traditional roadside diners challenged by the quick service restaurant industry

Quick service restaurants have historically been located in areas with a large base of potential consumers. The growing demand in roadside areas gained the attention of the quick service restaurant industry, leading to expansion beyond urban areas to roadside locations.

Shifting consumer preferences are reshaping the quick service restaurant industry

Recently, there seems to have been a shift in consumer preferences in urban areas. Some of the legacy quick service restaurant chains have closed in some urban locations. However, this does not necessarily indicate a permanent decrease in the presence of quick service restaurants. It is more likely that the expansion along the road network will continue and make up for the decrease in urban locations. For example, McDonald's in Sweden has closed several urban locations in recent years while opening, or planning to open, about as many or more restaurants in more external locations.^{1,2}

1 [Fastighetsvärlden](#) 2 [Fastighetsvärlden](#)



Photo by [Jean-Claude Joanna](#) on [Unsplash](#)

Stable growth in the Swedish QSR industry

Swedish quick service restaurant industry grows faster than the restaurant industry
 Sales in the Swedish quick service restaurant industry has outperformed the Swedish restaurant market in total over the past decade. Between 2014 and 2023, quick service restaurants grew by 78% while the broader restaurant market grew with 48%. The quick service restaurant industry is now the second largest restaurant type in Sweden with a market share of 28%.

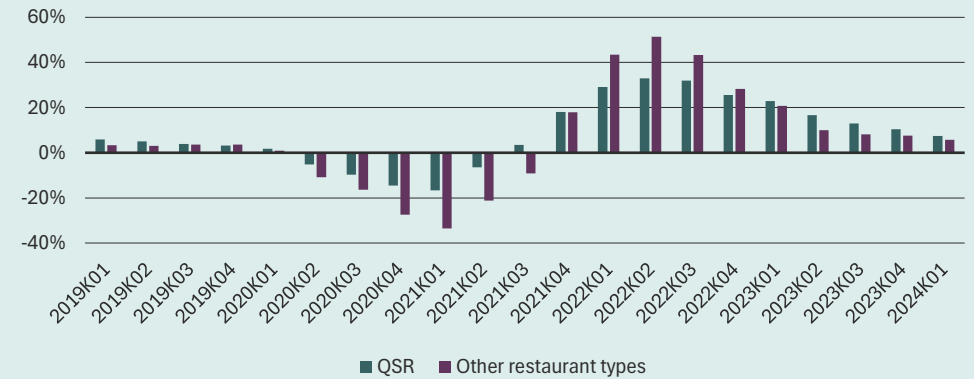
Quick service restaurant sales have grown by 40% since 2019

The quick service restaurant industry has proven resilient to economic fluctuations. Despite uncertain times and challenges such as the Covid-19 pandemic and the cost-of-living crisis, the industry grew by 40% between 2019 and 2023 in Sweden. While Swedish consumers became more cautious with their spending, affecting various sectors, the quick service restaurant market continued to grow considerably faster than the broader restaurant industry.

Source: SCB, own calculations

QSR growth consistently higher than broader restaurant market

Four quarter rolling growth in the Swedish restaurant market*



Source: SCB, own calculations

QSR industry created a gap in relation to the restaurant market

Sales in different sectors of the Swedish restaurant market (2019 = 100)*



Source: SCB, HUI

*Current prices

International QSR expansion in Sweden

Existing American chains expand in Sweden

American quick service restaurant chains that have been established in Sweden for a long time are planning to expand further over the coming years. For example, KFC, McDonald's, and Subway who are all planning to open several new restaurants. In order to keep up with shifting consumer preferences, most of them will open in external locations rather than urban areas.

New quick service restaurant chains enter the Nordic market

In addition to existing chains expanding in the Nordics, new players are planning to enter the market. For example, Pizza Hut is planning to return to Denmark after 15 years with an extensive expansion plan¹, and Five Guys will open its first restaurant in Sweden in the beginning of 2025².

Five Guys

Five Guys is an American family-operated quick service restaurant chain with over 1 700 locations. The company was founded in 1986 and quickly gained traction for hand-formed burgers and fresh ingredients. In 2003, they began offering franchise opportunities and sold 300 units within 18 months. This was a pivotal step in their expansion journey that led to operations in 24 countries.³

Five Guys plans to enter the Nordics by opening its first restaurant in Sweden in 2025. Following this debut, the chain aims to open 10 additional locations in Sweden and another 10 across the Nordic region.²



KFC

Kentucky Fried Chicken (KFC) was founded by Harland Sanders in 1930 in Kentucky, USA. Sanders developed a secret recipe for frying chicken, setting the brand apart in a market dominated by burgers. By the 1970's, the chain had 3 000 locations across 48 countries and today it operates around 22 000 restaurants in 135 countries.⁴

KFC entered the Swedish market in 2015, filling a market gap for chicken-focused quick service restaurants. The chain has 22 restaurants in Sweden and plans further expansion.⁵



Subway

Subway is the world's largest sandwich chain with over 37 000 locations globally. In 1974, the American chain had 16 stores and turned to franchising to fuel rapid growth. Franchising continues to drive its expansion today. Their sandwich offering differentiates Subway from other quick service restaurant chains.⁶

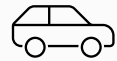
After 25 years in Sweden, Subway has opened 160 restaurants and aims to grow further by opening 50 new restaurants with a focus on external locations to drive expansion.⁷



04 | Future personal transports redraw the quick service landscape

Future personal transports redraw the quick service landscape

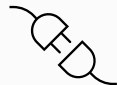
Chapter summary



The electrification of the fleet of personal vehicles continues



- The proportion of fully electric passenger cars in traffic has increased by almost 900% since 2019
- Electric cars surpassed all other fuel types in new registrations in 2023, with 38% of newly registered cars being fully electric
- The situation in Norway indicates that near full electrification is possible



The charging infrastructure is expanding but needs further growth



- The Swedish charging infrastructure is catching up with the electric vehicle fleet
- With a 92% share, slow AC chargers are by far the most common charger type in Sweden's public charging network
- Compared to Norway, Sweden's charging infrastructure does not have as many fast DC chargers



Extended roadside stops due to EV charging means QSR market is well placed to grow



- As the electric fleet expands, roadside stops are becoming longer
- Public charging points are often located near roadside businesses such as quick service restaurants
- DC chargers along the road charge passenger cars in the same amount of time as a typical quick service restaurant visit

The electrification of the personal vehicle fleet continues

The proportion of fully electric passenger cars in traffic is increasing in Sweden

By the end of 2023, 6% of all passenger cars in traffic were electric. This is a substantial increase of almost 900% since 2019, when the proportion of electric vehicles was just 0.6%.¹ The rapid growth of electric vehicles reflects the impact of government incentives, investments in charging infrastructure, shifting consumer preferences and more modern electric vehicles with better battery capacity and longer driving ranges.

Electric cars surpass all other fuel types in new registrations in Sweden

In 2023, 38% of all newly registered passenger cars in Sweden were fully electric. Petrol cars came in second at 22% while plug-in hybrids came in third with 21%. This means that 61% of new registrations in 2023 were chargeable passenger cars.²

Norway's example shows that near full electrification is possible

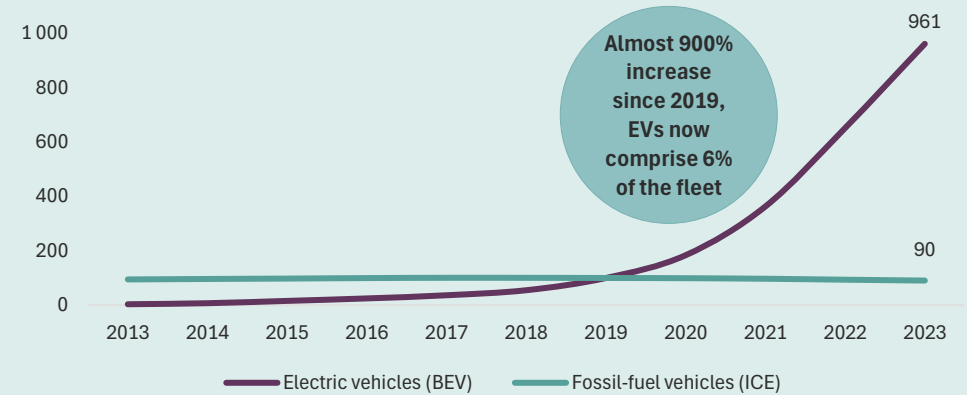
By the end of 2023, 24% of all passenger cars in Norway were electric, a share about four times higher than the one in Sweden.³ Furthermore, Norway has nearly reached its goal of ensuring that 100% of new passenger cars sold are fully electric by 2025.⁴ In October 2024, 94% of newly registered passenger cars in Norway were fully electric.⁵ Since September 2024, Norway has more electric cars than petrol cars in traffic.⁶

Norway's successful electrification is partly attributable to incentives for EVs, such as VAT exemptions, lower road taxes and tolls, cheaper parking and the right to drive in bus lanes. This suggests that full, or near full, electrification is possible in similar countries as well.

Source: 1. Trafikanalys 2. SCB 3. SSB 4. elbil.se 5. ofv.no 6. alltomelbil.se

Rapid growth of electric vehicles in traffic

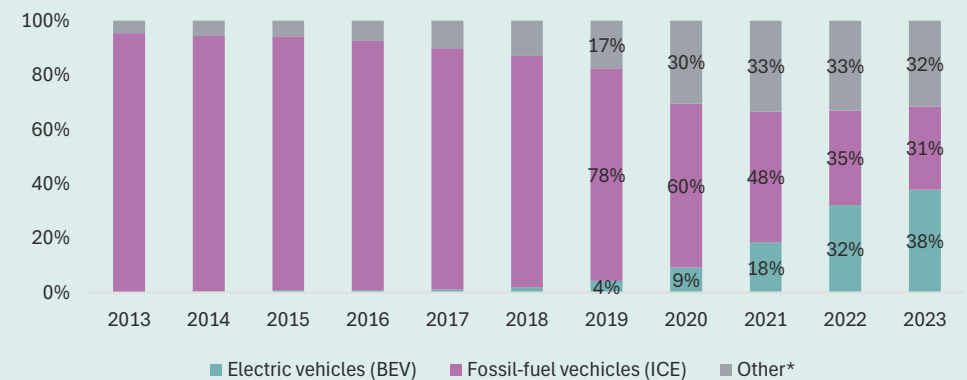
Passenger cars in traffic by fuel type in Sweden (2019 = 100)



Source: Trafikanalys

38% of new passenger cars in 2023 were electric

Share of newly registered passenger cars by fuel type in Sweden



Source: SCB

*Other consist of hybrid electric vehicles (HEV), plug-in hybrid electric vehicles (PHEV), compressed natural gas (CNG) and flex-fuel vehicles (FFV).

Rapid expansion in charging infrastructure, set for further growth

The charging infrastructure is catching up with the electric fleet

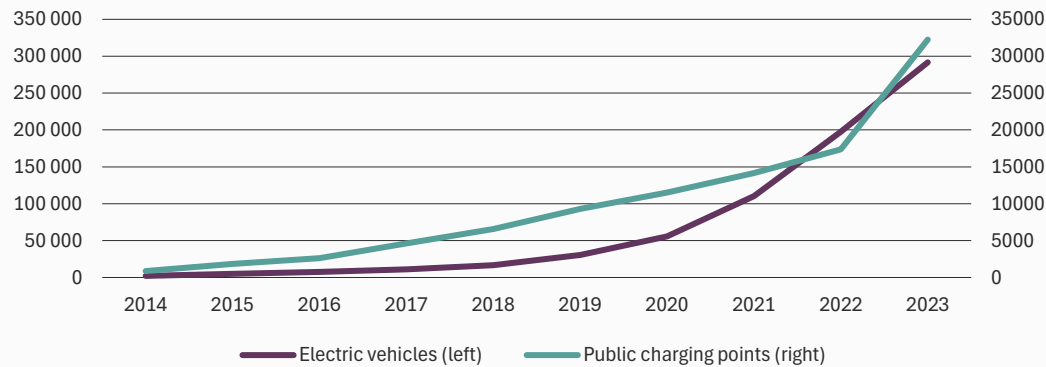
Historically, Sweden's charging infrastructure has been underdeveloped compared to the number of electric vehicles. This has been one of the main reasons why potential EV buyers hesitate. However, since 2022 the number of public charging points has increased rapidly.¹ This growth is driven both by government incentives, such as Klimatklivet, and by private sector investments, which have helped accelerate the deployment of new charging stations across the country.

Compared to the Norwegian charging infrastructure, Sweden is still behind

In Sweden, the most common way to charge electric vehicles is at home or at work using private AC chargers. The AC chargers are slow, which makes them suitable for locations where vehicles remain parked for several hours. However, for long-distance travel, drivers need access to fast DC chargers. Despite this need, 92% of Sweden's public charging points consist of slow AC chargers.¹ In this regard, Sweden's charging infrastructure is less developed than Norway's, as Norway currently has more than 9 000 fast DC chargers while Sweden has just shy of 5 900.² An expansion of fast DC chargers will be necessary as EVs grow in popularity and are increasingly used for long-distance travel.

EV fleet and charging infrastructure grows in tandem

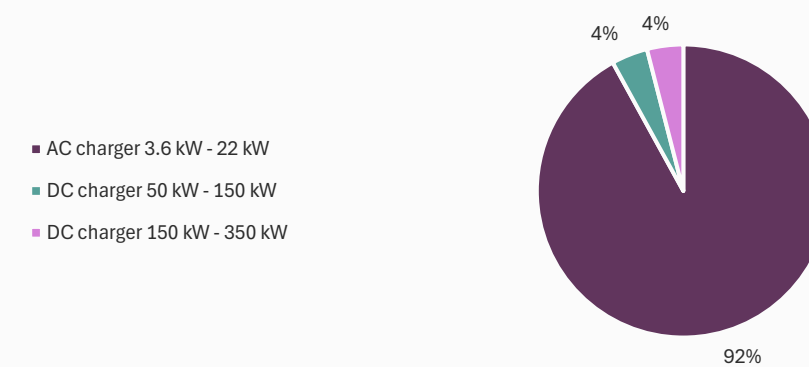
Number of electric vehicles in traffic and public charging points in Sweden



Source: Trafikanalys, Power Circle

Slow AC chargers are by far the most common charger type

Public charging points in Sweden (September 2024)



Source: Power Circle

Extended roadside stops due to EV charging

As the electric vehicle fleet expands, roadside stops are becoming longer

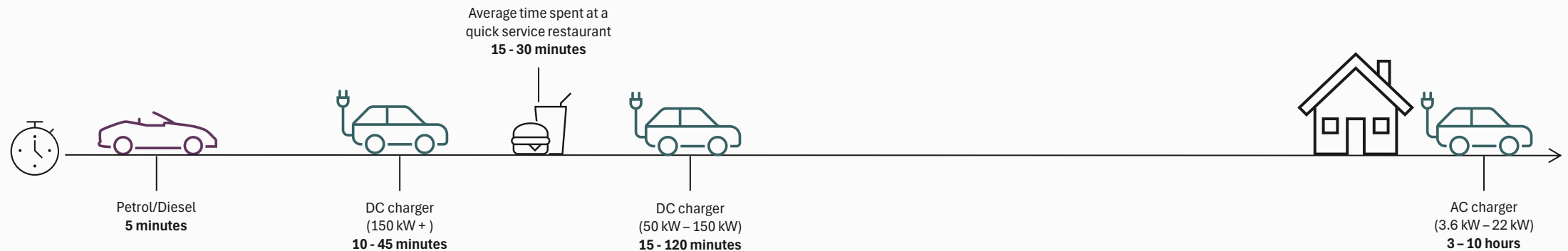
A typical refuelling visit at a petrol station takes about five minutes for most cars. However, for electric vehicles and plug-in hybrids, a typical station visit with fast DC chargers ranges from 10-120 minutes depending on the effect of the charger and the capacity of the car's battery¹. As the electric fleet expands, more people will need to find ways to pass the time while waiting for their cars to charge. This creates new opportunities for roadside businesses, especially as public charging points can be installed in other locations beyond traditional petrol stations.

Charging points are often located near quick service restaurants along the roadside

A study from the US found that charging stations increase spending at nearby businesses, with the highest increase occurring for businesses located within 100 meters of a charging station². In Sweden, roadside businesses, such as quick service restaurants, are now installing charging points to provide better service and attract more customers. McDonald's currently offers charging points at 80 of their 200 restaurants³, while Max has charging points at 38 of their 154 restaurants⁴. Some of these chargers are slow, which highlights the need for faster DC chargers at quick service restaurants, as an average visit at a quick service restaurant takes about 15-30 minutes.

Fast DC chargers along the road charge passenger cars in the same amount of time as a typical quick service restaurant visit

Average time spent charging and refuelling passenger cars with fossil-fuels and different charger types



Source: Recharge, own calculations

05 | Human needs show the way

Human needs show the way

Chapter summary



Human needs and preferences influence choice of activities while charging



- Since charging an electric vehicle takes longer than refuelling a car, drivers need to find new activities to pass the time while waiting
- A study showed that 43% of drivers remain in their car while charging, meaning there is a need for activities to engage in both inside and outside the car
- To meet this demand, car manufacturers are starting to build charging lounges, and petrol stations are planning to build charging stations with playgrounds and outdoor gyms



May charging stations and surrounding commercial spaces become meeting places?



- The technology for transportation and communication have always shaped how we consume and socialize
- During the 1900s and early 2000s massive shifts in technology meant that the role of commercial spaces as social spots as well, diminished
- It may be hypothesized that electrification, coupled with a backlash against,

Needs and preferences influence choice of activity when charging

An observational study conducted in the US in 2023 revealed that 43% of the drivers remain in their vehicles while charging at a public 150 kW DC charger. Meanwhile, 45% leave their vehicles to visit nearby shops. The remaining participants engaged in a mix of activities, such as a combination of shopping and staying in their cars, walking their pets or leaving the area altogether¹. Below are some examples of activities drivers may engage in while charging their cars.

Examples of activities to engage in outside or inside the car while charging

Essential needs



Drivers can address essential needs in several ways while charging. Many charging locations are situated close to stores and quick service restaurants. Some of these restaurants deliver food directly to the charging points which allows drivers to dine comfortably in their car. Those who prefer to stretch their legs have the option to dine inside a quick service restaurant or purchase snacks and other necessities at nearby stores. Restrooms are typically available at nearby restaurants, stores or charging stations.

Social and productive activities



Drivers may also engage in social and productive activities to pass the time while charging. Many take the opportunity to call a friend or interact with others on social media. Others prefer to be productive by working on their laptops or making work calls. While these activities can be done inside the car, there is a growing demand for spaces where people can sit indoors and work comfortably during charging. Some car manufacturers like Audi² and Porsche³ already offer indoor charging lounges at a few locations where their customers can work and charge their phones while waiting.

Entertaining and relaxing activities



Drivers can enjoy a range of entertaining and relaxing activities inside their car during charging. Many electric vehicles are equipped with screens and entertainment systems which allow drivers to watch movies or TV-shows while waiting. Listening to music, podcasts or audiobooks are other ways to unwind. Others might prefer to scroll through social media, read a book or simply recline the seat for a quick nap.

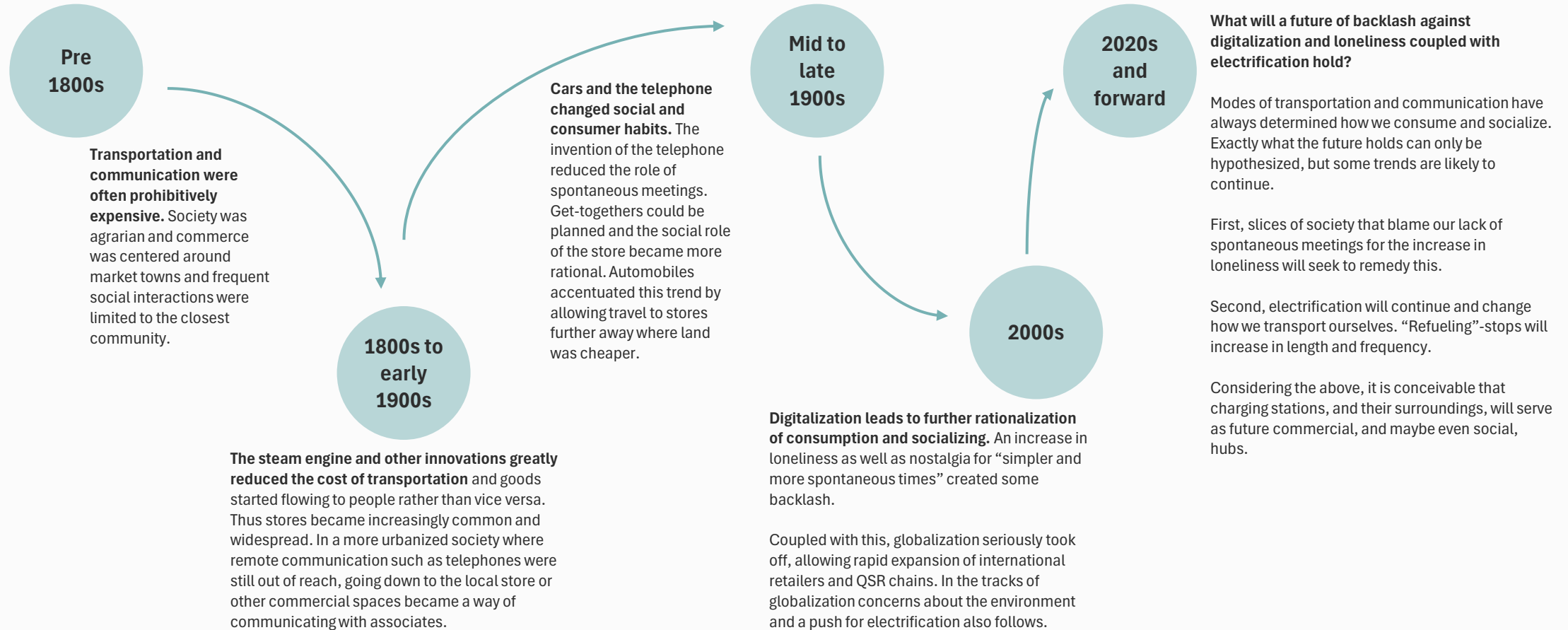
Physical activities



Drivers can also engage in physical activities outside the car during charging. Some step outside simply to stretch their legs and enjoy some fresh air. Others prefer to explore their surroundings by shopping in nearby stores. For pet owners, charging stops offer a chance to take their pets for a walk. Drivers who want to exercise may visit a nearby gym or outdoor gym. Circle K is planning to build outdoor gyms and playgrounds at some of their charging stations to make the waiting more fun for their customers⁴.

Charging stations as commercial and social hubs?

Modes of transportation and communication have always determined how we consume and socialize



6. Appendix

Appendix A: About the report

Definition of quick service restaurants (QSR)

The quick service restaurant industry (QSR industry) is a sub industry within the restaurant industry which consists of restaurants that prioritize speedier service and shorter visits, for instance fast food restaurants and traditional diners. For the purpose of this report two definitions of the QSR industry has been used.

First, when measuring the sales growth of the QSR industry in Sweden the industry has been taken to be analogous to the categories of “Snabbmatsrestauranger” and “Trafiknära restauranger” as measured by Statistics Sweden in their product [Restaurangindex](#).

Second, when comparing the prominence of the QSR industry between different countries, data limitations require a different definition. The definition is based on the inclusion of a number of QSR chains selected with the following method.

1. A number of countries were selected, for this report the countries of interest were: Sweden, Denmark, Norway, Finland, United Kingdom, United States, France and Germany.
2. A large number of QSR chains that were present in each country were identified, never fewer than 10 and never more than 50.
3. The chains were ranked in each country according to their number of outlets, from the most to the least.
4. For each country a “threshold rank” was decided upon, the threshold increases with population: Sweden (20), Denmark (10), Norway (10), Finland (10), United Kingdom (40), United States (50), France (40), Germany (40).
5. If a chain in any country had a rank at or below the country specific threshold, the chain is considered to be part of the QSR industry.

There are two main limitations to the above definition. First, it decreases the emphasis on smaller independent QSR entities. This probably, in relative terms, overestimates the presence of QSR in the US where the industry is more chain dependent. Second, because the threshold scales with population but not proportionally and tops out at 50, it probably underestimates the presence of QSR in the US, which is by far the largest country.

Definition of sales

Sales are in general measured in current prices.

Report production

The report is produced by HUI Research AB on behalf of Prisma Properties AB.

Appendix B: chains in definition and store numbers* (1 of 6)

	Denmark	Finland	France	Norway	United Kingdom	Sweden	Germany	United States
Arby's	0	0	0	0	0	0	0	3 413
Auntie Anne's	0	0	0	0	37	0	0	1 198
Backwerk	0	0	0	0	0	0	294	0
Bastard Burgers	0	0	0	2	0	70	0	1
BCHEF	0	0	58	0	0	0	0	0
Berliner	0	0	27	0	0	0	0	0
Bojangles	0	0	0	0	0	0	0	813
Bone's	27	0	0	0	0	0	0	0
Brioche Dorée	0	0	241	0	0	0	0	11
Brödernas	0	0	0	0	0	75	0	0
Bubbleology	0	0	1	0	35	0	0	0
Burger King	59	68	500	92	500	114	759	6 778
Burgerme	0	0	0	0	0	0	140	0
Burgermeister	0	0	0	0	0	0	15	0
Carl's Jr.	16	0	7	0	0	0	0	1 066
Chatime	0	1	15	0	30	1	4	15
Checkers/Rally's	0	0	0	0	0	0	0	791
Chick-fil-A	0	0	0	0	0	0	0	2 552
Chipotle	0	0	6	0	30	0	2	3 437
Chop chop	0	0	0	0	0	41	0	0
Church's Chicken	0	0	0	0	0	0	0	789

Sources: Company filings, company websites, various media sources

*Some numbers are approximate.

Appendix B: chains in definition and store numbers* (2 of 6)

	Denmark	Finland	France	Norway	United Kingdom	Sweden	Germany	United States
Ciao Bella	0	0	0	0	0	0	49	0
Coffee Fellows	0	0	0	0	0	0	190	2
Culver's	0	0	0	0	0	0	0	944
Dairy Queen	0	0	0	0	0	0	0	4 254
Daisys	0	0	0	0	0	20	0	0
Dean & David	0	0	0	0	0	0	190	0
Del Taco	0	0	0	0	0	0	0	592
Deli de luca	0	0	0	65	0	0	0	0
Dinners	0	0	0	0	0	6	0	0
Ditsch	0	0	0	0	0	0	171	0
Domino's	3	0	480	42	1 300	14	400	6 854
Ducasse	0	0	65	0	4	0	1	2
Dunkin'	2	0	0	0	27	0	10	958
Dutch Bros	0	0	0	0	0	0	0	831
El Pollo Loco	0	0	0	0	0	0	0	495
Emilie and the Cools Kids	0	0	30	0	0	0	0	0
Extrablatt	0	0	0	0	0	0	100	0
Extrawurst	0	0	0	0	3	0	26	0
Fafa's	0	20	0	0	0	0	0	0
Firehouse Subs	0	0	0	0	0	0	0	1 209
Five Guys	0	0	30	0	175	0	35	1 484

Sources: Company filings, company websites, various media sources
 *Some numbers are approximate.

Appendix B: chains in definition and store numbers* (3 of 6)

	Denmark	Finland	France	Norway	United Kingdom	Sweden	Germany	United States
Flunch	0	0	160	0	0	0	0	0
Frasses	0	0	0	0	0	35	0	0
Freddy's Frozen Custard & Steakburgers	0	0	0	0	0	0	0	515
Fresh food	0	0	0	0	0	6	0	0
Friends & Brgrs	0	30	0	0	0	0	0	0
Frittenwerk	0	0	0	0	0	0	30	0
German Doner Kebab	0	0	0	0	147	5	0	0
Greggs	0	0	0	0	2 000	0	0	0
Hardee's	0	0	0	0	0	0	0	1 707
Hesburger	0	274	0	0	0	0	2	0
Immergrün	0	0	0	0	0	0	70	0
In-N-Out Burger	0	0	0	0	0	0	0	398
Jack in the Box	0	0	0	0	0	0	0	2 185
Jafs	0	0	0	50	0	0	0	0
Janny's Eis	0	0	0	0	0	0	100	0
Jersey Mike's	0	0	0	0	0	0	0	2 684
Jimmy John's	0	0	0	0	0	0	0	2 644
Joe and the Juice	71	3	9	28	69	41	3	65
Kamps	0	0	0	0	0	0	360	0
KFC	12	5	360	0	1 000	22	216	3 791
Kochlöffel	0	0	0	0	0	0	80	0

Sources: Company filings, company websites, various media sources

*Some numbers are approximate.

Appendix B: chains in definition and store numbers* (4 of 6)

	Denmark	Finland	France	Norway	United Kingdom	Sweden	Germany	United States
Kotipizza	0	304	0	0	0	0	0	0
Krispy Kreme	0	0	9	0	127	0	0	350
Kylling og Co	15	0	0	0	0	0	0	0
La Crossiantere	0	0	250	0	0	0	0	0
La Fabrique - Cookies	0	0	20	0	0	0	0	0
Le Pain Quotidien	0	0	11	0	1	0	0	49
Little Caesars	0	0	0	0	3	0	0	4 217
L'Osteria	0	0	2	0	2	0	129	0
Ma'Loa	0	0	1	0	0	0	27	0
Marco's Pizza	0	0	0	0	0	0	0	1 144
Max	5	0	0	8	0	154	0	0
McAlister's Deli	0	0	0	0	0	0	0	539
McDonald's	99	77	1 500	77	1 270	200	1 385	13 457
Moe's Southwest Grill	0	0	0	0	0	0	0	612
Monarch	5	0	0	0	0	0	0	0
Mundfein	0	0	0	0	0	0	45	0
Nachos	0	0	30	0	0	0	0	0
Nando's	0	0	0	0	485	0	0	48
Nordsee	0	0	0	0	0	0	217	0
O'Tacos	0	0	301	0	0	0	1	0
Panda Express	0	0	0	0	0	0	0	242

Sources: Company filings, company websites, various media sources
 *Some numbers are approximate.

Appendix B: chains in definition and store numbers* (5 of 6)

	Denmark	Finland	France	Norway	United Kingdom	Sweden	Germany	United States
Papa Johns	0	0	0	0	400	0	11	322
Papa Murphy's	0	0	0	0	0	0	0	1 127
Paul	0	0	19	0	35	0	0	2
Peppes Pizza	0	0	0	78	0	0	0	0
Peter Pane	0	0	0	0	0	0	45	0
Pizza hut	0	18	270	0	840	25	67	6 593
Pizzabakeren	0	0	0	200	0	17	0	0
Poke House	0	0	10	0	11	0	0	2
Pomme de Pain	0	0	37	0	0	0	0	0
Pommesfreunde	0	0	0	0	0	0	35	0
Popeyes Louisiana Kitchen	0	0	18	0	68	0	0	3 076
Prêt À Manger	0	0	50	0	498	0	11	67
QDOBA	0	0	0	0	0	0	0	751
Quick	0	0	135	0	0	0	0	0
Raising Cane's	0	0	0	0	0	0	0	727
Rasta	0	0	0	0	0	30	0	0
Rax Buffet	0	30	0	0	0	0	0	0
Rolls	0	99	0	0	0	0	0	0
Royal Donuts	0	0	0	0	0	0	45	0
Shake Schack	0	0	0	0	18	0	0	334
Sibylla	0	0	0	0	0	140	0	0

Sources: Company filings, company websites, various media sources

*Some numbers are approximate.

Appendix B: chains in definition and store numbers* (6 of 6)

	Denmark	Finland	France	Norway	United Kingdom	Sweden	Germany	United States
Smiley's Pizza	0	0	0	0	0	0	60	0
Sonic Drive-In	0	0	0	0	0	0	0	3 521
Subway	2	196	375	27	2 126	158	683	20 133
Sunset Boulevard	48	0	0	0	0	0	0	0
Sushi Mania	21	0	0	0	0	0	0	0
Taco Bell	0	16	0	0	139	0	0	7 405
Tim Hortons	0	0	0	0	78	0	0	642
Tropical Smoothie Cafe	0	0	0	0	0	0	0	1 372
United Curry	0	0	0	0	0	0	120	0
Vapiano	0	2	15	0	5	6	39	1
Waffle Factory	0	0	71	0	0	0	0	0
Wendy's	0	0	0	0	40	0	0	603
Whataburger	0	0	0	0	0	0	0	997
Wingstop	0	0	6	0	56	0	0	1 926
Zaxby's	0	0	0	0	0	0	0	942

Sources: Company filings, company websites, various media sources

*Some numbers are approximate.

