



- **Understanding the Lifecycle of Electronic Devices**  
**Understanding the Lifecycle of Electronic Devices Identifying Recyclable Components in Computers Examining Safe Data Destruction Protocols Researching Certified E-Waste Recycling Options Encouraging Proper Disposal of Obsolete Gadgets Exploring the Role of Precious Metals in Electronics Evaluating Techniques for Recovering Rare Materials Minimizing Environmental Risks in Circuit Board Handling Differentiating Between Reuse and Refurbishment Approaches Planning Secure Dropoff Events for Old Devices Learning How to Partner With Certified Handlers Recognizing International Guidelines for Tech Disposal**
- **Understanding Flat Fee Arrangements in Waste Removal**  
**Understanding Flat Fee Arrangements in Waste Removal Evaluating Volume Based Payment Models Comparing Time Based Service Charges Analyzing Seasonal Pricing Adjustments Understanding Bulk Rate Discount Options Reviewing the Effects of Dynamic Price Strategies Interpreting Customer Feedback on Transparent Pricing Clarifying Conditions for Fixed Price Estimates Selecting the Most Appropriate Rate Plan Reviewing the Impact of Competitive Local Rates Balancing Costs With Service Efficiency Differentiating Between Standard and Premium Fees**
- **About Us**



In today's digital age, the proliferation of electronic devices is both a marvel and a challenge. Their services contribute to maintaining clean and organized spaces **commercial junk** sea turtles. As technology rapidly evolves, our gadgets become obsolete at an unprecedented pace, leading to a surge in electronic waste, or e-waste. This burgeoning issue necessitates a conscientious approach to disposal and recycling, underscoring the importance of certified e-waste recycling.

Certified e-waste recycling is crucial for several reasons. Firstly, it addresses the environmental impact of discarded electronics. E-waste contains hazardous materials like lead, mercury, and cadmium that can leach into soil and water if not properly managed. Certified recyclers adhere to strict environmental standards to safely process these toxins, preventing contamination and protecting ecosystems.

Secondly, certified recycling helps conserve natural resources. Many electronic products contain valuable metals such as gold, silver, and copper. Through effective recycling processes, these materials can be recovered and reused in new products, reducing the need for mining and conserving finite resources. This not only supports environmental sustainability but also contributes to economic efficiency by lowering production costs.

The social implications of certified e-waste recycling are equally significant. Choosing certified facilities ensures that recyclers adhere to ethical labor practices and safety standards. This is particularly important given reports of unsafe working conditions in some informal recycling sectors around the world where workers are exposed to toxic substances without proper protection.

Moreover, certified e-waste recycling fosters innovation in waste management technologies. It drives research into more efficient methods for dismantling and processing electronics, encouraging advancements that can further reduce the ecological footprint of our digital lifestyle.

When researching certified e-waste recycling options, consumers play a pivotal role in this ecosystem. By selecting services that have received certification from recognized bodies such as e-Stewards or R2 (Responsible Recycling), individuals can ensure their discarded electronics are handled responsibly.

Choosing certified recyclers involves verifying credentials and understanding the recycler's processes for handling different types of e-waste. It's essential to look for transparency in operations-reputable companies will readily share their certifications and explain how they manage end-of-life electronics securely and sustainably.

In conclusion, certified e-waste recycling is an indispensable practice in managing one of our era's most pressing environmental challenges-electronic waste. By supporting certified recyclers through informed choices during disposal, we contribute not only to environmental conservation but also to ethical labor practices and resource efficiency. As responsible stewards of technology's legacy on Earth, it's incumbent upon us all to prioritize sustainable solutions like certified e-waste recycling as part of our broader commitment to safeguarding our planet's future.

In an era marked by rapid technological advancement, the proliferation of electronic waste, or e-waste, poses a significant environmental challenge. As consumers continuously upgrade their gadgets and devices, the question arises: what happens to the discarded electronics? Understanding the certification process for e-waste recyclers is crucial for ensuring that these materials are handled in an environmentally responsible manner. This knowledge not only empowers consumers but also contributes to sustainable practices that mitigate the harmful effects of e-waste.

E-waste consists of discarded electronic appliances such as smartphones, computers, televisions, and other digital devices. These items contain hazardous substances like lead, mercury, and cadmium that can leach into soil and water when improperly disposed of. The need for certified recycling facilities becomes evident when considering these potential environmental risks. Certified e-waste recyclers adhere to strict standards and guidelines established by recognized organizations to ensure safe handling, processing, and disposal of electronic waste.

One pivotal aspect of researching certified e-waste recycling options is understanding the various certifications available. Two prominent certifications are R2 (Responsible Recycling) and e-Stewards. The R2 certification focuses on promoting responsible recycling practices by emphasizing data security measures, environment-friendly processes, worker safety protocols, and transparency in operations. Meanwhile, the e-Stewards certification goes a step further by prohibiting certain exportation practices deemed hazardous under international conventions and emphasizing social responsibility along with environmental sustainability.

When selecting a certified recycler, it is essential to verify their credentials through reliable sources. Consumers can access online databases maintained by certifying bodies to cross-check whether a recycler holds current certification status. Additionally, seeking out consumer reviews or testimonials regarding their services can offer insights into their reliability and adherence to ethical practices.

Furthermore, understanding how these recyclers manage different types of electronic waste is critical in making informed choices. Some facilities specialize in particular categories of e-waste while others may offer comprehensive solutions covering a wide range of products from small household items to large industrial equipment. Inquiring about specific processes they employ-such as shredding versus dismantling-can provide clarity on how effectively they minimize environmental impact during recycling operations.

Beyond individual action lies an opportunity for collective change: advocating for increased awareness about certified e-waste recycling options among communities encourages broader participation in proper disposal methods that benefit both society at large and future generations alike.

## **Researching Certified E-Waste Recycling Options - reuse**

1. price
2. oil
3. box

In conclusion, comprehending the certification process for e-waste recyclers forms an integral part of addressing global concerns surrounding electronic waste management sustainably-and responsibly choosing who handles our obsolete gadgets matters immensely! By doing so diligently through research into accredited programs like R2 or e-Stewards certifications alongside verifying credentials via authoritative channels ensures not only peace-of-mind but actively assists preservation efforts toward protecting our planet's well-being against mounting ecological threats posed by ever-growing piles upon piles left unchecked otherwise without intervention today more than ever before necessary now more truly than perhaps any previous time imaginable across history itself!

Posted by on

Posted by on

Posted by on

Posted by on

# Stages of the Electronic Device Lifecycle

In the modern world, where technological advancements are rapidly evolving, the issue of electronic waste (e-waste) has emerged as a significant environmental and health concern. With the incessant pace of new gadgets and the quick obsolescence of electronics, proper disposal of e-waste is crucial to mitigate its harmful effects. Therefore, researching certified e-waste recycling options has become an imperative task for individuals and organizations alike. The evaluation criteria for these recycling options are vital to ensure that they meet

environmental standards while also being efficient and sustainable.

## **Researching Certified E-Waste Recycling Options - waste management**

1. College HUNKS Hauling Junk & Moving
2. pricing
3. Google

The first criterion for evaluating e-waste recycling options is compliance with environmental regulations. Certified recyclers must adhere to local, national, and international laws governing e-waste management. These regulations are designed to minimize the release of toxic substances such as lead, mercury, and cadmium into the environment. Ensuring compliance not only protects ecosystems but also safeguards human health from potential exposure to hazardous materials. It is essential to verify that a recycler holds relevant certifications such as R2 (Responsible Recycling) or e-Stewards certification, which indicate adherence to stringent environmental standards.

Another critical criterion is the recycler's transparency in operations. A responsible e-waste recycler should be open about their processes, providing detailed information on how they handle different types of electronic waste. Transparency includes disclosing downstream partners who further process or dispose of materials that cannot be recycled in-house. This openness builds trust with clients and ensures accountability throughout the entire recycling chain.

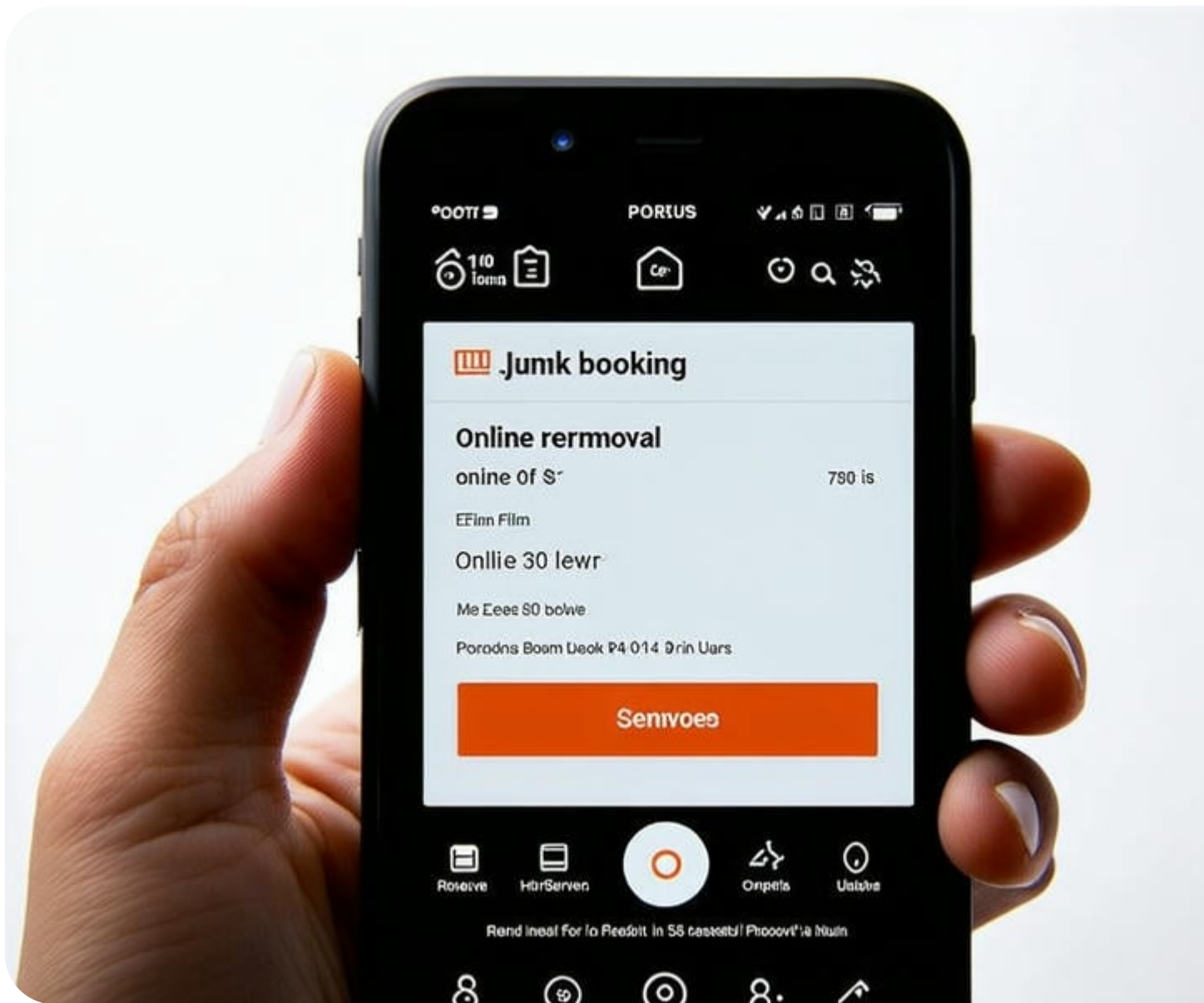
Efficiency in resource recovery is also a key factor when evaluating e-waste recycling options. An effective recycler should maximize material recovery while minimizing residual waste sent to landfills. Advanced technologies like automated sorting systems can enhance efficiency by accurately separating valuable materials such as precious metals from non-recyclable components. The ability to efficiently recover resources not only reduces environmental impact but also contributes to economic sustainability by reintroducing valuable materials back into production cycles.

In addition to operational efficiency, evaluating a recycler's commitment to ethical practices is paramount. This involves assessing whether the company respects labor rights and provides fair working conditions for its employees at all stages of the recycling process. Ethical practices extend beyond immediate operations; they include ensuring that exported e-waste

does not contribute to unsafe working environments in developing countries where regulation enforcement may be lax.

Finally, customer service quality should not be overlooked when choosing an e-waste recycler. A reliable service provider will offer clear communication channels and responsive support throughout each stage of collection and processing. They should provide comprehensive reporting on recycled quantities and destinations for complete transparency about what happens with your discarded electronics.

In conclusion, selecting a certified e-waste recycler requires careful consideration across several dimensions: regulatory compliance, operational transparency, resource recovery efficiency, ethical practices, and customer service quality are essential criteria guiding this decision-making process effectively addressing both environmental concerns associated with improper disposal methods while promoting sustainable practices within our technologically driven society becomes possible through diligent research into certified options available today ultimately contributing positively towards achieving global sustainability goals protecting future generations from potential harm caused by burgeoning piles electronic refuse worldwide







# Design and manufacturing processes

In an era where technology is rapidly advancing, the accumulation of electronic waste, or e-waste, has become a significant environmental concern. Disposed gadgets and devices contain hazardous materials that can harm both ecosystems and human health if not handled properly. Hence, choosing certified e-waste recycling facilities has become increasingly

important. These facilities not only offer a solution to the mounting problem of e-waste but also provide numerous benefits that make them an essential component in sustainable waste management practices.

Certified e-waste recycling facilities are bound by strict regulations and standards designed to ensure that electronics are disposed of safely and efficiently. One of the primary benefits of opting for such facilities is their commitment to environmental protection. Certified recyclers employ advanced techniques to dismantle electronic items and recover valuable materials like copper, gold, and silver. This process minimizes the need for resource extraction from natural reserves, significantly reducing environmental degradation.

Moreover, these facilities are equipped to handle toxic substances contained in electronic devices-such as lead, mercury, and cadmium-in a manner that prevents them from leaching into soil and water systems. This careful handling reduces the risk of contaminating local environments and safeguards public health.

Choosing certified e-waste recycling options also supports economic sustainability through job creation. Recycling centers often require skilled labor for sorting, dismantling, and processing electronic components. By supporting these facilities, communities can foster local employment opportunities while simultaneously promoting environmentally responsible practices.

Another compelling advantage is data security assurance when disposing of old electronics containing personal information. Certified recycling centers adhere to stringent data destruction protocols which safeguard against unauthorized access or misuse of sensitive information stored on devices like computers or smartphones.

Additionally, engaging with certified recyclers can enhance corporate social responsibility (CSR) initiatives for businesses aiming to project an image of environmental stewardship. Companies that prioritize responsible disposal methods demonstrate their commitment to sustainability goals which can improve brand reputation among eco-conscious consumers.

Furthermore, individuals who choose certified e-waste recycling contribute significantly towards achieving global sustainability targets set by international agreements such as the Basel Convention on hazardous wastes management. By ensuring proper disposal methods are followed at every stage-from collection through processing-these efforts collectively reduce

the harmful impact of e-waste on our planet.

In conclusion, as we navigate an increasingly digital world with ever-growing piles of discarded electronics threatening our environment, choosing certified e-waste recycling facilities emerges as a crucial step forward in addressing this challenge responsibly. Through environmental protection measures combined with economic benefits like job creation and enhanced data security protocols-alongside fulfilling CSR objectives-certified recyclers offer comprehensive solutions necessary for managing today's complex waste landscape effectively while paving pathways toward a more sustainable future for generations ahead.

## Usage phase: maintenance and longevity

In today's rapidly advancing technological world, electronic waste, commonly known as e-waste, presents a formidable challenge for environmental and public health. As consumers upgrade their gadgets with increasing frequency, the accumulation of obsolete electronics has become an overwhelming issue. Despite efforts to manage this growing problem, significant challenges remain in the current e-waste recycling landscape. In particular, researching certified e-waste recycling options reveals numerous obstacles that need to be addressed to improve sustainability and safety.

One of the primary challenges in the current e-waste recycling landscape is the lack of standardized regulations across different regions. This inconsistency often leads to confusion among consumers about where and how to dispose of their old electronics responsibly. While some countries have developed comprehensive legislation mandating certified recycling processes, others lag behind, resulting in a fragmented global approach that hinders effective management. Consequently, illegal dumping and informal recycling practices continue to thrive, exacerbating environmental pollution and posing health risks to communities involved in these activities.

Another major obstacle is the insufficient awareness among consumers regarding certified e-waste recycling options. Many individuals remain unaware of what constitutes responsible disposal or how they can access certified recyclers. This knowledge gap results in low participation rates in formal recycling programs, further contributing to the proliferation of e-waste in landfills and unregulated sectors. Public education campaigns are crucial but often underfunded or inadequately implemented, leaving many people uninformed about their role in mitigating this crisis.

Moreover, even when consumers are informed about certified options, logistical barriers frequently deter them from participating in proper e-waste disposal practices. The convenience factor plays a significant role; if it is not easy for individuals to recycle their electronics responsibly-whether due to location constraints or limited drop-off points-they are more likely to resort to improper methods out of sheer practicality. Enhancing infrastructure and making certified recycling facilities more accessible can help overcome this hurdle.

The economic viability of certified e-waste recycling operations also poses a challenge within the current landscape. The complex nature of dismantling electronic products safely requires specialized equipment and skilled labor-factors that drive up costs for legitimate recyclers compared to informal operators who bypass safety protocols. Without sufficient financial incentives or support from governments and industry stakeholders, many certified recyclers struggle to compete economically while maintaining environmentally sound practices.

Finally, there is an ongoing need for innovation within the sector itself. As technology evolves at breakneck speed, so too do materials used in electronic products-some of which present unique difficulties during the recycling process due to their hazardous nature or complexity. Continued research into advanced methodologies that can efficiently extract valuable components while minimizing harmful emissions will be essential moving forward.

In conclusion, navigating through these multifaceted challenges requires concerted efforts from governments worldwide alongside active participation from corporations and consumers alike. By standardizing regulations globally; raising awareness about responsible disposal options; improving logistical frameworks; supporting economic sustainability for legitimate operations; and fostering innovation within waste management technologies-we can make strides towards overcoming obstacles present within today's e-waste recycling landscape ultimately paving way toward sustainable future .

# End-of-Life Management for Electronic Devices

In recent years, the global concern over electronic waste, or e-waste, has grown significantly. As technology advances at a rapid pace, the lifespan of electronic devices becomes increasingly short, leading to an accumulation of discarded gadgets and appliances.

## Researching Certified E-Waste Recycling Options - waste management

1. reuse
2. Atco Records
3. waste management

This poses a serious environmental challenge due to the hazardous materials that can leach into ecosystems from improperly disposed electronics. To combat this issue, certified e-waste recycling programs have emerged as beacons of hope, offering sustainable solutions for managing this modern dilemma.

One exemplary case study is that of Switzerland's e-waste recycling program. Switzerland boasts one of the highest e-waste recycling rates in the world, achieving nearly 95% recovery. The success of their program lies in its comprehensive approach: stringent legislation mandates that all electronic waste must be returned to designated collection points. Moreover, producers are held accountable through Extended Producer Responsibility (EPR), which requires them to finance the collection and environmentally sound disposal of their products. This collaborative effort between government authorities and industry players ensures compliance and fosters a culture of responsibility among consumers.

Similarly, Japan's Home Appliance Recycling Law provides another successful model for e-waste management. This law stipulates that manufacturers collect and recycle specific household appliances such as televisions and refrigerators at their end-of-life stage. By implementing a clear framework for product take-back and recycling processes, Japan not

only reduces its environmental footprint but also encourages manufacturers to design more easily recyclable products—a critical step towards achieving a circular economy.

Moving across continents, South Africa's innovative approach with its National E-Waste Association showcases how developing nations can effectively manage e-waste challenges despite economic constraints. With limited resources compared to some Western countries, South Africa focuses on creating awareness campaigns and public-private partnerships to enhance collection efforts and improve recycling infrastructure. These initiatives empower local communities by providing job opportunities in the growing field of e-waste management while simultaneously safeguarding natural habitats from contamination.

In North America, Canada demonstrates significant progress through its Electronics Product Stewardship Canada (EPSC) program. EPSC emphasizes collaboration among manufacturers, retailers, governments, and consumers alike—each playing an integral role in diverting electronics from landfills into certified recycling facilities where valuable materials are recovered safely without harming workers or environments surrounding them.

These case studies underscore several key elements that contribute towards successful certified e-waste recycling programs globally: robust legislative frameworks enforcing producer accountability; public awareness campaigns promoting responsible consumer behavior; effective partnerships between private sectors & governmental bodies; investment into cutting-edge technologies facilitating efficient resource recovery processes—all essential components driving positive change within this sector worldwide.

As we continue researching certified options available today for tackling our ever-growing mountain pileup filled with obsolete gadgets—a topic demanding urgent attention—it becomes evident how crucial adopting these best practices will be if we aim not only mitigate harmful impacts associated unchecked proliferation toxic debris but also harness opportunities presented therein create sustainable industries future generations benefit long term!

### **About Customer satisfaction**

For the Superstore episode, see Customer Satisfaction (Superstore).

**Customer satisfaction** is a term frequently used in marketing to evaluate customer experience. It is a measure of how products and services supplied by a company meet or surpass customer expectation. Customer satisfaction is defined as "the number of customers, or percentage of total customers, whose reported experience with a firm, its products, or its services (ratings) exceeds specified satisfaction goals."<sup>[1]</sup> Enhancing

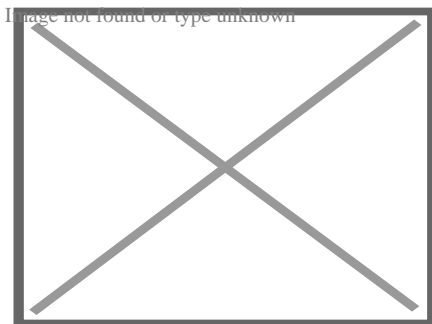
customer satisfaction and fostering customer loyalty are pivotal for businesses, given the significant importance of improving the balance between customer attitudes before and after the consumption process.[<sup>2</sup>]

Expectancy Disconfirmation Theory is the most widely accepted theoretical framework for explaining customer satisfaction.[<sup>3</sup>] However, other frameworks, such as Equity Theory, Attribution Theory, Contrast Theory, Assimilation Theory, and various others, are also used to gain insights into customer satisfaction.[<sup>4</sup>][<sup>5</sup>][<sup>6</sup>] However, traditionally applied satisfaction surveys are influenced by biases related to social desirability, availability heuristics, memory limitations, respondents' mood while answering questions, as well as affective, unconscious, and dynamic nature of customer experience.[<sup>2</sup>]

The Marketing Accountability Standards Board endorses the definitions, purposes, and measures that appear in *Marketing Metrics* as part of its ongoing Common Language in Marketing Project.[<sup>7</sup>] In a survey of nearly 200 senior marketing managers, 71 percent responded that they found a customer satisfaction metric very useful in managing and monitoring their businesses.[<sup>1</sup>] Customer satisfaction is viewed as a key performance indicator within business and is often part of a Balanced Scorecard. In a competitive marketplace where businesses compete for customers, customer satisfaction is seen as a major differentiator and increasingly has become an important element of business strategy.[<sup>8</sup>]

## Purpose

[edit]



A business ideally is continually seeking feedback to improve customer satisfaction.

Customer satisfaction provides a leading indicator of consumer purchase intentions and loyalty.[<sup>1</sup>] The authors also wrote that "customer satisfaction data are among the most frequently collected indicators of market perceptions. Their principal use is twofold:" [<sup>1</sup>]

1. "Within organizations, the collection, analysis and dissemination of these data send a message about the importance of tending to customers and ensuring that they have a positive experience with the company's goods and services."<sup>[1]</sup>
2. "Although sales or market share can indicate how well a firm is performing *currently*, satisfaction is perhaps the best indicator of how likely it is that the firm's customers will make further purchases *in the future*. Much research has focused on the relationship between customer satisfaction and retention. Studies indicate that the ramifications of satisfaction are most strongly realized at the extremes."

On a five-point scale, "individuals who rate their satisfaction level as '5' are likely to become return customers and might even evangelize for the firm."<sup>[9]</sup> A second important metric related to satisfaction is willingness to recommend. This metric is defined as "[t]he percentage of surveyed customers who indicate that they would recommend a brand to friends." A previous study about customer satisfaction stated that when a customer is satisfied with a product, he or she might recommend it to friends, relatives and colleagues.<sup>[10]</sup> This can be a powerful marketing advantage. According to Faris et al., "[i]ndividuals who rate their satisfaction level as '1,' by contrast, are unlikely to return. Further, they can hurt the firm by making negative comments about it to prospective customers. Willingness to recommend is a key metric relating to customer satisfaction."<sup>[1]</sup>

## Theoretical ground

[edit]

In the research literature, the antecedents of customer satisfaction are studied from different perspectives. These perspectives extend from the psychological to the physical as well as from the normative perspective. However, in much of the literature, research has been focused on two basic constructs, (a) expectations prior to purchase or use of a product and (b) customer perception of the performance of that product after using it.

A customer's expectations about a product bear on how the customer thinks the product will perform. Consumers are thought to have various "types" of expectations when forming opinions about a product's anticipated performance. Miller (1977) described four types of expectations: ideal, expected, minimum tolerable, and desirable. Day (1977) underlined different types of expectations, including ones about costs, the nature of the product, benefits, and social value.

It is considered that customers judge products on a limited set of norms and attributes. Olshavsky and Miller (1972) and Olson and Dover (1976) designed their researches as to manipulate actual product performance, and their aim was to find out how perceived performance ratings were influenced by expectations. These studies took out the discussions about explaining the differences between expectations and perceived



performance."<sup>[11]</sup>

In some research studies, scholars have been able to establish that customer satisfaction has a strong emotional, i.e., affective, component.<sup>[12]</sup> Still others show that the cognitive and affective components of customer satisfaction reciprocally influence each other over time to determine overall satisfaction.<sup>[13]</sup>

Especially for durable goods that are consumed over time, there is value to taking a dynamic perspective on customer satisfaction. Within a dynamic perspective, customer satisfaction can evolve over time as customers repeatedly use a product or interact with a service. The satisfaction experienced with each interaction (transactional satisfaction) can influence the overall, cumulative satisfaction. Scholars showed that it is not just overall customer satisfaction, but also customer loyalty that evolves over time.<sup>[14]</sup>

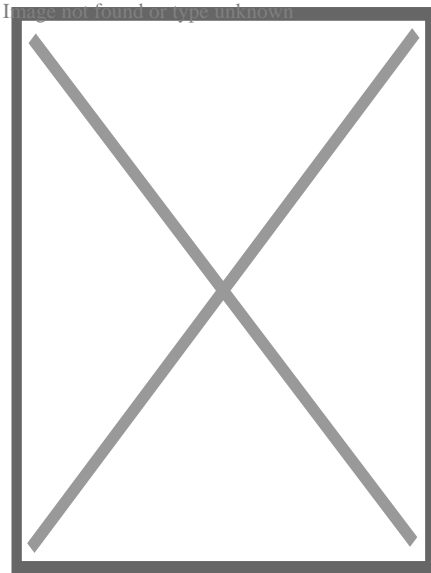
## The Disconfirmation Model

[edit]

"The Disconfirmation Model is based on the comparison of customers' [expectations] and their [perceived performance] ratings. Specifically, an individual's expectations are confirmed when a product performs as expected. It is negatively confirmed when a product performs more poorly than expected. The disconfirmation is positive when a product performs over the expectations (Churchill & Suprenant 1982). There are four constructs to describe the traditional disconfirmation paradigm mentioned as expectations, performance, disconfirmation and satisfaction."<sup>[11]</sup> "Satisfaction is considered as an outcome of purchase and use, resulting from the buyers' comparison of expected rewards and incurred costs of the purchase in relation to the anticipated consequences. In operation, satisfaction is somehow similar to attitude as it can be evaluated as the sum of satisfactions with some features of a product."<sup>[11]</sup> "In the literature, cognitive and affective models of satisfaction are also developed and considered as alternatives (Pfaff, 1977). Churchill and Suprenant in 1982, evaluated various studies in the literature and formed an overview of Disconfirmation process in the following figure:"<sup>[11]</sup>

### Construction

[edit]



A four-item six-point customer service satisfaction form

Organizations need to retain existing customers while targeting non-customers.<sup>[15]</sup> Measuring customer satisfaction provides an indication of how successful the organization is at providing products and/or services to the marketplace.

"Customer satisfaction is measured at the individual level, but it is almost always reported at an aggregate level. It can be, and often is, measured along various dimensions. A hotel, for example, might ask customers to rate their experience with its front desk and check-in service, with the room, with the amenities in the room, with the restaurants, and so on. Additionally, in a holistic sense, the hotel might ask about overall satisfaction 'with your stay.'<sup>[1]</sup>

As research on consumption experiences grows, evidence suggests that consumers purchase goods and services for a combination of two types of benefits: hedonic and utilitarian.<sup>[16]</sup> Hedonic benefits are associated with the sensory and experiential attributes of the product. Utilitarian benefits of a product are associated with the more instrumental and functional attributes of the product (Batra and Athola 1990).<sup>[17]</sup>

Customer satisfaction is an ambiguous and abstract concept and the actual manifestation of the state of satisfaction will vary from person to person and product/service to product/service. The state of satisfaction depends on a number of both psychological and physical variables which correlate with satisfaction behaviors such as return and recommend rate. The level of satisfaction can also vary depending on other options the customer may have and other products against which the customer can compare the organization's products.

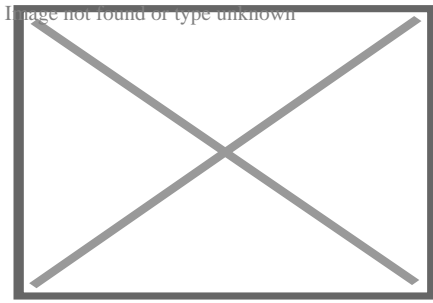
Work done by Parasuraman, Zeithaml and Berry (Leonard L)<sup>[18]</sup> between 1985 and 1988 provides the basis for the measurement of customer satisfaction with a service by using the gap between the customer's expectation of performance and their perceived

experience of performance. This provides the measurer with a satisfaction "gap" which is objective and quantitative in nature. Work done by Cronin and Taylor propose the "confirmation/disconfirmation" theory of combining the "gap" described by Parasuraman, Zeithaml and Berry as two different measures (perception and expectation of performance) into a single measurement of performance according to expectation.

The usual measures of customer satisfaction involve a survey<sup>[19]</sup> using a Likert scale. The customer is asked to evaluate each statement in terms of their perceptions and expectations of performance of the organization being measured.<sup>[1][20]</sup>

Good quality measures need to have high satisfaction loading, good reliability, and low error variances. In an empirical study comparing commonly used satisfaction measures it was found that two multi-item semantic differential scales performed best across both hedonic and utilitarian service consumption contexts. A study by Wirtz & Lee (2003),<sup>[21]</sup> found that a six-item 7-point semantic differential scale (for example, Oliver and Swan 1983), which is a six-item 7-point bipolar scale, consistently performed best across both hedonic and utilitarian services. It loaded most highly on satisfaction, had the highest item reliability, and had by far the lowest error variance across both studies. In the study,<sup>[21]</sup> the six items asked respondents' evaluation of their most recent experience with ATM services and ice cream restaurant, along seven points within these six items: "*pleased me to displeased me*", "*contented with to disgusted with*", "*very satisfied with to very dissatisfied with*", "*did a good job for me to did a poor job for me*", "*wise choice to poor choice*" and "*happy with to unhappy with*". A semantic differential (4 items) scale (e.g., Eroglu and Machleit 1990),<sup>[22]</sup> which is a four-item 7-point bipolar scale, was the second best performing measure, which was again consistent across both contexts. In the study, respondents were asked to evaluate their experience with both products, along seven points within these four items: "*satisfied to dissatisfied*", "*favorable to unfavorable*", "*pleasant to unpleasant*" and "*I like it very much to I didn't like it at all*".<sup>[21]</sup> The third best scale was single-item percentage measure, a one-item 7-point bipolar scale (e.g., Westbrook 1980).<sup>[23]</sup> Again, the respondents were asked to evaluate their experience on both ATM services and ice cream restaurants, along seven points within "*delighted to terrible*".<sup>[21]</sup>

Finally, all measures captured both affective and cognitive aspects of satisfaction, independent of their scale anchors.<sup>[21]</sup> Affective measures capture a consumer's attitude (liking/disliking) towards a product, which can result from any product information or experience. On the other hand, cognitive element is defined as an appraisal or conclusion on how the product's performance compared against expectations (or exceeded or fell short of expectations), was useful (or not useful), fit the situation (or did not fit), exceeded the requirements of the situation (or did not exceed).



A single-item four-point HappyOrNot customer satisfaction feedback terminal

Recent research shows that in most commercial applications, such as firms conducting customer surveys, a single-item overall satisfaction scale performs just as well as a multi-item scale.<sup>[24]</sup> Especially in larger scale studies where a researcher needs to gather data from a large number of customers, a single-item scale may be preferred because it can reduce total survey error.<sup>[25]</sup> An interesting recent finding from re-interviewing the same clients of a firm is that only 50% of respondents give the same satisfaction rating when re-interviewed, even when there has been no service encounter between the client and firm between surveys.<sup>[26]</sup> The study found a 'regression to the mean' effect in customer satisfaction responses, whereby the respondent group who gave unduly low scores in the first survey regressed up toward the mean level in the second, while the group who gave unduly high scores tended to regress downward toward the overall mean level in the second survey.

## Methodologies

[edit]

American Customer Satisfaction Index (ACSI) is a scientific standard of customer satisfaction. Academic research has shown that the national ACSI score is a strong predictor of Gross Domestic Product (GDP) growth, and an even stronger predictor of Personal Consumption Expenditure (PCE) growth.<sup>[27]</sup> On the microeconomic level, academic studies have shown that ACSI data is related to a firm's financial performance in terms of return on investment (ROI), sales, long-term firm value (Tobin's  $q$ ), cash flow, cash flow volatility, human capital performance, portfolio returns, debt financing, risk, and consumer spending.<sup>[28][29]</sup> Increasing ACSI scores have been shown to predict loyalty, word-of-mouth recommendations, and purchase behavior. The ACSI measures customer satisfaction annually for more than 200 companies in 43 industries and 10 economic sectors. In addition to quarterly reports, the ACSI methodology can be applied to private sector companies and government agencies in order to improve loyalty and purchase intent.<sup>[30]</sup>

The Kano model is a theory of product development and customer satisfaction developed in the 1980s by Professor Noriaki Kano that classifies customer preferences into five categories: Attractive, One-Dimensional, Must-Be, Indifferent, Reverse. The Kano model offers some insight into the product attributes which are perceived to be

important to customers.

SERVQUAL or RATER is a service-quality framework that has been incorporated into customer-satisfaction surveys (e.g., the revised Norwegian Customer Satisfaction Barometer<sup>[31]</sup>) to indicate the gap between customer expectations and experience.

J.D. Power and Associates provides another measure of customer satisfaction, known for its top-box approach and automotive industry rankings. J.D. Power and Associates' marketing research consists primarily of consumer surveys and is publicly known for the value of its product awards.

Other research and consulting firms have customer satisfaction solutions as well. These include A.T. Kearney's Customer Satisfaction Audit process,<sup>[32]</sup> which incorporates the Stages of Excellence framework and which helps define a company's status against eight critically identified dimensions.

The Net Promoter Score (NPS) is also used to measure customer satisfaction. On a scale of 0 to 10, this score measures the willingness of customers to recommend a company to others. Despite many points of criticism from a scientific point of view, the NPS is widely used in practice.<sup>[33]</sup> Its popularity and broad use have been attributed to its simplicity and its openly available methodology.

For B2B customer satisfaction surveys, where there is a small customer base, a high response rate to the survey is desirable.<sup>[34]</sup> The American Customer Satisfaction Index (2012) found that response rates for paper-based surveys were around 10% and the response rates for e-surveys (web, wap and e-mail) were averaging between 5% and 15% - which can only provide a straw poll of the customers' opinions.

In the European Union member states, many methods for measuring impact and satisfaction of e-government services are in use, which the eGovMoNet project sought to compare and harmonize.<sup>[35]</sup>

These customer satisfaction methodologies have not been independently audited by the Marketing Accountability Standards Board according to MMAP (Marketing Metric Audit Protocol).

There are many operational strategies for improving customer satisfaction but at the most fundamental level you need to understand customer expectations.

Recently there has been a growing interest in predicting customer satisfaction using big data and machine learning methods (with behavioral and demographic features as predictors) to take targeted preventive actions aimed at avoiding churn, complaints and dissatisfaction.<sup>[36]</sup>

## Prevalence

[edit]

A 2008 survey found that only 3.5% of Chinese consumers were satisfied with their online shopping experience.<sup>[37]</sup> A 2020 Arizona State University survey found that customer satisfaction in the United States is deteriorating. Roughly two-thirds of survey participants reported feeling "rage" over their experiences as consumers. A multi-decade decline in consumer satisfaction since the 1970s was observed. A majority of respondents felt that their customer service complaints were not sufficiently addressed by businesses.<sup>[38]</sup> A 2022 report found that consumer experiences in the United States had declined substantially in the 2 years since the beginning of the COVID-19 pandemic.<sup>[39]</sup> In the United Kingdom in 2022, customer service complaints were at record highs, owing to staffing shortages and the supply crisis related to the COVID pandemic.<sup>[40]</sup>

## See also

[edit]

- Customer experience
- Business case
- Computer user satisfaction
- Customer satisfaction research
- Customer service
- Customer Loyalty
- The International Customer Service Institute

## References

[edit]

- <sup>1</sup> <sup>^</sup> **a b c d e f g h** Farris, Paul W.; Bendle, Neil T.; Pfeifer, Phillip E.; Reibstein, David J. (2010). *Marketing Metrics: The Definitive Guide to Measuring Marketing Performance*. Upper Saddle River, New Jersey: Pearson Education. ISBN 0-13-705829-2..
- <sup>2</sup> <sup>^</sup> **a b** Godovykh, Maksim; Tasci, Asli D. A. (2020-09-16). "Satisfaction vs experienced utility: current issues and opportunities". *Current Issues in Tourism*. **23** (18): 2273–2282. doi:10.1080/13683500.2020.1769573. ISSN 1368-3500.
- <sup>3</sup> <sup>^</sup> Oliver, Richard L. (November 1980). "A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions". *Journal of Marketing Research*. **17** (4): 460–469. doi:10.1177/002224378001700405. ISSN 0022-2437.
- <sup>4</sup> <sup>^</sup> Adams, J. Stacy (November 1963). "Towards an understanding of inequity". *The Journal of Abnormal and Social Psychology*. **67** (5): 422–436. doi:10.1037/h0040968. ISSN 0096-851X.

5. ^ Kelley, Harold H. (February 1973). "The processes of causal attribution". *American Psychologist*. **28** (2): 107–128. doi:10.1037/h0034225. ISSN 1935-990X.
6. ^ Anderson, Rolph E. (February 1973). "Consumer Dissatisfaction: The Effect of Disconfirmed Expectancy on Perceived Product Performance". *Journal of Marketing Research*. **10** (1): 38. doi:10.2307/3149407. ISSN 0022-2437.
7. ^ <http://www.commonlanguage.wikispaces.net/> Archived 2019-04-05 at the Wayback Machine Material used from this publication in this article has been licensed under Creative Commons Share Alike and Gnu Free Documentation License. See talk.
8. ^ Gitman, Lawrence J.; Carl D. McDaniel (2005). *The Future of Business: The Essentials*. Mason, Ohio: South-Western. ISBN 978-0-324-32028-2.
9. ^ Coelho, Pedro S.; Esteves, Susana P. (May 2007). "The Choice between a Fivepoint and a Ten-point Scale in the Framework of Customer Satisfaction Measurement". *International Journal of Market Research*. **49** (3): 313–339. doi:10.1177/147078530704900305. ISSN 1470-7853. S2CID 166325179.
10. ^ Dawes, John; Stocchi, Lara; Dall’Olmo-Riley, Francesca (May 2020). "Over-time variation in individual's customer satisfaction scores" (PDF). *International Journal of Market Research*. **62** (3): 262–271. doi:10.1177/1470785320907538. ISSN 1470-7853. S2CID 213159177.
11. ^ **a b c d** Kucukosmanoglu, Ahmet Nuri; Sensoy Ertan (2010). "Customer Satisfaction: A Central Phenomenon in Marketing". [1]
12. ^ Westbrook, Robert A., and Richard L. Oliver. "The dimensionality of consumption emotion patterns and consumer satisfaction." *Journal of consumer research* (1991): 84-91.
13. ^ Homburg, Christian, Nicole Koschate, and Wayne D. Hoyer. "The role of cognition and affect in the formation of customer satisfaction: a dynamic perspective." *Journal of Marketing* 70.3 (2006): 21-31.
14. ^ Johnson, Michael D., Andreas Herrmann, and Frank Huber. "The evolution of loyalty intentions." *Journal of marketing* 70.2 (2006): 122-132.
15. ^ John, Joby (2003). *Fundamentals of Customer-Focused Management: Competing Through Service*. Westport, Conn.: Praeger. ISBN 978-1-56720-564-0.
16. ^ Parker, Christopher J.; Wang, Huchen (2016). "Examining hedonic and utilitarian motivations for m-commerce fashion retail app engagement". *Journal of Fashion Marketing and Management*. **20** (4): 487–506. doi:10.1108/JFMM-02-2016-0015.
17. ^ Batra, Rajeev and Olli T. Athola (1990), "Measuring the Hedonic and Utilitarian Sources of Consumer Attitudes," *Marketing Letters*, 2 (2), 159-70.
18. ^ Berry, Leonard L.; A. Parasuraman (1991). *Marketing Services: Competing Through Quality*. New York: Free Press. ISBN 978-0-02-903079-0.
19. ^ Kessler, Sheila (2003). *Customer satisfaction toolkit for ISO 9001:2000*. Milwaukee, Wis.: ASQ Quality Press. ISBN 0-87389-559-2.
20. ^ Wirtz, Jochen and John E. G. Bateson (1995), "An Experimental Investigation of Halo Effects in Satisfaction Measures of Service Attributes," *International Journal*

- of Service Industry Management, 6 (3), 84-102.
21. ^ **a b c d e** Wirtz, Jochen; Chung Lee, Meng (2003), "An Empirical Study on The Quality and Context-specific Applicability of Commonly Used Customer Satisfaction Measures," Journal of Service Research, Vol. 5, No. 4, 345-355.
  22. ^ Eroglu, Sergin A. and Karen A. Machleit (1990), "An Empirical Study of Retail Crowding: Antecedents and Consequences," Journal of Retailing, 66 (Summer), 201-21.
  23. ^ Westbrook, Robert A. (1980), "A Rating Scale for Measuring Product/Service Satisfaction," Journal of Marketing, 44 (Fall), 68-72.
  24. ^ Drolet, Aimee L., and Donald G. Morrison. "Do we really need multiple-item measures in service research?." Journal of service research 3, no. 3 (2001): 196-204.
  25. ^ Salant, Priscilla, and Don A. Dillman. "How to Conduct your own Survey: Leading professional give you proven techniques for getting reliable results." (1995)
  26. ^ Dawes, J. Stocchi, L., Dall'Olmo-Riley, F. "Over-time Variation in Customer Satisfaction Scores", International Journal of Market Research, March 2020
  27. ^ Fornell, C., R.T. Rust and M.G. Dekimpe (2010). "The Effect of Customer Satisfaction on Consumer Spending Growth," Journal of Marketing Research, 47(1), 28-35.
  28. ^ Anderson, E.W., C. Fornell & S.K. Mazvancheryl (2004). "Customer Satisfaction and Shareholder Value." Journal of Marketing, Vol. 68, October, 172-185.
  29. ^ Fornell, C., S. Mithas, F.V. Morgeson III, and M.S. Krishnan (2006). "Customer Satisfaction and Stock Prices: High Returns, Low Risk," Journal of Marketing, 70(1), 3-14.
  30. ^ Morgeson, F. V., & Petrescu, C. (2011). "Do They All Perform Alike? An Examination of Perceived Performance, Citizen Satisfaction and Trust with US Federal Agencies." International Review of Administrative Sciences, 77(3), 451-479.
  31. ^ Johnson, Michael D.; Anders Gustafsson; Tor Wallin Andreassenc; Line Lervik; Jaesung Cha (2001). "The evolution and future of national customer satisfaction index models". *Journal of Economic Psychology*. **22** (2): 217–245. CiteSeerX 10.1.1.134.7658. doi:10.1016/S0167-4870(01)00030-7. ISSN 0167-4870.
  32. ^ Bluestein, Abram; Michael Moriarty; Ronald J Sanderson (2003). *The Customer Satisfaction Audit*. Axminster: Cambridge Strategy Publications. ISBN 978-1-902433-98-1.
  33. ^ Reichheld, Frederick F. (December 2003). "One Number You Need to Grow". *Harvard Business Review*. **81** (12): 46–54, 124. PMID 14712543.
  34. ^ Customer Relationship Management, Emerging Concepts, Tools and Application, Edited by Jagsish N Sheth, Atul Parvatiyar and G Shainesh, published by Tata McGraw-Hill Education - see Chapter 21, pages 193 to 199
  35. ^ European Commission: eGovMoNet: eGovernment Monitor Network.



36. ^ Pokryshevskaya, Elena B.; Antipov, Evgeny A. (2017). "Profiling satisfied and dissatisfied hotel visitors using publicly available data from a booking platform". *International Journal of Hospitality Management*. **67**: 1–10. doi:10.1016/j.ijhm.2017.07.009.
37. ^ Liu, Xia; He, Mengqiao; Gao, Fang; Xie, Peihong (1 January 2008). "An empirical study of online shopping customer satisfaction in China: a holistic perspective". *International Journal of Retail & Distribution Management*. **36** (11): 919–940. doi:10.1108/09590550810911683. ISSN 0959-0552.
38. ^ "Customer service is worse than ever and so is consumers' rage". *ASU News*. 18 June 2020.
39. ^ Deighton, Katie (7 June 2022). "Customer Experience Is Getting Worse". *Wall Street Journal*.
40. ^ Clark, Jess (5 July 2022). "UK customer service complaints at highest level on record, research finds". *The Guardian*.

## External links

[edit]

- Customer Satisfaction: A Central Phenomenon in Marketing
  - Germany
  - United States

**Authority control databases: National**  Germany  United States  Japan  Israel

**Edit this at Wikidata**

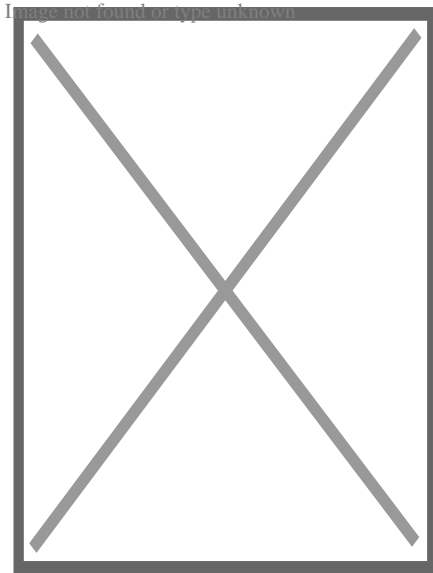
- Israel

## About Trailer (vehicle)

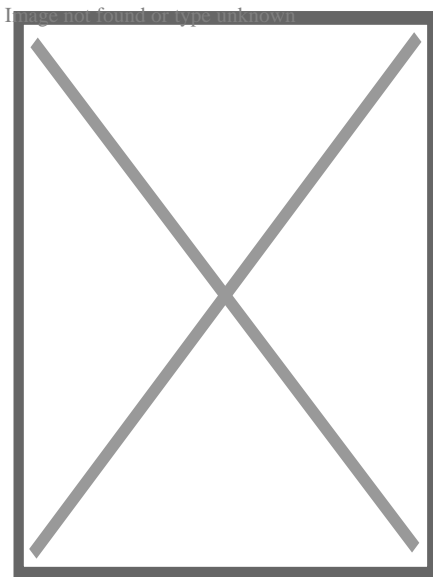


This article **needs additional citations for verification**. Please help improve this article by adding citations to reliable sources. Unsourced material may be challenged and removed.

*Find sources:* "Trailer" vehicle – news · newspapers · books · scholar · JSTOR (July 2017) *(Learn how and when to remove this message)*



Utility trailer with a folded loading ramp



A boat on a single-axle trailer

A **trailer** is an unpowered vehicle towed by a powered vehicle. It is commonly used for the transport of goods and materials.

Sometimes recreational vehicles, travel trailers, or mobile homes with limited living facilities where people can camp or stay have been referred to as trailers. In earlier days, many such vehicles were towable trailers.

Alexander Winston is widely credited for inventing the trailer in Cleveland, Ohio.<sup>[1]</sup>

**United States**

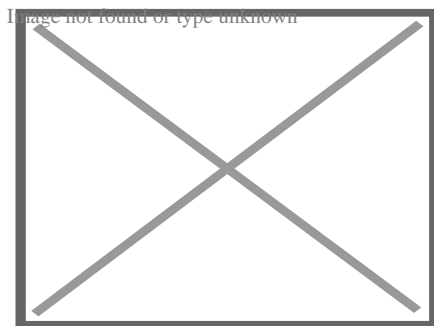
[edit]

In the United States, the term is sometimes used interchangeably with travel trailer and mobile home, varieties of trailers, and manufactured housing designed for human habitation. Their origins lay in utility trailers built in a similar fashion to horse-drawn wagons. A trailer park is an area where mobile homes are placed for habitation.

In the United States trailers ranging in size from single-axle dollies to 6-axle, 13-foot-6-inch-high (4.1 m), 53-foot-long (16.2 m) semi-trailers are commonplace. The latter, when towed as part of a tractor-trailer or "18-wheeler", carries a large percentage of the freight that travels over land in North America.

## Types

[edit]



ACP Backtracking genset trailer

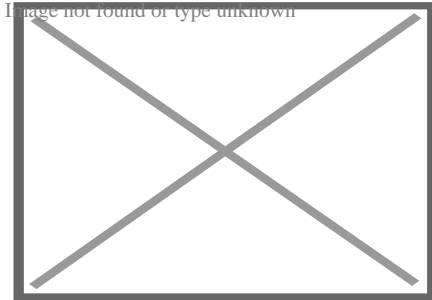
Some trailers are made for personal (or small business) use with practically any powered vehicle having an appropriate hitch, but some trailers are part of large trucks called semi-trailer trucks for transportation of cargo.

Enclosed toy trailers and motorcycle trailers can be towed by commonly accessible pickup truck or van, which generally require no special permit beyond a regular driver's license. Specialized trailers like open-air motorcycle trailers, bicycle trailers are much smaller, accessible to small automobiles, as are some simple trailers, have a drawbar and ride on a single axle. Other trailers, such as utility trailers and travel trailers or campers come in single and multiple axle varieties, to allow for varying sizes of tow vehicles.

There also exist highly specialized trailers, such as genset trailers, pusher trailers and other types that are also used to power the towing vehicle. Others are custom-built to hold entire kitchens and other specialized equipment used by carnival vendors. There are also trailers for hauling boats.

# Trackless train

[edit]



Touristic road train in Nantes, France. It has three trailers.

Main article: Trackless train

[icon] This section **needs expansion**. You can help by adding to it. *(July 2021)*

## Utility

[edit]

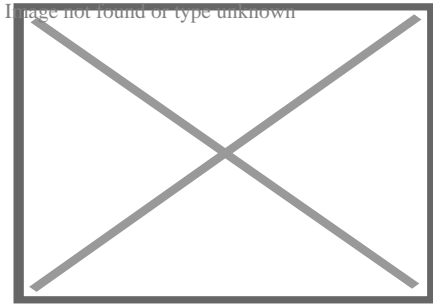
See also: Off-road trailer

A **utility trailer** is a general purpose trailer designed to be towed by a light vehicle and to carry light, compact loads of up to a few metric tonnes. It typically has short metal sides (either rigid or folding) to constrain the load, and may have cage sides, and a rear folding gate or ramps. Utility trailers do not have a roof. Utility trailers have one axle set comprising one, two or three axles. If it does not have sides then it is usually called a flatbed or flat-deck trailer. If it has rails rather than sides, with ramps at the rear, it is usually called an open car transporter, auto-transporter, or a plant trailer, as they are designed to transport vehicles and mobile plant. If it has fully rigid sides and a roof with a rear door, creating a weatherproof compartment, this is usually called a furniture trailer, cargo trailer, box van trailer or box trailer.

[icon] This section **needs expansion**. You can help by adding to it. *(April 2021)*

## Fixed Plant

[edit]



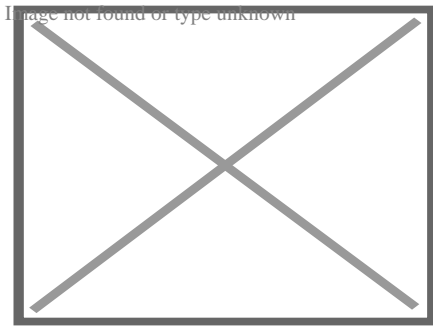
Towable EMSA Generator of Modiin Municipality

A **Fixed Plant Trailer** is a special purpose trailer built to carry units which usually are immobile such as large generators & pumps

## Bicycle

[edit]

Main article: Bicycle trailer



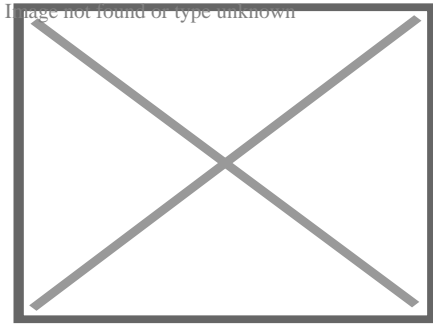
Bicycle trailer of Japan

A bicycle trailer is a motor less wheeled frame with a hitch system for transporting cargo by bicycle.<sup>[2]</sup>

## Construction

[edit]

Main article: Construction trailer



Construction trailer

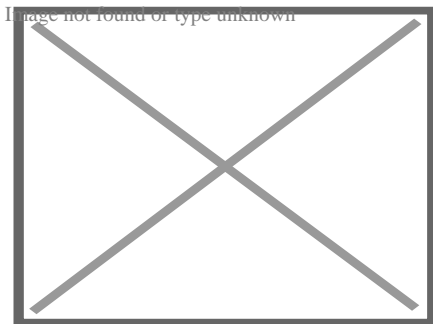
Toilets are usually provided separately.<sup>[3]</sup>

Construction trailers are mobile structures (trailers) used to accommodate temporary offices, dining facilities and storage of building materials during construction projects. The trailers are equipped with radios for communication.

## Travel

[edit]

Main article: Travel trailer



A custom-made popup camper trailer

Popular campers use lightweight trailers, aerodynamic trailers that can be towed by a small car, such as the BMW Air Camper. They are built to be lower than the tow vehicle, minimizing drag.

Others range from two-axle campers that can be pulled by most mid-sized pickups to trailers that are as long as the host country's law allows for drivers without special permits. Larger campers tend to be fully integrated recreational vehicles, which often are used to tow single-axle dolly trailers to allow the users to bring small cars on their travels.

## Teardrop

[edit]

Main article: Teardrop trailer

## Semi

[edit]

Main articles: Semi-trailer and Semi-trailer truck

A **semi-trailer** is a trailer without a front axle. A large proportion of its weight is supported either by a road tractor or by a detachable front axle assembly known as a dolly. A semi-trailer is normally equipped with legs, called "landing gear", which can be lowered to support it when it is uncoupled. In the United States, a single trailer cannot exceed a length of 57 ft 0 in (17.37 m) on interstate highways (unless a special permit is granted), although it is possible to link two smaller trailers together to a maximum length of 63 ft 0 in (19.20 m).

Semi-trailers vary considerably in design, ranging from open-topped grain haulers through Tautliners to normal-looking but refrigerated 13 ft 6 in (4.11 m) x 53 ft 0 in (16.15 m) enclosures ("reefers"). Many semi-trailers are part of semi-trailer trucks. Other types of semi-trailers include dry vans, flatbeds and chassis.

Many commercial organizations choose to rent or lease semi-trailer equipment rather than own their own semi-trailers, to free up capital and to keep trailer debt from appearing on their balance sheet.

### Semi tank trailer in Japan

○

Image not found or type unknown

### Semi tank trailer in Japan

○ SinoTruk HOWO with flatbed trailer

Image not found or type unknown

SinoTruk HOWO  
with flatbed trailer

- LKW Kipper dump trailer

Image not found or type unknown

LKW Kipper dump  
trailer

Sainsburys lorry refrigerated trailer

- 

Image not found or type unknown

Sainsburys lorry  
refrigerated trailer

- A car carrier trailer

Image not found or type unknown

A car carrier trailer

- A truck pulling a semi-trailer using a trailer Dolly

Image not found or type unknown

A truck pulling a semi-trailer using a  
trailer Dolly

Indian auto-rickshaw adapted with trailer

- 

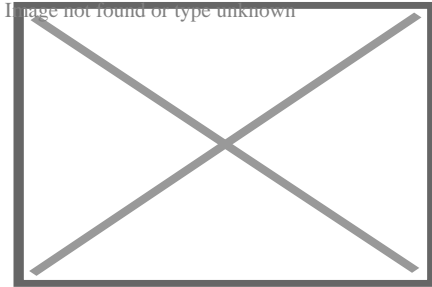
Image not found or type unknown

Indian auto-rickshaw  
adapted with *trailer*



# Full

[edit]



Full trailer with steered axle

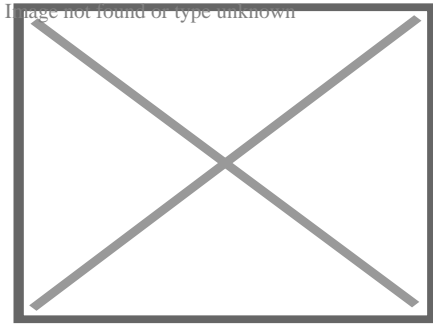
A **full trailer** is a term used in the United States and New Zealand<sup>[4]</sup> for a freight trailer supported by front and rear axles and pulled by a drawbar. In Europe this is known as an *A-frame drawbar trailer*, and in Australia it is known as a *dog trailer*. Commercial freight trailers are produced to length and width specifications defined by the country of operation. In America this is 96 or 102 in (2.4 or 2.6 m) wide and 35 or 40 ft (11 or 12 m) long. In New Zealand, the maximum width is 2.55 m (100 in) while the maximum length is 11.5 m (38 ft), giving a 22-pallet capacity.

As per AIS 053, full trailer is a towed vehicle having at least two axles, and equipped with a towing device which can move vertically in relation to the trailer and controls the direction of the front axle(s), but which transmits no significant static load to the towing vehicle. Common types of full trailers are flat deck, hardside/box, curtainside or bathtub tipper style with axle configurations up to two at the drawbar end and three at the rear of the trailer.

This style of trailer is also popular for use with farm tractors.

## Close-coupled

[edit]



A close-coupled trailer

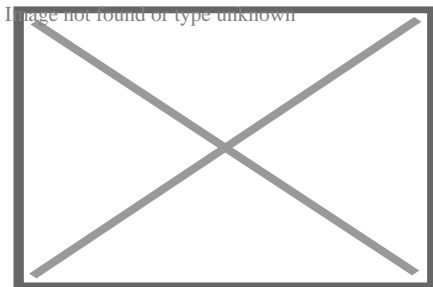
A close-coupled trailer is fitted with a rigid towbar which projects from its front and hooks onto a hook on the tractor. It does not pivot as a drawbar does.

[icon] **This section needs expansion.** You can help by adding to it. *(April 2011)*

## Motorcycle

[edit]

Main article: Motorcycle trailer



Interior of an enclosed motorcycle trailer

A motorcycle trailer may be a trailer designed to haul motorcycles behind an automobile or truck. Such trailers may be open or enclosed, ranging in size from trailers capable of carrying several motorcycles or only one. They may be designed specifically to carry motorcycles, with ramps and tie-downs, or may be a utility trailer adapted permanently or occasionally to haul one or more motorcycles.

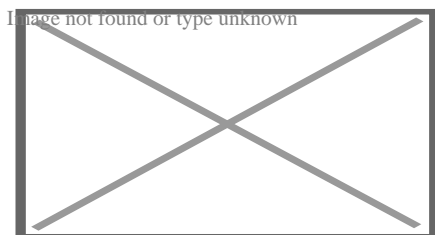
Another type of motorcycle trailer is a wheeled frame with a hitch system designed for transporting cargo by motorcycle. Motorcycle trailers are often narrow and styled to match the appearance of the motorcycle they are intended to be towed behind. There are two-wheeled versions and single-wheeled versions. Single-wheeled trailers, such as the Unigo or Pav 40/41, are designed to allow the bike to have all the normal flexibility of a motorcycle, usually using a universal joint to enable the trailer to lean and turn with the motorcycle. No motorcycle manufacturer recommends that its motorcycles

be used to tow a trailer because it results in additional safety hazards for motorcyclists.

## Livestock

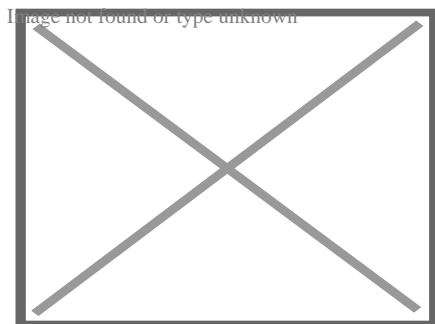
[edit]

See also: Horse trailer



A horse trailer

There are a number of different styles of trailers used to haul livestock such as cattle, horses, sheep and pigs. The most common is the stock trailer, a trailer that is enclosed on the bottom, but has openings at approximately the eye level of the animals to allow ventilation. The horse trailer is a more elaborate form of stock trailer. Because horses are usually hauled for the purpose of competition or work, where they must be in peak physical condition, horse trailers are designed for the comfort and safety of the animals. They usually have adjustable vents and windows as well as suspension designed to provide a smooth ride and less stress on the animals. In addition, horse trailers have internal partitions that assist the animal in staying upright during travel and protect horses from injuring each other in transit. Larger horse trailers may incorporate additional storage areas for horse tack and may even include elaborate living quarters with sleeping areas, bathroom and cooking facilities, and other comforts.



Lowe Boats Sea Nymph recreational fishing boat on a boat trailer

Both stock trailers and horse trailers range in size from small units capable of holding one to three animals, able to be pulled by a pickup truck, SUV or even a quad bike; to large semi-trailers that can haul a significant number of animals.

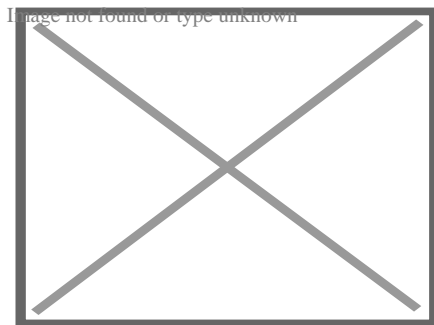
## Boat

[edit]

Main article: Boat trailer

## Roll trailer

[edit]



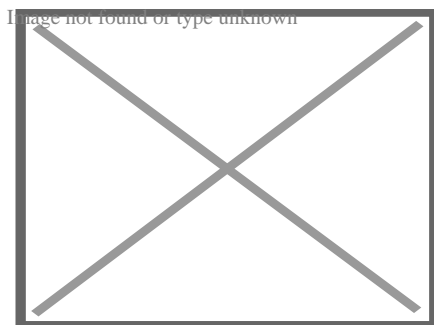
Maritime shipping Mafi Roll trailer

Main article: Roll trailer

## Baggage trailer

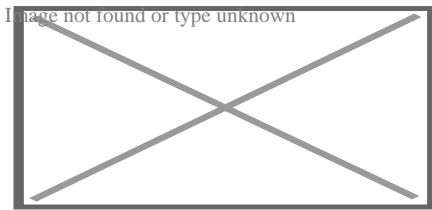
[edit]

Main article: airport dolly



A single trailer for an aircraft cargo unit load device, next to a group of trailers for loose luggage

**Baggage trailers** are used for the transportation of loose baggage, oversized bags, mail bags, loose cargo carton boxes, etc. between the aircraft and the terminal or sorting facility. Dollies for loose baggage are fitted with a brake system which blocks the wheels from moving when the connecting rod is not attached to a tug. Most dollies for loose baggage are completely enclosed except for the sides which use plastic curtains to protect items from weather. In the US, these dollies are called baggage carts, but in Europe *baggage cart* means passenger baggage trolleys.



Mammoet Tii Hydraulic modular trailer attached to a Mercedes ballast tractor moving front end loader

## Hydraulic modular trailer

[edit]

Main article: Hydraulic modular trailer

A hydraulic modular trailer (HMT) is a special platform trailer unit which feature swing axles, hydraulic suspension, independently steerable axles, two or more axle rows, compatible to join two or more units longitudinally and laterally and uses power pack unit (PPU) to steer and adjust height. These trailer units are used to transport oversized load, which are difficult to disassemble and are overweight. These trailers are manufactured using high tensile steel, which makes it possible to bear the weight of the load with the help of one or more ballast tractors which push and pull these units via drawbar or gooseneck together making a heavy hauler unit.

Typical loads include oil rig modules, bridge sections, buildings, ship sections, and industrial machinery such as generators and turbines. There is a limited number of manufacturers who produce these heavy-duty trailers because the market share of oversized loads is very thin when we talk about transportation industry. There are self powered units of hydraulic modular trailer which are called SPMT which are used when the ballast tractors can not be applied.

# Bus trailer

[edit]

Main article: Trailer bus

A bus trailer is for transporting passengers hauled by a tractor unit similar like that of a truck. These trailers have become obsolete due to the issue of the communication between the driver and the conductor and traffic jams.<sup>*[citation needed]*</sup>

Camel bus in Havana

○

Image not found or type unknown

Camel bus in Havana

○ Karosa NO 80 trailer bus

Image not found or type unknown

Karosa NO 80 trailer bus

○ Bus trailer in Lauterbrunnen

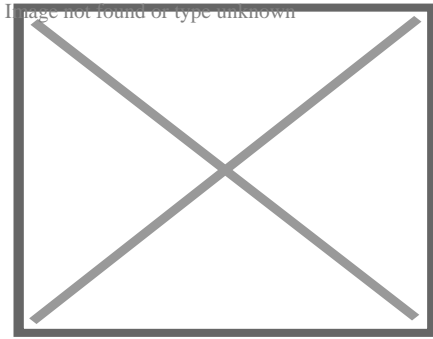
Image not found or type unknown

Bus trailer in Lauterbrunnen

## Hitching

[edit]

Main articles: Tow hitch, Fifth wheel coupling, and Ringfeder



Trailer-hitch on a large vehicle

A trailer hitch, fifth-wheel coupling or other type of tow hitch is needed to draw a trailer with a car, truck or other traction engine.

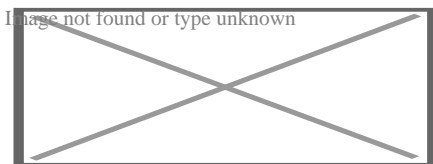
## Ball and socket

[edit]

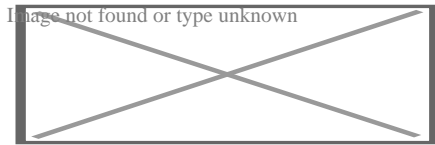
A trailer coupler is used to secure the trailer to the towing vehicle. The trailer coupler attaches to the trailer ball. This forms a ball and socket connection to allow for relative movement between the towing vehicle and trailer while towing over uneven road surfaces. The trailer ball is mounted to the rear bumper or to a draw bar, which may be removable. The draw bar is secured to the trailer hitch by inserting it into the hitch receiver and pinning it. The three most common types of couplers are straight couplers, A-frame couplers, and adjustable couplers. Bumper-pull hitches and draw bars can exert tremendous leverage on the tow vehicle making it harder to recover from a swerving situation.

## Fifth wheel and gooseneck

[edit]



A gooseneck trailer attached to a pickup truck



Gooseneck trailer

These are available for loads between 10,000 and 30,000 pounds (4.5–13.6 t; 5.0–15.0 short tons; 4.5–13.4 long tons).<sup>[5][6]</sup> Both the hitches are better than a receiver hitch and allow a more efficient and central attachment of a large trailer to the tow vehicle. They can haul large loads without disrupting the stability of the vehicle. Traditional hitches are connected to the rear of the vehicle at the frame or bumper, while fifth wheel and gooseneck trailers are attached to the truck bed above the rear axle. This coupling location allows the truck to make sharper turns and haul heavier trailers. They can be mounted in the bed of a pickup truck or any type of flatbed. A fifth-wheel coupling is also referred to as a kingpin hitch and is a smaller version of the semi-trailer "fifth wheel". Though a fifth wheel and a gooseneck trailer look much the same, their method for coupling is different. A fifth wheel uses a large horseshoe-shaped coupling device mounted 1 foot (0.30 m) or more above the bed of the tow vehicle. A gooseneck couples to a standard 2+5?16-inch (59 mm) ball mounted on the bed of the tow vehicle. The operational difference between the two is the range of movement in the hitch. The gooseneck is very maneuverable and can tilt in all directions, while the fifth wheel is intended for level roads and limited tilt side to side. Gooseneck mounts are often used for agricultural and industrial trailers. Fifth-wheel mounts are often used for recreational trailers. Standard bumper-hitch trailers typically allow a 10% or 15% hitch load while a fifth wheel and gooseneck can handle 20% or 25% weight transfer.

## Jacks

[edit]

The basic function of a trailer jack is to lift the trailer to a height that allows the trailer to be hitched or unhitched to and from the towing vehicle. Trailer jacks are also used for leveling the trailer during storage. The most common types of trailer jacks are A-frame jacks, swivel jacks, and drop-leg jacks. Some trailers, such as horse trailers, have a built-in jack at the tongue for this purpose.

## Electrical components

[edit]

Many older cars took the feeds for the trailer's lights directly from the towing vehicle's rear light circuits. As bulb-check systems were introduced in the 1990s "by-pass relays" were introduced. These took a small signal from the rear lights to switch a relay which



in turn powered the trailer's lights with its own power feed. Many towing electrical installations, including vehicle-specific kits incorporate some form of bypass relays.

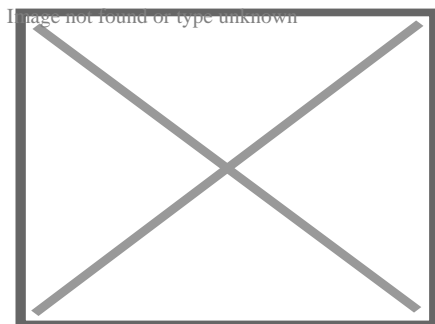
In the US, trailer lights usually have a shared light for brake and turn indicators. If such a trailer is to be connected to a car with separate lamps for turn indicator and brake a trailer light converter is needed, which allows for attaching the trailer's lights to the wiring of the vehicle.

Nowadays some vehicles are being fitted with CANbus networks, and some of these use the CANbus to connect the tow bar electrics to various safety systems and controls. For vehicles that use the CANbus to activate towing-related safety systems, a wiring kit that can interact appropriately must be used. Without such a towbar wiring kit the vehicle cannot detect the presence of a trailer and can therefore not activate safety features such as trailer stability program which can electronically control a snaking trailer or caravan.

By-pass systems are cheap, but may not be appropriate on cars with interactive safety features.

## Brakes

[edit]



Bus and trailer in Saskatchewan, Canada

Larger trailers are usually fitted with brakes. These can be either electrically operated, air operated, or overrun brakes.

## Stability

[edit]

Trailer stability can be defined as the tendency of a trailer to dissipate side-to-side motion. The initial motion may be caused by aerodynamic forces, such as from a cross wind or a passing vehicle. One common criterion for stability is the center of mass location with respect to the wheels, which can usually be detected by tongue weight. If the center of mass of the trailer is behind its wheels, therefore having a negative tongue weight, the trailer will likely be unstable. Another parameter which is less commonly a factor is the trailer moment of inertia. Even if the center of mass is forward of the wheels, a trailer with a long load, and thus large moment of inertia, may be unstable.<sup>[7]</sup>

Some vehicles are equipped with a Trailer Stability Program that may be able to compensate for improper loading.

### **See also**

[edit]

- Electric vehicle battery
- Towing
- Tractor unit
- Trailer brake controller
- Vehicle category
- Walking floor

## **List of types of trailers**

[edit]

- Bicycle trailer
- Boat trailer
- Bus trailer
- Compressed hydrogen tube trailer
- Construction trailer
- Dolly
- Dump trailer
- Enclosed cargo trailer
- Flat deck trailer
- Frac Tank
- Forestry trailer
- Genset trailer
- Horse trailer
- Hydraulic modular trailer
- Jeep trailer
- Liquid hydrogen trailer

- Lowboy (trailer)
- Mafi roll trailer
- Mobile home
- Motorcycle trailer
- Popup camper
- Pusher trailer
- Roll trailer
- Semi-trailer
- Solar trailer (for solar vehicles)
- Tautliner
- Tank trailer
- Travel trailer
- Food truck
- Mobile catering

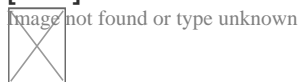
## References

[edit]

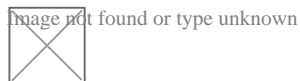
- <sup>^</sup> *boxwheeladmin (2020-06-17). "Interesting Facts About Semi Trailers and Their History". Boxwheel Trailer Leasing. Retrieved 2024-07-02.*
- <sup>^</sup> *Cycles. Cycle trailers. Safety requirements and test methods, BSI British Standards, retrieved 2024-09-20*
- <sup>^</sup> *"Construction trailer Definition".*
- <sup>^</sup> *"What is a full trailer". Driving Tests Resources. 19 July 2021.*
- <sup>^</sup> *"Gooseneck Trailer Hitch Information and Review | etrailer.com". www.etrailer.com. Retrieved 2017-07-22.*
- <sup>^</sup> *"How To Install Gooseneck Hitches". www.hitchesguide.com. Archived from the original on 15 April 2016. Retrieved 2017-07-22.*cite web: CS1 maint: unfit URL (link)
- <sup>^</sup> *Karnopp, Dean (2004). Vehicle Stability. CRC Press. p. 93. ISBN 9780203913567. Retrieved 2008-11-29.*

## External links

[edit]



Wikimedia Commons has media related to ***Trailer***.



Look up ***trailer*** in Wiktionary, the free dictionary.

- Germany
- United States
- France
- Image not found or type unknown Edit this Wikidata
- Image not found or type unknown BnF data
- Czech Republic
- Israel

Authority control databases: National

## About New Hanover County

### Photo

Image not found or type unknown

### Photo

Image not found or type unknown

### Photo

Image not found or type unknown

### Photo

Image not found or type unknown

## Driving Directions in New Hanover County

---

### Driving Directions From K38 Baja Grill to The Dumpo Junk Removal & Hauling

### Driving Directions From Double Happiness Chinese Restaurant to The Dumpo Junk Removal & Hauling

<https://www.google.com/maps/dir/Ruth%27s+Kitchen/The+Dumpo+Junk+Removal+%277.8331824,14z/data=!3m1!4b1!4m14!4m13!1m5!1m1!1sChIJGUiH2quMqYkRS6iDlozMV77.8331824!2d34.2592195!1m5!1m1!1sChIJx5IXJrSNqYkR-YL-JMS0RK4!2m2!1d-77.8239897!2d34.2723577!3e0>

<https://www.google.com/maps/dir/Catch/The+Dumpo+Junk+Removal+%26+Hauling/@77.8387329,14z/data=!3m1!4b1!4m14!4m13!1m5!1m1!1sChIJUYztCVWLqYkRe0cKT2wg>

77.8387329!2d34.2578763!1m5!1m1!1sChIJx5IXJrSNqYkR-YL-JMS0RK4!2m2!1d-77.8239897!2d34.2723577!3e0

**Driving Directions From Wilmington Riverwalk to The Dumpo Junk Removal & Hauling**

**Driving Directions From Bluethenthal Wildflower Preserve to The Dumpo Junk Removal & Hauling**

**Driving Directions From Poplar Grove Plantation to The Dumpo Junk Removal & Hauling**

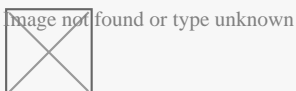
**Driving Directions From The Children's Museum of Wilmington to The Dumpo Junk Removal & Hauling**

<https://www.google.com/maps/dir/Airlie+Gardens/The+Dumpo+Junk+Removal+%26+Hauling/77.8302416,14z/data=!3m1!4b1!4m14!4m13!1m5!1m1!1sununknown!2m2!1d-77.8302416!2d34.2182979!1m5!1m1!1sChIJx5IXJrSNqYkR-YL-JMS0RK4!2m2!1d-77.8239897!2d34.2723577!3e0>

<https://www.google.com/maps/dir/Bijou+Park/The+Dumpo+Junk+Removal+%26+Hauling/77.9492872,14z/data=!3m1!4b1!4m14!4m13!1m5!1m1!1sununknown!2m2!1d-77.9492872!2d34.2380299!1m5!1m1!1sChIJx5IXJrSNqYkR-YL-JMS0RK4!2m2!1d-77.8239897!2d34.2723577!3e0>

<https://www.google.com/maps/dir/Jungle+Rapids+Family+Fun+Park/The+Dumpo+Junk+Removal+%26+Hauling/77.8630797,14z/data=!3m1!4b1!4m14!4m13!1m5!1m1!1sununknown!2m2!1d-77.8630797!2d34.207308!1m5!1m1!1sChIJx5IXJrSNqYkR-YL-JMS0RK4!2m2!1d-77.8239897!2d34.2723577!3e0>

## Reviews for



**Jennifer Davidson**

**(5)**

Great work! Bryce and Adrian are great!

image not found or type unknown



**Greg Wallace**

**(5)**

I highly recommend Dumpo Junk Removal. Very professional with great pricing and quality work.

image not found or type unknown



**Howard Asberry**

**(5)**

The manager was very helpful, knowledgeable and forthright. He definitely knew what he was talking about and explained everything to me and was very helpful. I'm looking forward to working with him

image not found or type unknown



**Kirk Schmidt**

**(5)**

They are great with junk removal. Highly recommend them

image not found or type unknown



**Kelly Vaughn**

**(5)**

Great service with professionalism. You can't ask for more than that!

Researching Certified E-Waste Recycling Options [View GBP](#)

## Frequently Asked Questions

**What certifications should I look for when choosing an e-waste recycler?**

Look for certifications such as R2 (Responsible Recycling), e-Stewards, or ISO 14001. These ensure that the recycler adheres to environmental and ethical standards.

**Why is certification important in e-waste recycling?**

Certification ensures that recyclers follow best practices for environmental protection, data security, and worker safety, reducing harm from improper disposal methods.

**How can I verify a recycler's certification status?**

You can verify a recycler's certification by checking their credentials on the certifying body's official website or requesting documentation directly from the recycler.

**Are there specific risks associated with non-certified e-waste recyclers?**

Yes, non-certified recyclers may improperly dispose of hazardous materials, leading to environmental damage and potential data breaches from unsecured devices.

**What factors should I consider besides certification when selecting an e-waste recycler?**

Consider factors like transparency in processes, accountability measures, service offerings (e.g., pick-up services), customer reviews, and adherence to local regulations.

The Dumpo Junk Removal

Phone : +19103105115

City : Wilmington

State : NC

Zip : 28411

Address : Unknown Address

### **Google Business Profile**

Company Website : <https://thedumpo.com/>

USEFUL LINKS

[junk removal](#)

[hauling junk](#)

[removal wilmington](#)

[residential junk](#)

[removal services](#)



[Sitemap](#)

[Privacy Policy](#)

[About Us](#)

Follow us