

April 10, 2024

The Honorable Senator Jessie Danielson
Senate Business, Labor, & Technology Committee
200 E. Colfax, Rm 346
Denver, CO 80203

RE: Opposition CO HB24-1121 -- Consumer Right to Repair (as drafted)

Dear Chair Danielson, Vice Chair, and members of the committee:

ACT | The App Association is a global trade association for small and medium-sized technology companies. Our members are entrepreneurs, innovators, and independent developers within the global app ecosystem that engage with verticals across every industry. Our members create innovative solutions that drive the world's rapid embrace of mobile technology. Their products power consumer and enterprise markets across modalities and segments of the economy.

We respectfully **oppose HB24-1121 as drafted** because it poses significant risks to our members who develop software compatible with mobile and connected devices, and poses risks to consumers' sensitive health, financial, and personal data stored on these devices.

While a majority of our members build software, the success of their software and business depends on the functionality of the hosting device – in most instances a mobile phone. If a key structural feature of a device malfunctions due to third-party repairs, our members' software can become unable to interoperate effectively with the operating system, putting their business at risk. For instance, a mobile app used for ID scanning in restaurants and bars, or an app used to monitor crop health on a farm, that relies on a phone's camera and other hardware features could become entirely ineffective due to a botched rewiring of the phone.

In addition to harms third-party repairs can have on small businesses, there are potential harms that extend to consumers. Smartphone users across the world, including those in Colorado, consider their phones a lifeline because the phones contain highly sensitive information such as personal data, health data, photos, and videos. Consumers rely on the security of their data on these products, and any compromise to their privacy and security protections could pose a significant risk. Hacking is a constant threat to computers, tablets, and smartphones, and weakening their privacy and security protections would further exacerbate the risk to consumers.

Even without mandates for manufacturers to provide open access to their copyrighted software, bad actors invest massive amounts of time and resources in gaining the keys to protected information and device controls. We fear that HF **HB24-1121** would create new opportunities for bad actors to access and copy consumers' personal data. A bad actor could pose as an independent repair shop to gain direct access to protected device features and software-protected information, or they could seek to exploit mandated open access through other means. Either way, the new risks would be substantial

and unlikely to be justified by countervailing interests in enabling do-it-yourself repair projects or wider participation by unvetted repair shops.

We **oppose HB24-1121 as drafted**. We would support a draft of the legislation that mirrors the New York Digital Fair Repair Act and welcome the opportunity to work with the committee, the bill sponsors, and all other parties moving forward. Thank you for your consideration.

Sincerely,

Caleb Williamson
State Public Policy Counsel
ACT | The App Association



9 April 2024

Dear Members of the Business, Labor, & Technology Committee,

I write in **strong support of HB 1121, Consumer Right to Repair Digital Electronic Equipment**. iFixit is a repair company with over 100,000 step-by-step repair guides for how to fix everything from toasters to tractors, and we sell parts and tools. **More than 400,000 Coloradans have visited iFixit** in the last year to get help fixing their own electronics.

We also sell parts and tools wholesale to independent repair shops. Recently, we've started helping manufacturers get original parts to their customers—we're now the official parts distributor for Samsung, Google, Nokia / HMD, Logitech, and Valve.

Through our business, we hear from individuals and independent repair shops about the things that make repair difficult. Both groups have **trouble finding spare parts**; manufacturers of products like vacuum cleaners and fitness trackers often don't have any parts available at all.

But even when you can find a replacement part, repair may still be blocked. Through parts pairing, manufacturers link a part to a device serial number and then limit the part's functionality.

iFixit has conducted extensive research on the extent of parts pairing in consumer devices. **Parts pairing has become both more prevalent and more restrictive over time**. When the iPhone 15 came out in September, we bought two devices, took them apart, and tried swapping parts between them. Lots of refurbishers and independent repair shops rely on this sort of parts swapping—they save broken devices and harvest the working parts to reduce waste and stay competitive in a manufacturer-skewed market.

In the iPhone 15, more parts have parts pairing limitations than in any iPhone before. Some parts can't be replaced at all, specifically the selfie camera, front-facing sensors, and lidar. Some parts, like the display, can be replaced but will have several functions turned off at the source. Replacing the display, main camera, or battery will result in repeated warnings and notifications, some of which can't be dismissed by the user.

HB 1121 would make sure that individuals and independent repair shops can get access to the same parts, tools, and documentation that manufacturers' shops have. It would require that manufacturers give customers access to the software necessary to make parts functional. It would **level the playing field**, making repair cheaper and more widely available for all Coloradans, which has already led the world in repair legislation.

iFixit stands in strong support of HB 1121 and asks for your "aye" vote. Thank you for your time.

Sincerely,

A handwritten signature in black ink that reads 'Kyle Wiens'.

Kyle Wiens
iFixit



**Testimony of
Mike Blank
CTIA**

**In Opposition to
Colorado HB 1121**

**Before the
Colorado Senate Business, Labor, & Technology Committee**

April 11, 2024

On behalf of CTIA®, the trade association for the wireless communications industry, I submit this testimony in opposition to House Bill 1121, which places mandates on original equipment manufacturers regarding diagnostic and repair information for certain digital electronic equipment. The marketplace already provides a wide range of consumer choice for repair with varying levels of quality, price, and convenience without the mandates imposed by this legislation.

The marketplace continues to evolve, and manufacturers and other market participants continue to make changes to address consumer demand while offering consumers safe and reliable repair options. For example, manufacturers have relationships with authorized repair providers. These providers – which include small businesses in Colorado – have received the appropriate training from manufacturers and have the qualifications to help ensure that repairs are done properly and safely.

In addition to authorized repair providers, manufacturers may offer walk-in repair options at retail stores as well as mail-in services. Insurance providers may also offer repair options, including authorized third-party remote technicians that will travel to the consumer to perform repairs.



Moreover, consumers can currently avail themselves of numerous independent repair alternatives although manufacturers cannot guarantee the quality assurance of independent repair providers.

Additionally, many manufacturers have expanded repair options for consumers, from growing the number of authorized repair providers, to increasing access to tools, parts, and manuals directly to consumers. It is important that with more repair options available to consumers, consumers continue to have access to professional repair providers with demonstrable competence to provide a safe and reliable repair.

To further address the repair marketplace, CTIA launched two programs related to repair, the Wireless Industry Service Excellence (WISE) Technician Certification Program and the WISE Authorized Service Provider (ASP) Certification Program. The WISE technician program educates and tests wireless device repair technicians on industry-recognized standards, certifying those that meet the highest standards for service quality and technical skill. The first certification of its kind, WISE-certified device repair technicians provide consumers with a predictable, high-quality repair experience.¹

The WISE ASP program creates a network of certified retail locations, helping consumers identify qualified providers that meet the highest standards for service quality and wireless device repair.² Both programs were created by CTIA's Reverse Logistics and Service Quality Working Groups, which convene members representing the entire reverse logistics community to address the wireless industry's challenges and develop requirements for industry-recognized standards in repair and refurbishment of wireless devices. CTIA also recently introduced the first ever postsecondary

¹ <https://www.ctia.org/news/ctia-launches-technician-certification-program>

² <https://www.ctia.org/news/ctia-launches-retail-certification-program-for-wireless-device-repair>



education mobile device repair certification program to provide an academic avenue for credentialing and certifying more device repairers.³

Wireless companies, individually, and through industry associations have taken proactive steps to provide consumers with more device repair options, while accounting for the need to maintain device integrity and security and to protect intellectual property rights. These include the expansion of CTIA's WISE program to include over 19,000 certified technicians nationally, continued growth of manufacturers' authorized repair networks, and the availability of access to tools, parts, and manuals directly to consumers.

CTIA is also concerned that this bill would have the unintended consequence of negatively impacting consumers of digital equipment by eliminating the need for repairers to demonstrate to consumers that they have the technical competence to perform safe, secure, and reliable repairs. Manufacturers want to make certain the repair providers they work with understand the numerous components of the electronic products being repaired. Their authorization to perform repairs ensures that the changes made to the devices are compatible with current technology and the networks on which they operate.

Finally, CTIA is concerned that this legislation has the potential to weaken the safety, privacy, and security features of electronic products. The security of user information is of the utmost importance to consumers. The potential weakening of privacy and safety protections will increase risks to consumers. With broad and unchecked access to technical information, security protections

³ CTIA, *MCC to Launch First Mobile Device Repair Certification Program in Postsecondary Education* (Jan. 17, 2023), <https://www.ctia.org/news/mcc-to-launch-first-mobile-device-repair-certification-program-in-postsecondary-education>.



could be easily circumvented. In an era of sophisticated cyberattacks, we should not make it easier to hack devices and networks.

This bill is an unnecessary intervention in the marketplace, and its mandates could cause safety, privacy, and security risks that compromise consumer safety and protection. For these reasons, CTIA respectfully asks that you not move this legislation.

Senate Business, Labor, & Technology

04/11/2024 Upon Adjournment

HB24-1121 Consumer Right to Repair Digital Elec Equipment

Typed Text of Testimony Submitted

Name, Position, Representing	Typed Text of Testimony
<p>Brad Cofield Amend Wagner Equipment Co.</p>	<p>As the Caterpillar Equipment Dealer in Colorado we support our customers Right to Repair their machines and appreciate the exclusion of our industry in the current bill.</p> <p>We do believe that amending the current bill by adopting the language used in the Minnesota and New York Right to Repair Bills (excluding Ag) would tighten up the definitions and make the bill more easily understood by industry and consumers. For example, the technology used on machinery today applies to much more than just "Road-Building" equipment. This equipment also crosses State lines so having some consistency between States would make the application of laws much clearer to industry stakeholders. Please consider using the language below for the Off-Road exclusions in the current Bill.</p> <p>Proposed Off Road Amendment for Colorado (Excludes Farming Machinery, etc).</p> <p>"Manufacturers, distributors, importers or dealers of all off-road (non-road) equipment, including without limitation, forestry equipment, industrial equipment, utility equipment, construction equipment, compact construction equipment, road-building equipment, mining equipment, turf, yard and garden equipment, outdoor power equipment, portable generators, marine, all-terrain sports and recreational vehicles (including racing vehicles), stand-alone or integrated stationary or mobile internal combustion engines, other power sources, (including without limitation, generator sets, electric/battery and fuel cell power), power tools, and any tools, technology, attachments, accessories, components and repair parts for any of the foregoing."</p>

	<p>Thank you, Brad Cofield, EVP Wagner Equipment Co. 303-378-9374</p>
<p>Ryan Call For Eco-Cycle</p>	<p>My name is Ryan Call, and I am representing Eco-Cycle in Boulder. Eco-Cycle is one of the country's oldest and largest non-profit recycling organizations, and we strongly support House Bill 24-1121. Electronic waste is the fastest-growing type of waste in the world because electronics are often "built to break," and there's a disconnect between manufacturers and folks who want to repair things independently. Coming from a recycler of electronics, we want to stress that repairing and refurbishing electronics are environmentally and economically preferable to recycling.</p> <p>One of the many Zero Waste operations that Eco-Cycle leads is the first-in-the-nation Center for Hard-to-Recycle Materials, or CHaRM. There, we accept all sorts of consumer electronics and work with partners to recycle them. As a mission-based recycler with the primary objective of protecting people and planet, we want to see folks repair and refurbish their electronics before sending them to us to be recycled.</p> <p>I spoke with our director at CHaRM, and he offered two examples of how this bill would benefit our operations. He said that, of about 1,000, pre-sorted, high-end, functional cell phones that were dropped off to be recycled last year, only about 2 were fixed and reused- the rest were disassembled, and the various components were recycled, primarily because the phones were locked and therefore reuse was not possible.</p> <p>Similarly, we always get TVs that may only need a simple repair to be as good as new. Many of these electronics don't need to be recycled yet-- they can easily be fixed as long as parts and schematics are available. HB24-1121 would open up options for these electronics to be repaired before they're sent to us to be recycled.</p> <p>As repair and refurbishment systems grow, so will our statewide Zero Waste culture. Please vote yes on House Bill 24-1121, which, by</p>

	<p>extending the life of their electronics, empowers Coloradans to save money and reduce waste. Thank you.</p>
<p>Sylvain Hayoun For themselves</p>	<p>My name is Sylvain Hayoun, I am French and American citizen and I have been volunteering at fix it clinic in Boulder for the last 10 years.</p> <p>It seems to me during the last 20 years or so, there has been a trend by many manufacturers to deny consumers the possibility to obtain parts, information, special tools to repair, etc...to be able to repair their own products.</p> <p>I have been in sales and marketing management my whole life and the motivation seems straight forward to me, to increase their sales and revenue and avoid repair and/or not losing control of the aftermarket for the same reasons.</p> <p>.... Invoking too often what I perceived as pernicious reasons like security, proprietary business reasons, using scare tactics, which are most of the time overused or not relevant.</p> <p>as an example, and during one of our fix it clinic, to repair a toaster (Cuisinart) we needed a small circuit board. This circuit board could have been easily replaced but I couldn't obtain the part, and the manufacturer invoked the security risks, which for me is obviously an irrational argument.</p> <p>My sensitivity to the subject has been on the profound environmental impact, millions of tons of Co2, and millions of tons of waste in landfill.</p> <p>But from my experience at fix it clinic there have been some cases when an easy fix could have been done, with a minimum guidance from us, and we couldn't repair because the part was not available to the public.</p> <p>...Having seen the pleasure on faces when an item has been repaired is extremely rewarding, whether it is awakening of their curiosity or seeing the relief on faces when maybe the replacement meant financial savings</p>

	<p>I believe that passing this bill will allow us, citizens, consumers, to working towards a more sustainable and circular economy, insuring longer term and sustainable use of products while reducing the cost of which many as sensitive as consumers.</p> <p>Sylvain Hayoun 4510 mulberry ct Boulder co 80301 720 771 7461 sylvain@hayoun.net</p>
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Testimony
Dustin Brighton, Executive Director
Repair Done Right Coalition
Colorado Senate Committee on Business, Labor, and
Technology
Thursday, March 11th, 2024

Mr. Chairman and members of the committee,

My name is Dusty Brighton, and I represent the Repair Done Right Coalition.

Thank you for allowing me to be here today.

The Repair Done Right Coalition is made up of organizations that care about ensuring that innovative products are repaired and maintained in a safe, secure, and effective manner.

I am here testifying in opposition HB 1121, which would mandate that OEMs of digital electronic equipment sold in Colorado provide unauthorized repair providers with diagnostic and repair information, software, tools and parts – thereby increasing the safety and privacy risks for consumers and businesses and threatening Colorado’s innovation economy.

- OEMs currently offer consumers a wide range of safe and secure repair options through their authorized repair networks. This enables manufacturers of consumer electronics, home appliances, HVACR, security equipment, toys, and other connected electronic products to stand behind the quality of their products.
- Consumer technology products are comprised of complex electronics that often require specialized training and sophisticated instruments to repair safely. Some types of repairs can be extremely detailed, complicated, and dangerous to anyone without proper training. It is particularly important that products containing high-energy lithium-ion batteries are repaired only by trained professionals who understand and mitigate the hazards associated with installing, removing or replacing these batteries.
- Manufacturers want to ensure that their products are serviced by professionals who understand the intricacies of their products and have spent time procuring the knowledge necessary to safely repair them and return them to consumers without compromising those standards or undermining the safety and security of their products.
- These are very real concerns. [A recent study](#) found that privacy violations already occur when consumers seek computer or phone repairs, with technicians accessing

female customers' personal data at a higher rate than males. Without the contractual safeguards created by authorized repair networks that allow OEMs to hold bad actors accountable, HB 1121 will merely create new opportunities for snooping repair technicians to access and copy consumers' personal data.

- Additionally, HB 1121 has a retroactive application all the way to 2015, when electronic devices were not designed with today's repairability standards. Simply put, sound policy should legislate prospectively and not retroactively. Retroactively applying legislation to 2015 raises significant challenges, especially for OEMs tasked with providing components for equipment manufactured years ago.
- Finally, the mandated disclosure of a manufacturer's intellectual property in subsection 6(a) will stifle innovation in the state of Colorado. Many diagnostic programs are developed by the manufacturer at significant cost and are confidential or licensed under a contractual arrangement. Providing unauthorized repair facilities and individuals with access to trade secrets without contractual safeguards creates OEM, supplier, distributor, and repair network risk.

I encourage you to resist unwarranted intervention in the marketplace with mandates that compromise consumer safety and protection. Please vote against HB 1121.

Again, thank you for allowing me to speak with you today.

Thursday, April 11, 2024

Dear Members of the Senate Committee for Business, Labor, & Technology ,

When it comes to the business I do, I wish I could level the playing field. The cards are stacked against the customers and owners. Here is an example of why.

A customer has a MacBook Air with a cracked screen that wants to get fixed. Since Apple does not directly sell parts, I have to go to third-party. Once I obtain that screen and install it, you will immediately notice that there are features either missing or have degraded in quality. This is not because of an aftermarket part, it is the direct result of Apple withholding calibration tools to complete the repair. Therefore, a refund must be issued to the customer, part return to vendor, and a loss of time and revenue for all parties involved.

This heavy handed practice used by companies, like Apple, has led to limitations or completely abandoning the repair of products such as MacBooks. From that, the customers loose choices and is required to spend more time and money at the Apple Store.

Hypothetically, next time you choose to repair the alternator on a car, do you need Ford or Toyota's permission? Quite simply...no.

This bill will take steps to help customer and owners in protecting their right to repair their own property.

Signed,

A handwritten signature in black ink that reads "Chad MacDonald". The signature is written in a cursive, slightly slanted style.

Chad MacDonald
Owner
Genius I.T. Solutions

**TAXPAYERS
PROTECTION
ALLIANCE**

April 11, 2024

Senate Business, Labor, & Technology Committee
Colorado General Assembly
200 E Colfax Avenue
Denver, CO 80203

Dear Chair Danielson, Vice Chair Hinrichsen, and Members of the Committee,

On behalf of the millions of taxpayers and consumers we represent – including many in the state of Colorado – the Taxpayers Protection Alliance (TPA) strongly advises against the passing of any law, like HB 1121, that would force device makers to work with unauthorized third-party repair shops to repair consumer electronics.

So-called “right to repair” legislation is well-intentioned, but largely flawed. The policy tries to increase repairability of consumer electronics, automobiles, medical equipment, and a wide arrange of consumer goods. While these are noble goals, this push for repairability should not come at the expense of intellectual property (IP) rights, freedom of commerce, commercial good-will, and consumer safety.

By requiring manufacturing companies to sell tools, documentation, software, or parts to unauthorized repair shops, right to repair laws would violate manufacturers’ rights to freely decide with whom they do business with. Business transactions should be conducted between two freely consenting parties, as it is the basis of a mutually beneficial exchange. Mandates inherent to right to repair laws would considerably hamper manufacturers’ ability to set standards and conditions in these transactions. Non-disclosure agreements, and other measures that could protect IP and trade secrets, could become legally problematic.

Right to repair mandates could also expose manufacturers to unnecessary brand risk. As unauthorized and unvetted repair shops operate with no supervision from manufacturers, there is no way for them to guarantee that any repairs are done properly and to a standard deemed acceptable by the manufacturer. However, if consumers received an improperly repaired or refurbished device, they are likely to blame the manufacturer instead of the repairer. This will ultimately negatively impact the manufacturer, instead of the repair shop responsible for the faulty device.

Unauthorized and unaccountable third-party repairs can also significantly compromise consumers’ privacy and safety. Certain consumer electronics (such as smartphones) have become more important in consumers day-to-day life. These devices host intimate, medical, financial, and all kinds of sensitive data. As such, these devices have become a common target for malicious actors.

By granting unauthorized repair shops access to software tools that allow them to get unrestricted access to these devices, right to repair legislation can make it easier for ill-intentioned individuals to breach consumers’ privacy. It can also expose users to the installation of malware and spyware, creating a cybersecurity risk both for the owners of the device and to all the information technologies that interact with the compromised device.

Right to repair bills would cause more harm than good if implemented. It would be in the best interests of taxpayers and consumers in Colorado to reject these proposals to safeguard their privacy and security.

TPA commends the Senate’s efforts to listen and inform themselves on the matter.

Sincerely,



David Williams
President

**Taxpayers Protection Alliance, 1101 14th Street, NW., Suite 1120, Washington, D.C. 20005 (202) 930-1716
www.protectingtaxpayers.org**