

TuSimple Holdings Inc.

Consolidated Financial Statements

As of December 31, 2022 and 2023 and
For the Three-Year Period Ended December 31, 2023

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TuSimple Holdings, Inc.
Consolidated Balance Sheets
(in thousands, except share data)

	December 31,	
	2022	2023
Assets		
Current assets:		
Cash and cash equivalents	\$ 615,386	\$ 192,566
Short-term investments	377,312	534,806
Accounts receivable, net	1,377	—
Prepaid expenses and other current assets	13,477	16,150
Total current assets	1,007,552	743,522
Property and equipment, net	17,083	10,508
Operating lease right-of-use assets	44,952	34,939
Other assets	4,692	5,263
Total assets	\$ 1,074,279	\$ 794,232
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	\$ 9,855	\$ 4,648
Amounts due to joint development partners	5,753	3,176
Accrued expenses and other current liabilities	48,260	23,887
Short-term debt	1,645	—
Operating lease liabilities, current	6,007	6,285
Total current liabilities	71,520	37,996
Operating lease liabilities, noncurrent	42,169	36,240
Long-term debt	3,668	—
Other liabilities	2,441	409
Total liabilities	119,798	74,645
Commitments and contingencies (Note 8)		
Stockholders' equity:		
Preferred stock, \$0.0001 par value; 100,000,000 shares authorized as of December 31, 2022 and 2023; zero shares issued and outstanding as of December 31, 2022 and 2023	—	—
Common Stock, \$0.0001 par value, 4,876,000,000 Class A shares authorized as of December 31, 2022 and 2023; 201,707,557 and 206,500,114 Class A shares issued and outstanding as of December 31, 2022 and 2023, respectively; 24,000,000 Class B shares authorized, issued and outstanding as of December 31, 2022 and 2023, respectively	22	22
Additional paid-in capital	2,567,723	2,610,706
Accumulated other comprehensive loss	(3,559)	(901)
Accumulated deficit	(1,609,705)	(1,890,240)
Total stockholders' equity	954,481	719,587
Total liabilities and stockholders' equity	\$ 1,074,279	\$ 794,232

The accompanying notes are an integral part of these consolidated financial statements.

TuSimple Holdings, Inc.
Consolidated Statements of Operations
(in thousands, except share and per share data)

	Year Ended December 31,		
	2021	2022	2023
Revenue	\$ 6,261	\$ 9,369	\$ 307
Cost of revenue	12,369	19,780	754
Gross loss	(6,108)	(10,411)	(447)
Operating expenses:			
Research and development	287,167	351,599	201,166
Selling, general and administrative	118,076	127,053	116,329
Total operating expenses	405,243	478,652	317,495
Loss from operations	(411,351)	(489,063)	(317,942)
Change in fair value of warrants liability	(326,900)	—	—
Gain on loan extinguishment	4,183	—	—
Interest income	1,563	16,906	37,798
Other income (expense), net	(168)	112	(391)
Loss before provision for income taxes	(732,673)	(472,045)	(280,535)
Provision for income taxes	—	—	—
Net loss	(732,673)	(472,045)	(280,535)
Accretion of redeemable convertible preferred stock	(4,135)	—	—
Net loss attributable to common stockholders	\$ (736,808)	\$ (472,045)	\$ (280,535)
Net loss per share attributable to common stockholders, basic and diluted	\$ (4.36)	\$ (2.11)	\$ (1.23)
Weighted-average shares used in computing net loss per share attributable to common stockholders, basic and diluted	169,080,392	224,164,514	229,002,377

The accompanying notes are an integral part of these consolidated financial statements.

TuSimple Holdings, Inc.
Consolidated Statements of Comprehensive Loss
(in thousands)

	Year Ended December 31,		
	2021	2022	2023
Net loss	\$ (732,673)	\$ (472,045)	\$ (280,535)
Other comprehensive income (loss), net of tax:			
Unrealized net gain (loss) on available-for-sale securities	—	(2,298)	1,712
Foreign currency translation adjustment	378	(1,338)	946
Comprehensive loss	<u>(732,295)</u>	<u>(475,681)</u>	<u>(277,877)</u>

The accompanying notes are an integral part of these consolidated financial statements.

TuSimple Holdings Inc.
Consolidated Statements of Redeemable Convertible Preferred Stock and Stockholders' Equity
(in thousands, except share data)

	Redeemable Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount	Shares	Amount				
Balance as of December 31, 2020	102,074,703	664,791	60,543,337	6	—	(301)	(405,178)	(405,473)
Issuance of Series E redeemable convertible preferred Stock, net of issuance costs	4,650,999	61,631	—	—	—	—	—	—
Issuance of Series E redeemable convertible preferred Stock from exercise of warrants	9,477,073	379,084	—	—	—	—	—	—
Issuance of Series E-2 redeemable convertible preferred Stock from exercise of warrants	4,331,644	173,275	—	—	—	—	—	—
Accretion of redeemable convertible preferred stock to redemption value	—	4,135	—	—	(4,135)	—	—	(4,135)
Conversion of redeemable convertible preferred stock to common stock in connection with initial public offering	(120,534,419)	(1,282,916)	120,534,419	12	1,282,904	—	—	1,282,916
Issuance of common stock in connection with initial public offering, net of offering costs	—	—	27,027,027	3	1,027,371	—	—	1,027,374
Issuance of common stock related to private placement	—	—	874,999	—	35,000	—	—	35,000
Issuance of common stock from exercise of options	—	—	8,580,984	1	910	—	—	911
Issuance of common stock related to release of RSUs and SVAs	—	—	4,272,429	—	—	—	—	—
Vesting of early exercised stock options	—	—	—	—	84	—	—	84
Stock-based compensation	—	—	—	—	122,596	—	—	122,596
Foreign currency translation adjustment	—	—	—	—	—	378	—	378
Net loss	—	—	—	—	—	—	(732,673)	(732,673)
Balance as of December 31, 2021	—	—	221,833,195	22	2,464,730	77	(1,137,851)	1,326,978
Adjustments for prior periods from adopting ASC 842	—	—	—	—	—	—	191	191
Issuance of common stock from exercise of options	—	—	980,696	—	1,872	—	—	1,872

Issuance of common stock from release of RSUs and SVAs	—	—	2,643,835	—	—	—	—	—
Issuance of common stock under the Employee Stock Purchase Plan	—	—	249,831	—	2,286	—	—	2,286
Vesting of early exercised stock options	—	—	—	—	168	—	—	168
Stock-based compensation	—	—	—	—	98,667	—	—	98,667
Unrealized loss on available-for-sale debt securities, net	—	—	—	—	—	(2,298)	—	(2,298)
Foreign currency translation adjustment	—	—	—	—	—	(1,338)	—	(1,338)
Net loss	—	—	—	—	—	—	(472,045)	(472,045)
Balance as of December 31, 2022	—	—	225,707,557	22	2,567,723	(3,559)	(1,609,705)	954,481
Issuance of common stock from exercise of options	—	—	56,391	—	33	—	—	33
Issuance of common stock from release of RSUs and SVAs	—	—	4,585,350	—	—	—	—	—
Compensatory stock issuances	—	—	175,816	—	—	—	—	—
Repurchase of common stock	—	—	(25,000)	—	(67)	—	—	(67)
Stock-based compensation	—	—	—	—	43,017	—	—	43,017
Unrealized gain on available-for-sale debt securities, net	—	—	—	—	—	1,712	—	1,712
Foreign currency translation adjustment	—	—	—	—	—	946	—	946
Net loss	—	—	—	—	—	—	(280,535)	(280,535)
Balance as of December 31, 2023	—	\$ —	230,500,114	\$ 22	\$2,610,706	\$ (901)	\$ (1,890,240)	\$ 719,587

The accompanying notes are an integral part of these consolidated financial statements

TuSimple Holdings, Inc.
Consolidated Statements of Cash Flows
(in thousands)

	Year Ended December 31,		
	2021	2022	2023
Cash flows from operating activities:			
Net loss	\$ (732,673)	\$ (472,045)	\$ (280,535)
Adjustments to reconcile net loss to net cash used in operating activities			
Share-based compensation	122,596	98,667	43,017
Depreciation and amortization	9,450	27,555	6,316
Noncash operating lease expense	—	5,353	5,321
Accretion of discount on short-term investments, net	—	(1,819)	(8,765)
Impairment of long-lived assets	—	1,987	6,503
Change in fair value of warrants liability	326,900	—	—
Gain on loan extinguishment	(4,183)	—	—
Other adjustments	23	126	(278)
Changes in operating assets and liabilities:			
Accounts receivable	(497)	(213)	1,296
Prepaid expenses and other current assets	(10,209)	2,140	(2,391)
Other assets	(1,777)	2,618	(630)
Accounts payable	(181)	6,487	(4,857)
Amounts due to joint development partners	6,039	(1,641)	(2,577)
Accrued expenses and other current liabilities	25,486	6,016	(22,771)
Operating lease liabilities	—	(4,875)	(5,634)
Other liabilities	(7)	(221)	101
Net cash used in operating activities	<u>(259,033)</u>	<u>(329,865)</u>	<u>(265,884)</u>
Cash flows from investing activities:			
Purchases of short-term investments	—	(398,701)	(355,646)
Proceeds from maturities of short-term investments	—	19,908	206,505
Purchases of property and equipment and other assets	(13,321)	(13,604)	(3,052)
Proceeds from disposal of property and equipment and other assets	100	520	2,507
Purchases of intangible assets	(416)	(296)	—
Net cash used in investing activities	<u>(13,637)</u>	<u>(392,173)</u>	<u>(149,686)</u>
Cash flows from financing activities:			
Proceeds from issuance of redeemable convertible preferred stock	54,693	—	—
Proceeds from issuance of common stock under the Employee Stock Purchase Plan	—	2,286	—
Proceeds from exercise of warrants for redeemable convertible preferred stock	183,007	—	—
Proceeds from exercised stock options	1,163	1,872	33
Proceeds from issuance of common stock upon initial public offering, net of offering costs	1,030,965	—	—
Proceeds from issuance of common stock related to private placement	35,000	—	—
Stock repurchase	—	—	(67)
Return of guarantee deposit on related party loan	3,715	—	—
Principal payments on related party loan	(4,398)	—	—
Payment of third-party costs in connection with initial public offering	(3,591)	—	—
Principal payments on capital and finance lease obligations	(783)	(1,252)	(3,318)
Principal payments on loans	(620)	(1,512)	(5,278)
Net cash provided by (used in) financing activities	<u>1,299,151</u>	<u>1,394</u>	<u>(8,630)</u>

Effect of exchange rate changes on cash, cash equivalents and restricted cash	260	(983)	967
Net increase (decrease) in cash, cash equivalents and restricted cash	1,026,741	(721,627)	(423,233)
Cash, cash equivalents and restricted cash at beginning of period	312,351	1,339,092	617,465
Cash, cash equivalents and restricted cash at end of period	\$ 1,339,092	\$ 617,465	\$ 194,232

The accompanying notes are an integral part of these consolidated financial statements.

TUSIMPLE HOLDINGS, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	Year Ended December 31,		
	2021	2022	2023
Reconciliation of cash, cash equivalents, and restricted cash to the consolidated balance sheets:			
Cash and cash equivalents	\$ 1,337,586	\$ 615,386	\$ 192,566
Restricted cash included in prepaid expenses and other current assets	1,506	2,079	1,666
Total cash, cash equivalents and restricted cash	<u>\$ 1,339,092</u>	<u>\$ 617,465</u>	<u>\$ 194,232</u>
Supplemental disclosure of cash flow information:			
Cash paid for interest	\$ 786	\$ 876	\$ 490
Supplemental schedule of non-cash investing and financing activities:			
Acquisitions of property and equipment included in liabilities	\$ 10,542	\$ 3,275	\$ 264
Accretion of redeemable convertible preferred stock	\$ 4,135	\$ —	\$ —
Vesting of early exercised stock options	\$ 84	\$ 168	\$ —
Exercise of liability-classified warrants	\$ 369,352	\$ —	\$ —
Conversion of redeemable convertible preferred stock into common stock upon initial public offering	\$ 1,282,916	\$ —	\$ —

The accompanying notes are an integral part of these consolidated financial statements.

TuSimple Holdings, Inc.
Notes to Consolidated Financial Statements

Note 1. Description of Business and Summary of Significant Accounting Policies

Description of Business

TuSimple Holdings Inc. (“TuSimple” or the “Company”) is a global autonomous driving technology company headquartered in San Diego, California, with historical operations in the United States (“U.S.”) and Asia-Pacific region (“APAC”).

TuSimple was originally incorporated as Tusimple (Cayman) Limited, a limited liability company in the Cayman Islands, on October 25, 2016. In February 2021, the Company deregistered as a Cayman Islands exempted company and domesticated as a corporation incorporated under the laws of the State of Delaware (the “Domestication”). The business, assets, and liabilities of the Company and its subsidiaries on a consolidated basis, as well as its principal locations and fiscal year, were the same immediately after the Domestication as they were immediately prior to the Domestication. In addition, the directors and executive officers of the Company immediately after the Domestication were the same individuals who were directors and executive officers, respectively, of the Company immediately prior to the Domestication.

Strategic Shift

On December 4, 2023, the Company announced that it is winding down its U.S. operations, including through sales of U.S. assets, and will undertake a strategic shift to APAC.

Basis of Presentation and Consolidation

The accompanying consolidated financial statements (“Financial Statements”) have been prepared in accordance with accounting principles generally accepted in the U.S. (“GAAP”). The Financial Statements include the accounts of the Company and its consolidated subsidiaries. All significant intercompany balances and transactions have been eliminated in consolidation.

Use of Estimates

The preparation of consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Significant items subject to such estimates and assumptions include, but are not limited to, the useful lives of long-lived assets, the valuation of stock-based compensation, the fair value of preferred share warrants, the measurement of deferred tax assets, the recoverability of long-lived assets, the incremental borrowing rate (“IBR”) used in the measurement of right-of-use lease assets and lease liabilities, fair values of investments and other financial instruments (including measurement of credit or impairment losses), and the fair value of equipment under finance leases. On an ongoing basis, management evaluates these estimates and assumptions; however, actual results could materially differ from these estimates.

Cash, Cash Equivalents, and Restricted Cash

Cash and cash equivalents consist of cash in banks and highly liquid investments, primarily money market funds, commercial paper, and U.S. government and agency securities, purchased with an original maturity of three months or less.

Restricted cash is pledged as security for letters of credit or other collateral amounts established by the Company for certain lease obligations, customer deposits, corporate credit cards, and other contractual arrangements. Restricted cash is recorded as prepaid expenses and other current assets in the consolidated balance sheets based on the term of the remaining restriction.

Fair Value Measurements

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The Company measures financial assets and liabilities at fair value at each reporting period using a fair value hierarchy, which requires the Company to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. A financial instrument’s classification within the fair value hierarchy

is based upon the lowest level of input that is significant to the fair value measurement. The levels of inputs used to measure fair value are:

- Level 1 — Observable inputs such as quoted prices in active markets for identical assets or liabilities.
- Level 2 — Observable inputs other than Level 1 prices such as quoted prices for similar assets or liabilities in active markets, quoted prices in markets that are not active or inputs other than the quoted prices that are observable either directly or indirectly for the full term of the assets or liabilities.
- Level 3 — Unobservable inputs in which there is little or no market data that are significant to the fair value of the assets or liabilities.

The Company's primary financial instruments include cash equivalents, short-term investments, accounts receivable, accounts payable, amounts due to joint development partners, accrued expenses, and short-term and long-term debt. The estimated fair value of cash equivalents, accounts receivable, accounts payable, amounts due to joint development partners, accrued expenses, and short-term debt approximates their carrying value due to their short-term nature. Refer to Note 3. Investments and Fair Value Measurements for further information.

Accounts Receivable, Net

Accounts receivable are recorded at invoiced amounts, net of an allowance for credit losses, and do not bear interest. In accordance with Accounting Standards Codification ("ASC") 326, "*Financial Instruments—Credit Losses*" ("*ASC 326*"), the Company measures its allowance for credit losses using an expected credit loss model that reflects the Company's current estimate of expected credit losses inherent in the enterprise and the accounts receivable balance. In determining the expected credit losses, the Company considers its historical loss experience, the aging of its accounts receivable balance, current economic and business conditions, and anticipated future economic events that may impact collectability. The Company reviews its allowance for credit losses periodically and, as needed, amounts are written-off when determined to be uncollectible. As of December 31, 2022 and 2023 the allowance for credit losses was immaterial.

Investments

Debt Securities

Accounting for the Company's debt securities is based on the legal form of the security, the Company's intended holding period for the security, and the nature of the transaction. Investments in debt securities are classified as available-for-sale and are initially recorded at fair value. Investments in debt securities include commercial paper, U.S. treasury securities, U.S. government agency securities, and corporate debt securities. Subsequent changes in fair value of available-for-sale debt securities are recorded in other comprehensive income (loss), net of tax. Interest on these debt securities and amortization of premiums and accretion of discounts are included in interest income on the consolidated statements of operations. The Company considers its debt securities as available for use in current operations, including those with maturity dates beyond one year, and, therefore, classifies these securities as short-term investments on the consolidated balance sheets.

The Company accounts for credit losses on available-for-sale debt securities in accordance with ASC 326. At each reporting period, the Company evaluates its available-for-sale debt securities at the individual security level to determine whether there is a decline in the fair value below its amortized cost basis (an impairment). In circumstances where the Company intends to sell, or is more likely than not required to sell, the security before it recovers its amortized cost basis, the difference between fair value and amortized cost is recognized as a loss in the consolidated statements of operations, with a corresponding write-down of the security's amortized cost. In circumstances where neither condition exists, the Company then evaluates whether a decline is due to credit-related factors. The factors considered in determining whether a credit loss exists can include the extent to which fair value is less than the amortized cost basis, changes in the credit quality of the underlying loan obligors, credit ratings actions, as well as other factors. If the Company's assessment indicates that a credit loss exists, the credit loss is measured based on the Company's best estimate of the expected cash flows of the security discounted at the security's effective interest rate compared to the amortized cost basis of the security. A credit-related impairment is limited to the difference between fair value and amortized cost, and recognized as an allowance for credit losses on the consolidated balance sheet with a corresponding adjustment to net income (loss). Any remaining decline in fair value that is non-credit related is recognized in other comprehensive income (loss), net of tax. Improvements in expected cash flows due to improvements in credit are recognized through a reversal of the credit loss and corresponding reduction in the allowance for credit losses. Write-offs of available-for-sale debt securities, which may be full or partial write-offs, are deducted from the allowance for credit losses and recorded in the period in which the securities are deemed uncollectible.

The Company does not measure an allowance for credit losses on accrued interest receivable balances on available-for-sale debt securities as these balances are written-off in a timely manner. Write-offs of accrued interest receivable balances are recorded as a reduction to interest income. There were no write-offs of accrued interest during the year ended December 31, 2023. Accrued interest excluded from the amortized cost of debt securities totaled \$4.5 million as of December 31, 2023, and is reported within prepaid expenses and other current assets on the consolidated balance sheet.

Property and Equipment, Net

Property and equipment, net, are stated at cost less accumulated depreciation or amortization and any recorded impairment. Property and equipment under capital leases are initially recorded at the present value of minimum lease payments. Depreciation and amortization are computed using the straight-line method over the estimated useful lives of the assets, as follows:

Property and Equipment	Estimated Useful Life
Electronic equipment	1-4 years
Vehicles	5-6 years
Office and other equipment	5-7 years
Leasehold improvements	Shorter of lease term or estimated useful life of the asset
Buildings	Shorter of lease term or estimated useful life of the asset

When assets are retired or otherwise disposed of, the cost, accumulated depreciation and amortization are removed from the accounts and any resulting gain or loss is reflected in the consolidated statements of operations in the period realized. Maintenance and repairs that do not enhance or extend the asset's useful life are charged to operating expense as incurred.

Assets acquired under a finance lease are amortized in a manner consistent with the Company's depreciation policy for owned assets if the lease transfers ownership to the Company at the end of the lease term or contains a bargain purchase option. Otherwise, assets acquired under a finance lease are amortized over the lease term.

Intangible Assets, Net

Intangible assets represent patents, which are carried at cost and amortized on a straight-line basis over their estimated useful lives of 20 years and presented within other assets in the Company's consolidated balance sheets. The Company reviews intangible assets for impairment under the long-lived asset model described in the Impairment of Long-Lived Assets section. There have been no impairment charges recorded in any of the periods presented in the accompanying consolidated financial statements. As of December 31, 2022 and 2023, intangible assets are immaterial.

Impairment of Long-Lived Assets

The Company evaluates long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets held and used is measured by comparison of the carrying amount of an asset or asset group to estimated undiscounted future cash flows expected to be generated by the asset or asset group. If the carrying amount of an asset or asset group exceeds estimated undiscounted future cash flows, then an impairment charge is recognized based on the excess of the carrying amount of the asset or asset group over its fair value. Fair value is determined through various valuation techniques including discounted cash flow models and quoted market values, as necessary. For the years ended December 31, 2022 and 2023, the Company recorded an impairment charge of \$2.0 million and \$6.5 million to long-lived assets in connection with restructuring activities during the year, respectively.

Leases

The Company accounts for leases in accordance with ASC 842, *Leases* ("ASC 842"), which requires lessees to recognize the rights and obligations created by leases on the balance sheet and disclose key information about leasing arrangements. The Company adopted ASC 842 along with all applicable ASU clarifications and improvements on January 1, 2022, using the modified retrospective transition method and used the effective date as the date of initial application. Consequently, financial information is not updated and disclosures required under ASC 842 are not provided for periods before January 1, 2022. ASC 842 provides a number of optional practical expedients that companies can elect to apply during the standard's transition. The Company elected the "package of practical expedients," which permits the Company not to reassess under ASC 842 its prior conclusions about lease identification, lease classification, and initial direct costs.

The Company determines if a contract contains a lease based on whether it has the right to obtain substantially all of the economic benefits from the use of an identified asset and whether it has the right to direct the use of an identified asset in exchange for consideration, which relates to an asset which the Company does not own. Right-of-use ("ROU") assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent the Company's obligation to make lease payments arising from the lease. ROU assets are recognized as the lease liability, adjusted for lease incentives received. Lease liabilities are recognized at the present value of the future lease payments at the lease commencement date, net of lease incentive receivable. The interest rate used to determine the present value of the future lease payments is the Company's incremental borrowing rate ("IBR") unless the interest rate implicit in the lease agreement is readily determinable. Lease payments may be fixed or variable, however, only fixed payments or in-substance fixed payments are included in the Company's lease liability calculation. Variable lease payments are recognized in operating expenses in the period in which the obligation for those payments are incurred.

The Company has lease agreements with lease and non-lease components and has elected to utilize the practical expedient to account for lease and non-lease components together as a single combined lease component. Additionally, for certain leases previously identified as build-to-suit leasing arrangements under legacy accounting, the Company has derecognized those leases pursuant to the transition guidance provided for build-to-suit leases in ASC 842. Such leases have been reassessed as operating leases as of the adoption date under ASC 842, and are included on the consolidated balance sheets.

The Company has leases that include one or more options to extend the lease term for up to five years and some of its leases include options to terminate the lease prior to the end of the agreed upon lease term. For purposes of calculating lease liabilities, lease terms include options to extend or terminate the lease when it is reasonably certain that the Company will exercise such options.

Operating leases are included within operating lease ROU assets, operating lease liabilities, current, and operating lease liabilities, noncurrent on the Company's consolidated balance sheets. Finance leases are included in property and equipment, net, accrued expenses and other current liabilities, and other liabilities on the Company's consolidated balance sheets.

The Company has elected not to present short-term leases on the consolidated balance sheet as these leases have a lease term of 12 months or less at lease inception and do not contain purchase options or renewal terms that the Company is reasonably certain to exercise.

Adoption of the new lease standard on January 1, 2022 impacted the consolidated financial statements as follows: (i) recognition of ROU assets of \$32.9 million and lease liabilities of \$35.1 million for operating leases, (ii) derecognition of build-to-suit lease assets and liabilities of \$6.5 million and \$4.4 million, respectively, with the net impact of \$0.2 million recorded to accumulated deficit as of January 1, 2022, and (iii) reclassification of deferred rent and other liability balances of \$2.5 million relating to its existing lease arrangements into the ROU asset balance as of January 1, 2022. The standard did not materially impact the consolidated statement of operations or consolidated statement of cash flows.

Revenue Recognition

The Company earns revenue from the delivery of freight capacity services. Revenue from freight capacity services is recognized when the customer obtains control of promised services in an amount that reflects the consideration the Company expects to receive in exchange for those services. To date, the Company has not generated revenue from carrier-owned services.

Satisfaction of Performance Obligation

A performance obligation is a promise in a contract to transfer a distinct good or service to the customer and is the basis of revenue recognition in accordance with GAAP. To determine the proper revenue recognition method for its contracts with customers, the Company evaluates whether two or more contracts should be combined and accounted for as one single contract and whether the combined or single contract should be accounted for as more than one performance obligation. In the Company's case, its contracts with customers are for the delivery of distinct services within a single contract, such as freight capacity services, and include only one performance obligation.

Revenue from freight capacity services is recognized over time as the Company performs the services in the contract because of the continuous transfer of control to the customer. The Company's customers receive the benefit of the Company's services as the goods are transported from one location to another. If the Company were unable to complete delivery to the final location, another entity would not need to re-perform the freight capacity service already performed. As control transfers over time, revenue is recognized based on the extent of progress towards completion of the performance obligation. The selection of the method to measure progress towards completion requires judgment and is based on the nature of the products or services to be provided. Management estimates the progress based on mileage completed to total mileage to be transported. Revenues are recorded net of value-added taxes and surcharges.

Contract Modification

Customer contracts may be modified to account for changes in the rates the Company charges its customers or to add additional distinct services. The Company considers contract modifications to exist when the modification either creates new enforceable rights and obligations or alters the existing arrangement. Contract modifications that add distinct goods or services are treated as separate performance obligations. Contract modifications that do not add distinct goods or services typically change the price of existing services. These contract modifications are accounted for prospectively as the remaining performance obligations are executed.

Payment Terms

Under typical payment terms of the Company's customer contracts, the customer pays at periodic intervals (i.e., every 14 days, 30 days, etc.) for shipments included on invoices received. It is not customary business practice to extend payment terms past 90 days, and as such, the Company does not have a practice of including a significant financing component within its contracts with customers.

Contract Costs

Incremental costs of obtaining contracts are expensed as incurred if the amortization period of the assets is one year or less. These costs are included within cost of revenue in the consolidated statements of operations.

Disaggregation of Revenue and Remaining Performance Obligations

The Company earns all of its revenue within the U.S. and there is no revenue related to any other geographies. Additionally, due to the short-term nature of the Company's customer contracts, there are no remaining unsatisfied performance obligations as of December 31, 2023.

Cost of Revenue

Cost of revenue consists primarily of fuel costs, insurance costs, depreciation of property and equipment (including semi-trucks acquired under capital leases), labor costs, and other costs directly attributable to providing freight capacity services.

Software Development Costs

The Company evaluates capitalization of certain software development costs incurred in development of software to be sold, leased, or otherwise marketed, subsequent to the establishment of technological feasibility. Based on the Company's product development process and substantial development risks, technological feasibility for the Company's L4 autonomous driving technology has not been established. Accordingly, the Company charges all such costs to research and development expense in the period incurred.

Software development costs for internal use software are subject to capitalization during the application development stage, beginning when a project that will result in additional functionality is approved and ending when the software is put into productive use. Due to the Company's iterative development process and short development cycles, the costs incurred between these stages are not material and are charged to research and development expense as incurred.

Research and Development ("R&D")

R&D expenses consist primarily of personnel-related expenses, including stock-based compensation costs, associated with software developers and engineering personnel and consultants responsible for the design, development, and testing of the Company's L4 autonomous driving technology, and allocated overhead costs. Research and development costs are expensed as incurred.

Selling, General and Administrative ("SG&A")

SG&A expenses consist primarily of personnel-related expenses, including stock-based compensation costs, associated with the Company's sales, marketing, management, and administration activities, professional service fees, and other general corporate expenses. Selling, general and administrative costs are expensed as incurred.

Stock-Based Compensation

The Company accounts for stock-based compensation expense in accordance with the fair value recognition and measurement provisions of GAAP, which requires compensation cost for the grant-date fair value of stock-based awards to be recognized over the requisite service period. The Company determines the fair value of stock-based awards granted or modified on the grant date (or modification date, if applicable) at fair value, using appropriate valuation techniques.

Time-Based Service Awards

For stock-based awards with time-based vesting conditions only, generally being restricted stock units ("RSUs") and stock options, stock-based compensation is recognized straight-line over the requisite service period, which is generally four years. The fair value of RSUs is measured on the grant date based on the fair value of the underlying common stock. The fair value of stock option awards is estimated on the grant date using the Black-Scholes option-pricing model which incorporates various assumptions, including the fair value of the underlying common stock, the expected stock price volatility over the term of the award, the risk-free interest rate for the expected term of the award and the expected dividends. The Company accounts for forfeitures as they occur.

Performance-Based Awards

The Company has granted RSUs, share value awards ("SVAs"), and stock options that vest only upon the satisfaction of both time-based service and performance-based conditions. The time-based service condition for these awards generally is satisfied over four years. The performance-based conditions, other than with respect to the 2021 CEO Performance Award discussed in Note 10. Stock-Based Compensation, are satisfied upon the occurrence of a qualifying event, defined as the earlier of (i) the closing of certain specific liquidation or change in control transactions, or (ii) an Initial Public Offering ("IPO"). The Company records stock-based compensation expense for performance-based equity awards such as RSUs, SVAs, and stock options using the accelerated attribution method over the requisite service period, which is generally four years, and only if performance-based conditions are considered probable to be satisfied. Upon completion of the IPO in April 2021, the Company recorded a cumulative one-time stock-based compensation expense determined using the grant-date fair values. Stock-based compensation related to remaining time-based service after the qualifying event is recorded over the remaining requisite service period.

For performance-based RSUs and SVAs, the Company determines the grant-date fair value as the fair value of the Company's common stock on the grant date. For performance-based stock options, the Company determines the grant-date fair value using the Black-Scholes option-pricing model described above.

For the 2021 CEO Performance Award with a vesting schedule based on the attainment of both performance and market-based conditions, stock-based compensation expense associated with each tranche is recognized over the longer of (i) the expected achievement period for the operational milestones for such tranche and (ii) the expected achievement period for the related market capitalization milestone determined on the grant date, beginning at the point in time when the relevant operational milestones are considered probable of being met. If such operational milestones become probable any time after the grant date, the Company will recognize a cumulative catch-up expense from the grant date to that point in time. If the related market capitalization milestone is achieved earlier than its expected achievement period, then the stock-based compensation expense will be recognized over the expected achievement period for the operational milestones, which may accelerate the rate at which such expense is recognized. The fair value of such awards is estimated on the grant date using Monte Carlo simulations. Refer to Note 10. Stock-Based Compensation for further information.

Market-Based Awards

For the 2022 CEO Award with a vesting schedule based on the satisfaction of both time-based service and market-based conditions, the Company determines the grant-date fair value utilizing Monte Carlo simulations and recognizes stock-based compensation expense associated with each tranche over the longer of (i) the expected achievement period for the market milestones and (ii) the explicit time-based service period. Refer to Note 10. Stock-Based Compensation for further information.

Employee Stock Purchase Plan ("ESPP")

The Company recognizes stock-based expense related to shares issued pursuant to the ESPP on a straight-line basis over the offering period. The ESPP provides for six-month offering periods. The ESPP allows eligible employees to purchase shares of Class A common stock at a 15% discount on the lower of our stock price on either (i) the offering period beginning date or (ii) the purchase date. No employee may purchase shares under the ESPP at a rate in excess of \$25,000 worth of Class A common stock based on the fair market value per share of Class A common stock at the beginning of an offering for each calendar year such purchase right is outstanding or 1,500 shares. The Company estimates the fair value of shares to be issued under the ESPP based on a combination of options valued using the Black-Scholes option-pricing model. Volatility is determined over an expected term of six months based on the Company's historical volatility. The expected term is estimated based on the contractual term.

Restructuring and Related Charges

Costs associated with management-approved restructuring activities consist primarily of employee severance and termination benefits, impairment of long-lived assets (including ROU assets) and write-off of long-lived assets used in the Company's research and development activities. The Company recognizes restructuring and related charges when they are incurred. One-time employee termination costs are recognized at the time of communication to employees, unless future service is required, in which case the costs are recognized ratably over the future service period. Ongoing employee termination benefits are recognized as a liability when it is probable that a liability exists and the amount is reasonably estimable. Costs associated with the impairment of long-lived assets and ROU assets are accounted for under the long-lived assets accounting guidance or lease accounting guidance. Additionally, the Company wrote-off all existing long-lived assets used in the Company's research and development as of December 31, 2022, as they no longer meet the criteria for capitalization subsequent to the restructuring.

Restructuring and related charges are recognized as an operating expense within the consolidated statements of operations and related liabilities are recorded within accrued expenses and other liabilities on the consolidated balance sheets.

Income Taxes

Current income taxes are provided for in accordance with the relevant statutory tax laws and regulations.

Income taxes are accounted for under the asset and liability method of accounting. Under this method, deferred tax assets and liabilities are determined based on the differences between the financial reporting and the tax bases assets and liabilities and are measured using the enacted tax rates and laws that will be in effect when the differences are expected to reverse. A valuation allowance is provided when it is more likely than not that a deferred tax asset will not be fully realized. Due to our lack of earnings history, the net deferred tax assets have been fully offset by a valuation allowance.

The Company operates in various tax jurisdictions and is subject to audit by tax authorities. The Company recognizes the tax benefit of an uncertain tax position only if it is more likely than not that the position is sustainable upon examination by the taxing authority, based on the technical merits. The tax benefit recognized is measured as the largest amount of benefit which is more likely than not to be realized upon settlement with the taxing authority. The Company recognizes interest accrued and penalties related to unrecognized tax benefits in the provision for income taxes.

Foreign Currency

The functional currency of the Company's foreign subsidiaries is the local currency or U.S. dollar depending on the nature of the subsidiaries' activities. Foreign currency transactions recognized in the consolidated statements of operations are converted to the functional currency by applying the exchange rate prevailing on the date of the transaction. Monetary assets and liabilities denominated in currencies other than the functional currency are remeasured monthly using the month-end exchange rate. Gains and losses resulting from foreign currency transactions and the effects of remeasuring monetary assets and liabilities are recorded in other income in the consolidated statements of operations. Subsidiary assets and liabilities with non-U.S. dollar functional currencies are translated at the month-end rate, retained earnings and other equity items are translated at historical rates, and revenues and expenses are translated at average exchange rates during the year. Cumulative translation adjustments are recorded within accumulated other comprehensive loss, a separate component of stockholders' equity (deficit).

Comprehensive Loss

Comprehensive loss consists of two components: net loss and other comprehensive income (loss). Other comprehensive income (loss) refers to income or losses that are recorded as an element of stockholders' equity (deficit) and are excluded from net loss. The Company's other comprehensive income (loss) is composed of foreign currency translation adjustments and unrealized gain or loss on available-for-sale securities.

Net Loss Per Share Attributable to Common Stockholders

The Company computes net loss per share using the two-class method required for participating securities. The two-class method requires income available to common stockholders for the period to be allocated between common stock and participating securities based upon their respective rights to receive dividends as if all income for the period had been distributed.

Prior to conversion to common stock upon the Company's IPO, the holders of the redeemable convertible preferred stock would have been entitled to dividends in preference to common stockholders, at a rate no less than the rate at which dividends are paid to common stockholders, prior to any payment of dividends to common stockholders. These participating securities do not contractually require the holders of such shares to participate in the Company's losses. As such, net losses for the periods presented were not allocated to the redeemable convertible preferred stock.

The Company's basic net loss per share attributable to common stockholders is calculated by dividing net loss attributable to common stockholders by the weighted-average number of shares of common stock outstanding for the period, without consideration of potentially dilutive securities. The diluted net loss per share is calculated by giving effect to all potentially dilutive securities outstanding for the period using the treasury stock method or the if-converted method based on the nature of such securities. Diluted net loss per share is the same as basic net loss per share in periods when the effects of potentially dilutive common stock are anti-dilutive.

Commitments and Contingencies

In the normal course of business, the Company is subject to loss contingencies, such as legal proceedings arising out of its business, that cover a wide range of matters. An accrual for a loss contingency is recognized when it is probable that a liability has been incurred and the amount of loss can be reasonably estimated. If a potential material loss contingency is not probable but is reasonably possible, or is probable but cannot be estimated, then the nature of the contingent liability, together with an estimate of the range of possible loss if determinable and material, is disclosed. See Note 8. Commitments and Contingencies for additional details.

Reclassifications

Certain prior period balances have been reclassified to conform to the current period presentation in the consolidated financial statements and the accompanying notes. Sales and marketing expense and general and administrative expense have been reclassified to selling, general and administrative expense. Interest income has been reclassified from other income (expense), net to interest income.

Recent Accounting Pronouncements

The Company did not adopt any new accounting guidance during the year ended December 31, 2023 that had a material impact on its consolidated financial statements or disclosures. The Company does not believe that any recently issued, but not yet effective, accounting pronouncements will have a material effect on its consolidated financial statements.

Note 2. Concentrations and Risks

Concentration of Credit Risk

Cash and cash equivalents and short-term investments are potentially subject to concentrations of credit risk. The Company's investment policy limits the amount of credit exposure with any one financial institution or commercial issuer and sets requirements regarding credit rating and investment maturities to safeguard liquidity and minimize risk. The majority of the Company's cash deposits exceed insured limits and are placed with financial institutions around the world that the Company believes are of high credit quality. The Company has not experienced any material losses related to these concentrations during the years ended December 31, 2021, 2022, and 2023.

Currency Convertibility Risk

The revenues and expenses of the Company's subsidiaries in China are generally denominated in Renminbi ("RMB") and their assets and liabilities are primarily denominated in RMB, which is not freely convertible into foreign currencies. The Company's cash denominated in RMB that is subject to such government controls amounted to RMB 168.4 million (equivalent to \$24.2 million) and RMB 90.2 million (equivalent to \$12.7 million) as of December 31, 2022 and 2023, respectively. The value of the RMB is subject to changes in the central government policies and international economic and political developments affecting the supply and demand of RMB in the PRC foreign exchange trading system market. In the PRC, certain foreign exchange transactions are required by law to be transacted only by authorized financial institutions at exchange rates set by the People's Bank of China (the "PBOC"). Remittances from China in currencies other than RMB by the Company must be processed through the PBOC or other China foreign exchange regulatory bodies which require certain supporting documentation in order to process the remittance.

Note 3. Investments and Fair Value Measurements

Investments

Investments on the consolidated balance sheets consisted of the following (in thousands):

As of December 31, 2023							
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Allowance for Credit Losses	Fair Value	Cash and Cash Equivalents	Short-term Investments
Available-for-sale debt securities:							
U.S. treasury securities	\$ 75,205	\$ 49	\$ (266)	\$ —	\$ 74,988	\$ —	\$ 74,988
U.S. government agency securities	243,201	250	(479)	—	242,972	—	242,972
Commercial paper	7,654	—	(3)	—	7,651	—	7,651
Corporate debt securities	209,333	469	(607)	—	209,195	—	209,195
Total	\$ 535,393	\$ 768	\$ (1,355)	\$ —	\$ 534,806	\$ —	\$ 534,806
As of December 31, 2022							
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Allowance for Credit Losses	Fair Value	Cash and Cash Equivalents	Short-term Investments
Available-for-sale debt securities:							
U.S. treasury securities	\$ 9,843	\$ —	\$ (86)	\$ —	\$ 9,757	\$ —	\$ 9,757
U.S. government agency securities	97,139	34	(521)	—	96,652	—	96,652
Commercial paper	138,973	10	(207)	—	138,776	25,390	113,386
Corporate debt securities	159,045	55	(1,583)	—	157,517	—	157,517
Total	\$ 405,000	\$ 99	\$ (2,397)	\$ —	\$ 402,702	\$ 25,390	\$ 377,312

The fair value and amortized cost of the Company's available-for-sale debt securities with a stated contractual maturity or redemption date were as follows (in thousands):

As of December 31, 2023		
	Amortized Cost	Fair Value
Due in one year or less	\$ 363,469	\$ 362,215
Due in one year through five years	171,924	172,591
Total	\$ 535,393	\$ 534,806

The Company purchases investment grade marketable debt securities rated by nationally recognized statistical credit rating organizations in accordance with its investment policy, which is designed to minimize the Company's exposure to credit losses. The Company regularly reviews its investment portfolios to determine if any investment is impaired due to changes in credit risk or other potential valuation concerns.

As of December 31, 2022 and 2023, investments in an unrealized loss position for which an allowance for credit losses have not been recognized had an aggregate fair value of \$342.4 million and \$390.9 million, respectively. The Company does not intend to sell these investments until the recovery of their amortized cost basis or maturity and further believes that it is not more-likely-than-not that it will be required to sell these investments. The unrealized losses were primarily related to changes in interest rates, market spreads, and market conditions subsequent to purchase. The Company believes none of these debt securities were impaired due to credit risk or other valuation concerns, and, therefore, did not record a credit loss or an allowance for credit losses.

As of December 31, 2022, none of the investments in an unrealized loss position for which an allowance for credit losses has not been recognized were in a continuous unrealized loss position for more than twelve months.

The following table summarizes the available-for-sale debt securities in a continuous unrealized loss position for which an allowance for credit losses was not recorded at December 31, 2023 (in thousands):

	Less than 12 Months		More than 12 Months		Total	
	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses	Fair Value	Gross Unrealized Losses
Available-for-sale debt securities:						
U.S. treasury securities	\$ 64,216	\$ (266)	\$ —	\$ —	\$ 64,216	\$ (266)
U.S. government agency securities	132,597	(324)	49,390	(155)	181,987	(479)
Commercial paper	7,651	(3)	—	—	7,651	(3)
Corporate debt securities	60,060	(137)	76,994	(470)	137,054	(607)
Total	\$ 264,524	\$ (730)	\$ 126,384	\$ (625)	\$ 390,908	\$ (1,355)

Interest income from cash and cash equivalents and short-term investments was \$1.6 million, \$16.9 million, and \$37.8 million for the years ended December 31, 2021, 2022, and 2023, respectively.

Fair Value Measurements

The following table presents the Company's assets and liabilities that are measured at fair value on a recurring basis and indicates the fair value hierarchy of the valuation (in thousands):

	As of December 31, 2023			
	Total	Level 1	Level 2	Level 3
Assets:				
Cash equivalents:				
Money market funds	\$ 151,226	\$ 151,226	\$ —	\$ —
Total cash equivalents	\$ 151,226	\$ 151,226	\$ —	\$ —
Short-term investments:				
U.S. treasury securities	\$ 74,988	\$ 74,988	\$ —	\$ —
U.S. government agency securities	242,972	—	242,972	—
Commercial paper	7,651	—	7,651	—
Corporate debt securities	209,195	—	209,195	—
Total short-term investments	\$ 534,806	\$ 74,988	\$ 459,818	\$ —
Total	\$ 686,032	\$ 226,214	\$ 459,818	\$ —

	As of December 31, 2022			
	Total	Level 1	Level 2	Level 3
Assets:				
Cash equivalents:				
Money market funds	\$ 530,674	\$ 530,674	\$ —	\$ —
Commercial paper	25,390	—	25,390	—
Total cash equivalents	\$ 556,064	\$ 530,674	\$ 25,390	\$ —
Short-term investments:				
U.S. treasury securities	\$ 9,757	\$ 9,757	\$ —	\$ —
U.S. government agency securities	96,652	—	96,652	—
Commercial paper	113,386	—	113,386	—
Corporate debt securities	157,517	—	157,517	—
Total short-term investments	\$ 377,312	\$ 9,757	\$ 367,555	\$ —
Total	\$ 933,376	\$ 540,431	\$ 392,945	\$ —

Warrants Liability

In February and March 2021, TRATON Group (“TRATON”) and its subsidiary Navistar, Inc. (“Navistar”) exercised warrants to purchase 4,331,644 and 9,477,073 shares of Series E-2 and Series E redeemable convertible preferred stock at an exercise price of \$11.31 and \$14.14, resulting in proceeds of \$49.0 million and \$134.0 million, respectively. Immediately prior to their exercise, the fair value of the warrants liability was remeasured using the Black-Scholes model, resulting in a loss upon remeasurement of \$326.9 million. The warrants exercised by TRATON represented only a portion of the warrants they owned and the unexercised warrants expired as of the exercise date. As of December 31, 2022 and 2023, there were no warrants outstanding.

The Company used the following assumptions in the model:

	As of	
	February 26, 2021	March 19, 2021
Discount for lack of marketability	—	—
Fair value of underlying securities	\$40.00	\$40.00
Expected volatility	62.95%	60.85%
Expected term (in years)	1.76	0.79
Risk-free interest rate	0.14%	0.08%

The following table sets forth a summary of the changes in the estimated fair value of the Company’s warrants liability (in thousands):

	Warrant Liabilities
Balance as of December 31, 2020	\$ 42,452
Change in fair value of warrants	326,900
Exercises during the period	(369,352)
Balance as of December 31, 2021	\$ —

Note 4. Property and Equipment, Net

Property and equipment as of December 31, 2022 and 2023 were as follows (in thousands):

	As of December 31,	
	2022	2023
Electronic equipment	\$ 4,385	\$ 4,631
Office and other equipment	8,697	8,031
Vehicles	4,046	1,250
Leasehold improvements	12,267	13,157
Buildings	1,841	—
Construction in progress	358	21
Property and equipment, gross	31,594	27,090
Accumulated depreciation and amortization	(14,511)	(16,582)
Property and equipment, net	\$ 17,083	\$ 10,508

Depreciation and amortization expense was \$9.5 million, \$27.6 million and \$6.3 million for the years ended December 31, 2021, 2022 and 2023, respectively. Depreciation and amortization expense for the year ended December 31, 2022 included write-offs of \$16.3 million as a result of restructuring activities during the fourth quarter of 2022. Refer to Note 14. Restructuring and Related Charges for further information.

As of December 31, 2022, property and equipment under finance leases was \$1.6 million, net of accumulated amortization of \$0.9 million. As of December 31, 2023, there is no property and equipment under finance leases.

Note 5. Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities as of December 31, 2022 and 2023 were as follows (in thousands):

	As of December 31,	
	2022	2023
Accrued payroll	\$ 35,563	\$ 20,127
Accrued professional fees	4,798	2,115
Other	7,899	1,645
Accrued expenses and other current liabilities	\$ 48,260	\$ 23,887

Note 6. Debt

Payroll Protection Program (“PPP”) Loan

In April 2020, the Company received loan proceeds in the amount of \$4.1 million under the Small Business Administration (“SBA”) Paycheck Protection Program established under Section 1102 of the Coronavirus Aid, Relief and Economic Security (“CARES”) Act. The loan accrued interest at a rate of 1.0% per annum and originally matured in 24 months. All of the proceeds of the PPP Loan were used by the Company to pay eligible payroll costs and the Company maintained its headcount and otherwise complied with the terms of the PPP Loan.

In October 2020, the Company applied for forgiveness of the PPP Loan and corresponding accrued interest, which was approved by the SBA in June 2021, resulting in a gain on loan extinguishment of \$4.2 million. Under the PPP, the SBA reserves the right to audit any PPP loan forgiveness application for a period of six years from the date of loan forgiveness.

Truck Purchase Loans

During 2020 and 2021, the Company entered into multiple loan agreements with aggregate principal amounts of \$1.9 million and \$5.6 million, respectively, to finance its purchase of trucks. The 2020 loans accrued interest at a rate of 8.95% per annum and have original maturities of 42 months. The 2021 loans accrued interest at rates from 6.96% to 9.73% per annum and have original maturities of 60 months.

As of December 31, 2022, the current portion of the truck loan principal amount was \$1.6 million and the noncurrent portion of the truck loan principal amount was \$3.5 million, which are included in short-term debt and the long-term debt in the consolidated balance sheet. As of December 31, 2023, all of the outstanding truck loans have been repaid in full.

Note 7. Leases

The balances for the operating and finance leases where the Company is the lessee are presented within the consolidated balance sheets as follows (in thousands):

	As of December 31,	
	2022	2023
Operating leases:		
Operating lease right-of-use assets	\$ 44,952	\$ 34,939
Operating lease liabilities, current	\$ 6,007	\$ 6,285
Operating lease liabilities, noncurrent	42,169	36,240
Total operating lease liabilities	\$ 48,176	\$ 42,525
Finance leases:		
Property and equipment, at cost	\$ 2,465	\$ —
Accumulated depreciation	(882)	—
Property and equipment, net	\$ 1,583	\$ —
Accrued expenses and other current liabilities	\$ 1,116	\$ —
Other liabilities	2,429	—
Total finance lease obligations	\$ 3,545	\$ —

The components of lease expense were as follows (in thousands):

	Year Ended December 31,	
	2022	2023
Operating lease expense:		
Operating lease expense ⁽¹⁾⁽²⁾	\$ 9,112	\$ 8,971
Finance lease expense:		
Amortization of leased assets	\$ 1,454	\$ 323
Interest on lease liabilities	592	105
Total finance lease expense	\$ 2,046	\$ 428
Total lease expense	\$ 11,158	\$ 9,399

(1) Includes short-term leases and variable lease costs, which are immaterial.

(2) Net of sublease income, which is immaterial.

Other information related to leases where the Company is the lessee is as follows:

	As of December 31,	
	2022	2023
Weighted-average remaining lease term:		
Operating leases	8.5 years	7.8 years
Finance leases	2.8 years	—
Weighted-average discount rate:		
Operating leases	4.4 %	4.5 %
Finance leases	11.2 %	— %

Supplemental cash flow information related to leases where the Company is the lessee is as follows (in thousands):

	Year Ended December 31,	
	2022	2023
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	\$ 6,768	\$ 7,625
Operating cash flows from finance leases (interest payments)	\$ 420	\$ 71
Financing cash flows from finance leases	\$ 1,252	\$ 3,318
Right-of-use assets obtained in exchange for lease obligations:		
Operating lease liabilities	\$ 48,523	\$ 35
Finance lease liabilities	\$ 11,056	\$ —

As of December 31, 2023, the maturities of the Company's operating lease liabilities (excluding short-term leases) are as follows (in thousands):

	Operating Leases
2024	\$ 7,725
2025	7,628
2026	7,841
2027	6,893
2028	3,329
Thereafter	18,066
Total minimum lease payments	51,482
Less: lease incentives receivable ⁽¹⁾	(558)
Less: imputed interest	(8,399)
Present value of minimum lease payments	42,525
Less: current portion	(6,285)
Lease obligations, noncurrent	\$ 36,240

(1) Lease incentives receivable represent amounts relating to the Company's leasehold improvements that will be paid by the landlord pursuant to lease provisions with relevant landlord.

Rent expense for operating leases, as previously reported under former lease accounting standards, was \$5.7 million for the year ended December 31, 2021.

Note 8. Commitments and Contingencies

Indemnification Obligations

The Company has entered into indemnification agreements with its officers, directors, and certain current and former employees, and its certificate of incorporation and bylaws contain certain indemnification obligations. It is not possible to make a reasonable estimate of the maximum potential amount under these indemnification agreements due to the unique facts and circumstances involved in each particular agreement. Additionally, the Company has a limited history of prior indemnification claims, and the payments it has made under such agreements have not had a material adverse effect on its results of operations, cash flows, or financial position. However, to the extent that valid indemnification claims arise in the future, future payments by the Company could be significant and could have a material adverse effect on its results of operations or cash flows in a particular period.

Litigation and Legal Proceedings

Except as described below, the Company believes it is not presently a party to any litigation the outcome of which, if determined adversely against the Company, would individually or in the aggregate have a material adverse effect on the Company's business, financial condition, cash flows, or results of operations.

Shareholder Securities Litigation

On August 31, 2022, a securities class action complaint (the "August 2022 Action") was filed, in the United States District Court for the Southern District of California, against the Company and certain of its current and former directors and officers (Xiaodi Hou, Mo Chen, Cheng Lu, Patrick Dillon, and James Mullen), and the underwriters who underwrote its IPO, on behalf of a putative class of stockholders who acquired its securities from April 15, 2021 through August 1, 2022. The August 2022 Action is captioned: *Dicker v. TuSimple Holdings, Inc. et al.*, 3:22-cv-01300-BEN-MSB (S. D. Cal.). The complaint filed in the August 2022 Action alleges, among other things, that the Company and certain of its current and former directors and officers violated Sections 11 and 15 of the Securities Act and Sections 10(b) and 20(a) of the Exchange Act by making materially false or misleading statements, or failing to disclose information it was required to disclose, regarding the Company's autonomous driving technology. The complaint seeks unspecified monetary damages on behalf of the putative class and an award of costs and expenses, including reasonable attorneys' fees.

On November 10, 2022, a second securities class action (the "November 2022 Action") complaint was filed in the United States District Court for the Southern District of New York against the Company and certain of its current and former directors and officers (Xiaodi Hou, Mo Chen, Cheng Lu, Eric Tapia, Patrick Dillon, and James Mullen), and the underwriters who underwrote its IPO, on behalf of a putative class of stockholders who acquired its securities from April 15, 2021 through October 31, 2022. The November 2022 Action was originally captioned: *Woldanski v. TuSimple Holdings, Inc., et al.*, 1:22-cv-09625-AKH (S.D.N.Y.). The complaint in the November 2022 Action alleges, among other things, that the Company and certain of its current and former directors and officers violated Sections 11, 12(a), and 15 of the Securities Act and Sections 10(b) and 20(a) of the Exchange Act, by making false or misleading statements, or failing to disclose information it was required to disclose, regarding the Company's related party transactions with Hydron, Inc. ("Hydron") and its sharing of confidential information and proprietary technology with Hydron without approval from the Board. The complaint seeks unspecified monetary damages on behalf of the putative class and an award of costs and expenses, including reasonable attorneys' fees. The November 2022 Action has since been transferred to the Southern District of California and is captioned *Woldanski v. TuSimple Holdings, Inc., et al.*, 3:23-cv-00282-BEN-MSB (S. D. Cal.).

On March 28, 2023, the Company moved to consolidate the August 2022 Action and November 2022 Action. The Court granted the motion and consolidated the August 2022 Action and November 2022 Action on July 20, 2023. On October 2, 2023, the plaintiffs filed a consolidated and amended complaint (the "Consolidated and Amended Complaint"). The Consolidated and Amended Complaint was filed against the Company and certain of its current and former directors and officers (Guowei "Charles" Chao, Xiaodi Hou, Mo Chen, Bonnie Yi Zhang, Cheng Lu, Patrick Dillon, Brad Buss, and Karen C. Francis) and the underwriters who underwrote its IPO, containing similar claims as asserted in the complaints filed in *Dicker v. TuSimple Holdings, Inc. et al.*, 3:22-cv-01300-BEN-MSB (S. D. Cal.) and *Woldanski v. TuSimple Holdings, Inc., et al.*, 3:23-cv-00282-BEN-MSB (S. D. Cal.). The Consolidated and Amended Complaint alleges, among other things, that the Company and certain of its current and former directors and officers violated Sections 11, 12, and 15 of the Securities Act, Sections 10(b) and 20(a) of the Exchange Act, and Rule 10b-5, by making false or misleading statements, or failing to disclose information it was required to disclose, regarding the Company's related party transactions with Hydron, the Company's sharing of confidential information and proprietary technology with Hydron without approval from the Company's board of directors, the Company's safety profile, and certain of the Company's risk factors.

On December 8, 2023, the Company, along with the other defendants, moved to dismiss the Consolidated and Amended Complaint. On January 29, 2024, the plaintiffs filed their opposition to the motion to dismiss. On February 26, 2024, the Company and the other defendants filed reply briefs in further support of their motion to dismiss the Consolidated and Amended Complaint.

The Company is unable to estimate the potential loss or range of loss, if any, associated with this, or any similar, lawsuit, which could be material.

Shareholder Derivative Actions

On November 28, 2022, a shareholder derivative action was filed in the Delaware Court of Chancery by a stockholder purportedly on behalf of the Company against certain of its current and former directors and officers (Xiaodi Hou, Mo Chen, Brad Buss, Karen Francis, Michelle Sterling, and Reed Werner) and Hydron alleging, among other things, that certain of the Company's current and former directors and officers breached their fiduciary duties to the Company in connection with a related party transaction with Hydron: *Nusbaum v. Hou et al.*, 2022-1095-PAF (Del. Ch.). The shareholder derivative action also alleges breaches of fiduciary duties against certain of the Company's current and former directors and officers in connection with the restructuring of the Company's Board.

On December 15, 2022, a second shareholder derivative action was filed in the Delaware Court of Chancery by a stockholder purportedly on behalf of the Company against certain of its current and former directors and officers (Xiaodi Hou, Mo Chen, Cheng Lu, Patrick Dillon, Eric Tapia, James Mullen, Brad Buss, Charles Chao, Karen Francis, Michelle Sterling, Reed Werner, and Bonnie Zhang) alleging similar claims to the action filed on November 28, 2022: *Young v. Hou et al.*, 2022-1157-PAF (Del. Ch.). The second shareholder derivative action additionally asserts, among other things, claims regarding the safety of the Company's technology and alleged inadequacy of the Company's internal controls.

On March 6, 2023, a third shareholder derivative action was filed in the Delaware Court of Chancery by a stockholder purportedly on behalf of the Company against certain of its current and former directors and officers (Xiaodi Hou, Brad Buss, Mo Chen, Charles Chao, Karen Francis, Wendy Hayes, Cheng Lu, James Lu, Michael Mosier, Michelle Sterling, Reed Werner, and Bonnie Zhang), alleging similar claims to the actions filed on November 28, 2022 and December 15, 2022: *Wolfson v. Hou et al.*, 2023-0279-PAF (Del. Ch.). The stockholder has since voluntarily dismissed her action.

On March 9, 2023, the Company moved to consolidate all of the above shareholder derivative actions. The Court granted the motion and consolidated the shareholder derivative actions on May 5, 2023. A consolidated complaint was filed on July 24, 2023 against Xiaodi Hou, Mo Chen, Brad Buss, Karen C. Francis, Reed Werner, and Hydron Inc., and TuSimple as nominal defendant, containing substantially the same claims as asserted in the complaint filed in *Nusbaum v. Hou et al.*, 2022-1095-PAF (Del. Ch.).

On August 18, 2023, the Delaware Court of Chancery entered an order staying the consolidated action through February 9, 2024 pending an investigation by a special litigation committee ("SLC") formed by the Company's Board of Directors to assess and determine whether the pursuit of derivative claims asserted in the consolidated action would be in the Company's best interests. The Board previously delegated to the SLC its authority to take all actions advisable, appropriate, and in the best interests of the Company and its shareholders with respect to the pending shareholder derivative litigation. On February 7, 2024, the Court extended the stay until April 9, 2024, in light of the ongoing SLC investigation, as stipulated to by the parties.

On December 22, 2023, a fourth shareholder derivative action (the “December 2023 Action”) was filed in the United States District Court for the Southern District of California by stockholders purportedly on behalf of the Company against certain of its current and former directors and officers (Xiaodi Hou, Mo Chen, Cheng Lu, Charles Chao), Hydron, and TuSimple as nominal defendant, alleging violations of the Defend Trade Secrets Act of 2016, the California Uniform Trade Secrets Act, and civil conspiracy: *Wilhoite v. Hou et al.*, 3:23-cv-02333-BEN-MSB (S.D. Cal.).

On January 5, 2024, the plaintiffs moved for a temporary restraining order and expedited discovery. On January 23, 2024, the Court granted plaintiffs’ motion for a temporary restraining order and for expedited discovery. On January 25, 2024, TuSimple requested that the Court modify the temporary restraining order. On February 2, 2024, the Court modified the temporary restraining order such that TuSimple is enjoined until March 8, 2024 from: (1) violating the NSA between TuSimple and the federal government; (2) disclosing any trade secrets held by TuSimple in the United States people or entities outside of the United States, including TuSimple in China; (3) disclosing any trade secrets to Hydron or any other entity controlled by Mo Chen; (4) sharing any confidential proprietary information with any third party other than pursuant to a commercially reasonable non-disclosure agreement; and (5) transferring out of the United States the proceeds from any sale of assets located in the United States.

On January 15, 2024, the Company moved to dismiss the shareholder derivative complaint in the December 2023 Action. On February 12, 2024, the Court held a hearing on the motion, after which it took the matter under advisement.

On February 9, 2024, the plaintiffs moved for a preliminary injunction. On February 23, 2024, TuSimple opposed the motion for preliminary injunction. A hearing on Plaintiffs’ motion for preliminary injunction is set for March 8, 2024.

The Company is unable to estimate the potential loss or range of loss, if any, associated with this, or any similar, lawsuit, which could be material.

Regulatory Investigations

Committee on Foreign Investments in the United States (“CFIUS”)

The Company is cooperating with an inquiry by CFIUS concerning its compliance with the National Security Agreement (“NSA”) entered into with the U.S. government as it relates to information shared by TuSimple U.S. with TuSimple’s China-based businesses (“TuSimple China”), Hydron, and Hydron’s partners. If CFIUS concludes that information shared with TuSimple China, Hydron, and Hydron’s partners was shared in violation of the terms of the NSA, it may impose a civil penalty on the Company. At this time, the Company is unable to estimate the likelihood of a negative outcome or the potential loss or range of loss associated with this matter. The Audit Committee and the Government Security Committee of the Board of Directors, the Board, and the Company are committed to cooperating fully as discussions with CFIUS continue. The Company is unable to estimate the potential loss or range of loss, if any, associated with this, or any similar, investigation, which could be material.

On January 31, 2024, the U.S. Department of Treasury, on behalf of CFIUS, issued a notice and proposed civil monetary penalty to the Company related to the November 10, 2022 removal and subsequent temporary vacancy of the Company’s Security Director and Government Security Committee, which was remedied on December 15, 2022 and January 17, 2023, respectively. The Company plans to vigorously defend itself in this matter, and the negotiations with CFIUS are ongoing. The Company does not expect any loss associated with this matter to be material.

Securities and Exchange Commission (“SEC”)

As disclosed on November 7, 2022, in connection with the filing of the Company’s Current Report on Form 8-K regarding the initial findings of the Audit Committee’s internal investigation into the related party transaction with Hydron, the Company proactively reached out to the SEC and received an initial request for information from the SEC. Since the initial outreach, the Company and certain current and former directors and officers received subpoenas from the SEC requesting the production of Company documents and, with respect to certain individuals, subpoenas for testimony. The Company is unable to estimate the likelihood of a negative outcome or the potential loss or range of loss, if any, associated with this, or any similar, investigation, which could be material. The Company has cooperated, and intends to continue to fully cooperate, with the SEC’s investigation.

Note 9. Redeemable Convertible Preferred Stock and Preferred Stock Warrants, and Stockholders' Equity

Redeemable Convertible Preferred Stock

In January 2021, the Company issued an aggregate of 4,650,999 shares of Series E redeemable convertible preferred stock for aggregate proceeds of \$65.7 million. The Company incurred issuance costs of \$4.1 million, which were recorded as a reduction in the carrying value of the Series E redeemable convertible preferred shares. The Company recorded \$4.1 million of accretion within additional paid-in capital in the consolidated statements of redeemable convertible preferred stock and stockholders' equity.

Preferred Stock Warrants

Refer to Note 3. Investments and Fair Value Measurements, *Warrants Liability*, for detailed information on warrants exercised to purchase shares of Series E and E-2 redeemable convertible preferred stock.

Initial Public Offering and Private Placement

On April 19, 2021, the Company closed its IPO and concurrent private placement, in which it issued and sold 27,027,027 shares and 874,999 shares, respectively, of its authorized Class A common stock at \$40.00 per share, resulting in net proceeds of \$1.0 billion after deducting underwriting discounts and commissions of \$50.1 million and offering costs.

Immediately prior to the closing of the IPO, (i) the Company filed an amended and restated certificate of incorporation, which authorized 4,876,000,000 shares of Class A common stock and reclassified all outstanding common stock into Class A common stock, authorized 24,000,000 shares of Class B common stock, which are not publicly traded, and authorized 100,000,000 shares of undesignated preferred stock, (ii) Xiaodi Hou and Mo Chen (the "Founders") each exchanged 12,000,000 shares of their newly designated Class A common stock for an equivalent number of shares of Class B common stock, and (iii) all shares of the Company's outstanding redeemable convertible preferred stock automatically converted into 120,534,419 shares of Class A common stock.

The rights of the holders of Class A common stock and Class B common stock are identical, except with respect to voting, conversion, and transfer rights. The holders of Class A common stock are entitled to one vote per share and the holders of Class B common stock are entitled to 10 votes per share. Additionally, each share of Class B common stock will automatically convert, on a one-for-one basis, into shares of Class A common stock on the earliest of (i) the date specified by a vote of the holders of Class B common stock representing 75% of the outstanding shares of Class B common stock, (ii) the date that is between 90 days and 270 days, as determined by the board of directors, after the death or incapacitation of the last Founder to die or become incapacitated, or (iii) the date that is between 61 days and 180 days, as determined by the board of directors, after the date on which the number of outstanding shares of Class B common stock held by the Founders (or their permitted affiliates) is less than 12,000,000 shares.

Upon the closing of the IPO, all shares of the Company's outstanding redeemable convertible preferred stock automatically converted into 120,534,419 shares of common stock.

The Company recognized \$42.6 million of stock-based compensation expense related to stock options, RSUs, and SVAs, for which the time-based vesting conditions had been satisfied or partially satisfied and the performance-based conditions were satisfied upon the closing of the IPO.

Additionally, the Company recorded \$4.3 million within operating expenses to former employees in connection with post-employment agreements for which payment was contingent upon the occurrence of an IPO or Sale Event (as such terms are defined in the post-employment agreements).

Note 10. Stock-Based Compensation

2017 Share Plan

In April 2017, the Company adopted the 2017 Share Plan (the “2017 Plan”) under which employees, directors, and consultants may be granted various forms of equity incentive compensation at the discretion of the board of directors, including stock options, restricted shares, RSUs, and SVAs.

Stock options granted under the 2017 Plan have a contractual term of ten years and have varying vesting terms, but generally vest over a requisite service period of four years. The exercise price of the stock options granted may not be less than the par value of the common stock on the grant date for non-U.S. tax residents and may not be less than the fair market value of the common stock on the grant date for U.S. tax residents. Certain stock options contain a performance condition and are only exercisable subject to the grantee’s continuous service and the completion of an IPO. Such performance conditions were satisfied upon the closing of the Company’s IPO in April 2021.

In March 2021, the Company’s board of directors approved an amendment to the 2017 Plan to increase the number of shares of common stock reserved for issuance by 2,300,000 shares, for a total of 24,267,694 shares reserved.

The 2017 Plan was terminated in connection with the Company’s IPO in April 2021, and the Company will not grant any additional awards under the 2017 Plan. However, the 2017 Plan will continue to govern the terms and conditions of the outstanding awards previously granted under the 2017 Plan.

2021 Equity Incentive Plan

In March 2021, the board of directors adopted the 2021 Equity Incentive Plan (the “2021 Plan”), which became effective upon its approval by the board of directors, but for which no awards were eligible to be granted prior to the Company’s IPO in April 2021. The 2021 Plan provides for the grant of stock options, stock appreciation rights (“SARs”), restricted stock, and RSUs to the Company’s employees, directors, and consultants. The number of shares of the Company’s Class A common stock reserved for issuance under the 2021 Plan is 20,134,146 plus up to 19,892,067 shares of Class A common stock subject to awards under the Company’s 2017 Plan.

In December 2022, the board of directors and stockholders of the Company approved an amendment (the “2021 Plan Amendment”) to the 2021 Plan, subject to which the Company increased the number of shares of Class A Common Stock reserved for issuance under the 2021 Plan by an additional 13,000,000 shares. Additionally, the 2021 Plan Amendment increases the automatic share increase provision in the event that the aggregate number of shares of Class A Common Stock that are available for issuance under the plan as of the last day of a fiscal year (commencing with the last day of the 2023 fiscal year) is less than five percent (5%) of the company capitalization (as of such date) (the “Automatic Trigger”), then on the first day of each fiscal year of the Company commencing with the fiscal year beginning on January 1, 2024 and continuing for each fiscal year thereafter for the duration of the plan (ending on and including the fiscal year commencing on January 1, 2031), the aggregate number of shares of Class A Common Stock that may be issued under the plan will automatically increase in an amount equal to the lesser of (i) five percent (5%) of the company capitalization on the last day of the immediately preceding fiscal year or (ii) such number of shares of Class A Common Stock as may be determined by the board of directors prior to the date of the automatic increase. Furthermore, the 2021 Plan Amendment provides that in the event that the Automatic Trigger is not attained, the board of directors retains the authority in its sole discretion to, prior to the date that such automatic increase would have occurred had the Automatic Trigger been attained, increase the aggregate number of shares of Class A Common Stock that may be issued under the plan in any such fiscal year (commencing with the fiscal year beginning on January 1, 2024 and continuing for each fiscal year thereafter for the duration of the plan (ending on and including the fiscal year commencing on January 1, 2031)) by up to five percent (5%) of the company capitalization on the last day of the immediately preceding fiscal year as if the Automatic Trigger had been attained in accordance with its terms.

2021 Employee Stock Purchase Plan

In March 2021, the board of directors adopted the 2021 Employee Stock Purchase Plan (the "2021 ESPP"), which became effective upon the Company's IPO in April 2021. The 2021 ESPP authorizes the issuance of shares of Class A common stock pursuant to purchase rights granted to employees. A total of 2,013,414 shares of the Company's Class A common stock have been reserved for future issuance under the 2021 ESPP, subject to annual increases authorized by the board of directors; however, the aggregate number of shares of Class A common stock that may be approved for issuance under the 2021 ESPP in any given fiscal year may not exceed 1% of the total number of shares of common stock issued and outstanding on the last business day of the prior fiscal year.

During the year ended December 31, 2022, 249,831 shares were purchased under the 2021 ESPP at a weighted-average price of \$9.15 per share resulting in cash proceeds of \$2.3 million. There were no shares purchased under the 2021 ESPP during the years ended December 31, 2021 and 2023. In February 2023 the Company suspended the 2021 ESPP.

During the years ended December 31, 2021, 2022, and 2023, the Company did not incur significant stock-based compensation expense under the 2021 ESPP.

Stock Options

A summary of the stock option activities, including the 2021 CEO Performance Award, for the year ended December 31, 2023 is as follows (in thousands, except share amounts, per share amounts, and years):

	Options Outstanding	Weighted- Average Exercise Price	Weighted- Average Remaining Life (Years)	Aggregate Intrinsic Value
Outstanding at December 31, 2022	2,623,511	\$ 15.16	6.72	\$ 798
Exercised	(56,391)	0.58		
Cancelled/Forfeited	(1,240,075)	17.44		
Outstanding at December 31, 2023	1,327,045	\$ 13.65	5.17	\$ 393
Vested and exercisable at December 31, 2023	1,164,545	\$ 9.18	4.82	\$ 393

The weighted-average grant-date fair values of stock options granted during the years ended December 31, 2021 were \$27.98 per share. There were no stock options granted during the years ended December 31, 2022 and 2023. The aggregate intrinsic value of options exercised during the year ended December 31, 2021, 2022, and 2023 was \$11.1 million, \$11.3 million, and \$0.1 million, respectively.

As of December 31, 2023, there was \$2.8 million of unrecognized stock-based compensation expense related to unvested stock options, which is expected to be recognized over a weighted-average service period of 1.61 years.

Upon the closing of the Company's IPO in April 2021, the Company recognized \$18.8 million of stock-based compensation expense relating to stock options for which the time-based vesting condition has been satisfied or partially satisfied on that date, and for which the performance condition was satisfied upon the occurrence of the IPO.

The estimated grant-date fair value of the Company's stock-based option awards was calculated using the Black-Scholes option-pricing model, based on the following assumptions:

	Year Ended December 31, 2021
Risk-free interest rate	0.33% - 1.25%
Expected dividend yield	—
Expected volatility	50.00% – 50.00%
Expected term (in years)	4.05 – 6.22
Fair value of common stock	\$32.18 – \$47.79

These assumptions and estimates were determined as follows:

Fair Value of Common Stock – Prior to the Company's IPO, the fair value of the common stock underlying the options was determined by the Company's board of directors given the absence of a public trading market, with input from management and valuation reports prepared by third-party valuation specialists. Stock-based compensation for financial reporting purposes is measured based on updated estimates of fair value when appropriate, such as when additional relevant information related to the estimate becomes available in a valuation report issued as of a subsequent date. Subsequent to the Company's IPO, the fair value of the Class A common stock is determined based upon the closing sale price per share of the Company's Class A common stock on the date of grant.

Risk-Free Interest Rate – The risk-free interest rate for the expected term of the options is based on the U.S. Treasury yield curve in effect at the time of the grant.

Expected Term – The expected term of options represents the period of time that options are expected to be outstanding. The Company's historical share option exercise experience does not provide a reasonable basis upon which to estimate an expected term due to a lack of sufficient data. For options granted to-date, the expected term is estimated using the simplified method. The simplified method calculates the expected term as the average of the time-to-vesting and the contractual life of the options.

Expected Volatility – As the Company does not have a sufficient trading history for its Class A common stock, the expected volatility was estimated by taking the average historic price volatility for industry peers, consisting of several public companies in the Company's industry that are either similar in size, stage of life cycle, or financial leverage, over a period equivalent to the expected term of the awards.

Expected Dividend Yield – The Company has never declared or paid any cash dividends and does not presently plan to pay cash dividends in the foreseeable future. As a result, an expected dividend yield of zero percent was used.

RSUs

The following table summarizes the activity related to RSUs for the year ended December 31, 2023:

	RSUs Outstanding	Weighted- Average Grant Date Fair Value per Share
Unvested and Outstanding at December 31, 2022	17,847,473	\$ 10.73
Granted	6,642,079	1.97
Vested	(7,095,188)	9.23
Cancelled	(6,956,420)	12.81
Unvested and outstanding at December 31, 2023	<u>10,437,944</u>	\$ 4.79
Vested and outstanding at December 31, 2023	<u>2,631,003</u>	\$ 5.37

SVAs

The following table summarizes the activity related to SVAs for the year ended December 31, 2023:

	SVAs Outstanding	Weighted- Average Grant Date Fair Value per Share
Unvested and Outstanding at December 31, 2022	79,438	\$ 8.24
Vested	(69,575)	5.63
Cancelled	(9,863)	14.14
Unvested and outstanding at December 31, 2023	<u>—</u>	\$ —
Vested and outstanding at December 31, 2023	<u>—</u>	\$ —

As of December 31, 2023, there was \$28.3 million of unrecognized stock-based compensation expense related to RSUs and SVAs, which is expected to be recognized over a weighted-average service period of 2.01 years.

Upon the closing of the Company's IPO in April 2021, the Company recognized \$23.8 million of stock-based compensation expense relating to RSUs and SVAs for which the time-based vesting condition has been satisfied or partially satisfied on that date and for which the performance condition was satisfied upon the occurrence of the IPO.

2021 CEO Performance Award

In March 2021, included in the stock options discussed above, the Company granted 1,150,000 stock option awards to Cheng Lu, its former and current CEO, with an exercise price of \$14.14 per share and a contractual life of ten years that vest upon the attainment of both operational milestones (performance conditions) and market conditions, assuming continued employment as CEO through the vesting date (the "2021 CEO Performance Award"). In March 2022, the Company underwent a change in CEO and the 2021 CEO Performance Award was cancelled in connection with the separation of Cheng Lu as CEO. As a result, the Company reversed the historical stock-based compensation expense attributable to the 2021 CEO Performance Award of \$7.1 million.

In connection with the March 2022 separation of Cheng Lu as CEO, a total of 1,850,000 time-based stock options were modified, of which 440,000 were vested as of the modification date. The terms of the modification allowed for continued vesting of the unvested stock options during the twelve-month period following Cheng Lu's separation date on March 3, 2022 ("Transition Period"), subject to the provision of advisory services throughout the Transition Period. Upon the completion of such continuous services, all stock options subject to vesting would become vested and exercisable. Each of the modified stock options, including those vested and outstanding as of the modification date were to remain outstanding and exercisable until the earlier of: (x) the date on which any of the Company's outstanding stock options are terminated in connection with a corporate transaction, (y) the original expiration date applicable to such stock options, and (z) the second anniversary of the date on which the transition services with the Company are terminated. The Company determined the continuous service provisions were in-substance an acceleration of the unvested awards and the incremental cost related to the modified options was recorded immediately upon the separation date. Additionally, 175,000 outstanding and unvested RSUs were accelerated in full as of Cheng Lu's separation date. As a result of these modifications, the Company recorded incremental stock compensation expense of \$13.9 million during the year ended December 31, 2022.

2022 CEO Awards

In November 2022, Cheng Lu was reappointed as the Company's CEO. In connection with the re-appointment, on December 14, 2022, the Company granted Cheng Lu 3,425,000 RSUs that vest annually over a period of four years and 3,425,000 RSUs that vest annually over a period of four years upon the attainment of market-based milestones (together the "2022 CEO Awards"). The market-based vesting requirements will be satisfied if the Company's average closing price over a 60-day trailing period exceeds certain thresholds at any time on or before November 10, 2026, as follows: (a) 33% of the units of stock will vest if such average closing price equals or exceeds \$10.00, (b) 33% of the units of stock will vest if such average closing price equals or exceeds \$15.00, and (c) 33% of the units of stock will vest if such average closing price equals or exceeds \$20.00. The 2022 CEO Awards were granted in exchange for the cancellation and forfeiture of Cheng Lu's 1,850,000 outstanding stock options (inclusive of the 2021 CEO Performance Award, as discussed above).

During the year ended December 31, 2022, the Company did not recognize significant stock-based compensation expense for the 2022 CEO Awards. During the year ended December 31, 2023, the Company recognized stock-based compensation expense of \$2.8 million for the 2022 CEO Awards. As of December 31, 2023, there was a total of \$6.2 million of unrecognized stock-based compensation expense, which will be recognized over a weighted-average service period of 2.58 years.

Restricted Share Awards

During 2020, the Company issued 1,899,680 shares of Class A common stock to two employees under a restricted share agreement at a grant date fair value of \$3.62 per share, totaling \$6.9 million. All of the shares were vested upon the Company's IPO in April 2021 with the related compensation expense recorded as selling, general and administrative expense within the consolidated statements of operations.

Stock-based Compensation Expense

Total stock-based compensation expense was as follows (in thousands):

	Year Ended December 31,		
	2021	2022	2023
Research and development	\$ 71,201	\$ 75,260	\$ 27,180
Selling, general and administrative	51,395	23,407	15,837
Total stock-based compensation expense	\$ 122,596	\$ 98,667	\$ 43,017

The Company did not recognize any income tax benefits from stock-based compensation arrangements during the years ended December 31, 2021, 2022 and 2023 due to cumulative losses and valuation allowances.

Note 11. Income Taxes

Loss before provision for income taxes consisted of the following (in thousands):

	Year Ended December 31,		
	2021	2022	2023
U.S.	\$ (673,941)	\$ (389,462)	\$ (199,235)
Foreign	(58,732)	(82,583)	(81,300)
Loss before provision for income taxes	\$ (732,673)	\$ (472,045)	\$ (280,535)

The current and deferred provision for income taxes for the years ended December 31, 2021, 2022, and 2023 by the Company's applicable jurisdictions (i.e., U.S., Cayman Islands, and Foreign) is \$0 for all years.

Prior to February 2021, the Company was a Cayman Islands incorporated holding company and subject to taxation under the laws of Cayman Islands, for which there is no current tax regime. In February 2021, the Company completed a domestication pursuant to Section 388 of the Delaware General Corporation Law, becoming a Delaware corporation and no longer subject to the laws of the Cayman Islands (the "Domestication"). Following the Domestication, the U.S. federal income tax rate is the applicable statutory rate. The provision for income taxes differs from the amount computed by applying the U.S. statutory tax rate of 21% and Cayman Islands statutory tax rate of 0% as follows (in thousands):

	Year Ended December 31,		
	2021	2022	2023
Tax at statutory rate	\$ (153,862)	\$ (99,129)	\$ (58,912)
State and local taxes (net of federal tax benefit)	(3,531)	(3,011)	(2,454)
Tax rate change	11,317	—	—
Change in valuation allowances	99,129	109,041	45,360
Foreign tax rate differential	2,354	3,489	3,295
Research and development tax credits	(15,465)	(25,341)	(19,170)
Warrant fair market value adjustment	68,649	—	—
Section 162(m) limitation - officers compensation	6,672	2,005	403
Uncertain tax position reserves	1,800	3,185	19,601
Stock-based compensation	(16,344)	14,285	12,222
Other	(719)	(4,524)	(345)
Total	\$ —	\$ —	\$ —

The effective tax rate for 2021, 2022, and 2023 was 0%, primarily due to the valuation allowances recorded on U.S. and other local jurisdiction activities that the Company concluded do not meet the more likely than not criteria for realization.

The Company recognizes the benefit of tax positions taken or expected to be taken in its tax returns in the consolidated financial statements when it is more likely than not that the position will be sustained upon examination by authorities. Recognized tax positions are measured at the largest amount of benefit that is greater than 50% likely of being realized upon settlement. The total amount of unrecognized tax benefits ("UTBs") at December 31, 2023 was \$31.4 million. If recognized in

the future, \$28.1 million of the UTBs would impact the effective tax rate (prior to consideration of valuation allowance). The Company does not believe its total amount of unrecognized tax benefits will significantly increase or decrease within 12 months of the balance sheet date.

A reconciliation of the beginning and ending balance to total unrecognized tax position is as follows (in thousands):

	Year Ended December 31,		
	2021	2022	2023
Unrecognized tax benefit, beginning of year	\$ 4,766	\$ 6,900	\$ 9,815
Decreases related to prior year tax positions	—	(538)	16,182
Increases related to current year tax positions	2,134	3,453	5,371
Unrecognized tax benefit, end of year	<u>\$ 6,900</u>	<u>\$ 9,815</u>	<u>\$ 31,368</u>

The Company classifies interest expense and penalties related to the underpayment of income taxes in the consolidated financial statements as income tax expense. As of December 31, 2021, 2022, and 2023 the Company recorded no accrued interest or penalties related to unrecognized tax benefits.

The Company is subject to tax examination in U.S. federal and state and other local country jurisdictions for tax years 2016 to the present.

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amount of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of the Company's deferred tax assets and liabilities are as follows (in thousands):

	As of December 31,	
	2022	2023
Deferred tax assets:		
Net operating loss carryforwards	\$ 196,670	\$ 246,453
Tax credit carryforwards	35,032	25,277
Lease liability	7,205	5,695
Stock-based compensation	6,404	1,977
Fixed assets and intangible assets	1,372	1,128
Capitalized research expenses	44,801	55,368
Other	4,748	2,153
Gross deferred tax assets	<u>296,232</u>	<u>338,051</u>
Valuation allowance	(289,901)	(333,775)
Net deferred tax assets	<u>6,331</u>	<u>4,276</u>
Deferred tax liabilities:		
Property, plant and equipment	—	—
Capital lease assets	6,331	4,276
Net deferred tax liabilities	<u>6,331</u>	<u>4,276</u>
Net deferred tax asset/(liability)	<u>\$ —</u>	<u>\$ —</u>

As of December 31, 2023, the Company had accumulated federal and state net operating loss carryforwards of \$781.8 million and \$291.2 million, respectively. Of the \$781.8 million of federal net operating losses ("NOL"), \$774.8 million is carried forward indefinitely and \$7.0 million of NOL will expire in 2037. The \$291.2 million of state net operating loss carryforwards will begin to expire in 2037 and \$40.3 million of California state net operating losses are not more-likely-than-not to be sustained upon examination by the relevant taxing authority. As of December 31, 2023, the Company had foreign net operating loss carryforwards of \$435.0 million that begin to expire between 2023 and 2033.

As of December 31, 2023, the Company had a U.S. federal and state research and development tax credit carryforward resulting in a deferred tax asset of \$55.6 million, of which \$41.0 million will expire between 2035 and 2043 and \$14.6 million does not expire.

The Company recorded a valuation allowance to reflect the estimated amount of certain U.S. federal and state, and other local jurisdictions' deferred tax assets that, more likely than not, will not be realized. In making such a determination, the Company evaluates a variety of factors including the Company's operating history, accumulated deficit, and the existence of taxable or deductible temporary differences and reversal periods. The net change in total valuation allowance for the years ended December 31, 2022 and 2023 was an increase of \$105.0 million and an increase of \$43.9 million, respectively. The 2022 and 2023 valuation allowance increases were both driven primarily by U.S. federal and state, and other local jurisdictions' NOL carryforwards that are not expected on a more likely than not basis to be realized.

The Company's ability to utilize the net operating losses and tax credit carryforwards is subject to limitations in the event of an ownership change as defined in Section 382 of the Internal Revenue Code ("IRC") of 1986, as amended, and similar state law. In general, an ownership change occurs if the aggregate share ownership of certain stockholders increases by more than 50 percentage points over such stockholders' lowest percentage ownership during the testing period. While the Company incurred multiple ownership changes and its NOL and tax credit carryforwards are subject to Section 382 limitations, the Company does not expect resulting limitations on its ability to utilize NOLs or other tax attributes once it achieves profitability. Due to the existence of the valuation allowance, limitations created by future ownership changes, if any, related to the Company's operations in the United States will not impact the Company's effective tax rate.

Under the Corporate Income Tax Law ("CIT Law") in the PRC, Foreign Investment Enterprises and domestic companies are subject to corporate income tax at a uniform rate of 25%. The Company also has subsidiaries that qualify for the High and New-Technology Enterprise program, which has a preferential CIT rate of 15%.

Note 12. Net Loss Per Share Attributable to Common Stockholders

Basic net loss per share attributable to common stockholders is computed by dividing the net loss attributable to common stockholders by the weighted-average shares of common stock outstanding during the period. Diluted loss per share attributable to common stockholders is the same as basic net loss per share attributable to common stockholders for all years presented because the effects of potentially dilutive items were antidilutive given the Company's net loss in each period presented.

The following table presents the calculation of basic and diluted net loss per share attributable to common stockholders (in thousands, except share and per share amounts):

	Year Ended December 31,		
	2021	2022	2023
Numerator:			
Net loss	\$ (732,673)	\$ (472,045)	\$ (280,535)
Less: Accretion of redeemable convertible preferred stock	(4,135)	—	—
Net loss attributable to common stockholders, basic and diluted	<u>\$ (736,808)</u>	<u>\$ (472,045)</u>	<u>\$ (280,535)</u>
Denominator:			
Weighted-average shares used in computing net loss per share, basic and diluted	<u>169,080,392</u>	<u>224,164,514</u>	<u>229,002,377</u>
Net loss per share:			
Net loss per share attributable to common stockholders, basic and diluted	<u>\$ (4.36)</u>	<u>\$ (2.11)</u>	<u>\$ (1.23)</u>

The following outstanding potentially dilutive ordinary share equivalents have been excluded from the computation of diluted net loss per share attributable to common stockholders for the periods presented due to their antidilutive effect:

	Year Ended December 31,		
	2021	2022	2023
Options to purchase common stock	7,684,778	2,623,511	1,327,045
RSUs subject to future vesting	5,949,798	17,847,473	10,437,944
SVAs subject to future vesting	315,559	79,438	—
Early exercised options subject to future vesting	40,000	—	—
Common stock contingently issuable under ESPP	31,514	439,415	—
Total	<u>14,021,649</u>	<u>20,989,837</u>	<u>11,764,989</u>

Note 13. Related Party Transactions

During the year ended December 31, 2021, the Company paid off all of its outstanding related-party loans, including short-term, unsecured, interest free loans of approximately \$0.6 million due to its executive chairman and approximately \$3.7 million due to Jinzhuo Hengbang Technology (Beijing) Co., Ltd. (“Jinzhuo Hengbang”), an affiliated company of Sina Corporation, the ultimate parent company of one of the Company’s investors. Additionally, the Company received the refund of the guarantee deposit of \$3.7 million paid to Sina Corporation in connection with the loans borrowed by the Company from Jinzhuo Hengbang.

As previously disclosed by the Company in its Current Report on Form 8-K filed on October 31, 2022, based on information obtained in connection with an ongoing internal investigation by the Audit Committee of the Company’s Board (the “Audit Committee”), during 2021, Company employees spent paid hours working on matters for Hydron Inc. (“Hydron”) and such paid hours had an estimated value of less than \$300,000. The Company also believes that during 2022, in connection with its evaluation of Hydron as a potential OEM partner, the Company shared confidential information with Hydron and its partners before entering into relevant non-disclosure and other cooperation agreements. After the information was disclosed, the Company entered into a non-disclosure agreement with Hydron that covered the information. Mr. Mo Chen, one of the Company’s co-founders and current Executive Chairman, is a founder, director, and chief executive officer of Hydron and he has an equity interest in the Company of greater than 10%. This related party transaction and the evaluation of Hydron as a potential OEM partner was not presented to, or approved by, the Audit Committee as required by Company policies.

The Company’s internal review regarding the information shared with Hydron is still ongoing and, based upon the facts from the review to date, the Company believes that the information shared by TuSimple’s U.S.-based businesses (“TuSimple U.S.”) was not source code, was not the confidential information of its partners or suppliers and was consistent with information it normally shares with its vendors. The Company is not currently partnering with, or party to any agreement with Hydron.

Note 14. Restructuring and Related Charges

During the fourth quarter of 2022, the first half of 2023, and the fourth quarter of 2023, the Board authorized various restructuring plans to rebalance the Company’s cost structure in alignment with its strategic priorities (the “Restructuring Plans”). In connection with the Restructuring Plans, the Company incurred costs consisting primarily of cash expenditures for employee transition, notice period and severance payments, employee benefits and related costs, as well as non-cash charges of certain non-current assets.

The following tables present restructuring and related charges associated with the Restructuring Plans, by line item on the consolidated statement of operations (in thousands):

	Year Ended December 31,	
	2022	2023
Research and development	\$ 23,864	\$ 10,737
Selling, general and administrative	2,991	6,847
Total restructuring and related cost	<u>\$ 26,855</u>	<u>\$ 17,584</u>

The following table provides the components of and changes in the accrued restructuring and related charges during the years ended December 31, 2022 and 2023 (in thousands):

	Severance and Other Termination Benefits	Long-Lived Asset Costs ⁽¹⁾	Stock-based Compensation ⁽²⁾	Total
Balance as of December 31, 2021	\$ —	\$ —	\$ —	\$ —
Charges	11,759	18,147	(3,051)	26,855
Cash payments	(1,568)	—	—	(1,568)
Non-cash adjustments	—	(18,147)	3,051	(15,096)
Balance as of December 31, 2022	\$ 10,191	\$ —	\$ —	\$ 10,191
Charges	16,461	6,817	(5,694)	17,584
Cash payments	(21,909)	(949)	—	(22,858)
Non-cash adjustments	—	(5,868)	5,694	(174)
Balance as of December 31, 2023	\$ 4,743	\$ —	\$ —	\$ 4,743

(1) Primarily related to the impairment or write-off of property plant and equipment and operating and finance lease ROU assets, net of gains from disposal of assets.

(2) Related to reversal of stock-based compensation expense due to modification of equity awards.

Note 15. Subsequent Events

The Company has evaluated all events or transactions that occurred after the balance sheet date up to February 29, 2024, the date that the financial statements were issued, and determined that there were no subsequent events or transactions that require recognition or disclosure in the consolidated financial statements, except for those disclosed within Note 8. Commitments and Contingencies and as follows:

Delisting and Deregistration

As disclosed in the Company's Current Report on Form 8-K filed with the SEC on January 17, 2024, the Company notified Nasdaq on January 16, 2024 of the Company's intention to voluntarily delist its Common Stock from Nasdaq and to terminate the registration of the Common Stock with the SEC. On January 29, 2024, the Company filed a Form 25 Notification of Removal from Listing and/or Registration Under Section 12(b) of the Securities Exchange Act of 1934 with the SEC. On February 8, 2024, the Company filed a Form 15 with the SEC to deregister its Common Stock and suspend its reporting obligations under the Securities Exchange Act of 1934.