Claims

1. **A computerized system** for automatically managing parking tickets and facilitating payment on behalf of a vehicle owner, the system comprising:
2. one or more **data interfaces** configured to electronically detect or receive information about a parking citation issued to a vehicle, including citation details obtained from at least one of: (i) a city or municipal parking database or API, (ii) an open data portal publishing parking violations, or (iii) an image or message of a parking ticket captured via a user device;
3. a **processing server** coupled to a memory, the processing server programmed to **evaluate** the parking citation information and determine a resolution action, wherein the resolution action comprises automatically contesting the citation, paying the citation, or a combination thereof;
4. a **dispute module** which, responsive to the processing server determining that the citation is contestable, automatically prepares and submits a contestation of the parking ticket to the issuing authority on behalf of the vehicle owner, using predefined templates and supporting evidence;
5. a **payment module** which, responsive to the processing server determining that the citation should be paid, initiates electronic payment of the parking fine to the issuing authority on behalf of the vehicle owner via an integrated payment gateway linked to the municipal payment system;
6. a **vehicle data module** configured to retrieve information about the vehicle associated with the citation, including VIN (Vehicle Identification Number), title records, lien status, mileage, and history of accidents or title brands, by querying external data sources comprising at least one of: a vehicle history database (including CARFAX or NMVTIS) and a DMV electronic title system;
7. a **valuation and risk engine** configured to calculate a current estimated value of the vehicle based on the retrieved vehicle information, and to determine, based on said value and predefined risk criteria, terms for a short-term loan to cover the paid parking fine;
8. a **lien management module** configured to automatically **secure the loan** by registering a security interest in the vehicle, the lien management module communicating with an electronic lien and title (ELT) system to file a lien on the vehicle's title naming the service provider as lienholder[10], or alternatively filing a UCC-1 financing statement in jurisdictions where ELT is unavailable;
9. a **repayment module** which creates a repayment schedule for the vehicle owner to reimburse the paid fine amount (optionally with service fees or interest), and which is further configured to automatically charge the vehicle owner's provided payment method according to the schedule or process received payments;
10. a **lien release mechanism** coupled to the lien management module, which upon detecting completion of repayment, automatically issues a lien release through the ELT system or files a lien termination, thereby removing the service provider's interest from the vehicle title; and

11. a **notification and user interface system** that communicates with the vehicle owner via multiple channels to inform them of ticket detections, actions taken, and obligations, the channels including at least one of: a mobile application (with push notifications), a web dashboard, SMS/text messaging, or integrated interfaces within third-party platforms, wherein the system thereby **identifies a parking ticket, resolves the ticket by automated dispute or payment, provides an immediate loan for the fine secured by the vehicle's title, and manages loan repayment with subsequent lien release** without requiring manual intervention in routine operations.

12. The system of claim 1, wherein the data interface is configured to query a **city open data platform** using the vehicle's license plate or citation number to detect new parking citations, and wherein the open data platform is implemented via a service such as Socrata such that parking citation records are retrievable in real-time via API[5].

13. The system of claim 1, wherein the dispute module further comprises an **image analysis sub-component** that utilizes street imagery or user-submitted photos to verify parking signage or other conditions at the location of the citation, and includes results of said analysis in the contest submission (for example, determining that required signage was missing and attaching photographic evidence).

14. The system of claim 1, wherein the payment module has a direct integration with official city payment systems, such that payments are processed with the same security and channels as if made by the vehicle owner directly[5], thereby obtaining immediate confirmation of fine payment and preventing any late penalties.

15. The system of claim 1, wherein the vehicle data module retrieves a **comprehensive vehicle history report** from CARFAX for the vehicle by VIN, and parses the report for factors including prior accidents, salvage or junk title status, total loss records, and odometer readings[15], which the valuation and risk engine uses to adjust the vehicle's value and the loan-to-value ratio.

16. The system of claim 1, wherein the lien management module interacts with a third-party electronic lien service (including Dealertrack or Vitu) to electronically file and later release liens, facilitating instantaneous title updates in participating state DMVs[10], and wherein for states that do not support electronic liens, the module automatically generates the appropriate lien filing documents for physical submission or records a UCC financing statement as a substitute.

17. The system of claim 1, wherein the repayment module is further configured to handle **multiple concurrent tickets** for a given user by either consolidating them into a single obligation secured by one lien or tracking them as separate sub-loans, and dynamically adjusting the repayment schedule if new tickets are added to the service before earlier ones are fully repaid.

18. The system of claim 1, wherein the notification and user interface system includes an **SMS-based interaction workflow**, allowing users to receive ticket alerts and respond with text commands (including confirmation to pay or instructions to dispute), and to

receive updates via SMS about payment schedules and lien releases, thereby enabling full service functionality without requiring smartphone app usage.

19. The system of claim 1, further comprising a **partner API layer** that exposes the core functionalities (ticket detection, payment, lien management, etc.) to third-party systems, enabling embedded integration such that external platforms (including mobile apps of insurance companies, banking apps, or city websites) can offer the parking ticket resolution service to their users by communicating with the system's API.

20. The system of claim 1, wherein the processing server is additionally programmed with a **scoring model** that computes a risk score for each vehicle owner based on at least their credit history (retrieved via a soft inquiry from a credit bureau), past ticket repayment behavior, frequency of ticket occurrences, and the ratio of outstanding loan amount to vehicle value, and wherein the system adjusts one or more service parameters (including dispute strategy, interest rate or fees for the loan, or maximum allowed outstanding balance) for that user according to the risk score.

21. The system of claim 1, implemented for **fleet management**, wherein multiple vehicles are enrolled under a single account (fleet operator), and the notification and interface system provides a fleet dashboard listing all tickets across the fleet, allows bulk actions on tickets (such as approving payment for all tickets in a batch), and optionally interfaces with the fleet operator's internal billing system to attribute ticket costs to individual vehicle users or drivers.

22. The system of claim 1, wherein the data interfaces further include integration with **ALPR (Automatic License Plate Recognition) camera systems**, such that the system receives real-time alerts when an enrolled vehicle's license plate is observed by a camera with an indication of an attached parking ticket or boot, and the system uses this information either to trigger an immediate ticket case creation (if not already recorded) or to locate a vehicle for potential repossession in the event of severe non-payment.

23. The system of claim 1, wherein the notification and user interface system is configured to facilitate **user enrollment and consent capture** by providing an electronic consent form during sign-up that, once agreed by the user, permits the system to access the user's DMV records and personal data for the purpose of performing the service, in compliance with privacy laws including the Driver's Privacy Protection Act (DPPA), and wherein the system logs and stores said consent as proof that any retrieved DMV data was obtained with express permission[11].

24. The system of claim 1, further comprising a **user outreach mechanism** wherein the service provides physical or digital means to inform potential users, including QR code stickers affixed to vehicles or parking citations that direct individuals to a sign-up page for the service, and integration with municipal mailing such that notices about parking tickets include information or promotional codes for the automated service, thereby streamlining public awareness and enrollment.

25. The system of claim 1, wherein the service includes a **referral program** managed by the processing server, such that existing users can refer new users via unique referral links or

codes; the system tracks successful referrals and automatically applies predefined rewards (credits or discounts on service fees) to the accounts of the referring and/or referred parties, and adjusts billing accordingly, thereby incentivizing network-based growth of the user base.

26. **A computer-implemented method** for automatically resolving parking tickets and securing payment via vehicle collateral, the method comprising:
(a) **Monitoring** one or more data sources for indication of a parking violation issued to a user's vehicle, the data sources including at least a city's parking ticket database accessible through an API or data feed;
(b) **Detecting** a parking ticket for the vehicle and retrieving ticket details including fine amount, location, and violation type;
(c) **Automatically determining** a course of action for the ticket by applying a set of rules or machine-learned models to the ticket details and user preferences, wherein the course of action is either to contest the ticket or to immediately pay the ticket (or to do both in parallel or sequence);
(d) If contesting is selected, **generating a dispute** submission by populating an electronic form or letter with the citation information and argument grounds, attaching any supporting evidence (photos, data) relevant to the defense, and transmitting the dispute to the issuing authority through an available channel;
(e) If payment is to be made, **initiating payment** of the ticket's fine amount on behalf of the user by electronically transferring funds through an integrated payment system to the municipal authority, thereby settling the fine;
(f) **Calculating a loan** amount corresponding to the paid fine (including any service fee or interest) and retrieving data about the user's vehicle (VIN, current title and lien status, accident and mileage history) from external data services (including vehicle history reports and DMV records) to assess vehicle value and verify ownership;
(g) **Perfecting a security interest** in the vehicle to secure the loan by electronically filing a lien on the vehicle's title using an ELT system or by filing a UCC-1 financing statement, such that the service provider becomes a lienholder of record on the vehicle[10];
(h) **Notifying the user** that the ticket has been handled (disputed and/or paid) and providing the terms of repayment for the fronted payment, including the schedule of one or more repayment installments;
(i) **Collecting repayments** from the user according to the schedule by charging a payment instrument on file or receiving funds, and updating the remaining balance accordingly in a loan account ledger;
(j) Upon detecting that the ticket loan is fully repaid, **releasing the lien** on the vehicle by transmitting a lien release instruction via the ELT system or filing a lien termination document, thereby clearing the service provider's claim on the vehicle's title; and
(k) Continuously **monitoring for future tickets** for the user's vehicle and repeating steps (a) through (j) for any subsequent parking violations,
whereby the method enables a fully automated resolution of parking tickets with integrated financing, minimizing user effort and ensuring the service provider's payment is secured by the vehicle in compliance with legal requirements.

27. The method of claim 16, wherein step (a) includes polling a **Tyler Technologies Socrata open data API** for new parking citation entries matching the vehicle's license plate, and step (b) includes parsing any found data entries to extract the ticket details needed for further processing[5].

28. The method of claim 16, wherein step (d) further comprises dynamically determining whether to pursue an **administrative appeal or a judicial hearing** based on the jurisdiction's process, and if a physical appearance or original documentation is required for the dispute, notifying the user or preparing appropriate documents in advance.

29. The method of claim 16, wherein step (f) includes querying **CARFAX and NMVTIS** databases to obtain the vehicle's accident, title, and salvage history[15][16], and using that information to adjust the estimated vehicle value and to ensure there are no existing title brands or conditions that would prevent using the vehicle as collateral.

30. The method of claim 16, wherein step (g) comprises using a **third-party electronic lien service API** (selected from one of Dealertrack, Vitu, or comparable services) to submit lien filing data (vehicle VIN, owner name, lienholder ID) to the relevant state DMV electronically[10], and receiving confirmation or recordation data, thereby avoiding manual title paperwork.

31. The method of claim 16, wherein the notification in step (h) is performed via multiple channels, including sending a **text message** confirming payment and a link to view repayment terms, and pushing a notification through the mobile app that allows the user to see details of the dispute or payment receipt.

32. The method of claim 16, wherein step (i) includes handling scenarios of **payment failure or user delinquency** by automatically retrying failed payment attempts, sending reminder notifications to the user, and if the user becomes significantly delinquent, invoking remediation measures such as engaging repossession procedures leveraging the lien or reporting the default to credit bureaus.

33. The method of claim 16, wherein prior to or during step (a), the method further includes **capturing the user's consent** for data access by presenting a digital agreement that authorizes the service to obtain the user's motor vehicle records and citation information[11], said consent being stored and referenced whenever the method performs any DMV data retrieval or personal data processing to ensure compliance with the Driver's Privacy Protection Act and related privacy regulations.

34. The method of claim 16, further comprising an initial step of **enrolling the vehicle owner** into the service, which includes obtaining identifying information of the owner and vehicle, verifying a payment method for future charges, and possibly verifying ownership of the vehicle (for example by cross-checking the registration name via a DMV lookup), and then activating monitoring in step (a); wherein this enrollment step may be facilitated by scanning a QR code or following a referral link that pre-fills some information or offers a promotional incentive.

35. The method of claim 16, wherein in step (k) the monitoring extends to **multiple vehicles or multiple jurisdictions**, such that if the user owns more than one vehicle or moves/travels to different cities, the system concurrently monitors all relevant data sources for any of the user's vehicles in those jurisdictions, thereby providing comprehensive coverage of the user's exposure to parking violations.

36. **A non-transitory computer-readable medium** storing instructions which, when executed by one or more processors of a server system, cause the system to perform the steps of the method of claim 16, thereby implementing an automated parking ticket resolution service in software.

37. **A vehicle parking ticket resolution service**, comprising:

38. an **enrollment interface** for vehicle owners to register their vehicle and consent to automated ticket handling and data access, including legal agreements for accessing DMV records and placing liens;
39. a **background monitoring service** that watches for parking tickets issued to enrolled vehicles and triggers resolution workflows without requiring user initiation;
40. an **automated dispute service** that represents the vehicle owner in contesting citations by preparing and submitting appeals with minimal user input;
41. an **automated payment and loan service** that advances funds to pay citations promptly on behalf of the owner and establishes a secured loan for the amount, protected by an electronic lien on the vehicle's title;
42. an **integration layer** connecting the service to external data and transaction systems, including municipal ticket databases, payment processing networks, vehicle history and valuation data sources, DMV electronic lien systems, and credit bureaus;
43. a **user communication module** that provides real-time updates and interactive capabilities across mobile app, web portal, SMS, and third-party platform channels; and
44. a **management console** for administrators of the service to configure rules (such as dispute criteria templates, interest rates, referral rewards) and to oversee operations (including logs of all ticket resolutions, lien filings, and releases),
wherein the service as a whole is configured to relieve vehicle owners of the procedural and financial burden of parking tickets by handling detection, adjudication, financing, and compliance aspects in an end-to-end manner, while ensuring the service provider's financial outlay is recouped through a secure interest in the vehicle and structured repayments.

45. The service of claim 27, wherein the enrollment interface and background monitoring service are adapted for **B2B fleet clients** such that a fleet manager can bulk-enroll multiple vehicles, and the service can integrate with fleet telematics or databases to continuously synchronize vehicle status and location information, using that data to enhance ticket detection (for example, predicting likely ticket occurrences by location data or preventing tickets by warning drivers in real-time).

46. The service of claim 27, wherein the integration layer includes a connection to a **credit scoring API**, and the service uses credit score data in combination with the vehicle value

and ticket history to determine an individualized **interest rate or fee** for the loan service for each user, thereby implementing risk-based pricing as part of the business model.

47. The service of claim 27, wherein the user communication module implements a **referral tracking subsystem** that issues unique identifiers for users to refer others, monitors when a new user signs up with a referral, and automatically grants rewards (such as account credits or fee waivers) according to predefined referral campaign rules, leveraging the service's billing system to apply such credits to future user charges.

48. The service of claim 27, wherein the automated payment and loan service further interfaces with an **insurance data source** or a guarantor, such that for certain high-value vehicles or high-risk users, the service can obtain an insurance policy or guarantee on the loan (or require the user to carry insurance on the vehicle if not already) to mitigate losses in case of default beyond the value of the vehicle, effectively combining collateral with insurance underwriting.

49. The service of claim 27, in which a portion of the service's functionality is offered via an **API to municipal governments** or agencies, allowing those agencies to offer on their platforms a "deferment and payment plan" option powered by the service, wherein if a citizen opts for that option, the service takes over the ticket under the same principles (pays it, handles collections from the citizen), and the municipality receives full fine payment immediately (less any agreed fee to the service), thereby providing a public-private partnership model for improved fine collection and citizen assistance.

50. The service of claim 27, wherein the automated dispute service maintains a knowledge base of parking regulations and common ticket errors for different jurisdictions, and uses an **AI-based natural language generator** to customize each appeal submission to the specific facts of the ticket, increasing the likelihood of success by making the dispute appear as a personalized, well-argued request rather than a generic form letter.

51. The service of claim 27, wherein the background monitoring service also ingests data on **vehicle booting/towing or registration holds**, and if it detects that an enrolled vehicle is at risk of being immobilized or impounded due to unpaid tickets, the service will proactively either pay off any outstanding tickets to prevent such action (after notifying the owner), or expedite enforcement of its lien to reclaim costs (for example, coordinating with a repossession agent before the city to avoid losing the vehicle to a municipal impound), thereby handling extreme scenarios in a manner that protects both the user's ability to use the vehicle and the service provider's financial interest.

52. The service of claim 27, wherein all communications and data processes are logged in a **tamper-evident audit log** to ensure legal compliance and provide evidence in case of disputes (for example, proof that a ticket was paid on a certain date, or proof that user consent was obtained), and the service is configured to produce reports or affidavits based on these logs if required for any legal proceedings or regulatory audits.