

Uber:

Domain	Purpose
accounts.google.com	OAuth login, consent screen, token issuance
people-pa.googleapis.com	Retrieval of Google account profile data (email, name, gender, metadata)
lh3.googleusercontent.com	Profile image retrieval (multiple resolutions)
ssl.gstatic.com / www.gstatic.com	Google Identity UI scripts, JS modules, CSS
Google static JS modules (boq-identity)	Google login front-end logic and OAuth validation

Notes:

- No third-party advertising or attribution SDKs appear in the login stage
- No external analytics (AppsFlyer, TikTok, Meta, Amplitude, etc.)

2. Personal Data

2.1 PII returned via Google People API

Uber only receives:

- OAuth access token
- The subset of profile data permitted by Google's consent screen

3. Encryption Evaluation

- Transport encryption
 - good, All Google + Uber endpoints use HTTPS
- Passwords
 - good, Never transmitted to Uber; handled by Google
- Tokens
 - transmitted, Returned as encrypted JWT

4. Location Tracking and Mobility Data

No location data transmitted during login

Uber did not request GPS

5. Cross-Service Data-Sharing
No unexpected third-party flows

Lyft:

Domain	Purpose
<code>api.lyft.com/v1/locations</code>	Uploads high-frequency GPS data
<code>api.lyft.com/v1/nearby-drivers-pickup-etas</code>	Retrieves driver ETA based on user's live location
<code>api.lyft.com/v1/core_trips/activetrips</code>	Polls for ongoing trips
<code>api.lyft.com/ping</code>	Heartbeat / keep-alive
<code>api.lyft.com/v1/realtime-rider-session</code>	Syncs rider state
<code>api.lyft.com/v1/eventingest/ingestbatch</code>	Sends app analytics & event logs
<code>app-analytics-services-att.com</code>	Third-party analytics/telemetry endpoint

Presence of one third-party analytics domain, No external ad networks beyond the single analytics provider

2. Personal Data Exposure
exposes extremely detailed GPS + device metadata:

Example payload from `/v1/locations`:

```
lat: 45.4934130337
lng: -73.5824925158
gps_altitude_meters: 57.99
accuracy: 5.7m
precision: 1
location_id: UUID
```

```
source: polling_bg / polling_fg  
measured_at_ms: 1764126875551
```

Lyft includes GPS in HTTP HEADERS, shouldnt.

3. Encryption Evaluation

PII in headers which is Critical privacy design flaw

4. Location Tracking & Mobility Data Behavior

/v1/locations sent every 200–500 ms
Each request contains multiple buffered GPS points
Both foreground and background signals included

Sensitive metadata included
Altitude
Precision values
Device timestamps
Unique location UUIDs
NTP timestamps

5. Cross-Service Data Sharing

Service	Data Shared
Lyft backend	All GPS, altitude, UUIDs, event logs
app-analytics-services-att.com	Behavioral analytics

Waze

Domain	Purpose
waze.com	Location tracking, navigation, traffic updates

rt-xlb-am.waze.com/rtserver/distrib/command	Core navigation engine: location updates, road data, routing
rt-xlb-am.waze.com/rtserver/distrib/login	Device/session login
inbox-na.waze.com	Notifications/messages
cresg.waze.com/langs & tts	Language files and text-to-speech voices
tts-assets.voice.waze.com	Downloading turn-by-turn audio TTS MP3 files
ctilesgcs-am.waze.com/TileServer	Map tiles
firebaselogging-pa.googleapis.com	Analytics + crash logs
ads-resources.waze.com	Ad/partner resources (logos, icons)
sdk.waze.com/partner_logos	Third-party partner assets

No marketing trackers (Facebook/TikTok/AppsFlyer)

2. Personal Data Exposure

Waze transmits extremely detailed, structured protobuf messages that include:

- Real-time GPS coordinates
- Road segment IDs
- Movement vectors
- Search terms / partial address names
- Map tile request patterns
- User session cookie
- Possibly device-level unique IDs

```

3:
  3: "Av Lincoln"      <-- road name you were near
4:
  9: float32(...)    <-- encoded location data
6:
  1: "venues.187695559..." <-- venue/location ID

```

3. Encryption Evaluation

HTTPS transport has All endpoints encrypted
Protobuf payloads has Binary encoded

4. Location Tracking & Mobility Data Behavior

Waze send data per second which each packet includes:

- User GPS
- Road segment intersection
- Current route state
- Map tile references
- Behavioral signals (speed, turn decisions)

5. Cross-Service Data Sharing

No major AdTech trackers (Meta/TikTok/AppsFlyer) appear in logs.

inDrive

Before Login

Domain	Purpose
skadsdkless.appsflyersdk.com	Appsflyer attribution & ad analytics
inapps.appsflyersdk.com	Additional AppsFlyer telemetry
vector-prod-*.run.app	Google Cloud Functions for event collection
www.recaptcha.net	Google reCAPTCHA anti-abuse check
cas-cf.euce1.indriverapp.com/api/start	inDrive authentication bootstrap

cas-	SMS login flow
cf.euce1.indriverapp.com/api/authorizati	
on	

es-cf.euce1.indriverapp.com/track	Push notification tracking
-----------------------------------	----------------------------

After Login

Domain	Purpose
skadsdkless.appsflyersdk.com	Conversion tracking & session events
inapps.appsflyersdk.com	iOS event logging
vector-prod-*.run.app	Event collection & internal analytics
cas-	Identity & passkey registration
cf.euce1.indriverapp.com/api/passkey/register/begin	
es-cf.euce1.indriverapp.com/track	App push tracking

Third-party analytics remain involved

2. Personal Data Exposure

2.1 Before Login

When the user has not yet signed in, inDrive already sends identifying data, including: "username": "15145XXXXX1" which is phone number ,it is transmitted in plaintext JSON, though encrypted via HTTPS.

3. Encryption Evaluation

All inDrive traffic uses HTTPS

Appsflyer + CAPTCHA also encrypted

No plaintext credentials over HTTP

Phone number transmitted directly in JSON (though encrypted)

AppsFlyer includes device identifiers that can be used for fingerprinting

4. Location Tracking & Mobility Data Behavior

None

5. Third-Party Data Sharing

inDrive has the highest amount of third-party contact among all apps

Third-Party	Function	Data Sent
AppsFlyer	Attribution & advertising analytics	Device info, session counters, conversion values
Google reCAPTCHA	Fraud prevention	Device metadata, network signals
Google Cloud Run (vector-prod)	Telemetry	Behavioral analytics
Google Cloud Messaging (push tracking)	Push notifications	Push events & tracking IDs

Lime

Domain	Purpose
api.lime.com	Core Lime backend: scooters, user state, map data
tiles.lime.bike or map tiles CDN	Map rendering

api.segment.io	Segment analytics (key privacy risk)
config.segmentapis.com	Segment configuration fetch
mobile-collector.newrelic.com	NewRelic performance & crash telemetry
sentry.io	Error logging & crash reports
googleapis.com	Google services, FCM, Maps support
app-measurement.com	Google Firebase analytics
events.mapbox.com	Mapbox map telemetry

Lime contacts a large number of analytics vendors (Segment, NewRelic, Firebase, Mapbox, Sentry).

This begins before the user starts a ride.

2. Personal Data Exposure

Data Sent AFTER Login :

3. Encryption Evaluation

PII inside payload e.g.(GPS + device identifiers) is risky.

Third-party SDKs are High risk, Segment/Firebase share data broadly

4. Location Tracking Behavior

Continuous GPS sent every few seconds, Even when Not riding, No unlocking a scooter, Simply having the map open

GPS data includes:

lat, lng,accuracy,timestamp

5. Cross-Service Data Sharing

Lime uses at least 5 major analytics vendors:

Segment.io, NewRelic, Firebase / app-measurement.com, Sentry.io, Mapbox

Especially Segment, since it aggregates user data from multiple apps and sells analytics services which increases cross-app profiling.

Attachment

Path	Method	Status	Size	Time	Request	Response	Connection	Timing	Comment
https://web-production.lime.bike/api/rider/v1/users/availability?phone=%2B1514... GET	200	69b	183ms		9bw3Lu1CTwpVjow				
https://web-production.lime.bike/api/rider/v1/login?phone=%2B15145922571	GET	200	68b	543ms	user-agent: Lime/3.240.0 (com.limebike; build:1; iOS 26.1.0) Alamofire/5.9.0				
<https://api2.amplitude.com/	POST	200	22.4kb	149ms	x-datadog-parent-id: 8379633508140601991				
https://gateway-asset.icloud-content.com/7YG-mnMBmr4vnokK14l6?x-client-r...	PUT	200	3.4kb	542ms	x-session-id: 1764127086174				
					x-datadog-trace-id: 18049926261787730738				
					x-device-token: 9FEB1D03-EBAC-4794-8C9F-3F48597EE3D3				
					mobile-registration-id: 47cf318601aed81494bd2f1c283088db1d03718ceecac1113ff191e4511c8c6b				
					x-amplitude-device-id: 9FEB1D03-EBAC-4794-8C9F-3F48597EE3D3				
					x-datadog-origin: rum				
					x-ephemeral-device-token: 9FEB1D03-EBAC-4794-8C9F-3F48597EE3D3				
					priority: u=3, i				
					platform: iOS				
					x-				
					fingerprint: AgAAADSAyqYjnn63HcohN15haicEUNk0me89vLf5Zingpy00kgXxyjPzYTzWmWSu+ByqcD47byirL				
					Z+3dJccp99HppT7G5xAuU+y56wpS5Asss3xPQ/0H5rv7RlwKtBxTfqbjCxgc1PC9w9HqvjDz9427xU4				
					lfEfGsW1z0Kn2Y08asyka89hpEu1wYcvgAAFK70KjYs9ctDs0WkfUFYc+Zw450wKYRy4ZysLUG1g4drfqlqn1c22Lx				
					iYvNyDn0r11v54cmu5FA1o1nhT8RrC5r7Mdsnn6Y7D0oA4c3p1n2Gnua4v4lPr1vvhT4DnuvMaH57uiimniEU1Xn1				
					x-datadog-sampling-priority: 0				
					accept-language: zh-Hans-CA;q=1.0, en-CA;q=0.9				
					tracetoken: dd=0:rum;p:744a704748ae5287;s:0				
					x-datadog-tags: _dd,p:tid:6926729200000000				
					accept: */*				
					accept-encoding: br;q=1.0, gzip;q=0.9, deflate;q=0.8				
					app-version: 3.240.0				
					traceparent: 00-692672920000000fa7b00a0b15b9332-744a704748ae5287-00				
					No content				
					<input type="button" value="Copy"/> <input type="button" value="Edit"/> <input type="button" value="Replace"/> <input type="button" value="View: auto"/>				
					phone: '+15145922571'				

After logon , everything leaks

The screenshot shows a network traffic analysis interface with various tabs at the top: File, Capture, Flow List, Options, Flow, Request, Response, Connection, Timing, and Comment. The Flow tab is active. Below the tabs, there are sections for Path, Flow Modification, Export, and Interception.

Path

Path	Method	Status	Size	Time
https://web-production.lime.bike/api/rider/v1/login	POST	200	1.1kb	361ms
https://gateway-asset.icloud-content.com/gqueueQBmr4woEAJ41vZ?x-client-reqid	PUT	200	3.0kb	444ms
https://gateway-asset.icloud-content.com/5B0gwrwBrM4woFMK13ut?x-client-reqid	PUT	200	3.1kb	443ms
https://sdk.iad-03.braze.com/api/v3/data	POST	201	443b	98ms
https://web-production.lime.bike/api/rider/v1/users/bootstrap?accuracy=3.5959...	GET	200	3.6kb	529ms
https://web-production.lime.bike/api/rider/v1/bikes/area_rate_plan?accuracy=3...	GET	200	125b	194ms
https://featureassets.org/v1/initialize	POST	204	849b	57ms
https://sdk.iad-03.braze.com/api/v3/data	POST	201	353b	89ms
https://featureassets.org/v1/initialize	POST	204	849b	...
https://featureassets.org/v1/initialize	POST	204	849b	66ms
https://web-production.lime.bike/api/rider/v1/views/rider_summary	GET	200	156b	194ms
https://web-production.lime.bike/api/rider/v1/users/side_menu	GET	200	317b	261ms
https://web-production.lime.bike/api/rider/v2/app_state	POST	200	149b	174ms
https://web-production.lime.bike/api/rider/v1/geofence?latitude=45.493413012...	GET	200	46b	305ms
https://events.mapbox.com/events/v2?access_token=pk.eyJ1joiy2hhcmxpZWd...	POST	204	403b	68ms
https://web-production.lime.bike/api/rider/v1/zone_topper_info	GET	200	880b	368ms
https://web-production.lime.bike/api/rider/v1/map_config	GET	200	181b	160ms
https://web-production.lime.bike/api/rider/v1/user	PUT	200	542b	237ms
https://web-production.lime.bike/api/rider/v1/views/vehicle_filter_banner/show	GET	200	179b	163ms
https://web-production.lime.bike/api/rider/v1/views/rider_map_start_blockers?u...	GET	200	57b	187ms
https://web-production.lime.bike/api/rider/v1/users/side_menu	GET	200	317b	252ms

Request

```
{ "token": "eyJraWQoIjrcjM1bGx0Ymg1dT1lCjhBcI0iJIUzI1NiJ9eyJcI2VyX3RvaVuIjoisVhH0VaUkJGRf", "user": { "id": "IXGCEZ8RFDZBR", "type": "users", "attributes": { "token": "IXGCEZ8RFDZBR", "phone_number": "15145922571", "email_address": null, "has_verified_email_address": false, "name": null, "given_name": null, "surname": null, "default_payment_method": null, "referral_code": "R6R7EK0MJPI", "num_trips": 0, "edu": false, "enable_instabug": false, "enable_instabug_screenshot": false, "subscription_item_states": [], "promotion_notification": true, "enable_email_receipt": false, "donation_profile": { "id": "4UEZURVEMRSRY", "type": "donation_profiles", "attributes": { "donation_type": "none", "donation_organization": [], "total_donation_amount": { "currency_Code": "USD", "amount": 0.0, "amount_str": "0.0", "currency_symbol": "$", "display_string": "$0" } } } } }
```

Obtain this after locate my self :

Path	Method	Status	Size	Time
https://api.mapbox.com/fonts/v1/mapbox/Roboto%20Italic%2cArial%20Unicode... GET	200	46.1kb	111ms	
https://web-production.lime.bike/api/rider/v2/map/bike_pins?accuracy=3.59597... GET	200	23.8kb	355ms	
https://web-production.lime.bike/api/rider/v2/map/static_elements?accuracy=3... GET	200	1.2kb	216ms	
https://web-production.lime.bike/api/rider/v2/map/bike_pins?accuracy=3.59597... GET	200	23.8kb	300ms	
https://web-production.lime.bike/api/rider/v2/app_state	POST	200	149b	196ms
https://web-production.lime.bike/api/rider/v2/map/static_elements?accuracy=3... GET	200	1.2kb	271ms	
https://api2.amplitude.com/	POST	200	1.2kb	138ms
https://braze-images.com/appboy/communication/marketing/ios_push_message... GET	200	222.6kb	116ms	
https://gateway-asset.icloud-content.com/q5FVzbYBmr4udk4JeJgG?x-client-r... PUT	200	223.2kb	727ms	
https://web-production.lime.bike/api/rider/v2/app_state	POST	200	149b 2: C	

Request Response Connection Timing Comment

```

user-latitude: 45.49341301231054
platform: iOS
gps-time: 2025-11-26T03:19:45.556Z
authorization: Bearer eyJraWQ0IjrcJMbGx8Ymg1dT1ILCJhbGciOiJIUzI1NiJ9eyJ1c2VyX3Rva2VuIjoISVhH00VaUkJGRFpCuIisImxvZ2luX2NvdW50IjoyLCJleHBpcmVzX2F0IjoxNzYMTI3MjgwLCJpYXQiOjE3NjQzMjcxNjB9.7qL3ibhdkeWLq1820mJy0xOEzpJhFmpwJBjm5qBNw
accept-language: zh-Hans-CA;q=1.0, en-CA;q=0.9
x-datadog-sampling-priority: 0
x-datadog-tags: _dd.p.tid=6926721a00000000
tracestate: dd::rum;p:031bb817b24370f8;s::0
gps-accuracy: 3.595971766250426
traceparent: 00-6926721a0000000e4301d59901f5de4-031bb817b24370f8-00
accept-encoding: br;q=1.0, gzip;q=0.9, deflate;q=0.8
app-version: 3.240.8
accept: */*

```

No content

```

accuracy: '3.595971766250426'
ne_lat: '45.49718208318481'
ne_lng: '-73.5813487645935'
speed_accuracy_meter_per_second: '-1'
speed_meter_per_second: '-1'
sw_lat: '45.49249304994044'
sw_lng: '-73.5838233954579'
user_gps_time: '2025-11-26T03:19:45Z'
user_latitude: '45.49341301231054'
user_longitude: '-73.58249260182367'
vehicle_filter: "[\\n\\n]"
zoom: '18'

```