Bitotime

November 1, 2026

Arrival Time, Priced: White Paper

Cars will pay each other to get ahead in traffic.

Pay to pass, yield and earn

Cars will not negotiate traffic based on first-come-first-serve or haphazard passing and yielding. Instead, occupants of autonomous vehicles and drivers will establish a price for yielding their place in traffic to a passing vehicle. A system engaging with all vehicles will support each commuter in negotiating with the aggregate of other commuters producing an agreed order of preference. Each yield event includes payment by the passing vehicle to the vehicle yielding. For each trip through traffic, a vehicle will be a net payor or a net payee. Using the system, commuters will be able to select a time of arrival based on price with shorter commutes costing more. Crypto or fiat wallets integrated with vehicles or their passengers enable instant or periodic reconciliations. Tunnel through time with money instead of diggers.

Legacy model

96 million cars in the US spend 4.7 billion hours a year in traffic congestion[1], that's 49 hours per driver (4.7 billion ÷ 96 million). This costs each US driver $894 per year, on average[2], or about $18.24 per hour of delay ($894 ÷ 49 hours), and about $85.8 billion in total (96 million × $894). The average US commute is about 27 minutes and 12 miles each way; a total of 24 miles and 54 minutes per commuting day[3]. Moderately heavy traffic consists of about 45 pc/mi/ln (passenger cars / mile / lane) [4]; in congested traffic moving at 30 mph or less, there are about 200 pc/mi/ln, meaning 2,400 cars ahead of a commuter beginning their 12-mile drive (200 × 12) [5]. At 30 mph, a 12-mile commute takes 24 minutes. Individuals from higher income households, earning more than $50,000 per annum, commute over much greater distances - often twice as far - than those of lower income households. [6]

Novelty

By paying each car to yield in heavy traffic, a commuter could cut their commute time by more than half. In a simple example, if each of the 2,400 cars ahead of a commuter agreed to yield for $0.005 (half a cent), then a commuter could pass all of them for $12 (2,400 × $0.005). The commuter potentially accelerates to a 65 mph speed limit, passing 2,400 cars and arriving in about 11 minutes instead of 24, a saving of about 13 minutes or 54% of the one-way trip. At $12 per pass, the trip pays for itself for any commuter who values their time at more than about $56 per hour ($12 ÷ 12.9 minutes × 60), well above the $18.24 average hourly cost of delay, which is why we expect higher income commuters to adopt first. Naturally, the mechanics of all yield events in isolation together with effects in other lanes of traffic coupled with commuters willing to pay varying amounts results in a much more complicated cascade of vehicles. The Bitotime system is U.S. patent-pending.

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[1] Pishue, Bob, 2025 INRIX Global Traffic Scorecard, 2025, p 16, https://inrix.com.
[2] *Ibid*.
[3] Federal Highway Administration, National Household Travel Survey, 2025, https://nhts.ornl.gov.
[4] Highway Capacity Manual 2000 Ch. 23, p. 3, https://uomustansiriyah.edu.iq/media/lectures/5/5_2018_02_13!08_57_37_AM.pdf
[5] TRB, Highway Capacity Manual, 6th Edition (2016), Chapter 12, Exhibit 12-7, p. 12-11.
[6] Federal Highway Administration, National Household Travel Survey, 2025, https://nhts.ornl.gov.

Maps wind-down

Today, drivers spend their entire drive glancing at map apps such as Waze, Google Maps and Apple Maps because they need to know which turn to take next. Autonomous vehicles will release commuters from having to constantly glance at maps. Indeed, the guidance business will wind down. In its place will emerge offers from businesses along the route to potentially pay for the time of your stop as an incentive to add a stop. Businesses might also offer free ride acceleration in exchange for making a stop. Commuters will be able to engage in greater interactive reward mechanics (i.e. gamification) of displacement with competitive pricing and boasting over speed and price combinations.

TAM

165,000,000 people commute to work by car or truck each day in the US[7]. Of those, 96 million are exposed to the congestion described above, at an average cost of $894 per driver per year, or about $85.8 billion in total. With higher income individuals often commuting further, they are more likely to engage with the Bitotime system because they have (i) the greatest ability to pay; (ii) the greatest need to save time; and (iii) the greatest economic incentive to spend less time commuting.

Tunnels will not solve the challenges of traffic congestion. Self-driving cars following legacy driving rules will also not solve the problem. Instead, a marketplace for time will emerge, with vehicles yielding cascading orders of committed value. Commuters who are not in a rush stand to benefit from revenue during a given commute.

Assuming 1% of the 165 million commuters, being 1,650,000 motivated commuters (about 1.7% of the 96 million drivers stuck in traffic), each buy one $12 pass per commuting day on 250 commuting days a year, we foresee about $19.8 million in daily car-to-car payments (1,650,000 × $12), or $3,000 per commuter and an annual volume of payments of $4.95 billion (1,650,000 × $3,000). That is about 3.96 billion yield events per day (1,650,000 × 2,400). Each commuter would save about 54 hours a year (12.9 minutes × 250), worth about $5,400 at $100 per hour, against $3,000 paid. Assuming transportation authorities tax these payments at a rate of 7%, this presents about $346.5 million of potential annual revenue for transportation authorities. With payment transaction cost across stablecoin, crypto currency, Automated Clearing House (ACH), real time payments (RTP) and card varying between 3% and 0.001%, the system's supporting processing network may offer revenue of between about $50,000 and $148.5 million per year at 1% adoption. The table below shows how these figures scale with adoption.

Adoption (of 165M commuters)	Commuters	Annual payment volume	Tax at 7%	Processing revenue at 3%	Processing revenue at 0.001%
1%	1,650,000	$4.95 billion	$346.5 million	$148.5 million	$49,500
5%	8,250,000	$24.75 billion	$1.73 billion	$742.5 million	$247,500
10%	16,500,000	$49.5 billion	$3.47 billion	$1.49 billion	$495,000

The opportunities for system participants are much greater than simple payment processing or taxation. Participants have an opportunity to literally steer traffic to their destination using incentives delivered through the system, including time or arrival. We imagine daily lotteries for the 'rocket commute' to pass everyone, skill-based games played in vehicles generating passes, in-vehicle exercise generating passes and many more implementations of living in a new paradigm of time on the road.

[7] US Census Bureau, https://data.census.gov/table/ACSST1Y2024.S0802?t=Employment.

Pitch

Payment Network (Visa, MasterCard, Amex): Stake your claim as a leading network for Bitotime system payments. Consider Bitotime as an early use-case for stablecoin settlements.

Maps (Waze, Google Maps, Apple Maps): As use of maps evolve stake your claim as the integrator of retail with commuters offering goods, services and time as incentives.

Vehicle Manufacturers / Fleets (GM, Toyota, Tesla, Waymo): Install the Bitotime system in vehicles to ensure vehicles can participate in the marketplace.

Team

Adam Atlas, Esq., a New York-licensed attorney has provided legal advice and expert testimony to US fintech, crypto and payments companies for 23 years. Atlas is the inventor of the Bitotime US patent that is pending. He brings the whole wheelhouse of payments implementation scenarios, legal framing, state and federal compliance. Atlas also leads a team of five payments professionals ready to execute Bitotime.

Richard Moses, is a patent specialist with two decades of experience supporting global innovators across IBM, Intel, Philips, Fujitsu, and Panasonic. He advises SMEs, Fortune 500 companies, and government agencies on patent prosecution, portfolio assessment, and monetization, with deep subject matter expertise in semiconductors and electronic systems. He is the founder of Pelent, an AI driven platform he launched in 2016 to analyse and optimize patent portfolios. His earlier career includes technical and marketing roles at IBM, Hitachi, and Philips Information Systems. Richard holds both a Bachelor of Science and a Master of Science in Electrical Engineering from Concordia University, graduating with honours. He is an IEEE Fellow and an active member of the Licensing Executives Society (LES) and Professional Engineers Ontario. His academic distinctions include the F. A. Gerard Prize, the Concordia University Electrical Engineering Medal, and a National Research Council of Canada scholarship.

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FAQ

1. People will never agree to this.

With a logjam of autonomous vehicles dutifully obeying traffic laws occupied by passengers wanting to move faster, natural demand will emerge for alternatives to first-come-first-serve traffic. Early adopters may pay exorbitant fees to tunnel through traffic, creating a bid in the market that is irresistible yielding cars. We foresee yield pricing as a material source of tax revenues by cities and transportation authorities. The extreme luxury of sailing through heavy traffic is easily taxed.

2. Cost to pass?

The system foresees a variety of implementations. Each implementation operates pursuant to a set of rules that will combine market forces and legal parameters. For example, in one version, each commuter sets their own price. Car A yields for $0.05, and Car B yields for $0.07. In that system, the rule could be that each car must pay at least their own price to pass another car thereby dampening would-be greedy drivers looking to charge heavy fees for a yield. In another implementation, government sets the applicable price considering congestion levels.

3. What about ambulances?

The system rules accommodate free passing for emergency vehicles. Indeed, any autonomous vehicle network must accommodate yielding for emergency vehicles. The concept of yield and car-to-car communication over yield is inevitable.

4. How do thousands of cars settle with each other millions of micro transactions?

Blockchain, stablecoin, cryptocurrencies and other contemporary payment technologies can quickly accommodate millions of microtransactions.

5. Will some people get on the freeway just to earn money by being passed?

Yes. The Bitotime system will serve as a means of subsidising lower-income drivers. Government will place limits on exploiting the system simply for profit creating unnecessary congestion. For commuters with known patterns of displacement, government may introduce the 'ultimate yield', where the commuter doesn't leave home in exchange for a lump sum varying based on the congestion level and arising market. Consider existing examples of management of congestion to reduce pollution by requiring cars with even or odd license plates to stay home on alternating days. The adoption of AI will strengthen oversight of gamification practices, misuse, and fraudulent activity.

6. Does the system only work with autonomous vehicles?

No. The system could be activated today with a simple add-on to map apps. Before the drive, the driver sets their yield price. A passing vehicle's app gives the driver a popup of an opportunity to pass for the price of the car ahead; the passing driver accepts the offer; the drivers execute the yield event and payment is automatically processed.

Contact

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