



Flypaper

V2, AUGUST 2024

Introducing \$FLY, \$F2, and the
Blackbird Flynet, powering the
restaurant economy of the future.

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Introduction

This paper discusses the \$FLY and \$F2 fungible tokens, native to the Blackbird network; and Flynet, the 'L3' blockchain that powers the network. The network is a newly launched restaurant technology platform with various, and evolving, component parts. The primary constituents considered herein are: a) the coalition of restaurants that use Blackbird; b) the population of the world's restaurant customers; and c) the current and future stakeholders of the network.

Blackbird is the first decentralized platform built especially for the hospitality industry. It and its connected enterprises facilitate instant and direct connectivity between restaurants and their guests, while providing both parties an engagement, loyalty and payments network.

\$FLY is an on-platform reward and payments token, designed to incentivize mutually beneficial behavior among platform participants, and ultimately shift the economics of how restaurants connect with their guests. \$F2 is a gas token with associated and developing utility.

UPDATE, AUGUST 2024

This is an update to the Flypaper, initially published by Blackbird Labs in 2023. With this version, we provide a review of Blackbird's progress to date; we reexamine the utility of the \$FLY token and note new functionality to increase its power; and we introduce the Flynet, Blackbird's mainnet, and its gas token, \$F2. Some, but not all, revisions are noted inline.

A Tokenization Opportunity for the Restaurant Economy

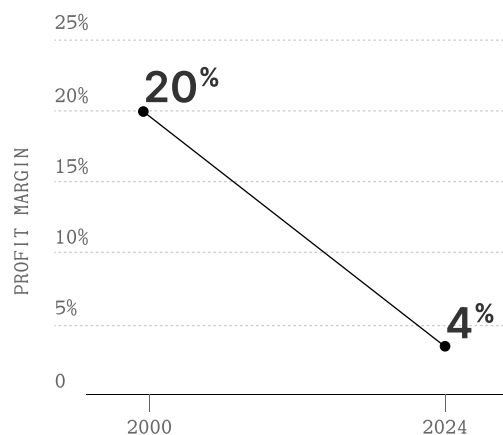
The State of the Restaurant Economy

UPDATED, AUGUST 2024

The restaurant and foodservice industry in the U.S. generated more than \$1T in total sales in 2023, an 11% year-over-year increase. Sales are expected to climb even higher in 2024.¹ By virtually all measures, the industry is above 2019 levels on both absolute and inflation-adjusted bases, and has outpaced growth of the S&P 500. Restaurants are one of the most important service providers in the consumer economy, accounting for almost 5% of U.S. GDP and 45% of household food budget.² Yet, 60% of independent restaurants close within their first year, and 80% go out of business within five years.³ In 2023, despite the overall size of the industry, 38% of restaurants reported that they were not profitable and 43% say they are still carrying Covid pandemic debt.⁴

There is no question that the business model of the typical restaurant has broken down over the last twenty five years, with profit margins plummeting from approximately 20%⁵ on average to, now, 4%⁶. Many factors may be to blame, and, certainly, the growing complexity of the modern restaurant operation cannot be ignored. Restaurants have reported that 5% or more of topline revenue now goes to pay for services like credit card processing, third party delivery, and other technology suppliers.⁷ In fact, the changing role of technology in restaurants, measured by digital sales, is staggering: between 2019 and 2024, digital sales increased from 8.9% to 20.8% of total sales.⁷

Average Restaurant Profit Margin



¹ National Restaurant Association, State of the Industry Report 2024

² US Bureau of Labor Statistics

³ FSR Magazine

⁴ National Restaurant Association, State of the Industry Report 2024

⁵ Chipotle Mexican Grill, 2005 annual report; Yum Brands, Inc. 2005 annual report

⁶ Philadelphia Magazine, 2018

⁷ QSR Magazine



For restaurant operators, it is time to accept the simple but daunting reality that economic sustainability can no longer be achieved through disciplined operations and legacy best practices. The future relies on operators shifting their focus towards guest segmentation, engagement, and retention — functions that require a rewiring of how restaurants work, and how they think about, and understand, maximizing customer lifetime value (LTV). This adjustment in strategy, if made successfully, will change everything.

Guest Data and Loyalty Challenges

Today, it is surprisingly hard for restaurants to connect with guests, let alone measure LTV and, therefore, use loyalty to systematically drive topline revenue growth. There are, of course, myriad loyalty and rewards systems in use today and there is a broad precedent for consumers earning points by visiting restaurants. Legacy examples tend to be engineered such that they fall short in four critical ways:

01 **Misaligned Interests**

Programs generally encourage loyalty not to restaurants but instead to the third-parties that run them. Though restaurants pay fees for the privilege of allowing their customers to earn points, they do not themselves earn points or control how they can be redeemed, and are therefore not a party to the benefits of these systems.

02 **Lack of Control**

Without direct, fine-grain program control it is impossible to reliably and measurably drive desired outcomes.

03 **Data Fidelity**

Each restaurant program operates independently of the others. As a result, a restaurant's knowledge of any individual customer's value is siloed and incomplete, and only can be calibrated over a long period of time. Plus, it is generally limited to a restaurant or restaurant group.

04 **Point-of-Purchase Liquidity**

Points are not sufficiently liquid at the time of purchase.

Data ownership, specifically data related to consumer identity and spending, is what limits the utility of the data today. It is held in third-party databases, repositories that are hardly interoperable and to which neither restaurants nor guests themselves have sufficient access. Connectivity is, indeed, the name of the game, but restaurants face the compound problem of having an extremely low-fidelity understanding of who their customers are, while at the same time - see previous observations regarding profitability - paying extremely high fees for access to them. An interoperable coalition approach would provide all players with a holistic view of activity and, therefore, LTV.

“Too often a restaurant's ‘Loyalty Program’ just means free dessert for VIPs.”

WILL GUIDARA, NOTED RESTAURANT OPERATOR AND BESTSELLING AUTHOR

Foundational Identity on Blackbird

In order to address the legacy shortfalls noted in previous sections, Blackbird Labs initially provides four foundational data components, which, when combined, create a Guest Profile for every restaurant customer on the platform. While Blackbird Labs delivers this Guest Profile to participating platform restaurants (at the time of check-in or NFC chip 'tap'), each of these components should also be considered a building block, designed to fuel the open development of newly imagined tools and systems for the platform ecosystem. Examples of possible future applications are discussed later in this paper.

The four components of the Guest Profile are:

01 **Personal Identifiable Information (PII)**

This data is stored securely in Blackbird Labs databases. Access to this data component will be limited and governed by local privacy regulations and requirements.

02 **History of Restaurant Check-Ins**

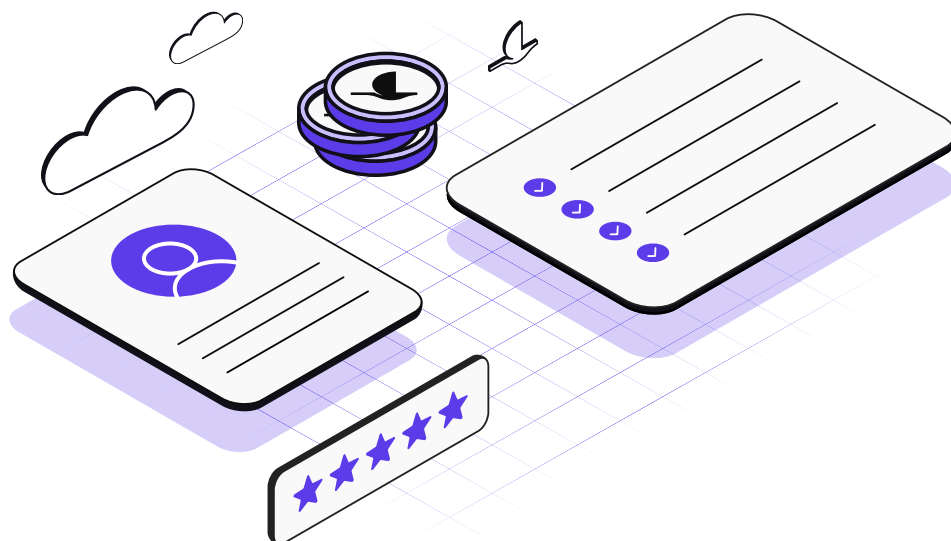
Every consumer user of Blackbird has an anonymized crypto wallet on-chain, where users self-custody their individual platform check-in and membership activities, verified by the restaurants themselves.

03 **Guest Value Score**

A measure of an individual guest's expected lifetime value to the restaurant, calculated by Blackbird Labs.

04 **Spending Wallet Balance**

If a guest is holding \$FLY, Blackbird appends this datapoint to that guest's Profile.

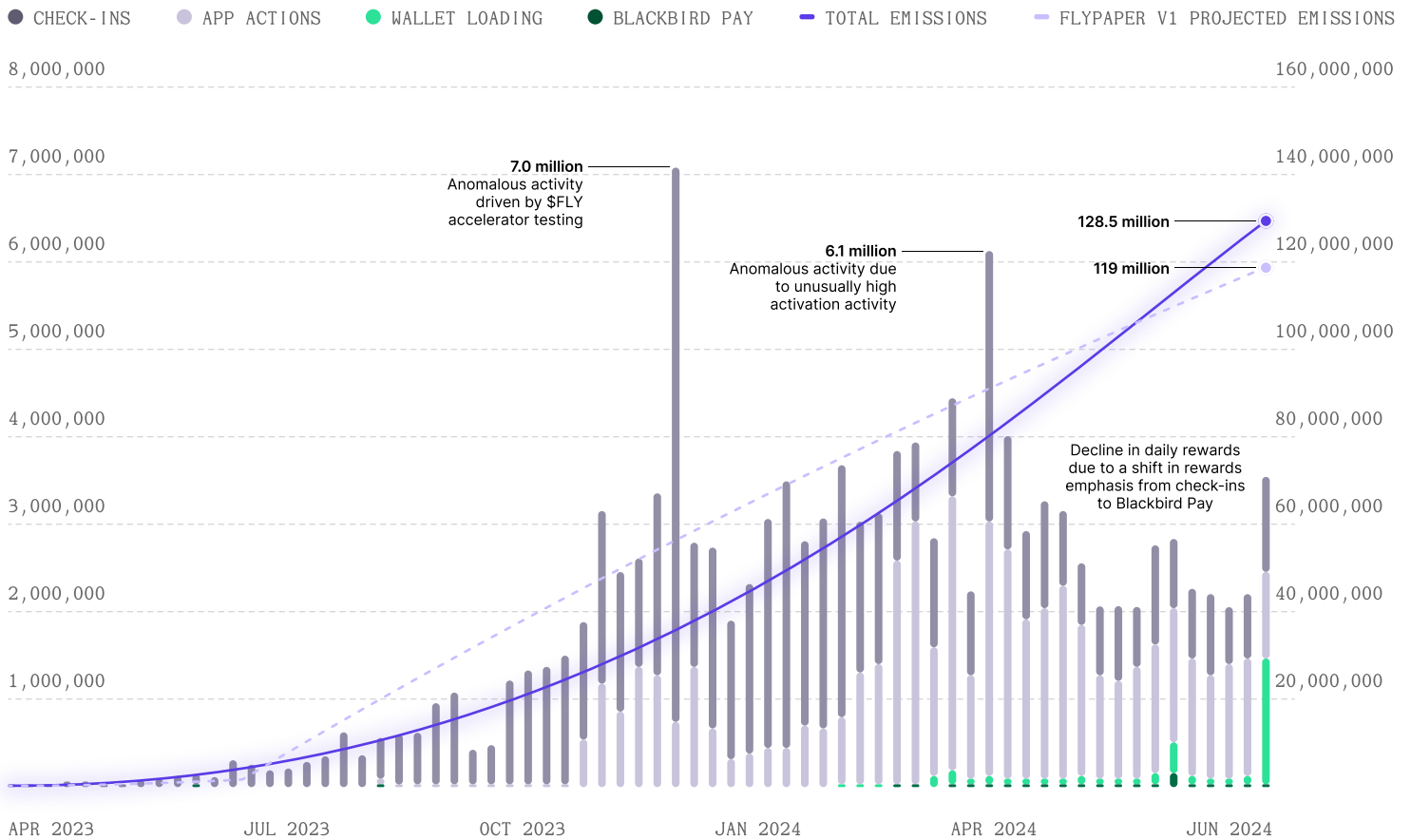


The \$FLY and \$F2 Tokens

The \$FLY Token

The Blackbird protocol has introduced \$FLY, a fungible token. Its home will be the Flynet, an 'L3' blockchain, developed on Coinbase's Ethereum 'L2' chain, Base. The \$FLY token will be available for use exclusively within the Blackbird app for the purposes of purchasing goods and services from participating restaurants, and will initially not be transferable between restaurant guests or outside of the Blackbird app ecosystem, or redeemable for cash. Transparently held and distributed, it is a novel system of scoring and rewards for the restaurant industry.

\$FLY Emissions to Date





A tokenized and transparent loyalty, rewards and scoring system will create strong and direct connectivity between restaurants and their customers, and lead to meaningful improvement for the restaurant economy. Eventually, it may lead to the recapture of value and data insights that are currently flowing out of the industry. Unlike legacy rewards marketplaces which maroon and lock earned points, subject to regulatory considerations and its redemption value remaining fixed, Blackbird may eventually empower users to take the points they earn elsewhere on public blockchains, possibly such that \$FLY is exchangeable and interactive with other tokens, web3 applications, and third-party rewards platforms.

\$FLY is rewarded to diners primarily by restaurants, who receive it from Blackbird Labs. However, diners may also elect to load \$FLY directly from Blackbird Labs. At launch it has three functions.

First, diners earn \$FLY for their contributions to the restaurant economy. Platform actions, like a restaurant check-in or tab payment trigger \$FLY rewards instantly. Triggering actions should expressly align with behaviors that are accretive to the overall value of the dining economy and the health of individual restaurants. Both the Blackbird protocol and individual restaurants may choose to reward \$FLY, and may in fact do so concurrently. Restaurants may receive \$FLY from Blackbird Labs when signing up for services. In addition to rewards-based accrual of \$FLY, \$FLY will also be available to diners for purchase at an exchange rate, or price, set by Blackbird Labs, which may be adjusted from time to time. Additional detail about \$FLY issuance is found on page 12.

Second, in addition, the Blackbird Pay service, accessible initially via Blackbird mobile apps, will support \$FLY as a means of settling restaurant tabs. Restaurants who receive \$FLY in exchange for goods and services will have the option of selling \$FLY back to Blackbird Labs at the current buy price, or exchange rate.

Third, and finally, an individual's annual \$FLY throughput—the combined \$FLY held and used on Blackbird—serves as a full record of how much value that user has contributed to the platform economy.

590

AVG \$FLY REWARD

2.8k

AVG \$FLY/WALLET

128.5M

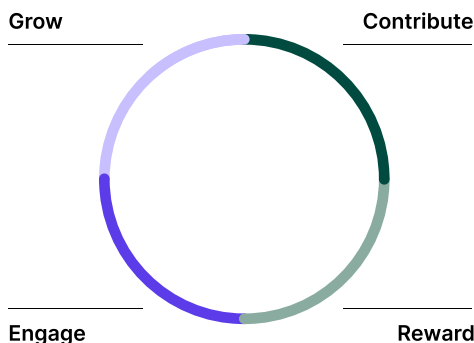
TOTAL \$FLY DISTRIBUTED

\$FLY Token Utility Evolution

Today, it is surprisingly hard for restaurants to connect with guests, let alone measure LTV and, therefore, use loyalty to systematically drive topline revenue growth. There are, of course, myriad loyalty and rewards systems in use today and there is a broad precedent for consumers earning points by visiting restaurants. Legacy examples tend to be engineered such that they fall short in four critical ways:



\$FLY Token Utility Flywheel



- **Contribute**
 Consumers and Restaurants contribute to the restaurant economy by providing demand and supply to the system, respectively.
- **Reward**
 Restaurants and Blackbird reward customers in \$FLY for these contributions.
- **Engage**
 ...and then consumers engage restaurants and exchange \$FLY for network value-add opportunities.
- **Grow**
 Engagement leads to industry growth, ie. new economic activity between customers and restaurants.

01 In-House Soft Benefits

LIVE

Restaurants can allow customers to redeem \$FLY for perks such as discounts, dishes, membership tier upgrades, and other miscellaneous items offered by ecosystem partners.

02 In-House Hard Benefits

LIVE

Users with high \$FLY balances or throughput in their wallets can receive extra benefits, the high balance being a gate of sorts to unlock premium offerings, like buy-backs.

03 Access to Blackbird Events

LIVE

For some Blackbird events, \$FLY may be accepted as payment, or a minimum \$FLY balance or throughput in the user's wallet might be a requirement for purchase eligibility.

04 Data Sharing Incentivization

LIVE

\$FLY can serve as an incentive to encourage contributions of data to the platform, such as for consumers to share more information about themselves. Or, restaurant employees might earn \$FLY for contribution of guest notes and diner preferences.

01 Guest Acquisition and Targeting

PLANNED FOR Q4/24

Blackbird network restaurants can offer incentives for check-ins in the form of \$FLY. These incentives can be specific and granular, keyed off of a variety of factors, such as guest zip code or time of day, providing restaurants a scalable customer acquisition solution.

02 On-Platform Spending Power

PLANNED FOR Q4/24

Restaurants will have the option to pay Blackbird platform fees in \$FLY, such as for selling and managing their membership programs or processing transactions.

03 Ecosystem Expansion

FUTURE

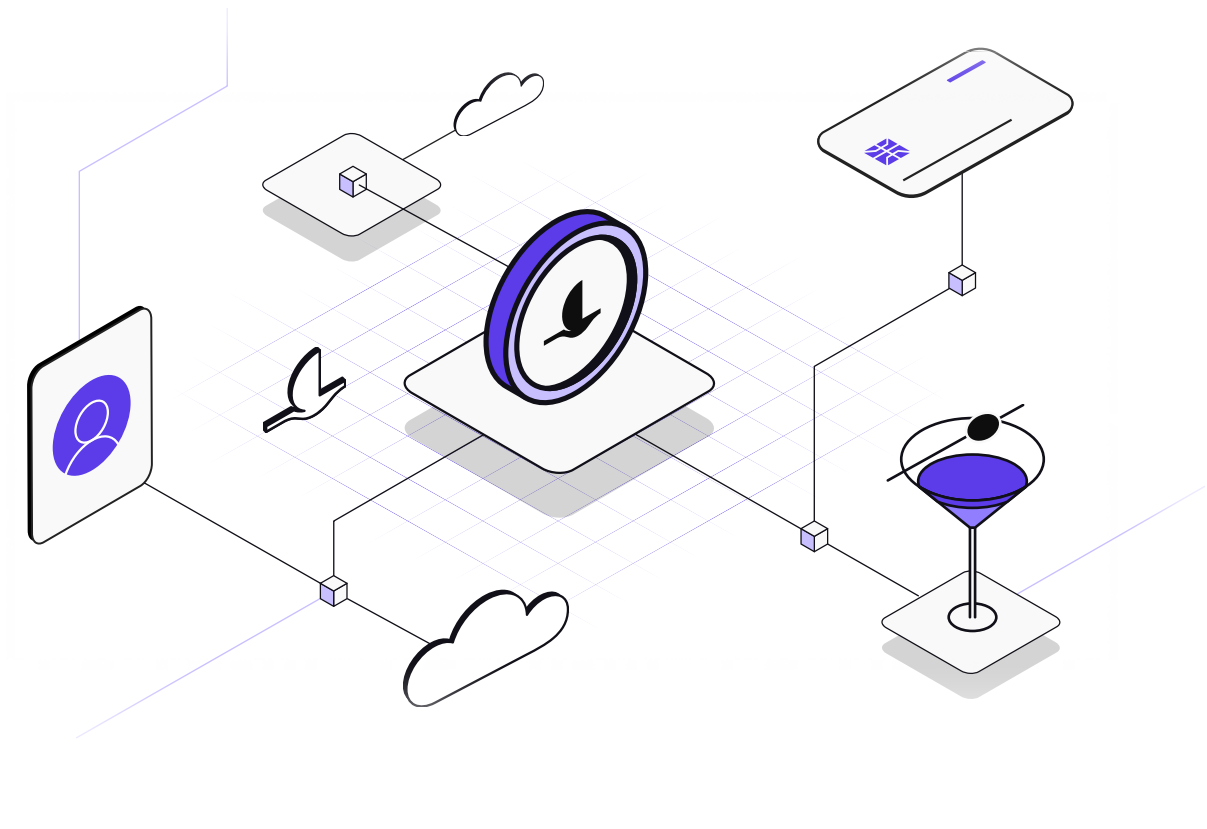
Eventually the network could enable \$FLY payment functionality at merchants in other industries. Or external partners, subject to regulatory considerations, might develop systems to purchase and reward \$FLY to their own customers as promotional incentives.



The \$F2 Token and Function

The Flynet (the 'L3'), will function as the network that records the use of \$FLY between platform participants. \$F2, an ERC-20, will serve as the network's gas token, required to execute a transaction. While, at launch, the network's purpose will be focused on powering \$FLY transactions within the Blackbird app, there is a healthy design space to imagine the network's evolution, especially when the long-term value of its dataset is considered. The potential is discussed in the next section. Note that the supply of \$FLY will grow in line with the growth of Blackbird itself; the supply of \$F2 will be fixed and follow the vesting schedule outlined in the Token Supply section on page 11.

Usage of the Blackbird app will not require users to have any knowledge of \$F2 or gas fees on the network. All \$F2 gas fees relating to \$FLY reward distributions and \$FLY spending from Blackbird wallets will be covered by and paid to Blackbird entities. If other developers wish to deploy their own contracts on Blackbird protocol, they will be required to use \$F2 as the gas token.



Public Goods Incentives and \$F2

As we have indicated in previous sections, while there are core capabilities the network begins with, the design space for future services and applications is vast. We hope to inspire developers, data analysts, product designers and others to build things on the Flynet, so the Blackbird Flynet treasury will allocate some tokens to fund public projects built on the network, especially those that support Blackbird's community of restaurants and diners.

For each claim period, projects that have contributed to the Blackbird network will be reviewed and \$F2 will be rewarded to the magical teams that created these projects.

Some primary areas for the community to consider include:

- 01 **Restaurant Network Growth**
- 02 **Consumer Discovery of Restaurants**
- 03 **Data Visualizations**
- 04 **Data Marketplaces**
- 05 **Consumer Marketplace Tooling**
- 06 **Third-Party Access and Marketing Tools**
- 07 **Amazing Other Things**

Token supply

\$F2 Initial Supply and Issuance Function

500,000,000 \$F2 will be minted and distributed to users of the Blackbird platform ("Network Participants"), contributors and stakeholders over a four-year period following genesis. There will be an initial transferability restriction on \$F2 distributed to network participants, and some issuances may be subject to different vesting schedules.

At the launch of the Blackbird's mainnet, Network Participants will be eligible to claim 13% of the total portion of \$F2 allocated to them. This and subsequent distributions will be according to the following formulas (note that all subsequent distributions will also be subject to a one-year transferability restriction):

\$F2 Issuance Formula

$$\text{Individual Diner Participant Distribution} = \frac{\text{Individual's \$FLY Throughput for period (}\$FLY \text{ earned + } \$FLY \text{ loaded + } \$FLY \text{ spent)}}{\text{Total \$FLY Throughput for period (}\$FLY \text{ held + } \$FLY \text{ spent)}} \times \text{Total \$F2 Distribution for period}$$

OR

$$\text{Individual Restaurant Participant Distribution} = \frac{\text{Individual's \$FLY Throughput for period (}\$FLY \text{ held + } \$FLY \text{ sold to Blackbird)}}{\text{Total \$FLY Throughput for period (}\$FLY \text{ held + } \$FLY \text{ sold to Blackbird)}} \times \text{Total \$F2 Distribution for period}$$

The complete \$F2 initial allocation schedule is as follows:

\$FLY TOKEN UTILITY

Group	Total Allocation (\$F2)	Restrictions & Vesting
Network Participants	251,000,000	Locked until required utility threshold met (est. <12 months)
Blackbird Labs Investors, Team	175,000,000	1 year cliff beginning at initial unlock for Network Participants + 36 subsequent monthly vesting periods
Blackbird Flynet Treasury	74,000,000	-

It is anticipated that claim periods for Network Participants will follow this schedule:

\$F2 CLAIM PERIOD SCHEDULE

Claim Period Name	Expected Timing	Eligible Group	% of Total Allocation
Leonardo	At mainnet launch	Network Participants - Diners	6.5%
Leonardo	At mainnet launch	Network Participants - Restaurants	6.5%
Donatello	T+12 months from mainnet launch	Network Participants - Diners	14.5%
Donatello	T+12 months from mainnet launch	Network Participants - Restaurants	16.5%
Raphael	T+24 months from mainnet launch	Network Participants - Diners	16.5%
Raphael	T+24 months from mainnet launch	Network Participants - Restaurants	14.5%
Michaelangelo	T+36 months from mainnet launch	Network Participants - Diners	12.5%
Michaelangelo	T+36 months from mainnet launch	Network Participants - Restaurants	12.5%

Treatment of Existing \$FLY, Future Rewards, and Supply

With the launch of Flynet, all \$FLY, which in its earliest state has existed offchain, will be minted onchain on a 1:1 basis and transferred to platform participants' Blackbird spending wallets. In the future, it is anticipated that the primary rewarder of \$FLY will become platform restaurants. Blackbird Labs will take steps to ensure that a) restaurants have sufficient \$FLY balances to maintain healthy rewards schedules and b) the restaurants have the platform tooling to program said rewards. It is anticipated that \$FLY rewards will loosely follow previously published schedules, however with some adjustments to account for year one learnings.

With these changes, there will no longer be a cap to the amount of \$FLY that can be in circulation within the Blackbird platform and therefore it is expected that the total circulation of \$FLY will increase commensurate with the growth of the network and its redemption value on-platform will remain consistent.

\$FLY issuance will still be based on network activity, however, there will be separate constituent components that make up the reward for check activity. The rewards are structured around 3 main concepts: Base Earn, Restaurants, and Additional Rewards.

01 Base Earn

Base Earn is the standard reward a user receives for a platform action, such as check-in or bill payment. This reward is currently funded by Blackbird.

02 Restaurants

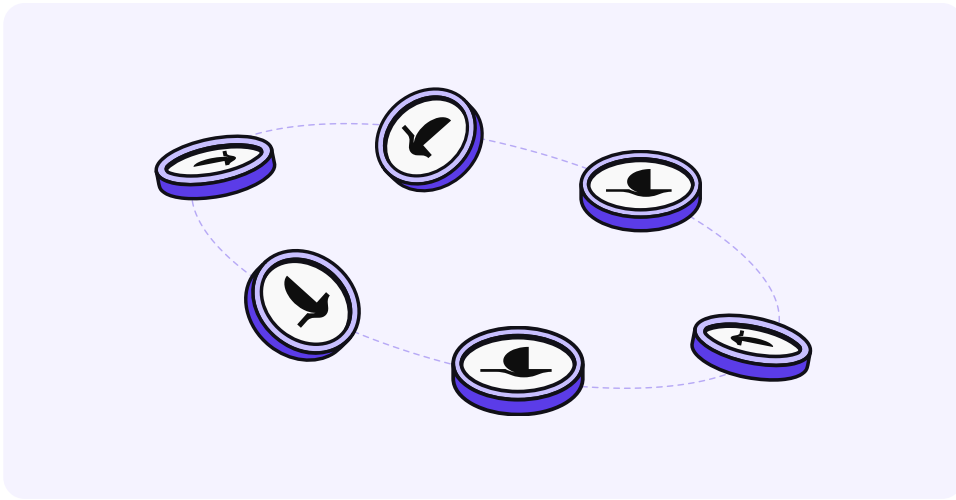
Restaurants will begin to receive \$FLY allocations to use for driving preferred customer behaviors. Restaurants will be able to set up programs to incentivize guests with particular traits (for example, a local or regular), drive activity at low volume times, and introduce spending incentives. Restaurant rewards will generally be expressed as multiplier on bill spend.

03 Additional Rewards

Blackbird may also contribute rewards to incentivize specific beneficial actions, in particular for Blackbird Pay.



Long Term Decentralized Governance



The current \$FLY and \$F2 token designs and issuance plans cover the first four years of operations. After that, the network is expected to be on a stable growth path, and the tokenomic design will need to evolve to accommodate the changing needs of the platform at that stage. We will allow for continued revisiting of the design of \$FLY and \$F2 tokenomics leading up to 2026, according to the developmental progress of the platform at that time, based upon input from stakeholders—the community of restaurants, consumers, and ecosystem collaborators.

In all scenarios, the supply of \$FLY and \$F2 tokens should be controlled in collaboration with the restaurant industry itself, not just on its behalf. For example, while the ecosystem of \$FLY develops into a coalition loyalty program for the next generation, \$F2 must be a tool to ensure restaurants' interests are aligned with other network participants. A board of governors composed of restaurant industry leaders may be necessary to maintain a good heading for all. What can be said for sure is that the future of the restaurant economy is tenacious and bright, and all lovers of restaurants ought to buckle up and enjoy the ride.

Legal Disclaimer

The Blackbird Platform, Blackbird Network, Blackbird Protocol, the \$FLY and \$F2 tokens described herein remain under development and may be subject to change. The features, tools, uses, functionality, and the mechanisms of distribution remain subject to review and feedback from participants in the Blackbird Protocol. Further, the \$FLY and \$F2 tokens described herein do not currently have any rights, uses, purpose, attributes, functionalities, or features, express or implied, except for those which are specifically described in the [Token Documentation]. \$FLY and \$F2 tokens are not investments and should not be viewed or treated as an investment, nor should they be purchased as a speculative investment. \$FLY and \$F2 tokens are intended for use in the Blackbird Network by restaurants and their customers and ecosystem collaborators for the purposes described herein. Blackbird is not a wallet provider, exchange, broker, dealer, financial institution, payments processor, money transmitter, money services business, or creditor. Blackbird seeks to provide a network that helps restaurants and users discover and directly interact with each other. Blackbird does not intend \$FLY and \$F2 to act as a substitute for real currency, to have an equivalent value in real currency, and to be “convertible virtual currencies”, as defined under law and in the guidance letters issued by the Financial Crimes Enforcement Network (“FinCEN”). Regulators may conclude otherwise and are permitted to determine whether a person is a money transmitter or money services business based on facts and circumstances.

THIS IS NOT AN OFFER TO SELL OR THE SOLICITATION OF AN OFFER TO PURCHASE ANY \$FLY OR \$F2 TOKENS, AND IS NOT AN OFFERING, ADVERTISEMENT, SOLICITATION, CONFIRMATION, STATEMENT OR ANY FINANCIAL PROMOTION THAT CAN BE CONSTRUED AS AN INVITATION OR INDUCEMENT TO ENGAGE IN ANY INVESTMENT ACTIVITY OR SIMILAR. YOU SHOULD NOT RELY ON THE CONTENT HEREIN FOR ADVICE OF ANY KIND, INCLUDING LEGAL, INVESTMENT, FINANCIAL, TAX OR OTHER PROFESSIONAL ADVICE, AND SUCH CONTENT IS NOT A SUBSTITUTE FOR ADVICE FROM A QUALIFIED PROFESSIONAL. THIS DOCUMENT CONTAINS HYPOTHETICAL, FORWARD-LOOKING AND/OR PROJECTED STATEMENTS AND/OR FIGURES WHICH ARE NOT GUARANTEED AND ARE SUBJECT TO CHANGE; ACTUAL RESULTS MAY VARY. BLACKBIRD MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, AS TO THE COMPLETENESS, RELIABILITY, VALIDITY, OR ACCURACY OF THIS INFORMATION. THE CONTENT HEREIN IS NOT ERROR-FREE AND MAY CONTAIN INCORRECT INFORMATION. YOU AGREE AND ACKNOWLEDGE THAT ANY INFORMATION CONTAINED HEREIN IS SUBJECT TO CHANGE WITHOUT NOTICE. NO ADVICE OR INFORMATION, WHETHER ORAL OR WRITTEN, OBTAINED FROM BLACKBIRD, WILL BE CONSTRUED TO CREATE ANY WARRANTY OR REPRESENTATION NOT EXPRESSLY MADE HEREIN.





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