This report is the result of a collaborative effort between SEEDGov, Entropy, Tally, and numerous other contributors who actively participated in both Working Groups. We extend our gratitude to the Arbitrum DAO community for their support throughout this challenging process. Additionally, we would like to express our sincere appreciation to the members of the Arbitrum Foundation, Offchain Labs, and L2Beat for their valuable contributions during the interviews conducted last week.

Background Information

Tally passed a proposal in June 2024 to build ARB staking, with the primary goals of increasing governance participation, making the DAO more resistant to governance attacks, and enhancing ARB utility. Any ARB token holder can deposit ARB into an ARB staking contract. ARB token holders can alternatively deposit into a liquid staking contract built on top of ARB staking, and a receipt token (stARB) that is redeemable 1:1 for the same amount of ARB initially deposited in addition to any rewards that have accrued to the contract pro rata. Each staker/depositor can actively participate in ARB voting and/or delegation both from the native staking contract and as a stARB holder. If the stARB is deployed in a DeFi protocol by the user or if their chosen delegate becomes inactive, the original delegation will be redirected to a DAO-designed redelegation strategy

. The Arbitrum DAO has three critical powers in Tally's proposed design: controlling rewards source parameters, redelegation strategies that control where voting power from actively deployed stARB is redirected, and defining an active delegate to determine whether or not stakers earn rewards.

The primary goals of the ARB Staking proposal are as follows:

- Increase governance participation
- Provide ARB increased utility through the introduction of an LST
- Enhance the overall security of the Arbitrum governance system

We encourage Arbitrum community members to deeply consider how Tally's ARB staking implementation, in conjunction with the recommendations made by the rewards source and delegation working groups, achieves these goals.

Delegation Working Group Final Recommendation

The Delegation Working Group had two primary responsibilities:

1. Define an Active Governance Participant

: This ensures that users staking their ARB tokens delegate their Voting Power (VP) to delegates who actively contribute to Arbitrum DAO's governance.

1. Establish a DAO Redelegation Strategy

: This mechanism manages VP under specific scenarios:

- When users deposit ARB into the Liquid Staking Token (LST) and use their received stARB in a DeFi protocol that doesn't support 1:1 delegation.
- When users delegate to an active participant who later becomes inactive, triggering automatic VP redelegation.
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Below, we present a diagram to illustrate the process flow as originally approved on Tally.

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Active Governance Participant Definition

Significant discussions were held on defining an Active Governance Participant. The WG consensus was to establish a simple, accessible definition to encourage new delegates to join the DAO.

It is critical to note that active participants do not receive rewards

, meaning they lack a direct financial incentive to game the system. However, malicious actors aiming to monopolize VP might have an incentive—an issue that exists today even without staking.

To mitigate this, the Working Group recommends incorporating a Verified Delegate List

, a UI feature that helps delegators make informed choices. While it doesn't impact protocol-level decisions, this feature could reduce the likelihood of malicious actors receiving VP.

Proposed Definition

A combination of on-chain and off-chain voting metrics (Snapshot and Tally):

An Active Governance Participant could be defined as someone who has participated in both on-chain proposals and off-chain votes on Snapshot.

Each delegate's Score will reflect their participation in on-chain votes over the past 90 days and their off-chain votes over the past 30 days. To be considered active, a delegate must achieve a score of 75 or higher, which will be calculated as follows:

- On-chain votes (past 90 days): 65% weight
- Off-chain votes (past 30 days): 35% weight

Delegate Score = (% On-chain votes (90d) * 0.65) + (% Off-chain votes (30d) * 0.35)

Every voter who meets the activity criteria established above will be considered an "Eligible Delegate" to whom holders can delegate their Voting Power to receive their share of the rewards.

The Working Group recommends this option for the following reasons:

- Inclusion of Snapshot Votes

: Temperature checks on Snapshot play a key role in Arbitrum DAO's decision-making. Many elections already take place there.

- Timeframe Considerations

: Snapshot's voting frequency can vary significantly. For instance, in April 2024, there were 79 votes, compared to only 9 in October 2024. A shorter timeframe (30 days) ensures fairness for new delegates while accounting for voting fluctuations.

- Avoiding Overcomplexity

: Adding sybil-resistant mechanisms (e.g., Forum Karma Scores, delegation time, amount of delegators, only DIP eligible participants, historical participation and gitcoin passports) was deemed counterproductive, as these could: * Create high entry barriers for new delegates.

- Centralize VP among a few "eligible" delegates.
- Introduce undesirable dependencies or risks.
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Verified Delegate List - UI Feature

Rationale

A preliminary analysis was conducted on user behavior when it comes to delegating voting power. It is almost certain that users tend to be "lazy" in this regard. As observed during various airdrop claims, the majority tends to choose either the first delegate they see in the UI or the one they recognize due to reputation.

Based on this behavior, we propose the creation of a Verified Delegate List

, where selected delegates would be highlighted with a badge in the UI during the staking and delegation process. While users will still be free to choose any delegate, the aim is to provide tools to help them make informed decisions. Additionally, this approach reduces the likelihood of malicious actors receiving Voting Power, as it would be highly improbable for them to

qualify for this list.

Key Features

- Randomized Order

: The delegate list's order changes each time the UI updates, ensuring no delegate has a positional advantage.

- Eligibility Criteria

: Verified delegates must be part of the Active Participant List and meet additional criteria based on community forum engagement and rationale provided through the DIP program.

Having said this, we will proceed to explain the proposed methodology for determining whether or not a delegate is eligible to be part of this list:

Active Participants from DIP

A Verified Governance Participant may be defined as someone who not only votes on on-chain and off-chain proposals but also regularly contributes to community forums and engages with other members to foster a collaborative environment.

Each delegate's Score will reflect their participation in on-chain and off-chain votes completed over the last 30/90 days and a score accounting for their Communication Rationale and Delegates' Feedback in the Forum coming from the DIP. To be considered for this list, a delegate must achieve a score of 75 or higher, which will be calculated as follows:

Delegate Score =

(Active Participant List Score * 0.70) + (DIP CR+DF Score * 0.30)

Note that delegates must meet the base requirement (i.e., be part of the Active Participant List

) to be considered for inclusion in the Verified Delegate List

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All delegates on the Verified Delegate List will be displayed in the delegation UI with a badge indicating their status as "Verified"

, based on the criteria established by the DAO. This visual distinction will help holders identify which delegates have undergone further vetting and validation.

In this particular option, it is necessary for the Delegate to at least be enrolled in the DIP

(not necessarily to have been compensated). It is worth clarifying that in this case, the cadence for updating the Delegate Score on this list should be at least monthly, in alignment with the monthly issuance of the DIP results.

If DIP as a program is deprecated, DAO will ratify the former participants as eligible for the Verified Delegate List via Snapshot vote or establish new criteria for being "Verified"'

In the case of the Program Administrator, since does not participate in the Program as a delegate, PA will only be included in this list as long as complies with the requirements to be in the list of Active Participants

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Benefits and Drawbacks of Leveraging the DIP

Firstly, it's important to highlight that involving the DIP at this stage is fundamentally different from using it to determine whether a participant is active or not. The Verified Delegate List

is merely a UI feature that does not affect delegates' eligibility to be considered active or the rewards users may receive.

That said, there are very few reputational tools sufficiently aligned with the DAO to determine who qualifies as "verified" or top-tier delegates. Below, we will outline the advantages and disadvantages of leveraging the DIP, as well as other alternatives that were previously considered:

Advantages

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- Sybil Resistant

: DIP requirements, such as holding +50k tokens and undergoing KYC, reduce the risk of malicious actors infiltrating the

Verified Delegate List.

- DAO Aligned

: The Delegate Incentive Program is nowadays the most complete tool for verifying that delegates align with DAO values, adhere to the Code of Conduct, and contribute actively.

- Delegate Competition

: Verification incentivizes delegates to improve performance to gain better visibility among potential delegators or even to be on the Verified List if they are not performing well enough.

- Efficient Resource Use

: Leverages existing frameworks and resources (e.g., Karma metrics).

- Straightforward to understand

: Delegates who are already familiar with the DIP and part of it don't need to adapt their behavior to a new parameter or structure. This also avoids friction between the DIP's scoring methodologies and any potential alternative methodology from the Staking program.

Disadvantages:

- Dependence on the Program Administrator

: The Program Administrator would have significant influence over who joins the Verified Delegate List. While this might initially seem negative, it also increases the incentive for enhanced oversight of delegates through the monthly results published by the Administrator. Moreover, the Administrator can be removed from their position if they act maliciously against one or more delegates, thus risking their own reputation when evaluating others' performance.

- Exclusion of Delegates Outside the Program

: One key limitation of this approach is that delegates who are not part of the program—and choose not to join—would also be excluded from the Verified Delegate List. Two potential solutions to this issue are:

- Joining the Program

: Delegates who wish to be verified and meet the DIP requirements can always register. For individuals or entities who decline registration to avoid receiving compensation, the program could consider allowing them to participate solely for scoring purposes, enabling them to join the Verified Delegate List without receiving payment.

- Creating a Parallel Inclusion Mechanism

: Another option is to establish a separate whitelist for delegates who neither wish to join the DIP nor accept compensation. This could involve a monthly Snapshot vote to consider applicants for the Verified Delegate List. However, this approach raises concerns about the fairness of allowing other delegates to decide who gets into the Whitelist.

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- Risk of Discontinuation (Dependence on the Program)

: In the event that the DIP is discontinued entirely, the DAO would lose its primary mechanism for determining who qualifies for the Verified Delegate List. This risk can be mitigated by implementing a temporary fallback mechanism to ensure continuity during such scenarios.

Previously Considered Alternatives

During the last two months, the SEEDGov Team, along with the members of the Delegation Working Group, discussed possible alternatives for defining an 'Active Participant in Governance' and spent many hours leveraging possible strategies for re-delegating the voting power that would have fallen into the 'default strategy.'

You can check here the full research with feedback from delegates, Arbitrum Foundation members, and various stakeholders.

Also, you can check the WG calls here:

- Recording 1
- Recording 2
- Recording 3 (Partial)
- Recording 4

Forum Karma Score

One previously explored option was leveraging the Forum Karma Score

for the Verified Delegate List. While its use for determining whether a participant is active within the DAO has been discouraged, the Verified List's case warrants a different analysis.

However, this methodology exhibits similar drawbacks to those identified when considering it for defining activity levels:

1. Vulnerability to Gaming

: The Karma Score system can be easily gamed, potentially incentivizing bots and malicious actors to flood the forum and other communication channels with spam to manipulate their score. This increases the likelihood that a malicious actor could qualify for inclusion on the Verified Delegate List.

1. High Error Propensity and Oversight Costs:

The system is highly prone to errors and requires significant oversight to ensure that scores are being calculated accurately. This would necessitate allocating additional resources to monitor and validate the scoring process.

1. Misalignment with DIP Scoring Methodology:

Adapting to the Karma Score methodology could be challenging for delegates already accustomed to the DIP scoring system, as the two algorithms differ substantially. This divergence could create confusion and additional friction for delegates.

For these reasons, The Working Group recommends that the DAO choose the DIP as an alternative to determine which delegates are eligible to be included in the Verified Delegate List. Instead, the Forum Karma Score could serve as a temporary fallback mechanism

in the event the DIP is eventually discontinued.

DAO Redelegation Strategy

After extensive discussions with stakeholders, consideration of current limitations for implementing a plural strategy (e.g., the lack of features such as Partial Delegation or Flexible Voting), analysis of potential legal implications, and challenges in reaching a consensus on a strategy, we concluded that eliminating its necessity from the design would be the most effective path forward.

As such, Tally has committed to revisiting the implementation of the LST to enable its functionality without requiring the redelegation of Voting Power. The goal is to create a design that allows users depositing their stARB in DeFi and to retain their chosen delegation. This redesign would also address cases where users delegate to an active delegate who later becomes inactive, ensuring that these users would need to take action (e.g., manually redelegating to an active delegate) to continue receiving rewards.

In summary, the Working Group recommendation is to proceed with the implementation of Native Staking based on the previously suggested parameters and to allow Tally the opportunity to redesign the LST. This approach ensures that the DAO can launch a platform aligned with its principles—a crucial consideration given that the creation of LSTs is currently 100% permissionless (i.e., anyone could create one without engaging with the DAO to discuss its design).

Other Considerations

Oversight Committee and Special Case Resolution

To maintain responsiveness to changing circumstances, we recommend establishing an oversight committee. This committee could handle exceptional cases and make/promote adjustments to the staking system when necessary, safeguarding the coherence and adaptability of ArbitrumDAO's governance. The committee ensures that unforeseen

situations can be managed effectively, protecting the integrity of the governance process.

Rewards Source Working Group Final Recommendation

The rewards source working group has come to the conclusion that the only feasible rewards sources to subsidize ARB staking activity are Timeboost revenue, sequencer revenue (also referred to as chain profit), and ARB inflation. Sequencer revenue/chain profit has become quite volatile post EIP-4844 and the ArbOS Atlas upgrade, bringing in a majority of revenue on days in which there is an abnormal spike in activity that results in a drastic increase in L2 surplus fees. Timeboost has yet to go live in a mainnet environment, so it is difficult to accurately estimate how much revenue it will generate in practice, and the revenue is likely to be sporadic as well. Additionally, a vast majority of the DAO's treasury is denominated in ARB, so pulling from ETH revenue sources to subsidize ARB staking would come at the detriment of continually diversifying the DAO's treasury. The working group believes that sequencer revenue/chain profit and Timeboost revenue should be considered in the future as potential reward sources for ARB staking, but that for the V1 implementation, ARB inflation makes the most sense.

If we assume a 17.5% ARB staking participation rate with a target yield of 5.5%, the following table shows the amount of ARB that would need to either be added via inflation or spent from the DAO treasury to achieve the mentioned targets based on the projected ARB supply schedule over the next 2.5 years:

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](https://canada1.discourse-cdn.com/flex029/uploads/arbitrum1/original/2X/6/688c9b3c5a56f2e41179807fb2b34c1c581a0d2a.png)

Note: Data from rewards source model, courtesy of Vending Machine

Advantages of ARB Inflation

- No dependency on ARB price: Inflationary rewards are denominated in ARB tokens, removing the need to adjust for ARB price fluctuations to estimate projected staker yields.
- Immediate Accessibility: Rewards become available without dependence on a tangible revenue source, enabling immediate incentives for stakers.
- Decoupling from Revenue Size Constraints: This approach avoids linking token value to a specific revenue magnitude, freeing token rewards from absolute revenue caps and token price speculation.
- Industry Norm Acceptance: Token rewards as an incentive mechanism have broad industry acceptance, adding legitimacy to their use.

Disadvantages of ARB Inflation

- Inflationary Impact on Token Value: Token issuance-based rewards introduce inflationary pressures that can erode token price over time.
- Sustainability Challenges without Revenue Growth: Inflation-based staking rewards are unsustainable without corresponding growth in token value or network revenue.
- Dilution of Non-Staker Holdings: Inflationary issuance dilutes the holdings of non-stakers.

After conversations/interviews with members from the Arbitrum Foundation and Offchain Labs, as well as feedback gathered from @coinflipcanada and @l2beat

, the working group recommends starting with a lower level of rewards for the first version of ARB Staking. There are 327M ARB tokens actively delegated out of the 3.98B tokens in circulation. A 17.5% target staking ratio used in the table above implies an increase in participation by more than a factor of 2 from today's ~8% participation rate. This would make quorum much easier to reach for constitutional proposals (5% of votable supply quorum), but we believe that a lower staking ratio can be targeted to reduce costs and ultimately achieve the same goal.

Therefore, if the DAO elects to move forward with enabling rewards for ARB staking, the working group recommends 15M ARB from the DAO treasury should be spent over a 12 month period. This will provide ample time for Tally to refine the staking mechanism's implementation, give mainnet environment data for the DAO to evaluate/improve upon, and work towards achieving the original goals of Tally's ARB Staking proposal at a reasonable cost.

Please find the full research findings from the working grouphere. We drastically reduced the amount of information in the final recommendation in an effort to make it more digestible/quicker to read.