

1 We thank the reviewers for their insightful comments. We will fix the typos and make the writing improvements
2 suggested by the reviewers in the final version. Below, we address the main questions raised by the reviewers.

3 **Reviewers 2 and 4: Correctness.** We are confident the analysis is correct, and address the reviewer concerns below.

- 4 • *Finiteness of state space:* We assume the distributions are discrete on line 166, and the number of distributions
5 is finite. Therefore the state space is finite. To avoid confusion, we will omit the claim that all our arguments
6 carry over to continuous distributions, and add "finite support" for each distribution.
- 7 • *Discretization:* The proof that the discretized function satisfies the preconditions of Golovin-Krause is in the
8 Supplementary material in Appendix B.2, Proof of Theorem 2.1 (lines 473-476 of the supplement). We will
9 include it in the main paper in the final version.
- 10 • *Paragraph of line 270.* The notation f, Q used in lines 270–272 is from the statement of Theorem 2.5, and not
11 the same as the f, Q used subsequently in the paragraph. We will delete the sentences "To apply Theorem ...
12 To achieve this,..." in lines 270–272. In the rest of the paragraph, Theorem 2.5 and the Greedy algorithm are
13 applied to the function \hat{f} whose maximum value is $Q = n - 3\delta$, and for which η as defined in Theorem 2.5 is
14 equal to $\frac{\delta}{n}$. Thanks for catching this. We will clarify this point and fix the writing.

15 **Reviewers 2 and 4. Distribution in the Experiments.** For running Greedy, we fix a canonical path p_0 and its length
16 ℓ at the current time. For each other path p , the distribution X_p used is the discrete, empirical distribution of its path
17 length in all past time steps where length of p_0 is within $\pm 5\%$ of ℓ . For testing the independence assumption, we use all
18 steps instead of all past time steps. We will add these details to the make the exposition clear.

19 Our goal is to evaluate the performance of the greedy algorithm from Section 2, therefore, we assumed known
20 distributions, and we did not experiment with how these distributions are generated from expert hints.

21 If the distributions are weakly correlated, submodularity will not necessarily hold. The goal of the experiments is to
22 show that the algorithm itself is still empirically effective (though it will lose its theoretical guarantee). We will clarify
23 this point.

24 **Reviewer 4, Penalty for bad routes vs. “nearly best” routes.** The parameter ϵ in our discussion captures exactly
25 this slack. In Equation (1), we are assuming that routes whose length is within a given ϵ of the best route are also
26 acceptable. Therefore, we are implicitly giving a low penalty to nearly-best routes, and our goal is to find such a route
27 with high probability. We will highlight this better and earlier in the text.