Dear SCOC,

The LSST Dark Energy Science Collaboration (DESC) would like to thank you for running a successful workshop on Nov 16-17, 2021. As conveyed during our presentation, we are pleased with the SCOC phase 1 recommendations and we appreciated the opportunity provided by the workshop to interact with the SCOC as well as the other SCs, both regarding the current recommendations as well as finding common ground for further convergence and optimization of various aspects of the observing strategy. Here, we mention a few suggestions regarding future workshops as well as topics that the DESC is looking forward to further engaging in for optimization.

Given the limited face-to-face time -- even within the less optimal virtual format -- we would have liked to see more room for discussions, at the expense of seminar-style presentations, both with the SCOC and other SCs, ideally with action items to follow up on. We would suggest that future workshops be more strict in terms of time guidelines for presenters so that the open discussion and brainstorming time is protected and utilized.

As for research and development, we consider two outstanding aspects of the Rubin LSST observing strategy to be of particular interest: 1) rolling cadence, and 2) DDF optimization.

We are happy with the plans for various rolling cadence simulations, including treating the 2-declination-band rolling as baseline. We particularly would be interested in simulations that tweak the 1.5yr buffer at the beginning and end of the ten-year survey - we understand that some buffer is needed for astrometric needs but believe it would be beneficial to quantify the impacts of shorter buffers (as they have the potential to allow for nearly-uniform-depth data releases, e.g., at Y1, 2, 4, 7, 10). Another related concern is about the data releases in the case of rolling cadence -- if the DM-produced releases would include all data taken by a given date, it will likely be highly non-uniform (unless a very specific rolling is implemented), the DESC would like to know the feasibility of DM producing (nearly) uniform but shallower releases (i.e., those that leave out “extra” data, to be incorporated in the next uniform data release), as it will be imperative for our science. We recommend that the SCOC investigate this question and share the response with the science community, so that groups interested in science cases that rely on uniform data releases can factor the answer into their feedback on the impact of rolling cadences.

Re DDFs: we are happy to have initiated the effort to collaborate on DDF optimization across the various SCs, and look forward to pushing it further with help from other SCs. While various simulations of the DDFs scenarios are in order, we would like to emphasize that

1. the DESC transient science strongly prefers
    - >5% of survey time allocated to DDFs
    - optimal surveys as described in the Table below
    - a daily check to see if gap recovery is needed for each DDF

Scenario	Fields	N_{visits} g/r/i/z/y	cadence	Season length [days]	$N_{seasons}$ per field	Comment
Deep Universal	COSMOS, XMM-LSS, ELAIS, CDFS, EUCLID	2/9/10/18/2	1 day	180 max.	10	
Deep Rolling	COSMOS, XMM-LSS	2/9/45/64/11	1 day	180 max.	2	Minimize night overlap -> one field per season
	ELAIS, CDFS, EUCLID	2/9/20/34/4				

These aspects were discussed during Philippe Gris's talk. The Table above specifically includes the proposal for two optimized surveys to be simulated.

2. the DESC static science would prefer deeper DDFs (e.g., 1.5-2 mags deeper than WFD) as opposed to semi-deep (i.e., 1 mag deeper than WFD) fields covering a larger area. This is important for enabling photometric redshift calibration with the DDFs.

Overall, we recommend that DDFs not be thought of as just "deep" fields; they should also be considered "high-cadence" fields as this combination of high cadence and high depth seemed to emerge as the consensus opinion during our community-wide DDF session.

We are also working on adding our combined metric (which combines DESC SN and static science cases) to rubin-sim, as well as looking to run the photo-z metrics on DDFs. We hope these would be beneficial for the simulations team to further quantify the impacts of various aspects automatically with new simulations.

OSWG, on behalf of the DESC