Figure 2 – Construction in Various Budget Scenarios

Index: Y: Yes N: No R&D: Recommend R&D only C: Conditional yes based on review P: Primary S: Secondary
Delayed: Recommend construction but delayed to the next decade
† Recommend infrastructure support to enable international contributions
# Can be considered as part of ASTAE with reduced scope

US Construction Cost	Scenarios			Science Drivers						
>$3B	Less	Baseline	More	Neutrinos	Higgs Boson	Dark Matter	Cosmic Evolution	Direct Evidence	Quantum Imprints	Astronomy & Astrophysics
Onshore Higgs factory	N	N	N		P	S		P	P	
$1–3B										
Offshore Higgs factory	Delayed	Y	Y		P	S		P	P	
ACE-BR	R&D	R&D	C	P				P	P	
$400–1000M										
CMB-S4	Y	Y	Y	S		S	P			P
Spec-S5	R&D	R&D	Y	S		S	P			P
$100–400M										
IceCube-Gen2	Y	Y	Y	P		S				P
G3 Dark Matter 1	Y	Y	Y	S		P				
DUNE FD3	Y	Y	Y	P				S	S	S
Test Facilities & Demonstrator(s)	C	C	C		P	P		P	P	
ACE-MIRT	R&D	Y	Y	P						
DUNE FD4	R&D	R&D	Y	P				S	S	S
G3 Dark Matter 2	N	N	Y	S		P				
Mu2e-II	R&D	R&D	R&D						P	
srEDM	N	N	N						P	
$60–100M										
SURF Expansion	N	Y	Y	P		P				
DUNE MCND	N†	Y	Y	P				S	S	
MATHUSLA	N#	N#	N#			P		P		
FPF Trio	N#	N#	N#	P		P		P		

Medium and large-scale US investments in new construction projects for possible budget scenarios. For the three budget scenarios, the projects are ordered in 5 budget brackets according to the number of “N” entries and then by approximate budget sizes. For the offshore Higgs factory, test facilities & demonstrators, see Recommendation 6. See the caption of Figure 1 concerning the science drivers, and section 8 for the rationale behind these choices.