



Figure 2 – Construction in Various Budget Scenarios

Index: N: No Y: Yes R&D: Recommend R&D but no funding for project C: Conditional yes based on review P: Primary S: Secondary
 Delayed: Recommend construction but delayed to the next decade
 # Can be considered as part of ASTAE with reduced scope

Scenarios	Less	Baseline	More	Science Drivers						Astronomy & Astrophysics
				Neutrinos	Higgs Boson	Dark Matter	Cosmic Evolution	Direct Evidence	Quantum Imprints	
US Construction Cost >\$3B										
on-shore Higgs factory	N	N	N		P	S		P	P	
\$1–3B										
off-shore 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	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 #	N	N	N	P		P		P		

Medium and large-scale US investments in new construction projects for possible budget scenarios. The projects are ordered in three budget brackets according to the number of “N” entries and then by approximate budget sizes. For the off-shore 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.