

Envision Needham Center						
Design Alternatives Comparison Matrix						
Working Group Meeting No. 10 09.10.2025						
Category	Metric	Scoring Description	Score by Alternative			Notes
			4-Lane Alternative	2-Lane Hybrid Alternative 2 Lanes + Turn Lanes	2-Lane Alternative	
Safety	Incorporation of speed management features	-2 Speed anticipated to be higher than under existing conditions. 0 No major speed management features incorporated within project limits. +2 Multi-pronged speed management strategy incorporated.	0	+1	+2	
	Conflict points	-2 Increases conflicts between modes. 0 Reduces some conflicts but leaves others unresolved. +2 Significantly reduces conflict points across all modes.	0	+1	+1	
	Crossing distance	-2 Average crossing distances for non-motorists increase. 0 Crossing distances remain unchanged or decrease minimally compared to existing conditions. +2 Crossing distances decrease considerably.	+1	+2	+2	
	Crash reduction potential	-2 Crash risk increased compared to existing conditions. 0 Little/no reduction in crash risk compared to existing conditions. +2 Substantial crash reduction with proven treatments (reduced speeds; crossing distances; multiple threat situations)	+1	+2	+2	
Mobility/Access	Level of Traffic Stress (LTS) for those on bicycles	-2 LTS for those on bicycles increased compared to existing conditions. 0 No change in bicycle accommodations compared to existing conditions. +2 Ability to incorporate fully protected, connected bike network integrated with downtown.	0	+2	+2	
	Sidewalk width	-2 Reduction in sidewalk width compared to existing conditions. 0 Minimal widening of sidewalks compared to existing conditions. +2 Increase in sidewalk width throughout corridor.	0	+1	+2	
	Curb management efficiency	-2 Increased number of conflicts between loading operations and parking. 0 No change in curb management efficiency compared to existing conditions. +2 Well-managed curb zones supporting deliveries, pick-up/drop-off, and business needs.	0	0	0	
Traffic Impact	Traffic rerouting impact	-2 Significant rerouting of traffic from the project limits anticipated. 0 No rerouting of traffic from the project limits anticipated. +2 Increased traffic anticipated within the project limits.	0	-1	-2	
	Vehicle travel time	-2 Significantly increases congestion or delay anticipated. 0 Neutral or minor delay impacts anticipated. +2 Vehicle travel efficiency anticipated to be improved. (NOTE: all assume no rerouting)	0	-1	-2	
	Queue lengths	-2 Significantly increased queue length anticipated. 0 Neutral or minor impacts to queue lengths anticipated. +2 Queue lengths anticipated to be improved.	0	-1	-2	
Economic Development	Parking supply	-2 Significant net loss without mitigation. 0 Balanced loss and gain along corridor with modest impacts. +2 Supports efficient turnover and complements demand.	0	0	+1	
	Business accessibility	-2 Reduces or complicates access. 0 Maintains current access with minimal improvements. +2 Improves deliveries, visibility, and customer access.	0	0	0	
	Outdoor dining/gathering	-2 Fewer outdoor dining/gathering opportunities compared to existing condition. 0 No change in amount of outdoor dining/gathering opportunities. +2 Major increase in amount of outdoor dining opportunities.	0	+1	+2	
	Foot traffic increase	-2 Reduction in foot traffic anticipated. 0 No expected increase. +1 Modest increase through improved walkability. +2 Significant increase in pedestrian presence and time spent downtown.	0	+1	+2	
Streetscape/ Urban Design	Public realm space	-2 Reduced public realm space compared to existing condition. 0 No/limited added public realm space. +2 Major addition of usable public spaces, plazas, and wider sidewalks.	0	+1	+2	
	Tree canopy/greenery	-2 Fewer street trees/greenery than in the existing condition. 0 Few/no new street trees/greenery compared to existing condition. +2 Major expansion of tree canopy and greenery.	0	+2	+2	
	Street furniture/amenities	-2 Fewer amenities than in the existing condition. 0 Few/no new amenities compared to existing condition. +2 Comprehensive suite of street furniture enhancing comfort and safety.	0	+1	+2	
Sustainability/ Resilience	Stormwater BMPs	-2 No new stormwater improvements. 0 No new stormwater BMPs included as part of project. +2 Comprehensive green stormwater infrastructure integrated.	0	+1	+2	
	Vehicle emissions	-2 No reduction; may increase emissions. 0 Neutral to modest improvement. +2 Significant emissions reduction through mode shift and efficiency.	0	+1	+1	
	Heat island reduction	-2 Reduction in shade compared to existing conditions. 0 No shade/reflective improvements. +2 Major reduction in urban heat islands through tree canopy and material selection.	0	+1	+2	

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Cost/Implementation ¹	Pilot recommended prior to full-build	-2 Pilot strongly recommended prior to full-build construction. +2 Pilot not recommended prior to full-build construction.	+2	-1	-2	
	Construction cost	-2 Construction cost is higher when comparing all design alternatives +2 Construction cost is lower when comparing all design alternatives	+2	-1	-1	
	ROW / utility conflicts	-2 Few ROW/utility conflicts anticipated compared to alternatives. +2 Significant ROW/utility conflicts anticipated compared to alternatives.	+1	0	0	
	Constructability	-2 Alternative anticipated to have significant constructability issues. +2 Alternative anticipated to have few constructability issues.	+2	+1	+1	
Project/Policy Alignment	Consistency with regional plans	-2 Not consistent with adopted plans. 0 Aligns with some but not all plans. +2 Strong alignment with multiple adopted plans (e.g., Complete Streets Plan, Boston MPO Vision Zero Plan).	0	+2	+2	
	Coordination with projects	-2 Missed opportunity; conflicts with other capital projects. 0 Some coordination possible. +2 Strong coordination with scheduled projects (Highland Ave TIP project)	-1	+1	+1	
	Grant competitiveness	-2 Not competitive or eligible for the majority of current programs through the state or federal government. 0 Not competitive for some limited funding streams. +2 Highly competitive for multiple grant programs.	-1	+1	+1	
¹ Snow removal not included because there is no objective way to measure ease of snow removal for each alternative. A snow clearing plan to be developed for whichever alternative is advanced into design phase.						