

Block-Building Participant	Functions	Toxic MEV Captured & Present Policy Issues	Tech Solutions	Resultant 3EV & Policy Position
Searchers <i>(and Inter-Searcher Matchmakers)</i>	<ul style="list-style-type: none"> Monitor chain and related data to assemble MEV-laden transaction bundles Compete to offer builders most profitable bundles 	<ul style="list-style-type: none"> Sandwich attacks Generalized frontrunning, NFT sniping, other predatory botting <p><i>Front lines of MEV; though <u>no MEV in TC calls</u>, attract scrutiny upon their practices by bundling TC with MEV.</i></p>	<ul style="list-style-type: none"> Encrypted mempool(s) (e.g., Shutter, verifiable delay functions) Order-flow auctions with programmable privacy (e.g., MEV-Share) 	<ul style="list-style-type: none"> MafiaEV: 0% MonarchEV: toward 100% returned to end users <p><i>FINRA-regulated abuses successfully eliminated; users paid for best execution.</i></p>
Builders <i>(and Sub-Builder Executors, and Sequencers)</i>	<ul style="list-style-type: none"> Receive bundles from searchers and order flow from other private sources Run complex algorithms to simulate and assemble the most profitable block to offer to validators 	<ul style="list-style-type: none"> Profits from sorting bundles more favorably, and inserting own orders Cross-domain MEV <i>Sequencers:</i> centralized control over L2 block contents & ordering <p><i>Economies of scale beget builder centralization, inviting same abuses that plague TradFi HFT arms race.</i></p>	<ul style="list-style-type: none"> Threshold cryptography SUAVE Decentralized sequencers (e.g., Espresso, EigenLayer) Fair-ordering protocols (e.g., FBA-FCFS, Themis) Enshrined PBS 	<ul style="list-style-type: none"> MafiaEV: 0% MolochEV: 0% <p><i>Centralizing forces fended off; virtuous race to the bottom produces optimal, fairest, most efficient coordination.</i></p>
Relays	<ul style="list-style-type: none"> Prevent grieving between builders and proposers, acting as a block escrow 	<p><i>NO MEV CAPTURED!</i></p> <p><i>Potentially useable today, uncensored, as a legal and political wedge.</i></p>	<ul style="list-style-type: none"> Threshold cryptography Enshrined PBS (deprecating this BBP) 	<p><i>NO MEV CAPTURED!</i></p> <p><i>To be subsumed in-protocol after The Scourge.</i></p>
Validators / Proposers <i>(via MEV-Boost PBS Marketplace)</i>	<ul style="list-style-type: none"> Propose full blocks to be added to chain, when selected by PoS protocol Outsource default block-building obligations to MEV-Boost marketplace Select blocks only from metadata shared by relays 	<ul style="list-style-type: none"> Arguably acting purely rationally, if seeking profit in lieu of any politics Sit in the ultimate gatekeeping position vis-à-vis block contents Searcher- and builder-like opps, if build block locally (at least in part) <p><i>While PBS shifts MEV to other BBPs, still room for self-interested discretion.</i></p>	<ul style="list-style-type: none"> MEV-Boost on default settings (e.g., no min-bid) No implementation of non-canonical inclusion lists MEV burning (auctions, etc.) and smoothing Distributed Validator Tech, mobile light nodes, etc. 	<ul style="list-style-type: none"> MafiaEV: Delegated 🙌 MolochEV: Delegated 🙌 MonarchEV: toward 100% returned to end users <p><i>With toxic MEV targeted, commoditized and largely eliminated, much firmer policy footing to compare to Wall St.</i></p>