TARO v11 Learning Pathway Stones

Date: 2026-02-07
Primary Reference: `ResearchData/taro_v11_impl_guide.md`

1. Pathway Objective

Provide a compact milestone map from idea to validated v11 release and research publication package.

2. Stone Dependency Flow

`S00 -> S01 -> S02 -> S03 -> S04 -> S05 -> S06 -> S07 -> S08 -> S09 -> S10 -> S11 -> S12 -> (S13 -> S14) -> S15 -> S16 -> S17 -> S18 -> S19 -> S20 -> S21 -> S22 -> S23`

Notes: - `S13` and `S14` are optional if structure learning stays disabled in release scope. - `S15` and `S16` remain mandatory even for profile-only mode.

3. Stone Registry

- `S00` Contract Freeze
- `S01` Data Inventory
- `S02` Time Alignment
- `S03` Sequence Builder
- `S04` Baseline Reproduction
- `S05` Encoder MVP
- `S06` Candidate Generator MVP
- `S07` Deterministic Selector
- `S08` FIFO Gate
- `S09` Compile Integration
- `S10` Routing Metrics Loop
- `S11` Calibration Layer
- `S12` Robustness Stress Suite
- `S13` Structural Proposal Sandbox (optional)
- `S14` Structure Safety Gates (optional)
- `S15` Parity Gate Expansion
- `S16` Runtime Non-Regression
- `S17` Auditability Pack
- `S18` Shadow Rollout
- `S19` Controlled Rollout
- `S20` Paper Dataset Freeze
- `S21` Ablation Completion
- `S22` Draft Claims Validation
- `S23` Final v11 Gate

4. Exit Conditions for Path Completion

Path is complete only when all mandatory stones satisfy: - deterministic export reproducibility - zero accepted FIFO violations - zero parity mismatch - approved runtime non-regression - frozen reproducibility package for research reporting

5. Recommended Cadence

1. Weekly checkpoint: `S00-S10` phase until first learned model is stable.
2. Bi-weekly checkpoint: `S11-S16` with deeper validation.
3. Release checkpoint: `S17-S23` with audit and rollout signoff.

6. Minimal Release Cut (If Time-Constrained)

Release with profile-only learning: - Required: `S00-S12`, `S15-S17` - Deferred: `S13-S14`, `S18-S23` (can continue as post-release research cycle)