**🗺 Example Experimental Setup**

| **Run** | **Acceleration Value** | **Expected Outcome** |
| --- | --- | --- |
| 1 | 0.05 | Very smooth, slow acceleration — potentially fewer jams, but sluggish starts |
| 2 | 0.1 (current default) | Baseline for comparison |
| 3 | 0.2 | Aggressive acceleration — could cause sudden stops and traffic instability |

✅ Each run should last, for example, **500 ticks** or a **standardized amount of time**.

**📜 Expected Analysis**

* Smoother agents (lower acceleration) may **reduce sudden stops** and **improve average speed**.
* Aggressive agents (high acceleration) may **cause more frequent stopping**, reducing traffic flow efficiency.
* You will **graph and compare** metrics across runs.

**📚 How to Present It in the Report**

1. **Introduction**: Explain that you are investigating agent responsiveness (acceleration behavior) and its system-wide effects.
2. **Methodology**: Explain how you vary the acceleration parameter and measure traffic outcomes.
3. **Results**: Include graphs from different runs.
4. **Discussion**: Analyze whether smoother or faster-reacting agents produced better traffic flow.
5. **Conclusion**: Reflect on agent behavior's impact on traffic smoothness.

**✅ Final Deliverables You Will Produce**

| **Deliverable** | **Description** |
| --- | --- |
| Experimental Table | Different acceleration values and metrics recorded |
| Line Graphs | Traffic smoothness over time |
| Analysis Paragraph | Explaining trends and agent effects |