

The background features a dark blue gradient with three glowing, translucent 3D torus shapes. One large ring is positioned at the top left, another smaller one is at the bottom left, and a third smaller one is located on the right side.

Vehicle Routing System

Group 8

Members

**Nguyen Van
Quoc**

(Team Leader)

- Project and Progress Management
- MRA Development
- Optimize algorithm implementation (GA, ACO, and PSO)
- Team Coordination
- Code Review

**Tran Hung
Quoc Tuan**

(Frontend
Developer)

- User interface development
- Dashboard design
- Route visualization
- User interaction

**Nguyen Ha
Minh Chau**

(QA and
Documentation)

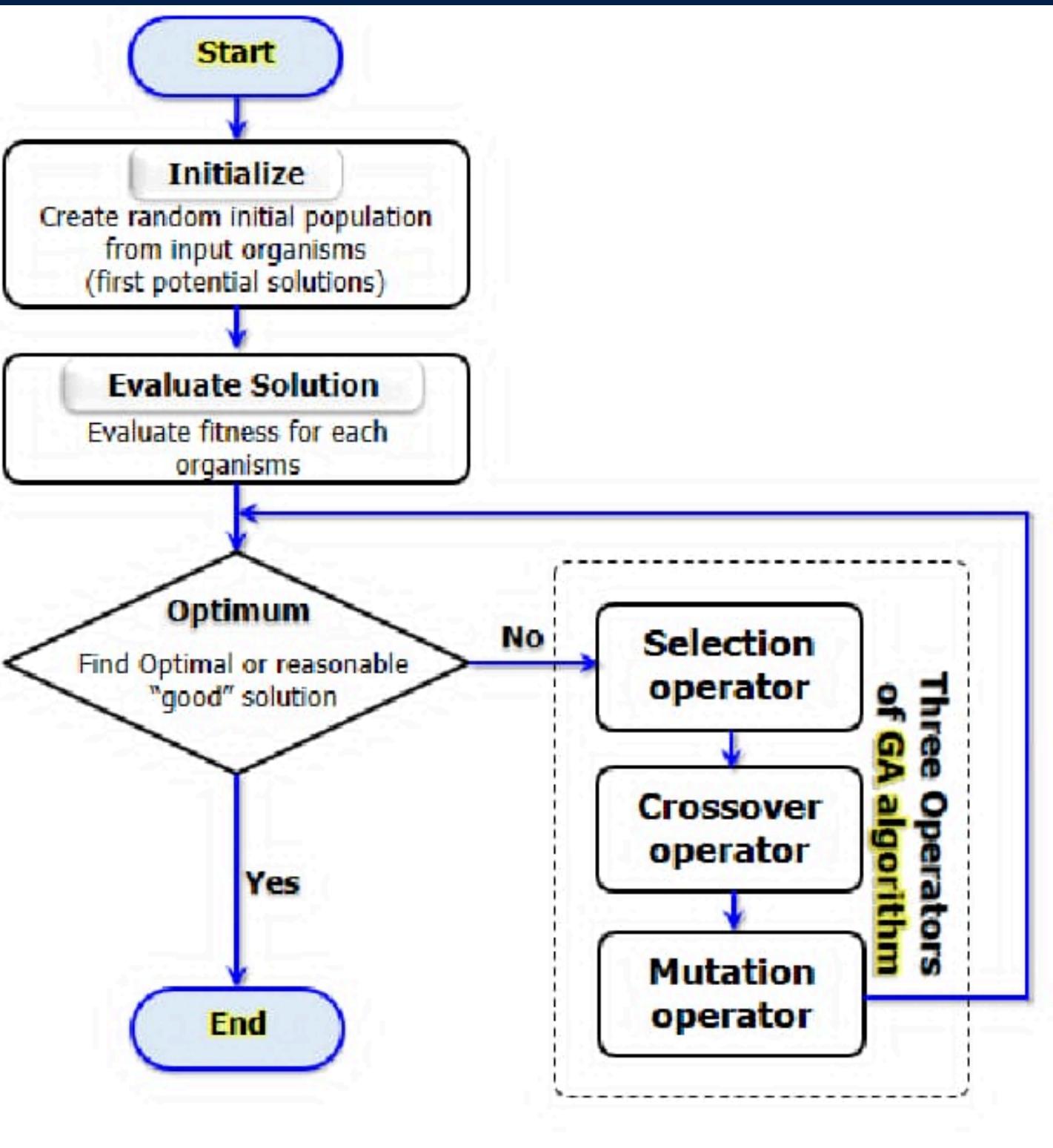
- Write test cases
- Create documentation
- Configuration management
- Support other team members

**Mai Hoang
Dai Vy**

(Backend
Developer)

- Delivery Agents (DAs) development
- Agent communication protocol implementation
- Business logic handling

GA workflow:



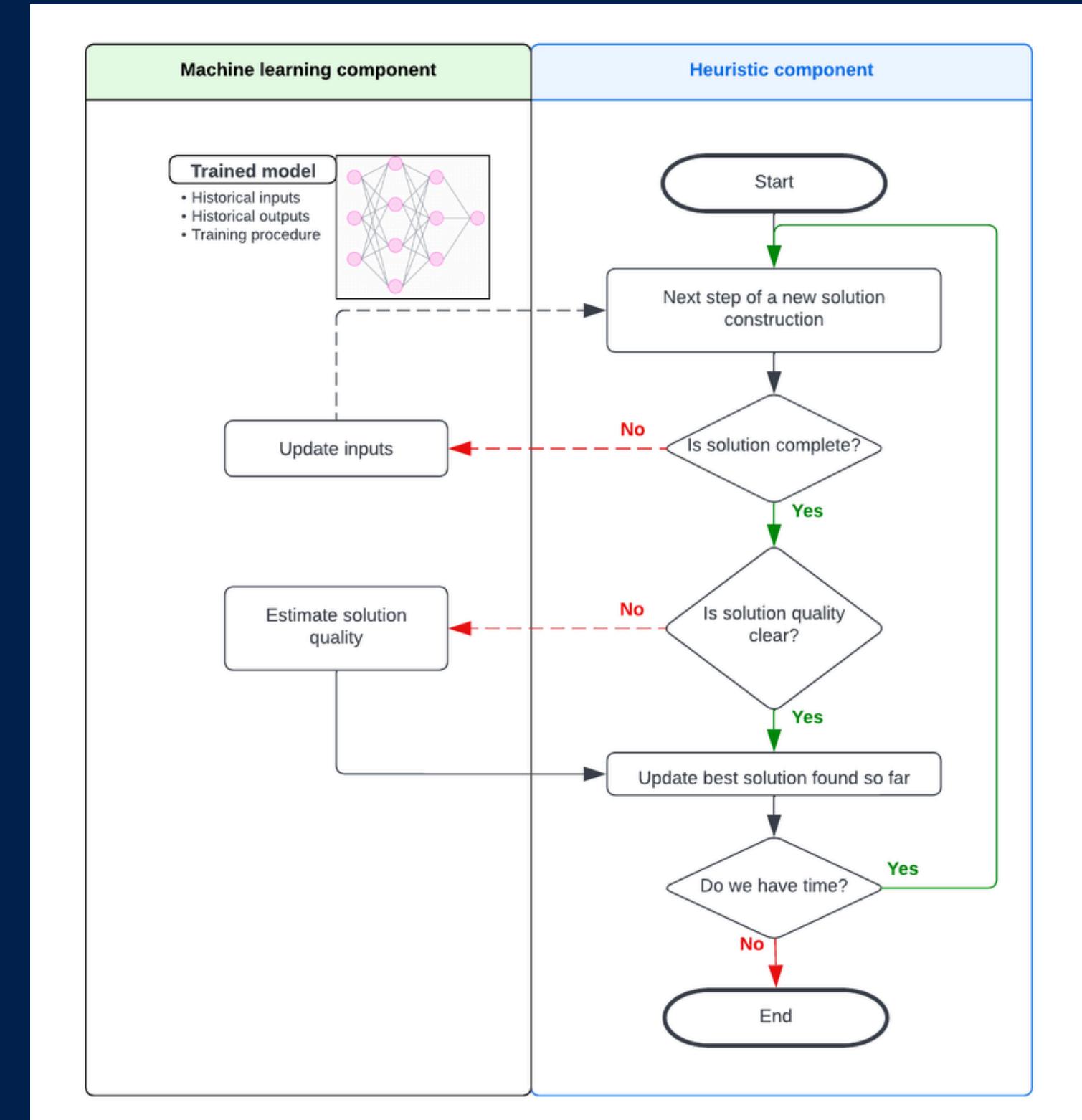
Dataset for DAs:

A	B	C	D	E	F	G	H	I	J	K
Order_ID	Material_ID	Item_ID	Source	Destination	Available_Tim	Deadline	Danger_Type	Area	Weight	
1	A140109	B-6128	P01-79c46a0	City_61	City_54	#####	#####	type_1	38880	30920000
2	A140109	B-6128	P01-43f08b0f	City_61	City_54	#####	#####	type_1	38880	30920000
3	A140109	B-6128	P01-899d738	City_61	City_54	#####	#####	type_1	38880	30920000
4	A140109	B-6128	P01-acc23cd	City_61	City_54	#####	#####	type_1	38880	30920000
5	A140109	B-6128	P01-cd0377d	City_61	City_54	#####	#####	type_1	38880	30920000
6	A140109	B-6128	P01-ba00d24	City_61	City_54	#####	#####	type_1	38880	30920000
7	A140109	B-6128	P01-6994ea5	City_61	City_54	#####	#####	type_1	38880	30920000
8	A140109	B-6128	P01-d06ba80	City_61	City_54	#####	#####	type_1	38880	30920000
9	A140109	B-6128	P01-06c3fc32	City_61	City_54	#####	#####	type_1	38880	30920000
10	A140109	B-6128	P01-69f2a2b9	City_61	City_54	#####	#####	type_1	38880	30920000
11	A140110	B-6128	P01-1fc56a04	City_61	City_54	#####	#####	type_1	38880	30920000
12	A140110	B-6128	P01-ce8e41e	City_61	City_54	#####	#####	type_1	38880	30920000
13	A140110	B-6128	P01-e0ff5073	City_61	City_54	#####	#####	type_1	38880	30920000
14	A140110	B-6128	P01-0cd66c2	City_61	City_54	#####	#####	type_1	38880	30920000
15	A140110	B-6128	P01-afb96755	City_61	City_54	#####	#####	type_1	38880	30920000
16	A140110	B-6128	P01-9901aba	City_61	City_54	#####	#####	type_1	38880	30920000
17	A140110	B-6128	P01-32ea426	City_61	City_54	#####	#####	type_1	38880	30920000
18	A140110	B-6128	P01-8819dc2	City_61	City_54	#####	#####	type_1	38880	30920000
19	A140112	B-6128	P01-9046e25	City_61	City_54	#####	#####	type_1	38880	30920000
20	A140112	B-6128	P01-da3626c	City_61	City_54	#####	#####	type_1	38880	30920000
21	A140112	B-6128	P01-6b71ea7	City_61	City_54	#####	#####	type_1	38880	30920000
22	A140112	B-6128	P01-84ac394	City_61	City_54	#####	#####	type_1	38880	30920000
23	A140112	B-6128	P01-17b9602	City_61	City_54	#####	#####	type_1	38880	30920000
24	A140112	B-6128	P01-17b9602	City_61	City_54	#####	#####	type_1	38880	30920000

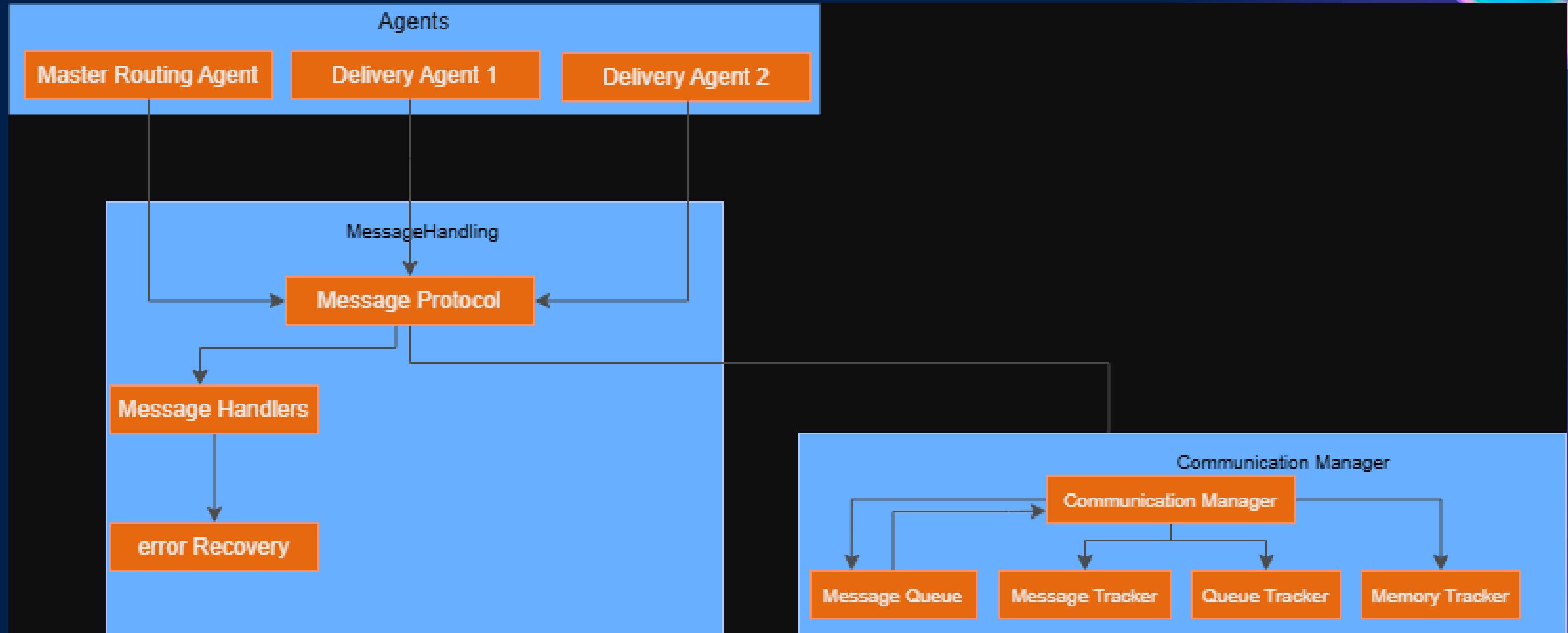
Distance Dataset:

	A	B	C	D
1	Source	Destination	Distance(M)	
2	City_24	City_47	1114251	
3	City_24	City_31	97187	
4	City_24	City_54	1716028	
5	City_24	City_53	1729925	
6	City_24	City_19	1594107	
7	City_24	City_12	774894	
8	City_24	City_46	1146028	
9	City_24	City_45	1147045	
10	City_24	City_51	1107377	
11	City_24	City_6	1688216	
12	City_24	City_20	1615472	
13	City_24	City_56	1636630	
14	City_24	City_35	1053903	
15	City_24	City_48	1300876	

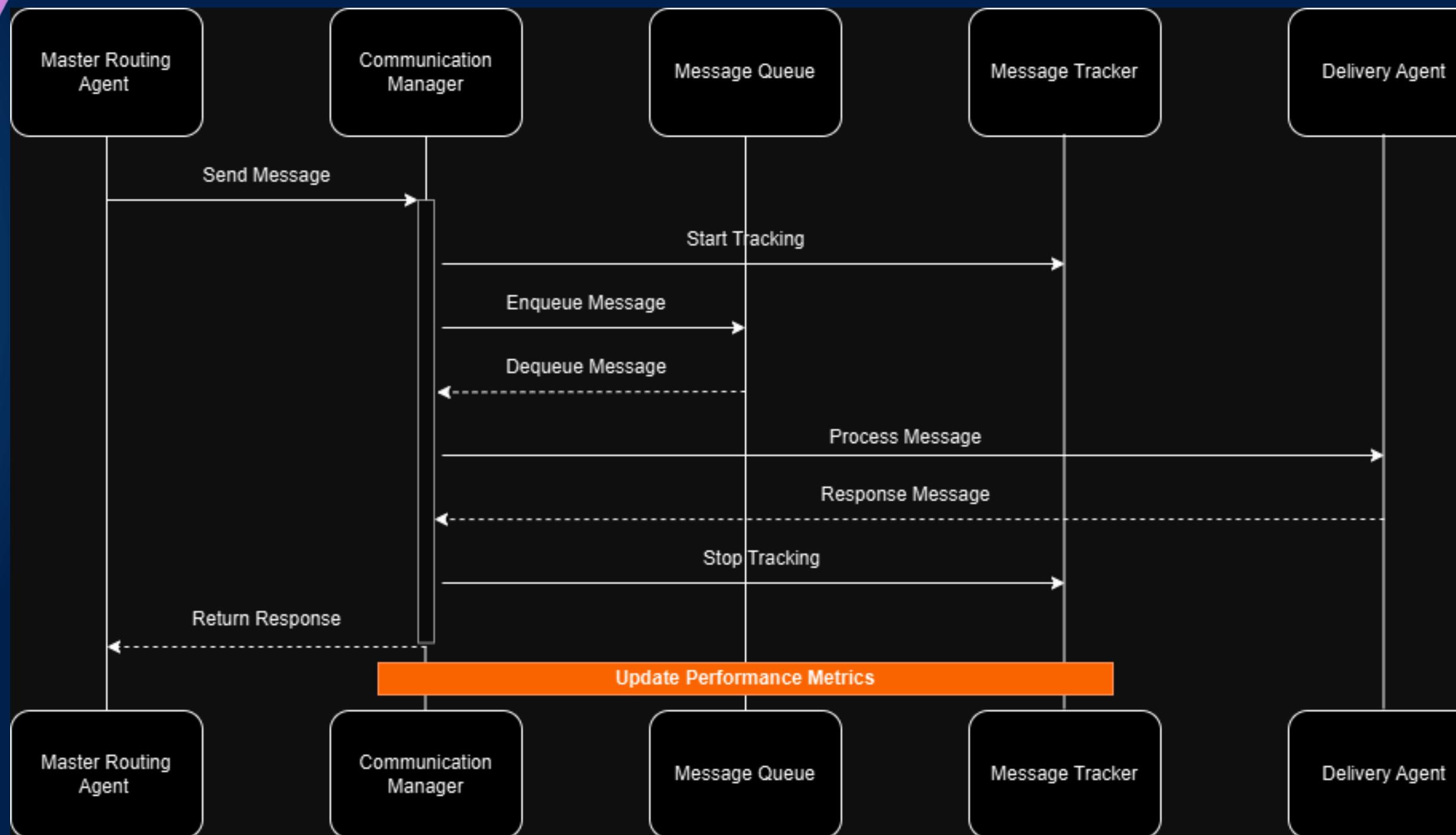
VRP (Vehicle Routing Problem) flowchart:



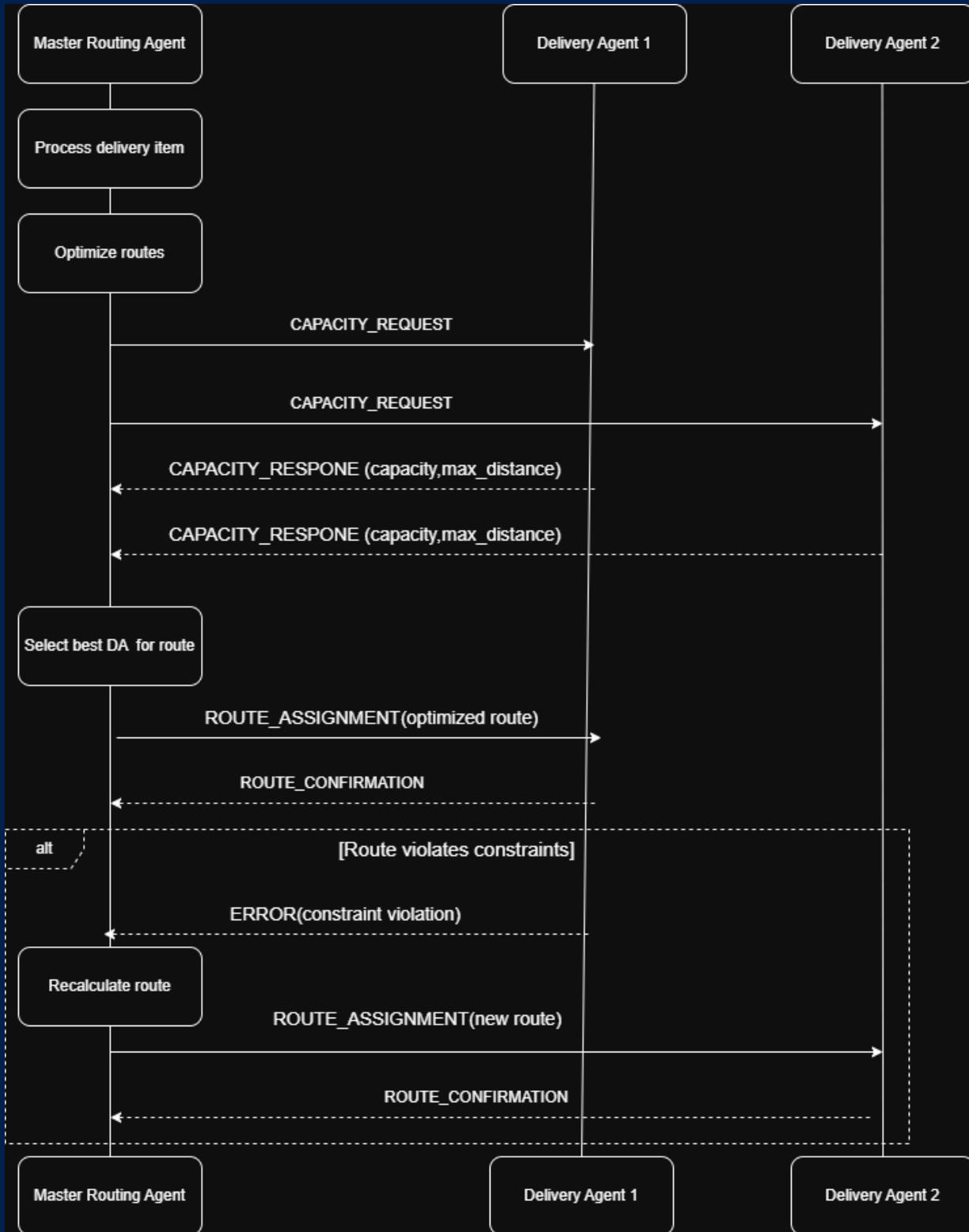
Communication Architecture



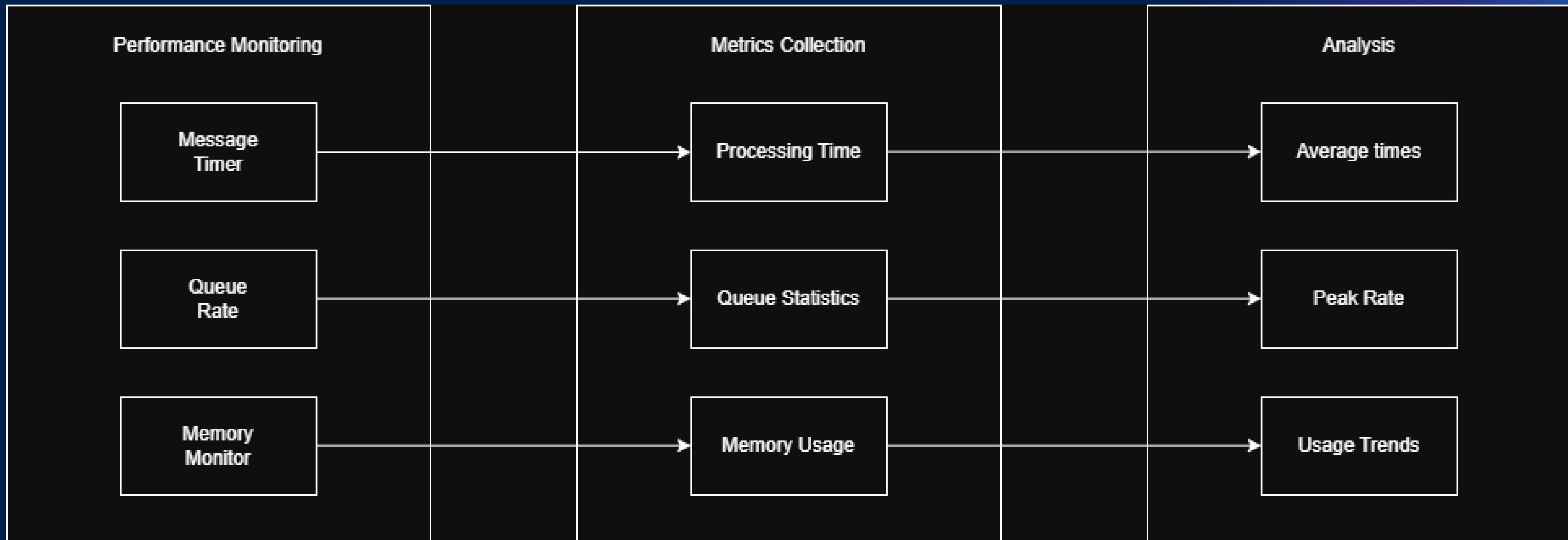
Message Processing Diagram



System Processing Diagram



Performance Monitoring Indicator



Timeline

W2

- Project Setup and Planning

W3

- Basic Infrastructure

W4

- Agent Communication

W5–6

- Route Optimization

W7 – 8

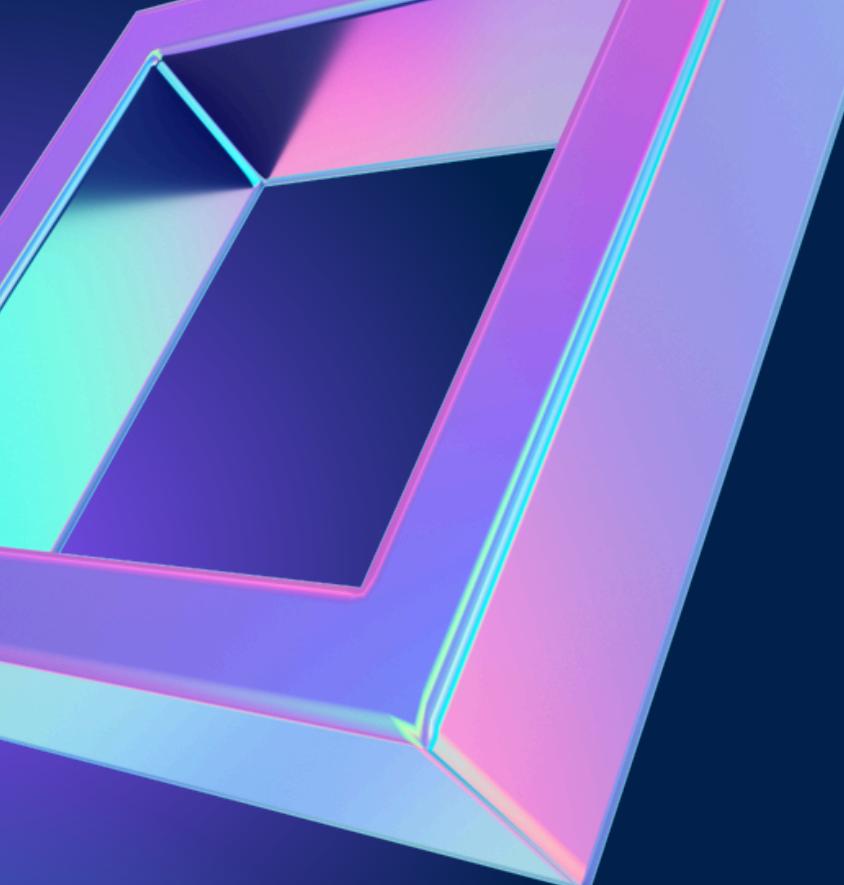
- GUI Development

W9 – 10

- Testing

W10 – 12

- Documentation and Presentation



Thank You for
listening