



Simulation Project

Team B

Improve Throughput of the Main Road

Hannoversche Str. / Diesdorfer / Ummendorfer Str.

Milestone 1



Overview

1. Team Goal
2. Team Members
3. Introduction
4. Site Images
5. Experiments
6. Conclusion
7. Next Steps



Objective

- Learn the practical application of Simulation by completing a project in a real-world scenario
- Improve team dynamics through effective communication, accountability, punctuality, adjustability, and adaptability to achieve a common goal
- Determination to complete every milestone within the prescribed deadline
- Applying previous knowledge, critical thinking, and collaborative analytical skills to achieve the highest quality results



Team Members

- | | |
|-----------------------------------|---------------------------------------|
| 1. Karthikeyan Muthukumar | <i>Team Leader</i> |
| 2. Rahul Pothanchery | <i>Conceptual Model</i> |
| 3. Juwana Jose | <i>Input Data Analyst</i> |
| 4. Ijaaz Muhammed Mullahamangalam | <i>Chief Software Architect</i> |
| 5. Gregor Göpfert | <i>Experiment Designer</i> |
| 6. Oleeviya Babu Poikarayil | <i>Validation and Quality Control</i> |



Problem Statement

- Traffic congestion is a common problem in many cities, including Magdeburg, and it can have various negative impacts on the quality of life, the environment, and the economy.
- Our team aims to improve the traffic flow (throughput) and safety at the intersection of Hannoversche Str., Diesdorfer Str., and Ummendorfer Str. in Magdeburg.
- We will analyze data on vehicle counts, traffic prognosis, and accident statistics to investigate how to coordinate the nodes traffic lights and consider the effects on the side roads.
- Our findings and recommendations will be useful for future traffic planning in the city.



Project Site - Map & Real Time Pictures

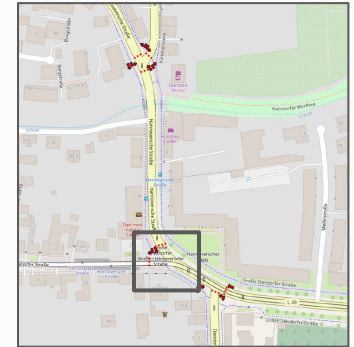


Hannoversche Str. / Diesdorfer / Ummendorfer Str.



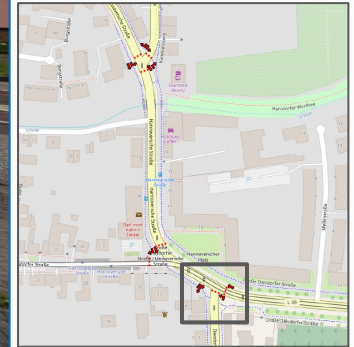


Hannoversche Str. / Diesdorfer / Ummendorfer Str.





Hannoversche Str. / Diesdorfer / Ummendorfer Str.





Hannoversche Str. / Diesdorfer / Ummendorfer Str.



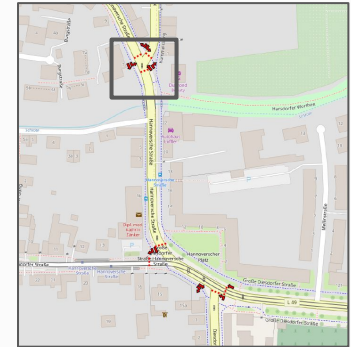


Hannoversche Str. / Diesdorfer / Ummendorfer Str.





Hannoversche Str. / Diesdorfer / Ummendorfer Str.





Hannoversche Str. / Diesdorfer / Ummendorfer Str.





Data to Collect

- Frequency of vehicles / Types of Vehicles
- Timing of traffic signals (Cyclic or Sensor Based)
- Trams and buses timing
- Frequency of Pedestrians and Bikes
- Legal Parameters and other information (Speed Limit, Accident Reports, etc.)



Experiments to conduct

1. Removal of the Second Signal from Große Diesdorfer Str. allowing a free right access to Hannoversche Str.
2. Conversion of Double Line Tram Track into a Single line facilitating increased vehicle movement on Ummendorfer Str.
3. Installing a roundabout in the junction of Hannoversche Str., Diesdorfer Str., Diesdorfer Grasweg
4. Changing the location of Hannoversche Str. Bus Stop



Quality Criteria for the Project

1. Accuracy of data
2. Completeness of analysis
3. Effectiveness of solutions
4. Effective communication within the team
5. Timely completion of tasks
6. Work within the budget
7. Making reasonable assumptions



General Performance Criteria for the Team

1. Quality of work
2. Attendance at team meetings
3. Contribution to team goals
4. Meeting personal deadlines
5. Contributing to team discussions
6. Showing creativity and innovation
7. Taking initiative

Individual Performance Criteria based on the role taken is also submitted as a separate document to the supervisor.



Conclusion

As a part of this Milestone,

- The members had drawn up a team goal
- Roles were designated to every member of the team
- Visited the project site and took expressive photographs
- Decided on datas to collect and experiments to conduct
- Listed down the quality criteria for the project as well as performance criteria for the team and the individual roles



Next Steps

1. Create a project schedule
2. Project Cost Estimation
3. Creation of Work Packets and assigning it to the members of the team
4. Preparation of Milestone Documentation (Protocol)



Thank You

Questions?