INF

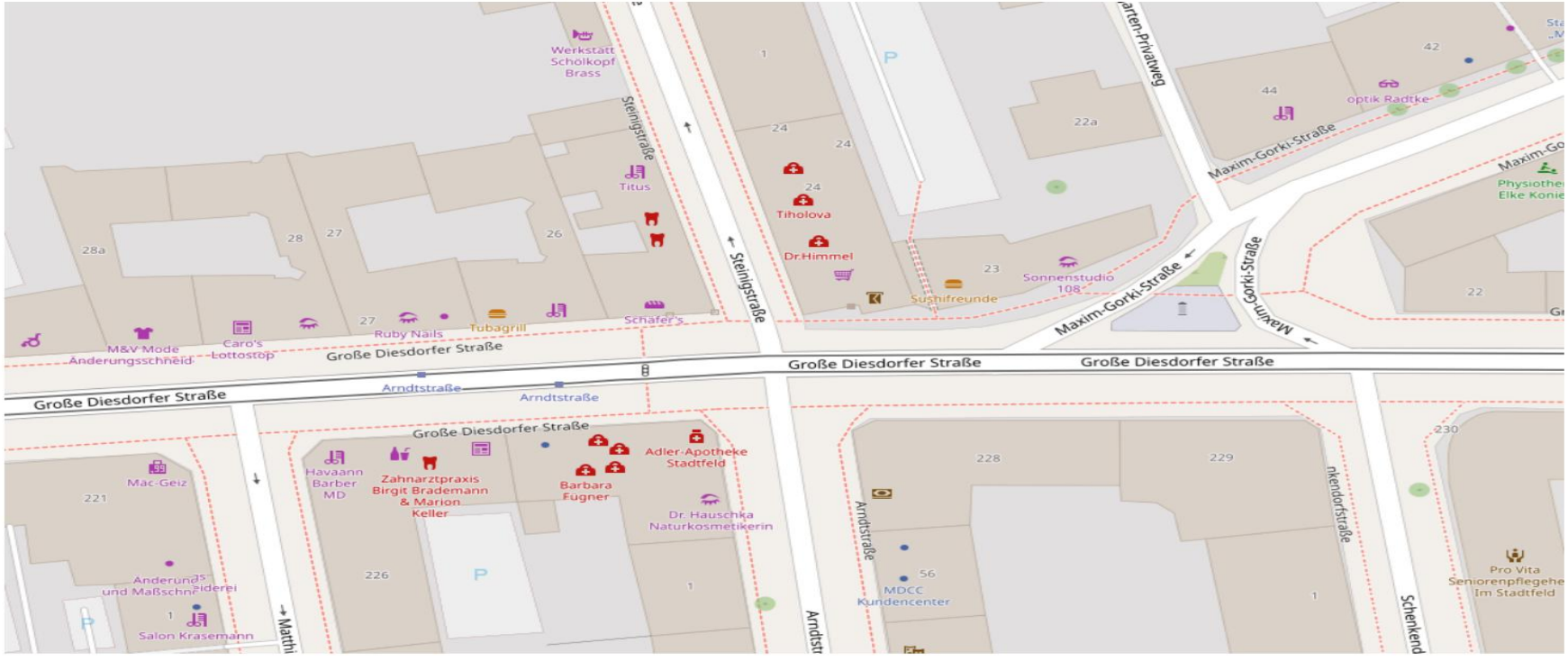
FAKULTÄT FÜR
INFORMATIK

Simulation Project

Team – B (Smart Intersection)

Task 3: Große Diesdorfer Str. / Arndstr. / Steinigstr.

Main question: How can we improve traffic safety?



Team Roles

- **Project Leader:** Jishan Dhabak
- **Conceptual Model:** Hardik Nikam
- **Data Acquisition:** Sairaj Ashok Yadav
- **Chief Software Architect:** Jan Tessarz
- **Validation and Quality Control:** Jayant Tyagi
- **Experimental Design:** Talla Sowmya Goud

Assessment Criteria for Team Member's Performance

- Punctuality
- Constructive Communication
- Willingness to learn
- Collaboration
- Accountability
- Demeanour
- Substantial Contribution

* On Scale : 1 - 5

Quality Criteria for the Project

- Concise conceptual model.
- Time efficiency and cost-effectiveness of the model.
- Achievement of Project Objectives.
- Future Scope of the Model
- Accuracy of results.

Team Goal

- Successfully deliver a high-quality simulation project within the given timeline.
- Ensure each team member takes ownership and accountability for their assigned responsibilities.
- Conduct efficient, focused, and outcome-driven team meetings.
- Maintain active participation, collaboration, and mutual support within the team.
- Align all efforts with the project requirements and assessment criteria.

Team E-Mail and Project Collaboration Tool

- Communication via email
  - Jishan Dhabak - jishan.dhabak@st.ovgu.de
  - Hardik Nikam - hardik.nikam@st.ovgu.de
  - Sairaj Ashok Yadav - sairaj.yadav@st.ovgu.de
  - Talla Sowmya Goud - talla.goud@st.ovgu.de
  - Jayant Tyagi - jayant.tyagi@st.ovgu.de
  - Jan Tessarz - jan.tessarz@ovgu.de
- OVGU Cloud is used for project collaboration and file sharing.

Personal Performance & Quality Criteria

- **Team Leader**
  Ensures effective coordination among team and timely milestone completion.
- **Conceptual Model**
  Ensures the timely development of a clear and concise conceptual simulation model.
- **Input Data Analyst**
  Responsible for providing accurate, relevant and structured data for the simulation model.
- **Chief Software Architect**
  Ensure the implementation of a well-structured simulation model.
- **Experiment Designer**
  Responsible for meaningful simulation scenarios with reliable performance evaluation metrics.
- **Validation and Quality Control**
  Responsible for validating model performance and assessing it across different scenarios.

Photographs of Current Traffic Situation

Special Things in the Photographs

- A wide pedestrian pathway is provided for safe pedestrian movement.
- The intersection includes a dedicated bicycle lane.
- Steiningstraße operates as a one-way road.
- Arndstraße is not controlled by a traffic signal.
- Cars share the roadway with the tram line.
- At Arndstraße, crossing the road at the intersection is not permitted due to the presence of barricades

Data required for Simulation Model

- Number of cars passing through the intersection.
- Number of trams per hour.
- Peak vs off-peak traffic variation
- Number of buses per hour.
- Traffic signal timing intervals.

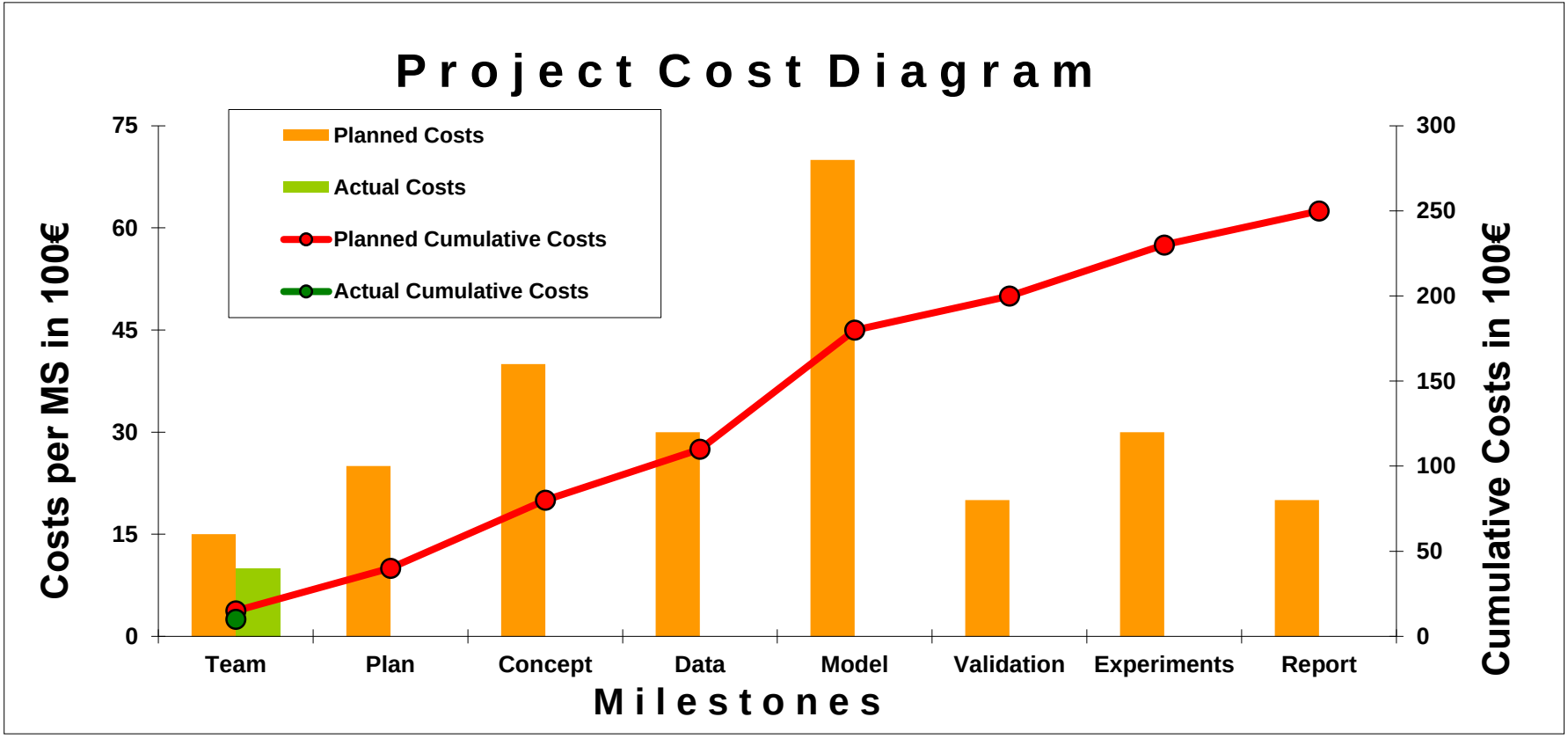
Experiments

- Introducing a traffic signal on Arndstraße.
- Installing dedicated traffic lights for pedestrian crosswalks.
- Implementing reduced speed limits near the intersection area.
- Assigning signal priority to the high-traffic-volume street.

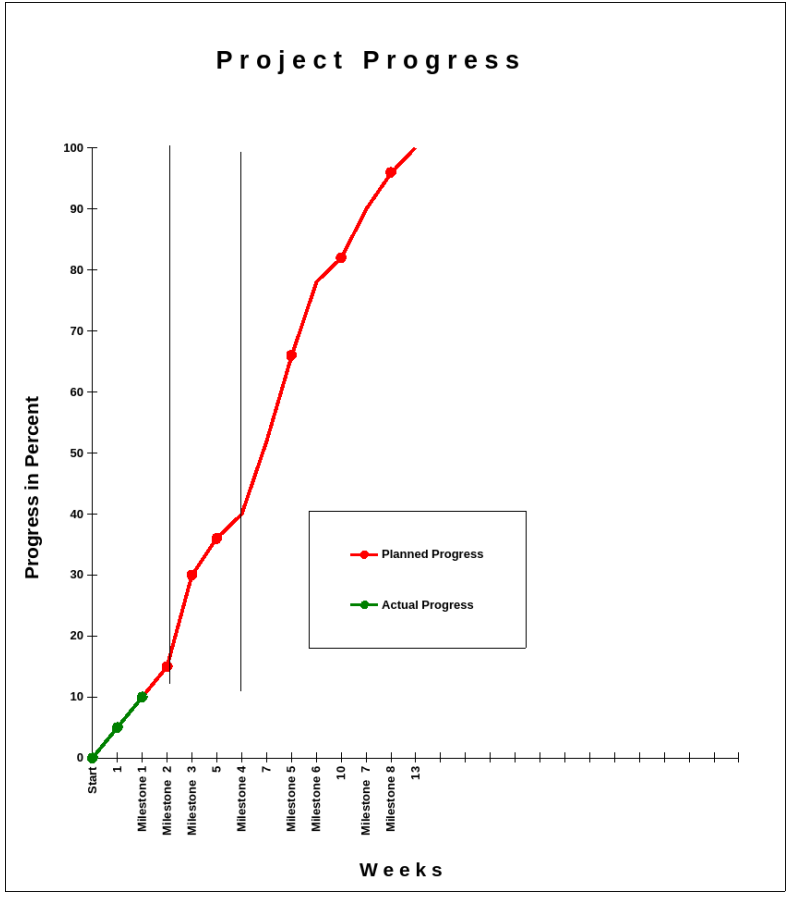
Lessons Learned and Experience Gained

- Defined team roles and responsibilities clearly
- Developed a shared understanding of project objectives.
- Established communication and collaboration workflow.
- Recognized the importance of efficient and focused meetings.
- Learned to align individual responsibilities with team goals.

Costs Incurred So Far



Project Progress



Thank You for Your Attention

Any Questions ?