**Meeting notes with Prof. Yiheng Feng and his student (Purdue)**

Date/time: 1:00-1:30 pm Pacific Time, Dec. 19, 2023

Attendees: Yiheng Feng, Wangzhi Li, Jeff Ban, Shakiba Naderian

Wangzhi presented a set of slides showing their experiment with MCity 2.0 on vehicle motion planning and control, including a demo video. Jeff and Shakiba asked questions regarding the platform, API interface, and data/communication with the platform. Specific questions and answers are listed below:

1. where will be our SVCC algorithms be run: on **our side** or MCity side?

Our algorithms will be run on our side completely, we will receive data and other information (e.g., traffic signal information) from MCity vehicles and facilities via cloud and APIs

2. Can we use third-party packages such as GAMS?

Yes, we can. We are using: Python + GAMS + SUMO, with GAMS for solving optimization (vehicle and signal).

3. Vehicle control: our control algorithm can only provide acceleration, speed of vehicles. Do we need to change these to actual vehicle control, such as turning angle, gas pedal, etc.?

No – Mcity2.0 vehicles (CAVs) take high-level vehicle control information, e.g., vehicle trajectory points. They can then translate this into actual vehicle control commands.

4. No lane change control but controlled by SUMO, OK?

Forgot to ask this question but assuming OK

5. API document or interface

MCity2.0 provides its own operation system and API interface, for vehicle data, infrastructure data, control command, and other communications. They provide documentation and assistance on developing our control algorithms to API.

5. Scenarios:

* 100% CAV with a signal intersection with 1-2 real CAVs
* 10% CAV – 90% CAV with 20% increment
* Vary vehicle types, etc.
* + Ped./bikes: multimodal

Purdue video: <https://mail.google.com/mail/u/1/#inbox/KtbxLwgVWZvCVzWbkZDsTNNCfPhJdnVlmL?projector=1>