

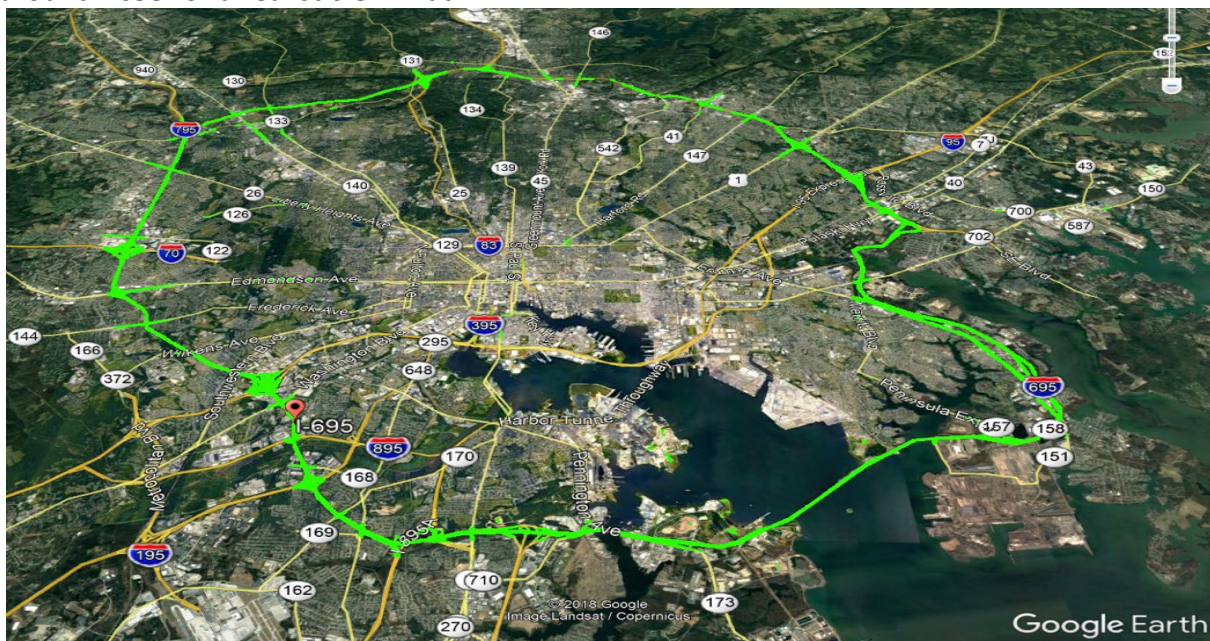
## Appendix: Data used for final report.

### Travelers' Rationality in Anticipatory Online Emergency Response

PI Hyoshin Park:

This document records the data used for the two scenarios testing the performance of the developed model. Two Incident scenario data were used to describe two routes, A and B, that the emergency response vehicle can travel to the requests. The scenario has a percentage of the total vehicles in the network for each route and we compared the total delay for each scenario to find the minimum delay and the best scenario for emergency response vehicle.

Data was downloaded from Regional Integrated Transportation Information System targeted for I-695 in Maryland in Figure 1 where detectors are located. The detector data was showing the number of vehicles from the sensors to indicate a switch if the initial demand of the vehicles is different from the final demand. The simulation will include multiple origin and destination around I-695 for a realistic OD-matrix.



**Figure 1 Representation of incidents (blue) on I-695 (green)**

Table 1 describes the numerical summary of different values for the demand on each route, but same incident location. Since the demand for each route is different, the traveler switching route will cause a change in the demand and a change in the delay. The travel time was used as an indicator for switching routes. These served as an input to Transmodeller simulation using the developed path-size logit model, which became an input to the dispatching model for the emergency response vehicle.

**TABLE 1 Numerical Example of Incident Data: The demand changed after the traveler switch route from the original demand that was set in the simulation**

Scenario	Incident	Time	Duration (min)	Volume (veh)	Travel Time Before Incident (sec)	Travel Time Before Incident (sec)
1	I-695 near Providence Rd	8:06 am	46	560	54.88	57.26
	I-695 EB/WB at MD-2	9:15 am	33	548	54.06	17.83
2	I-695 near Providence Rd	8:06 am	46	560	54.88	57.26
	I-695 EB/WB at MD-2	9:15 am	33	548	54.06	17.83