


Using A Virtual Game To Collect Parking Data

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A photograph of a parking lot with a row of cars parked along a sidewalk. The cars are of various colors, including silver, blue, red, and black. The background is filled with lush green trees under a clear blue sky. The text is overlaid on the upper right portion of the image.

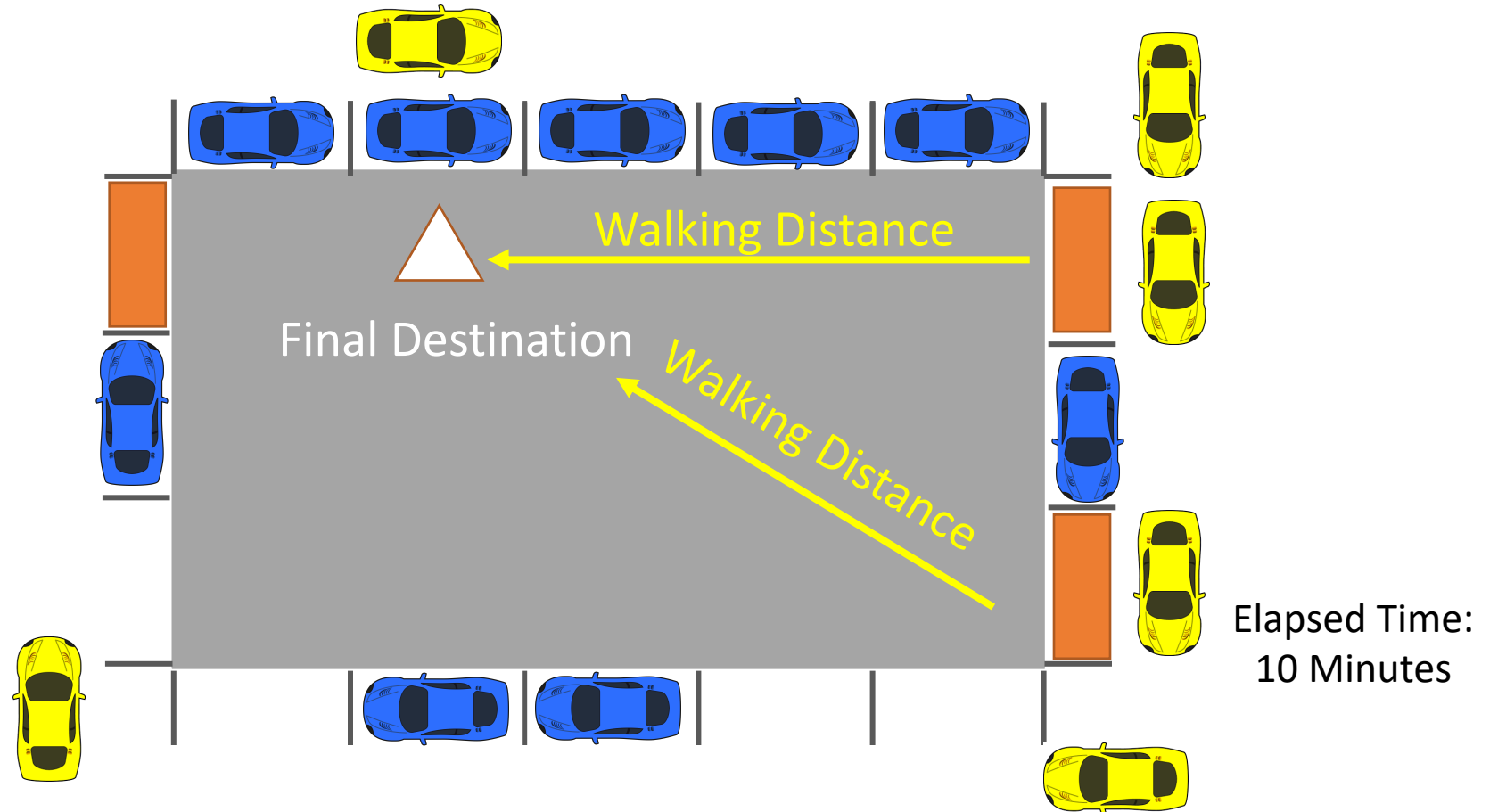
30% of travel time is to find parking
47 Million vehicle hours of delay
14% of illegal parking leads to conflict

Overview

- Influential factors in choice of parking
- Revealed preference parking data
- Stated preference parking data
- A virtual game to collect parking data
- Using the data
- Next steps

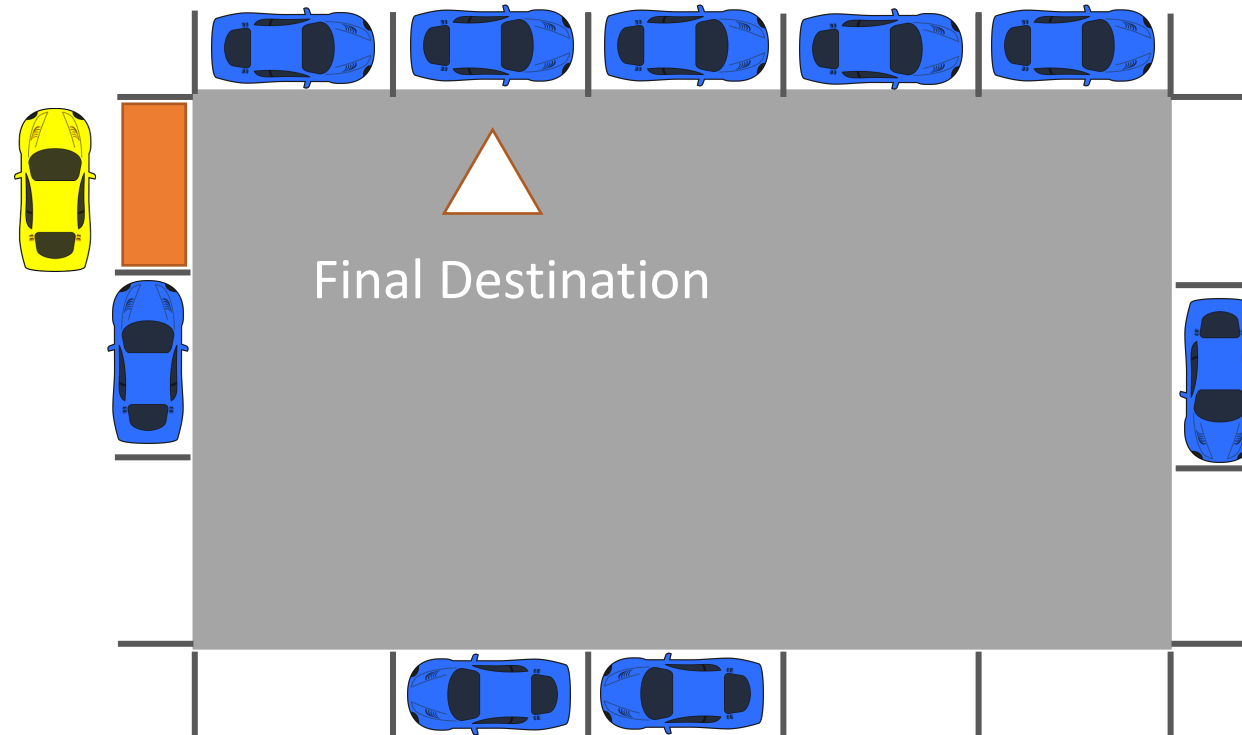
Influential Factors in Choice of Parking

- Walking distance
- Search time



Influential Factors in Choice of Parking

- Walking distance
- Search time
- Congestion
- Parking availability
- Parking price
- Citation fine



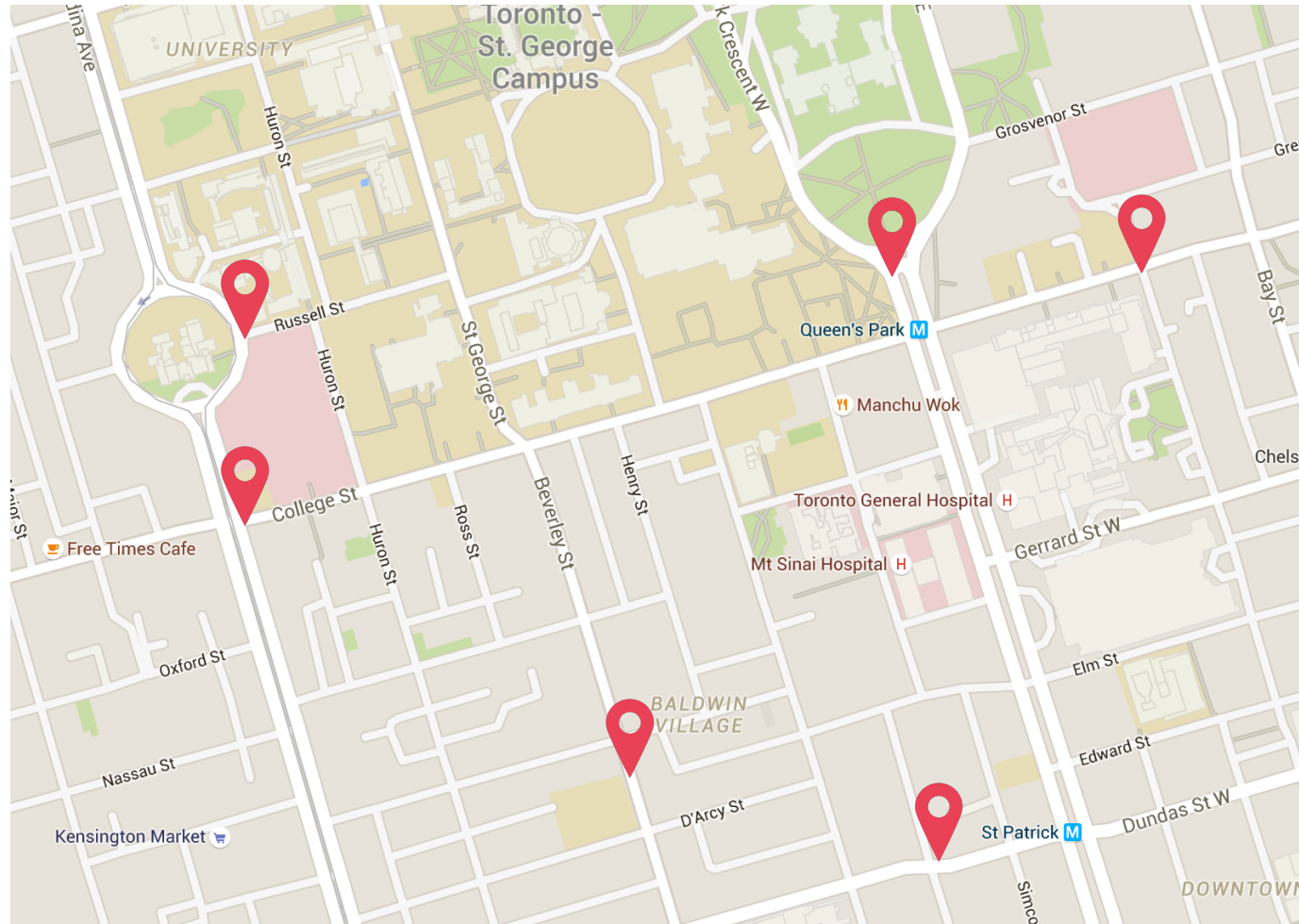
Collecting Data to Infer Parking Behaviour

- Revealed Preference (RP)
 - Questionnaires
 - Parking sensors
 - GPS coordinates
- Stated Preference (SP)
 - Surveys

Parking Sensors



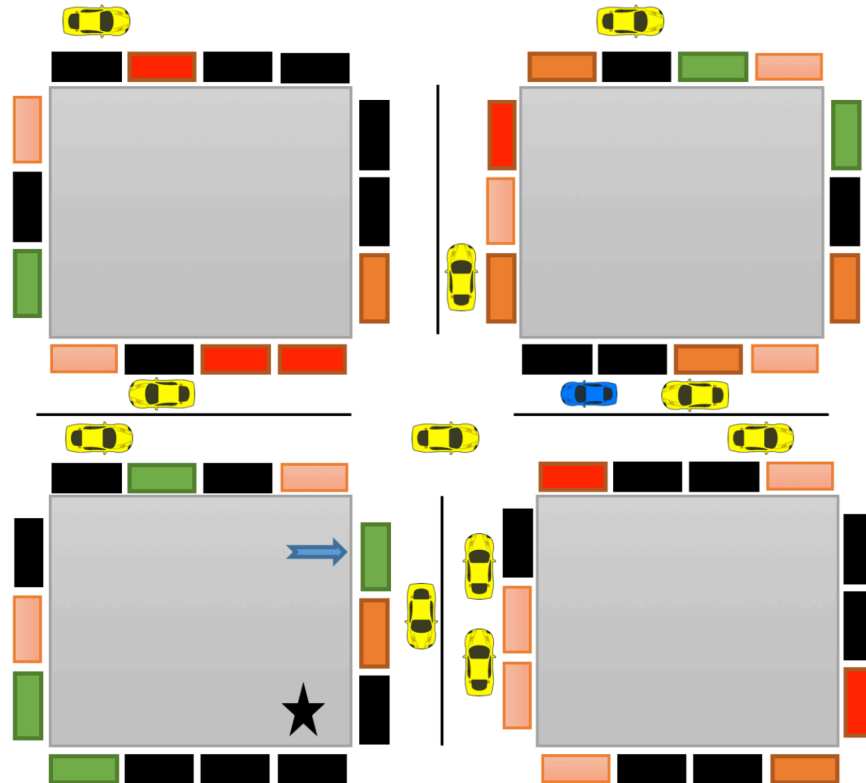
Vehicle GPS Data



Stated Preference Data

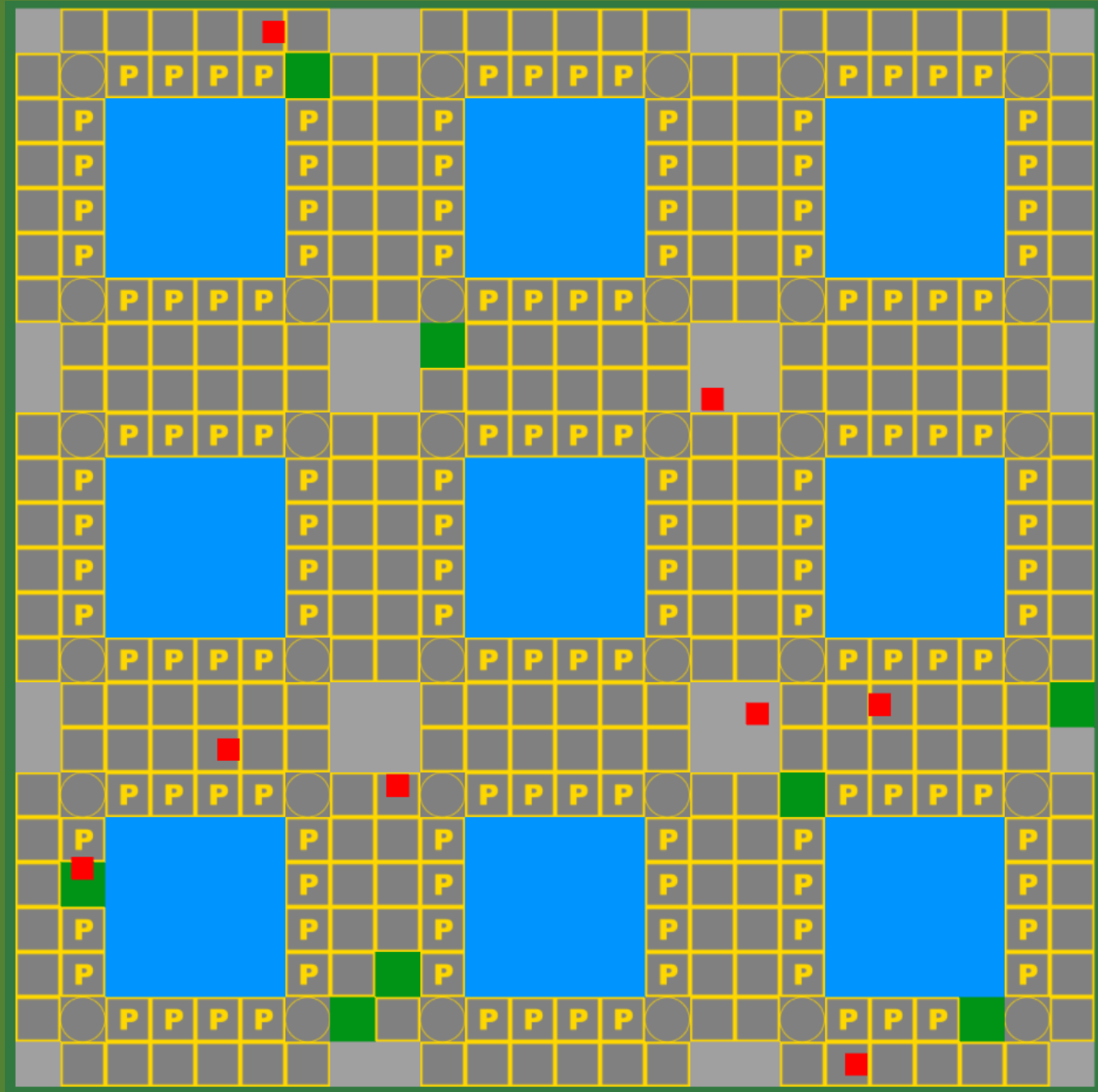
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A Virtual Game to Collect Parking Data

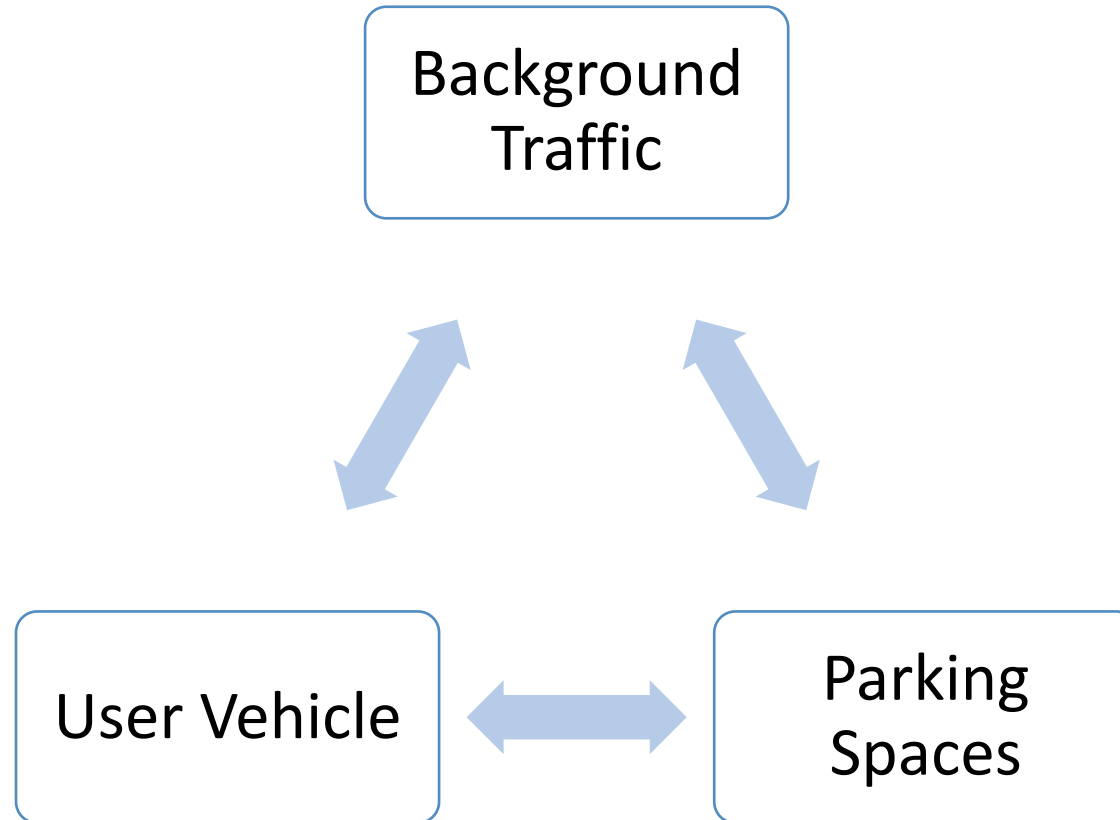


Selected Spot
Price: \$10
Walking Time: 4 min
Elapsed Time 9.4 min

- ➡ Selected Spot
- ★ Final Destination
- Occupied
- Legal
- Illegal (75%)
- Illegal (50%)
- Illegal (25%)



Components of The Game



Timeline

	04- Jul	11- Jul	18- Jul	25- Jul	01- Aug	08- Aug	15- Aug	22- Aug	29- Aug	05- Sep	12- Sep	19- Sep	26- Sep
Background traffic in the game	x	x											
User player		x	x										
Testing the game				x	x								
Finalizing the survey design				x	x	x							
Data collection							x	x	x	x			
Model estimation and calibration											x	x	x

Using the data

- Understand parking behaviour
- Understand illegal parking behaviour
- Optimize parking enforcement policies
- Value of information provision

