GRIDSMART'S REAL-TIME DATA MAKES THAILAND INTERSECTIONS SAFER AND MORE EFFICIENT

With some of the world's most congested and dangerous roads, Thailand's Ministry of Transport (MOT) launched efforts to improve safety and efficiency for the 8.5 million vehicles that travel Bangkok roads daily on roads designed for two million vehicles. Complicating the puzzle, Thailand's traffic signals historically operate on fixed-timing plans. With robust tourist activity and rapidly increasing vehicle ownership, radical adaptation is mandatory.

MOT tested adaptive systems using inductive loops, but poor reliability and high cost of repair for loops led to disappointing outcomes. Among the plethora of problems, inductive loops failed at accurately detecting Thailand's substantial population of motorbikes. The limited functionality of loops severely reduced benefits of MOT investment.

New Trend Development was engaged and introduced GRIDSMART Technologies, Inc. as the base of an integrated solution for MOT. New Trend Development's proprietary adaptive software control system is built on GRIDSMART for actuation and use of real time actionable data. Using GRIDSMART's Application Programming Interface (API), the industry's only open API, to interface with New Trend Developments adaptive controllers cleared the path to progress.

Using the API, New Trend feeds actionable data from GRIDSMART's horizon to horizon view camera and tracking algorithms into their system to adaptively optimize signal timing.

With unmatched accuracy delivered from the world's easiest to install system, GRIDMART tracks vehicles, bicycles, and pedestrians from horizon to horizon and through the center of an intersection. This not only provides discernment of the critical zone where most accidents occur, and other traffic systems can't see, but exit data not available to other systems can be used to deliver immediate results.

MOT engaged an independent third-party testing firm whose work is depicted to the right and below. The results validated GRIDSMART performance across a variety of metrics including reductions in delay ranging from 8.46% to 24.52% and a reduction of average queue length by up to 30.5%. The study revealed that across three intersections the GRIDSMART Adaptive System saved 51,964 vehicle commuter hours over the course of a year and helped reduce red light running by up to 68% by delivering commuters with well-organized and efficient commutes. In the final tally, it was independently estimated that using GRIDSMART across three intersections resulted in a cost savings of more than $855,000 per year.

REDUCTION IN DELAY *(Seconds Per Vehicle)*

HOUR OF DAY	FIXED TIME	GRIDSMART ADAPTIVE	PERCENT IMPROVEMENT
07:00 - 08:00	68.53	61.72	9.94%
12:00 - 13:00	65.98	54.98	16.67%
16:00 - 17:00	68.24	62.46	8.46%
19:00 - 20:00	68.41	51.63	24.52%

QUEUE LENGTH REDUCTION *(Number of Vehicles Per Lane)*

HOUR OF DAY	WEST APPROACH			EAST APPROACH		
	FIXED TIME	GRIDSMART ADAPTIVE	PERCENT IMPROVEMENT	FIXED TIME	GRIDSMART ADAPTIVE	PERCENT IMPROVEMENT
07:00 - 08:00	10.00	9.10	9%	5.10	4.4	13.73%
12:00 - 13:00	8.00	6.00	25%	5.9	4.1	30.51%
16:00 - 17:00	9.7	8.7	10.31%	5.00	4.70	6%
19:00 - 20:00	4.10	3.90	4.88%	4.6	4.4	4.35%

GRIDSMART is the most cost effective actuation, data collection and situational awareness tool in the world with an unlimited capacity to revolutionize your smart city through the API and other advanced tools.