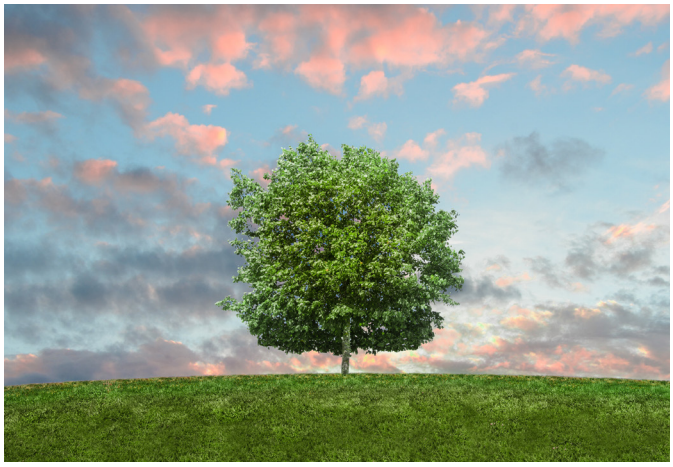
Application Study
Environmental Air Quality Monitoring



OVERVIEW

As air quality becomes an ever growing major issue, the TagMaster Group have implemented a program of works to assist clients with creating a reliable estimation of air quality across the road network.
Key to providing accurate air quality estimations is the combination of multiple data types, including:

Traffic Counts
Traffic volume directly affects emission levels. Quite simply, the more vehicles, the higher the emissions.

Vehicle class
Vehicle class can have a key impact on emissions.
For example, trucks and busses generate far higher emissions than cars and motorcycles.

Fuel type
Diesels, petrol, hybrid/electric all provide different emissions levels. It is therefore important to know the mix of fuel technologies at any given location.

Vehicle age
Older vehicles/technologies have higher levels of emissions in comparison to newer vehicles so vehicle age is another factor to consider.

Vehicle speed
Stationary, slow moving or stop/start traffic produce higher emissions than free flowing traffic.

Site location
Location can make a difference. For example sites on a steep hill can provide worse results as vehicles use more power to climb the hill. In addition built up areas with little air flow are worse than open country.

Meteorological data
The dispersion of emissions is affected by the weather. Hot, still days for example proving the worst with wet and windy days offering better emissions dispersion.

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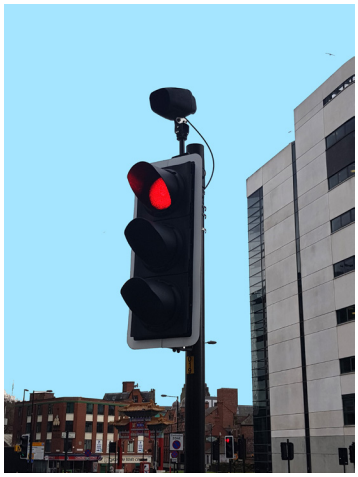
HOW WE HELP

Only by combining all of these variables and comparing against known measured emissions levels at sample test sites, an accurate estimate can be generated. The more accurate the data received - the more accurate the emissions estimation will be. Various Traffic monitoring equipment can be utilised to generate the required data including:

- ANPR data, cross referenced with Government databases (where available) can provide vehicle data in relation to vehicle age, class and the fuel technology of each vehicle passing the location. In addition ANPR cameras can also be used to provide vehicle counts and indicative vehicle speed.

- Traffic monitoring devices utilising inductive loops can provide highly accurate vehicle speed, vehicle count and vehicle classification data across multiple lanes.

- Radar based traffic monitoring devices can provide highly accurate vehicle speed and vehicle count data.



- Traffic signal loop data can also be used to generate vehicle counts and vehicle flow data.

Key to the accuracy of any estimation calculation is the ability of the instation to collate and combine the collected data with site location information to provide estimated emissions figures for NOx, M10, PM2.5 and CO2 for any given weather conditions on an hour by hour basis.

The TagMaster Group have been providing data analysis software to Transport engineers for over 20 years in support of our range of outstation equipment. Utilising our knowledge and experience within this field we aim to provide a complete environmental monitoring estimation platform for clients across the world.
The companies withinTagMaster Group are committed to using the latest technologies and methods to help our cities tackle the ever growing issues related to worsening vehicle emissions levels.

SUGGESTED PRODUCTS

CitySync 50	All-in-one HD ANPR camera
Black CAT Radar	Radar based traffic monitoring device
Black CAT Compact	Loop based traffic monitoring device
Catalyst & VDA Pro R2	Instation with traffic data analysis sw

CitySync

CA Traffic