



ImCity Suite

Unlocking the potential of your network

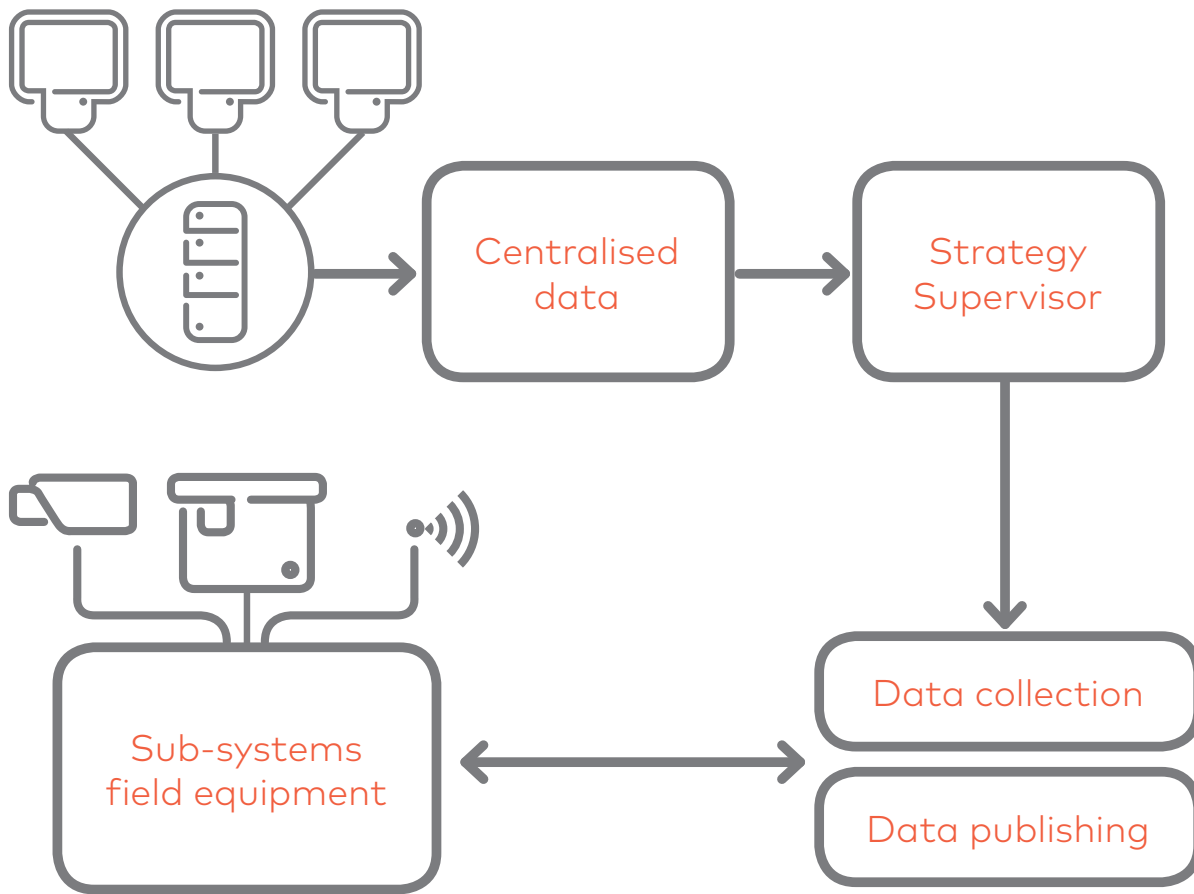
Current statistics indicate that congestion will cost European businesses £10 billion per year by 2025 if we do nothing. As our population grows, so does the demand on our road networks. More efficient use of these networks could cut congestion by up to 30%; helping to reduce the cost to our economies and improving safety.

The ImCity Suite enables Intelligent Mobility through the effective delivery of traffic management solutions, enabling you to maximise the capacity of your strategic road networks. With scalable real-time traffic management, information and control from simple monitoring to the strategic control of complex traffic environments, the ImCity Suite can help you to manage the increasing demands of the users of our network(s).

The ImCity Suite includes intelligent tools to manage and utilise data, remote monitor critical assets and control your network; providing a platform for strategic management today and in the future.

- Multi-tenancy capability
- Web interface
- VMS management
- Crowd source journey time (Google)
- Journey time management
- Parking guidance
- Incident & event management
- Policy based Urban Traffic Management

The ImCity Suite



Capabilities

The following ImCity Suite capabilities help to improve throughput and traffic flow whilst also enabling you to inform, advise and ultimately influence the behaviour of the road user:

- Journey Time Monitoring
- Variable Message Sign (VMS) Management
- Atmospheric / Emissions Monitoring
- Parking Guidance
- Incident & Event Management
- Signal Monitoring
- Adaptive Control
- Public Lighting Control
- Multi-tenancy capability.

Multi-tenancy capability

- Developing how the ImCity Suite can be accessed and utilised by multiple clients
- Provides the ability to share information across multiple authorities, for example, where data can be shared and utilised to the benefit of all involved
- Control of the asset remains that of the asset owner who can authorise the use of the data and sharing of information.

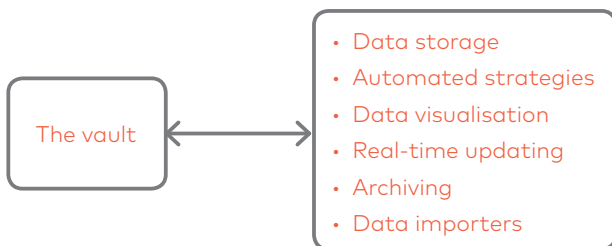
Web interface

- All components share an easy to use web interface – overviews and details are just a click away
- Giving you all the accessibility you need – anytime, anywhere...

Tools

- The ImCity Suite consists of a toolbox that is fully supported by technical specialists, traffic experts and support packages, including hosted solutions:
 - Common Database – the 'Vault'
 - Strategy Supervisor
 - Remote Monitoring
 - Scenario Manager
 - Adaptive Traffic Control –ImFlow.

Highlights from the vault (CDB)



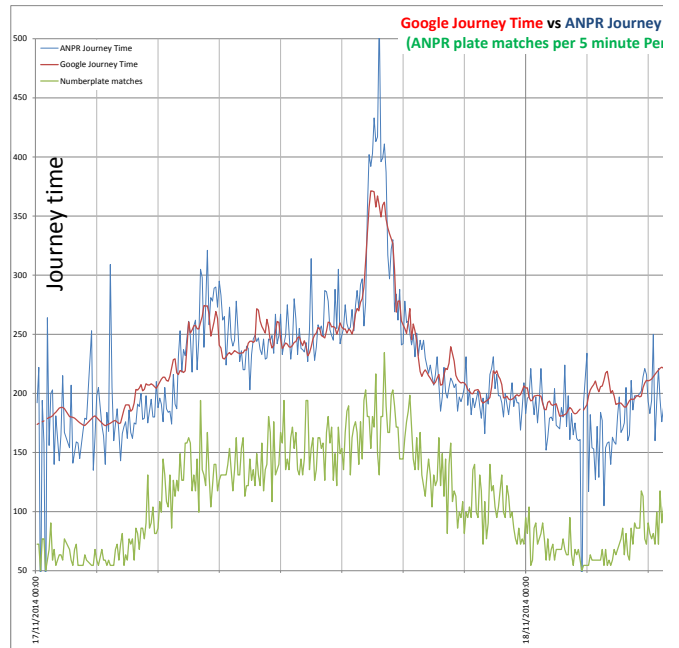
VMS management

- Set priority levels, change timing, easily configure every-day functions
- Gives you a transparent view of what has and what is going to happen with your VMS signs – enabling simple response to public perception, local councillors et al
- Easily configurable dashboards.

Crowd source journey time (Google)

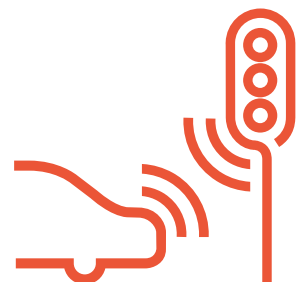
- Provides valuable journey time information
 - data rich and quick to set up
- Minimal ongoing revenue costs
- Supports the provision of increased mobility for all users.

Crowd source journey time with ImCity®



Journey time management

- Optimise road networks using real-time journey information
- Harness a wealth of information by integrating and sharing data from inputs such as loops, Bluetooth detection, ANPR cameras, and links to third party systems.



Parking guidance

- On and off-street parking guidance functionality based on real-time occupancy data
- Minimises the impact on the network resulting from people searching for parking spaces
- Advanced guidance based on the use of data, e.g. environmental monitoring, to make intelligent decisions on where to guide drivers.



Incident & event management

- Interactive and quick approach to setting up and locating an incident
- Facility to group assets geographically; to be associated with the incident location and allow defined actions (e.g. VMS messages)
- Pre-define a plan and associated messages and actions in relation to specific events.

Remote Monitoring; the availability of on-street technology assets.

An easy to use, secure, integrated solution to the management of an ever increasing number of traffic control devices.

Maximising the availability of on-street technology assets helps to minimise the environmental impact of traffic and lowers operating costs. The management of congestion, safety and road user experience are all improved by effective network infrastructure management; remote monitoring supports the need for informed decisions in a timely manner.

Understand & improve asset status

With geographic maps that provide an 'at a glance' display of the monitored equipment's real-time status, operators have a clear visual aid to traffic management; enabling individual sites reporting problems to be located rapidly and the specific faults identified before sending an engineer to site.

Facilities in the system can provide an operator with direct access to the monitored equipment's own fault logs for further diagnosis, saving time on-street and increasing efficiency. As the asset should then experience less downtime, traffic safety is also improved. Real-time data can also be collected from suitably equipped field devices to assist in understanding patterns of usage.

Increase efficiency

- Improve fault management throughput by enabling multiple users to access information simultaneously
- Access to the on-street equipment's own facilities enables efficient control of field devices
- Identify issues through field collected data
- Check the coordination of groups of traffic controllers via the time-space diagram.

Save time

- Immediate notification of field equipment problems with instant SMS and email notification services
- Enable regular and scheduled execution of controlling commands to individual or groups of field devices.

Simplify

- Fault identification through informative geographic, map-based displays
- Fault acknowledgement via active alarms summary
- Users can see what they need to see with tailored views.

Modern communications

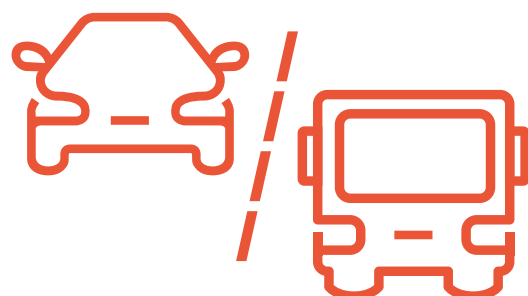
The Remote Monitoring system is a cloud based solution, enabling all users to have remote access using standard web browser software. This approach enables the system to be hosted either by the client/system operator or remotely by a 3rd party. IP based communications support the need for a cost effective network solution on a site-by-site basis.

ImFlow; adaptive traffic control to optimise vehicle flow.

Changing the way we manage traffic; effective and environmentally friendly transportation is critical to a city or region's economy and environment, making it a better place to live and work.

Policy based Urban Traffic Management

ImFlow optimises traffic flows based on configured policies, making optimal use of the road infrastructure. The uniqueness of ImFlow is its real-time adaptive algorithm that automatically translates policy into optimal traffic flow. A set of policies represent a scenario. Within a scenario each policy is assigned a level of importance allowing the user to balance the importance of the traffic flows, priority vehicles, pedestrians and cyclists within the network. ImFlow supports multi-criteria optimisation at area, route and intersection levels and allows policies to be defined for each level. Highly flexible and scalable, ImFlow provides one solution from a single intersection to a large city network.



Improve flow, safety & the environment

- Reduce traffic congestion by accurately matching signal controller operation to prevailing traffic conditions
- Improve specific routes by prioritising the traffic flows
- Reduce the waiting time for pedestrians and cyclists including information about the remaining waiting time, reducing red light negation
- Improve public transport by minimising the delay and stops and enabling the adherence to schedule (i.e. uniform arrival at passenger stops)
- Give conditional priority to vehicles equipped with cooperative technology, promoting schemes like eco-driving for heavy trucks
- Provide emergency vehicles with a quick and safe passage through the network, providing absolute priority where applicable
- Reduce fuel consumption and emissions by making traffic flows smoother, minimising stops and reducing travel time to destinations
- Move unavoidable congestion to another part of the road network; influence and optimise the location and the severity of traffic pollution. By spreading the traffic, ImFlow reduces the effect of traffic pollution on the urban environment.

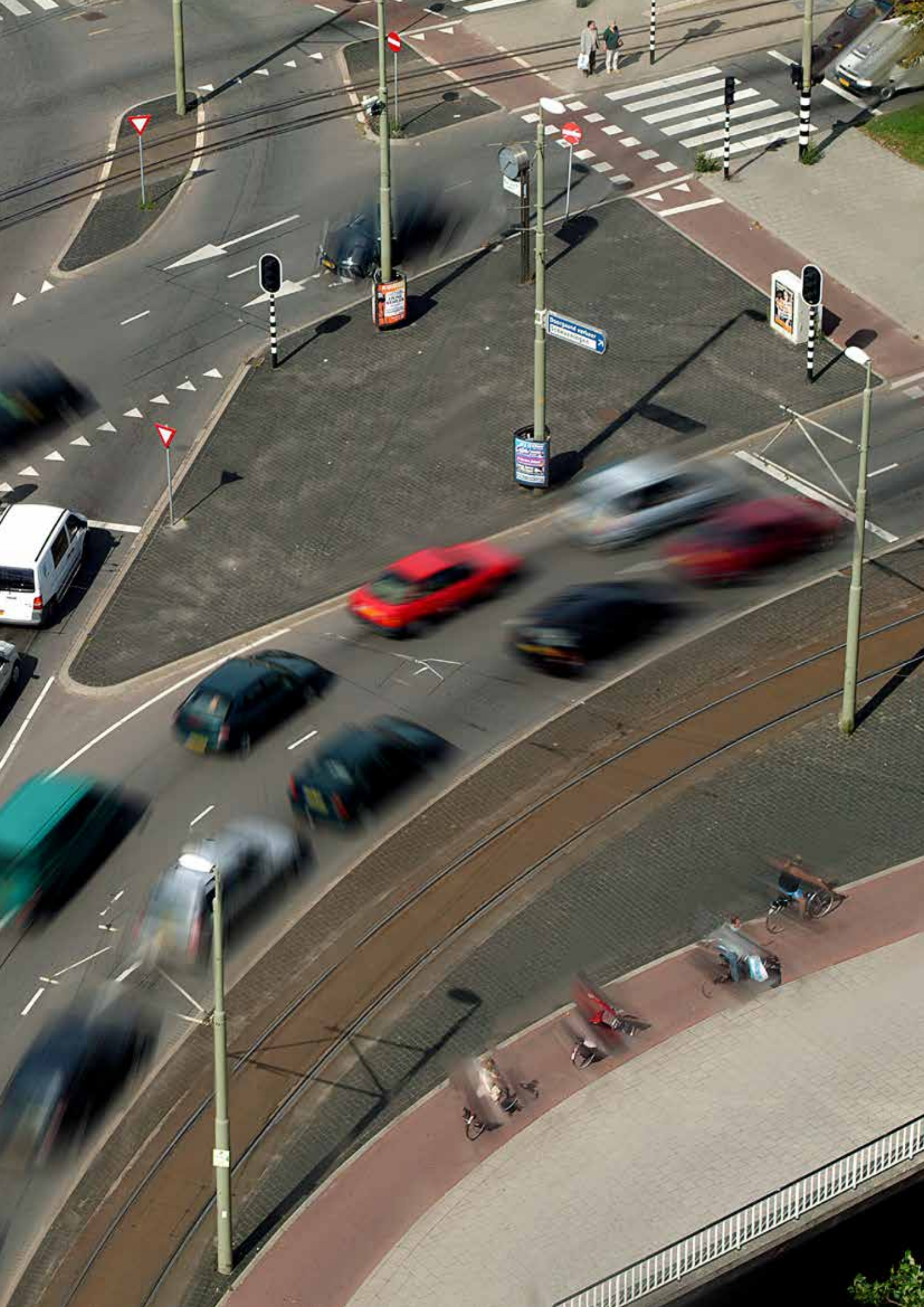
From policy to flow

ImFlow offers a unique programming concept based on policies and constraints. The policies and constraints can be directly entered into the ImFlow system and are used by the unique adaptive algorithm to optimise the signal timings in real-time. The policies and constraints are easily understandable by traffic engineers who need to setup and maintain the system; policies represent the optimisation objectives and the constraints are rules that must be obeyed in order for the system to function safely.

For example; by defining a policy for a route, a traffic engineer can make the traffic on the route more important than other traffic flows. Based on this setting ImFlow will minimise stops and delays on the route to implement the policy. It then tracks all priority vehicles on the network and predicts their arrival and departure at signalised intersections and Public Transport stops. A priority vehicle receives conditional priority based on the configured policies and the current status of the vehicle.



To find out more about the functionality and capabilities that sit within the ImCity Suite, please contact us and we will be happy to arrange a demonstration.



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