

strategies
infrastructure
urban development
technology
enhanced
embedded
congestion
advanced
improve
reliable
low-cost

Smart Transport and Roads



Traffic congestion is one of the most pressing environmental and social issues for the world's cities. At NICTA we are developing technology that allows control systems, traffic managers and road users to better predict and respond to traffic conditions, increasing the capacity of our roads infrastructure and making urban travel more predictable, efficient and environmentally friendly.



The Features

- Reduce road congestion
- Improve trip quality and reliability
- Enhanced road safety
- Reduce greenhouse gas emissions
- Improve quality of urban life
- Sustain urban economic development.

Who is helped?

NICTA's Intelligent Transport Systems Project aims to benefit road users and communities as they become increasingly challenged by the economic, social, physical and environmental effects of traffic congestion. This research is targeted at the traffic control systems of the NSW Roads and Traffic Authority (RTA). The RTA is the developer, owner and user of The Sydney Coordinated Adaptive Traffic System (SCATS) which delivers adaptive traffic control in more than 140 cities around the world.

The NICTA Approach

We use low-cost sensors embedded in traffic lights and data collected from a variety of sources (data fusion) to detect, classify and measure traffic flows. We then use advanced mathematical models based on this information and other traffic sensing data to estimate traffic conditions. Changes in the state of the traffic are tracked second by second so we can forecast the effect of control decisions.

Traffic management and control systems uses this additional information to bring a finer level of control to traffic lights and other road traffic infrastructure, improving traffic flows.

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