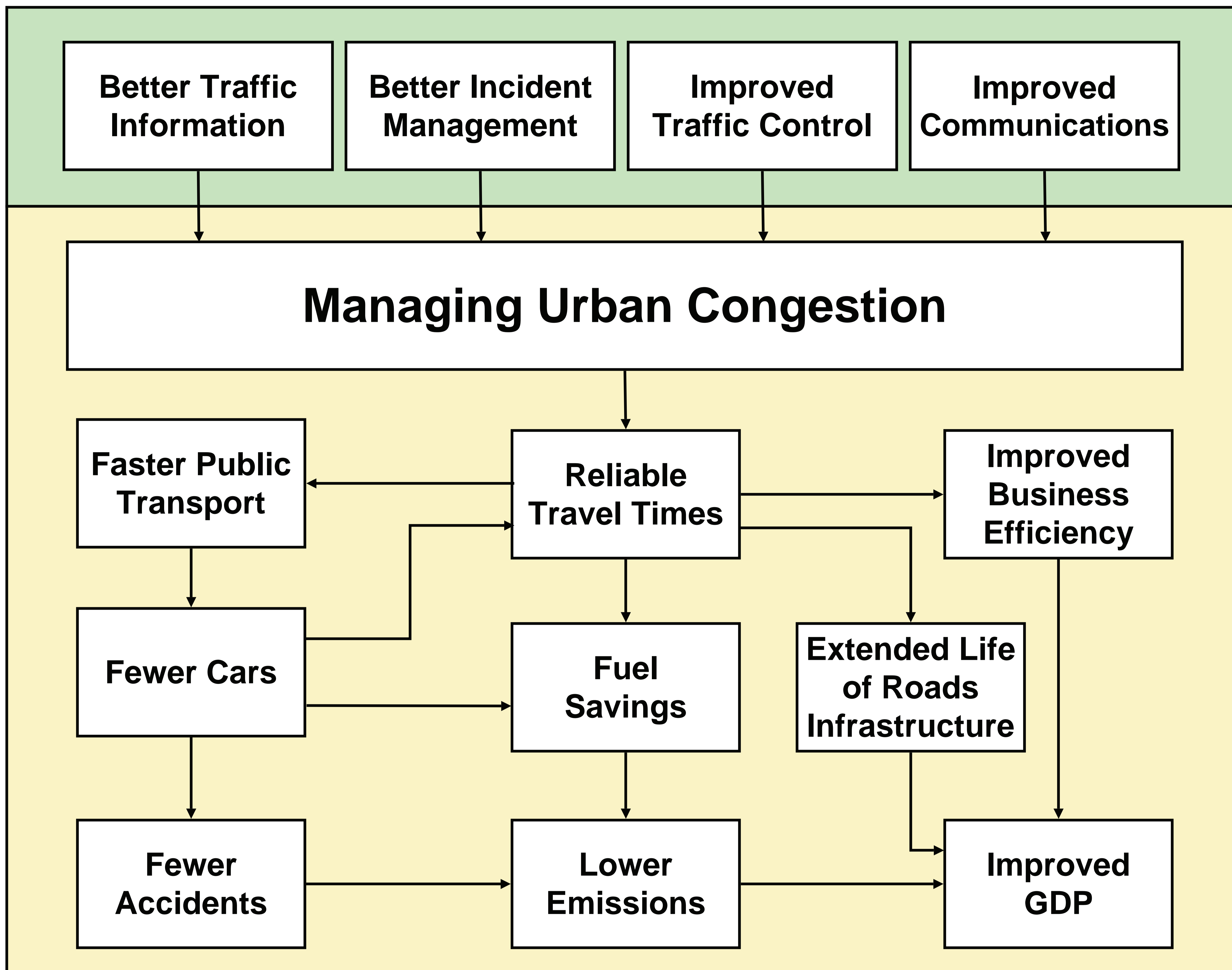


# Smart Transport and Roads Use Inspiration



Contact: Geoff Goeldner [geoff.goeldner@nicta.com.au](mailto:geoff.goeldner@nicta.com.au)

Extending the capital life of investments  
in road infrastructure.



*The avoidable social cost of congestion in Australia is estimated at more than A\$9 billion*

*... and it is set to double by 2020 if nothing is done.*

Bureau of Transport and Regional Economics Working Paper 71, "Estimating Urban Traffic and Congestion Cost Trends for Australian Cities", June 2007

"Logic will take you from A to



... imagination

will take you there on time"

# Smart Transport and Roads Traffic Control



Contact: Philip Kilby philip.kilby@nicta.com.au

Making traffic control systems more efficient and reducing the total social cost of congestion (a \$9bn problem in Australia alone).



## At a Glance

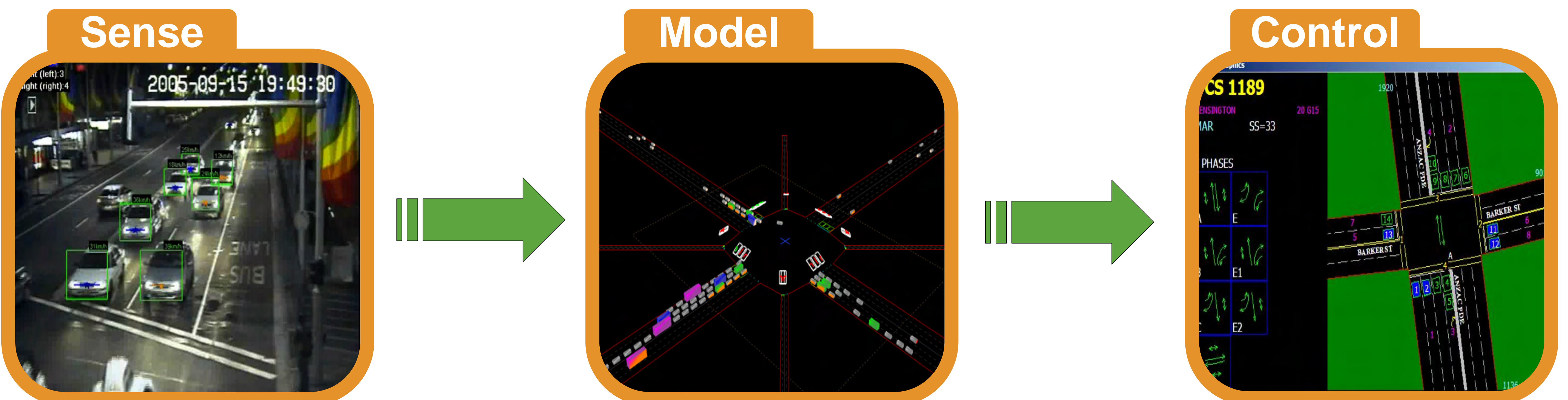
- Reduce road congestion
- Improve trip quality and reliability
- Enhance road safety
- Reduce greenhouse gases emission
- Improve quality of urban life
- Sustain urban economic development.

## What's Under the Hood

- Fusing data from multiple sensing devices
- Hierarchical micro and macro traffic modelling
- Advanced control using machine learning techniques:
  - (a) Deliver accurate traffic analysis and adaptive control, and
  - (b) Enable better network design and road utilisation.

## Looking Ahead

- Prototype controllers being evaluated by RTA
  - 5% reduction in delays
- Urban traffic test sites are being selected
- Initial path to impact is through regional traffic controllers
- Ultimate objective is integrated urban traffic management.



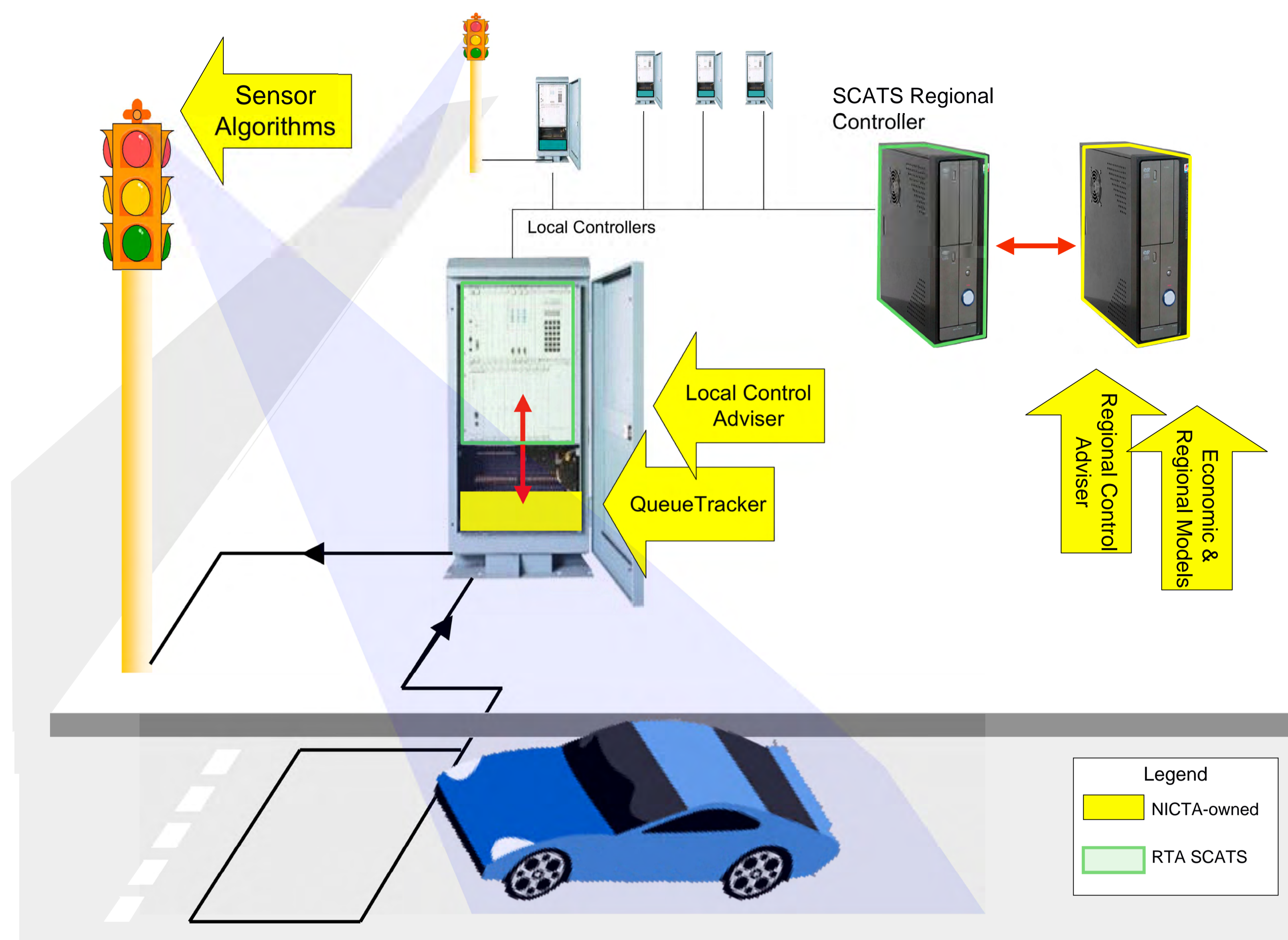
From imagination to impact

# Smart Transport and Roads Infrastructure for Intelligent Transport



Contact: Glenn Geers glenn.geers@nicta.com.au

Where the research hits the road ... developing smart infrastructure for delivering intelligent traffic systems



## At a Glance

Close collaboration with RTA to put research outcomes on the road:

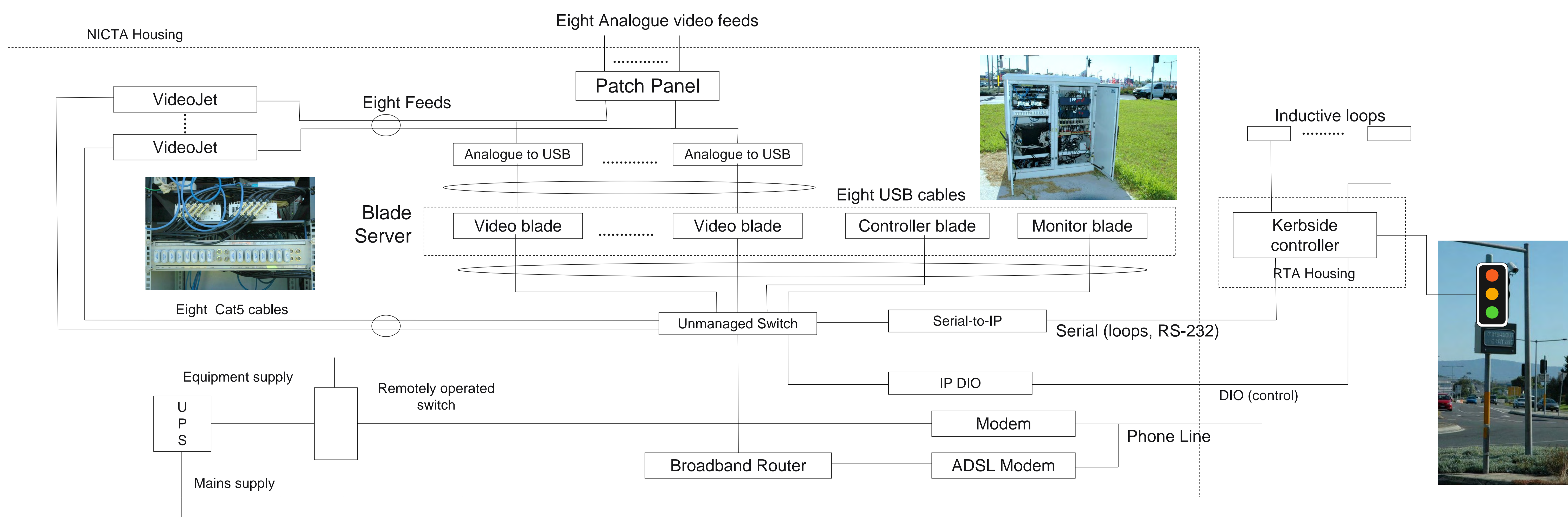
- Network centric
- Distributed architecture
- Fault tolerance
- Video & thermal imagers
- Enhanced use of loops.

## What's Under the Hood

- Video and loop data collection
  - On-street lab @ Kensington
- Vehicle sensing and signal control
  - Demonstrator @ Albion Park
- Incident detection using video
  - Traffic monitoring trial @ Rose Hill
- WiFi for signal control messages
  - Wireless mesh testbed @ Chippendale

## Looking Ahead

- Arterial demonstrator
- Advanced signal coordination
- Smart, connected infrastructure
- Cooperative driving
- Infrastructure-assisted driving
- International Collaboration.
  - (University of Illinois Chicago & University College London)



From imagination to impact

[www.nicta.com.au](http://www.nicta.com.au)