

# SYNCHRONIZATION OF ADAPTIVE TRAFFIC CONTROL SYSTEM AND CONVENTIONAL TRAFFIC LIGHTS



**Cost effective, dynamic and automatic traffic light control system for solving road congestion problem**

An innovative approach to real-time traffic signal control that builds on existing infrastructure and utilizes cheaper resources to scale the conventional traffic signals to adaptive traffic lights. This intelligence to the conventional traffic lights is added using the Red Light Violation Detection (RLVD) cameras, and synchronising its feed with the feed from traffic lights through one control platform. This makes all of the smart installations work together in adaptive traffic mode for improved traffic flow/speed.



Data from adaptive traffic lights (status/ mode/ traffic density/ light duration/ corridor info)



Data from conventional traffic lights (status/ light/ duration)



Video feeds from RLVD



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INDIA URBAN DATA EXCHANGE

Component  
**A**

Identify the density of the road and enable traffic signal controller accordingly to run in adaptive mode

Component  
**B**

Traffic signal controller

- Takes input from component A to sustain in adaptive setup

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# CITIZEN BENEFIT

Turning a conventional traffic signal into an adaptive traffic signal and getting it integrated to the central control system

Increased efficiency of the traffic signal and more satisfaction for commuters

Homogeneous traffic view towards all the city junctions

Cost Saving Calculation (Say)

- Adaptive traffic setup for a 4 road junction – 43 Lakhs
- The compute and analytics cost of RLVD feed for one road – 1 Lakh
- Adaptive traffic software cost – 1.5 Lakh
- Total cost of a four-road junction – 10 Lakh
- Savings: 43 Lakh – 10 Lakh = 33 Lakh per junction
- Considering a small city has 20 traffic junctions with conventional setup. The total savings in that case would be:  $20 * 33 \text{ Lakh} = 6.6 \text{ Crore}$



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# HOW IUDX MAKES THIS USE CASE BETTER AND EASIER TO BUILD?

- Use cases built for one city can easily be ported to another.
- Opportunity for partners to scale engagement across multiple cities with IUDX facilitation.
- Easy access to city data held by city administration, which otherwise might be difficult to obtain.
- IUDX acts like a bridge between city specific implementation and global standards.
- Reduced development cost IUDX provides an open source foundation to build upon, with standard interfaces simplifying implementation.
- For this use case, IUDX acts as a bridge between implementation partners, city officials and vendors.
- IUDX ensures availability of high quality data.
- Enabling providers to share real time video feeds from an arbitrary junction with application developers following the standard IUDX consent framework.
- Provides users with sample video feeds for any arbitrary junction.
- Ensures the quality of feeds and infrastructure by bridging the gap between multiple stakeholders viz. Consumers, City, MSI, and OEMs.



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