運輸署
Transport Department

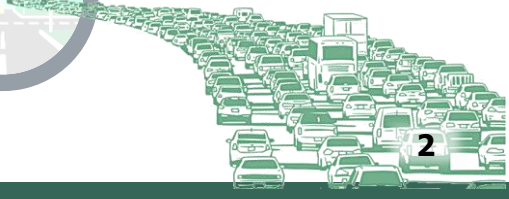
實時交通燈號調節系統
Real-time Adaptive Traffic Signal System

25 February 2025

背景
Background

交通燈號控制路口按照預設燈號時間操作
Traffic signals operate with predetermined signal time plans

燈號時間未能在短時間內
對車流及人流出現的波動
作出即時反應
Traffic signals are unable to respond to fluctuations in traffic and pedestrian flows within a short period of time



實時交通燈號調節系統

Real-time Adaptive Traffic Signal System

感應器實時偵測
人流車流狀況

Sensors for real-time detection of traffic and pedestrian flows

系統即時分析並
分配路口燈號時間

Instant analysis and optimisation of traffic signal time

指令輸出至交通燈控制器
以實施交通燈號控制

Instructions to traffic signal controller to control traffic lights

善用路口通行能力，
減少交通擠塞和不必要的延誤

Optimisation of junction capacity to reduce congestion and unnecessary delay

“先導計劃及東涌市中心項目運作大致暢順

The pilot project and the Tung Chung town centre project are generally operating smoothly.

實時交通燈號調節系統基本配置
Real-time Adaptive Traffic Signal System Basic Configuration

感應器**
Sensors**

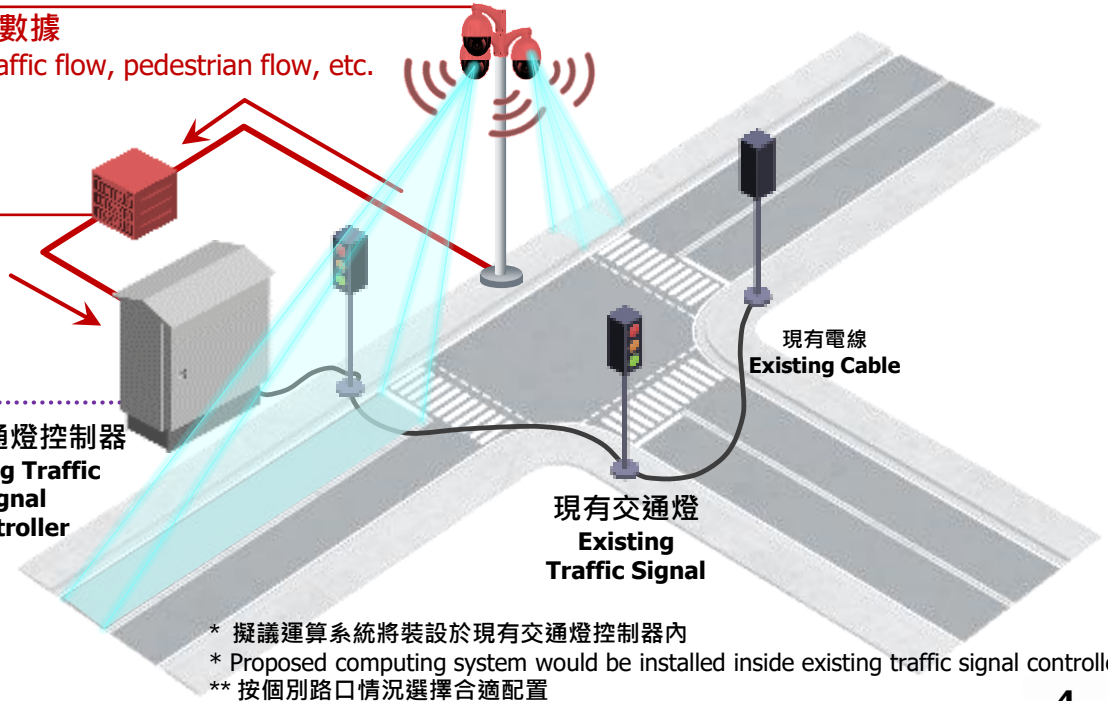
收集實時車龍、車流及人流等數據
Collects real-time traffic queue, traffic flow, pedestrian flow, etc.

運算系統*
Computing System*

分析交通數據，運算合適的燈號時間
Analyses the traffic data and computes the most suitable traffic signal

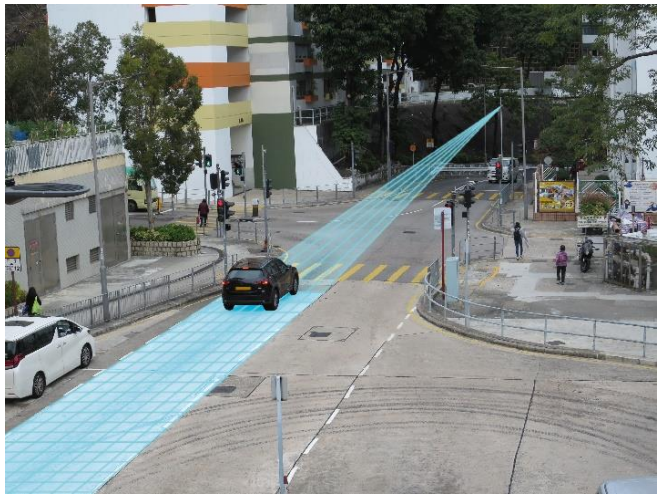
有線/無線網絡連接
Wired/Wireless Network Connection

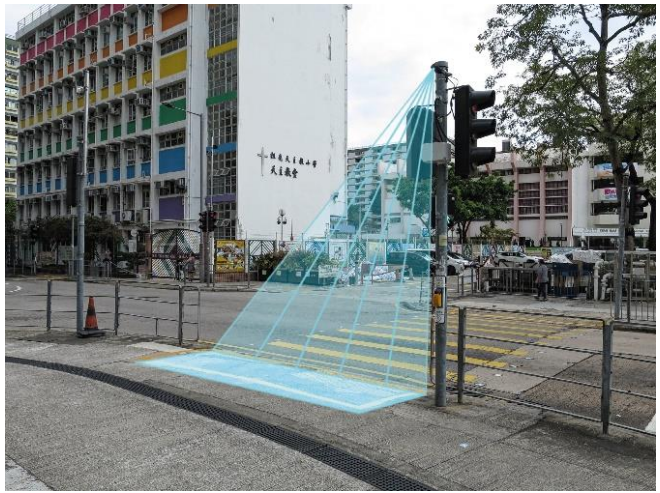
現有區域交通控制系統
Existing Area Traffic Control System



* 擬議運算系統將裝設於現有交通燈控制器內
* Proposed computing system would be installed inside existing traffic signal controller
** 按個別路口情況選擇合適配置
** Selected appropriate configuration according to individual junction situation

車輛感應器
Vehicle Sensor





行人感應器
Pedestrian Sensor

路口特性
Junction Characteristics

不同方向的車流及人流
在短時間內容易出現
較大及不規則的變化
Relatively large fluctuation in traffic and pedestrian flows

個別方向的車流容易因車流量
大幅度變化而出現擠塞情況
Susceptible to congestions due to traffic flow fluctuations

路口整體上仍有足夠通行動力，
讓系統有空間可靈活分配綠燈
時間至車流較多的方向
Spare capacity for flexible allocation of green time to approaches with more traffic

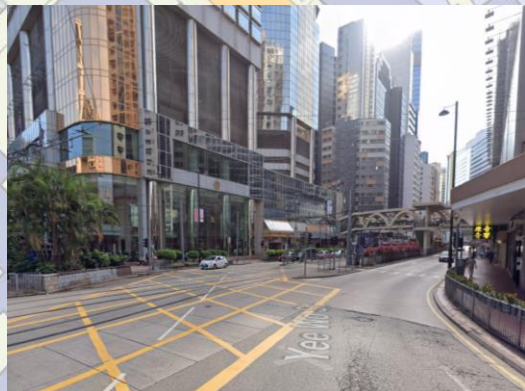
行人過路處的過路按鍵
較常出現被啟動後
但最終沒有行人橫過情況
No pedestrians crossing the road after pressing the pushbutton

❶ 怡和街的車流及人流容易因鄰近的大型購物中心或大型活動而帶來波動

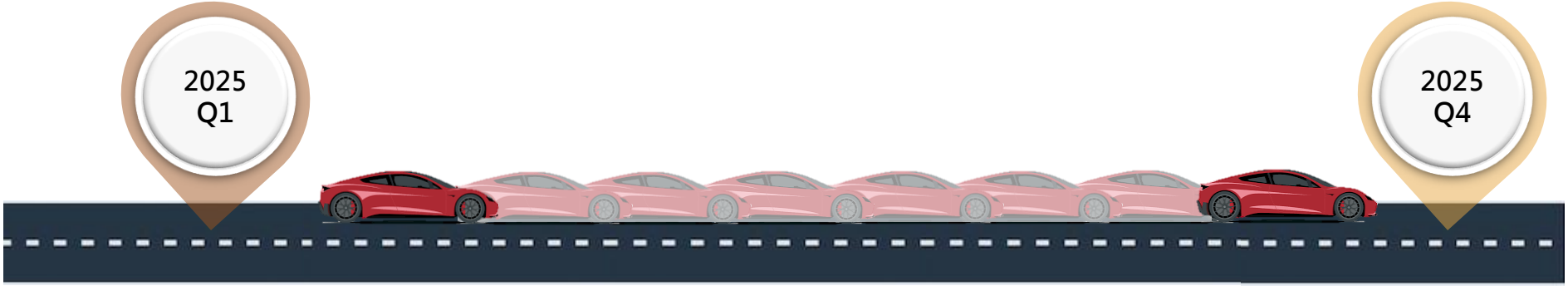
Traffic and pedestrian flows on Yee Wo Street fluctuate due to nearby shopping centres and public events

❷ 自動實時安排行人過路燈號，減少行人路擁擠及過路按鍵被啟動後沒有人橫過馬路的情況

Automatic activation of pedestrian signal in real-time to reduce congestion on footpath and minimise the wasted signal time due to the absence of crossing activities after pressing the pushbutton



施工計劃
Implementation Programme



安裝及測試感應器及相關設備
Installation and testing of sensors and associated equipment

系統驗證及調節
System verification and validation

完成測試及開始試行
Completion of testing and trial operation

Thank you

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