

## Transportation Can Work Better





Intelligent Mobility is the heartbeat of our economy. Urbanisation, changing demographics, new business models and innovation are transforming the transportation industry.

When fully and properly utilised, an effective mobility system keeps people, vehicles and goods moving efficiently. It should be seamless and the solution personalised.



## £22bn

in 2030 annual cost of UK congestion (63% increase)

70%

of millennials use multiple ways of

getting around a city or suburb

## 54% of the

world's population live in urban areas. An additional

#### 2.5bn people will be based in cities by 2050

#### Energy use and greenhouse gas (GHG) emissions from the land transport sector are expected to increase by nearly 50% by 2030

## 47%

The desire for more livable, walkable communities

in public transit ridership since 1995 (outpacing population growth and vehicle miles traveled)

+39%

# 91 ( Hours

The total time that an average urban commuter spends in traffic each year.

Source: http://www.dailymail.co.uk/news/article-2798195/counting-cost-congestion-failure-cut-london-traffic-jams-costing-businesses-billions-drivers-set-spend-two-days-sat-gridlock-year-2030.html





# **30%** of urban traffic is caused by drivers circling to find a parking space.

Source: Cruising for Parking by Donald Shoup





Every \$1 invested in public transportation generates approximately \$4 in economic returns.

Source: APTA 2014 Public Transportation Fact Book Mobility report http://www.apta.com/mediacenter/ptbenefits/Pages/FactSheet.aspx

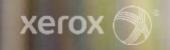




## As of June 2015, **1.5 million** mobile apps were available in the Apple App Store. How many on Mobility?

Source: The Statistics Portal

http://www.statista.com/statistics/263795/number-of-available-apps-in-the-apple-app-store/



## At Xerox, we believe the next frontier for the mobility industry is to improve the work itself – to optimise existing infrastructures while moving people, vehicles and goods from Point A to Point B in the safest, most

efficient way.





#### **Intelligent Mobility**

Combating congestion Efficient back-office structure Real-time and predictive data analytics Coherent transportation system

#### End-to-End System Management

Dynamic pricing mechanisms Immediate payment processing Mobile applications Deterring violations

#### **Seamless User Experience**

Implementing new technologies Making multimodal transport easy "We need to reduce traffic congestion by reclaiming some of the available capacity in the HOV lanes."

Los Angeles County Metropolitan Transportation Authority

## Intelligent Transportation Using HOT Lanes

#### **Solution**

Designed an innovative approach to tolling through the use of a dynamic pricing algorithm to price each segment separately.

#### **Results**

**45 MPH** achieved minimum speed 100% of the time during peak periods, and exceeded the required speed 90% of the time during peak periods.

**83%** of customers said they would recommend the 110 Express Lane.





#### An Innovative Parking Program



#### **Solution**

Created a public-private partnership and implemented sustainable parking technology, providing motorists with a variety of convenient payment options.

#### **Results**

**\$1M** Total net municipal revenue growth within the **first year** of operations.

**\$2.4M** Total net municipal revenue growth in the **second year** of operations.



"We need to create a unified transit area with the longterm goal of covering the entire province."

Société des Transports de Montréal

#### Seamless User Experience With Interoperable Ticketing

#### Solution

Built a combined (contactless and magnetic) ticketing solution and deployed it throughout the project area.

#### **Results**

5M Opus cards issued within 5 years

**12%** increase in ridership

**18** Member operators participating



"We strive for continuous improvement so that we make the daily lives of TnG users simple and even more convenient."

Abdul Karim Md. Lassim CEO of Touch 'n Go Sdn. Bhd. Malaysia

#### **Investing in the Future**

#### **Solution**

Implemented a solution to increase interaction between systems and service providers and added an online portal.

#### **Results**

Increased efficiency of TNGSB's back office operations.

Minimized the risk of revenue leakage.

System is designed to prepare TNGSB for the future plan of multi-lane free flow tolling system.



"We'd like people to be able to travel easily around Nice, Cannes, Sophia-Antipolis, Menton and Grasse."

The Department of Alpes-Maritimes, France

#### Interoperable Public Transport

#### **Solution**

Deployed a new contactless solution that complies with the latest French interoperability standards, modernizing fare collection by moving from paper tickets to contactless.

#### **Results**

**1.1M** People enjoy the unified travel area

**780** validators and **40** portable readers/decoders





#### Streamlined Violations Processing

#### Solution

Integrated Si-Dem/Si-Log solution; we manage enforcement centrally.

#### **Results**

140,000 tickets issued annually

**65%** reduction in illegal parking in urban locations

Higher collection rates for Southern Irish offenders



"When people have a plane to catch, or a friend or relative to meet, the last thing they need is to be delayed trying to find parking. Xerox has helped us meet customer expectations in a very busy environment."

Guy Marguet, Project Manager Geneva Airport



## Enhancing the User Experience

#### **Solution**

Connect the parking management system with the rest of the airport's computer systems.

#### **Results**

More complete and better passenger experience.

LPR enables high-speed exiting, lost ticket recovery and the ability to locate lost cars.

Parking can be pre-booked online.





#### A Comprehensive Ticketing Solution

#### **Solution**

Designed and deployed a fully contactless ticketing system – the complete solution, from the equipment to the interoperable central system.

#### **Results**

450 Contactless validators

Geolocation-based automatic vehicle monitoring system

Interoperable central system



## Intelligent Mobility Ecosystem

Improving Urban Mobility





## **The Road to Intelligent Mobility**

## rillion 😪 🐦

transit fare transactions processed annually

## § 5 billion

dollars in toll revenue collected annually

**3** 50%

of electronic toll collection processed in the US

16 million

parking violations processed

s 200 million

and more public transport tickets processed daily

Countries use our solutions in transportation

**#1** 

Worldwide rank in transportation services to governments

**6 10** Customer service centers supporting 22 toll agencies



## Why Xerox?



#### **Intelligent Mobility Leader**

Xerox: broadest portfolio of transportation solutions worldwide across:

Tolling Mass Transit Parking Photo Enforcement



### Intelligent Mobility Industry Knowledge

Best-in-class Back Office Platforms

Combined with flexible business models



## **Intelligent Mobility Innovation**

Xerox: UMTRI partnership - M City Leadership Circle member

Developing Connected Vehicles and V2I communication Data Analytics









© 2016 Xerox Corporation. All rights reserved. Xerox®, Xerox and Design® and "Work Can Work Better" are trademarks of Xerox Corporation in the United States and/or other countries. 01/16 BR17561 TRAPA-02EA