Intelligent transportation: compelling reasons and responses

✉ jbarsoum@ca.ibm.com
@1garsvert

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2 ways to deal with transportation challenges

(non mutually exclusive)

Analog, Physical: v1.0

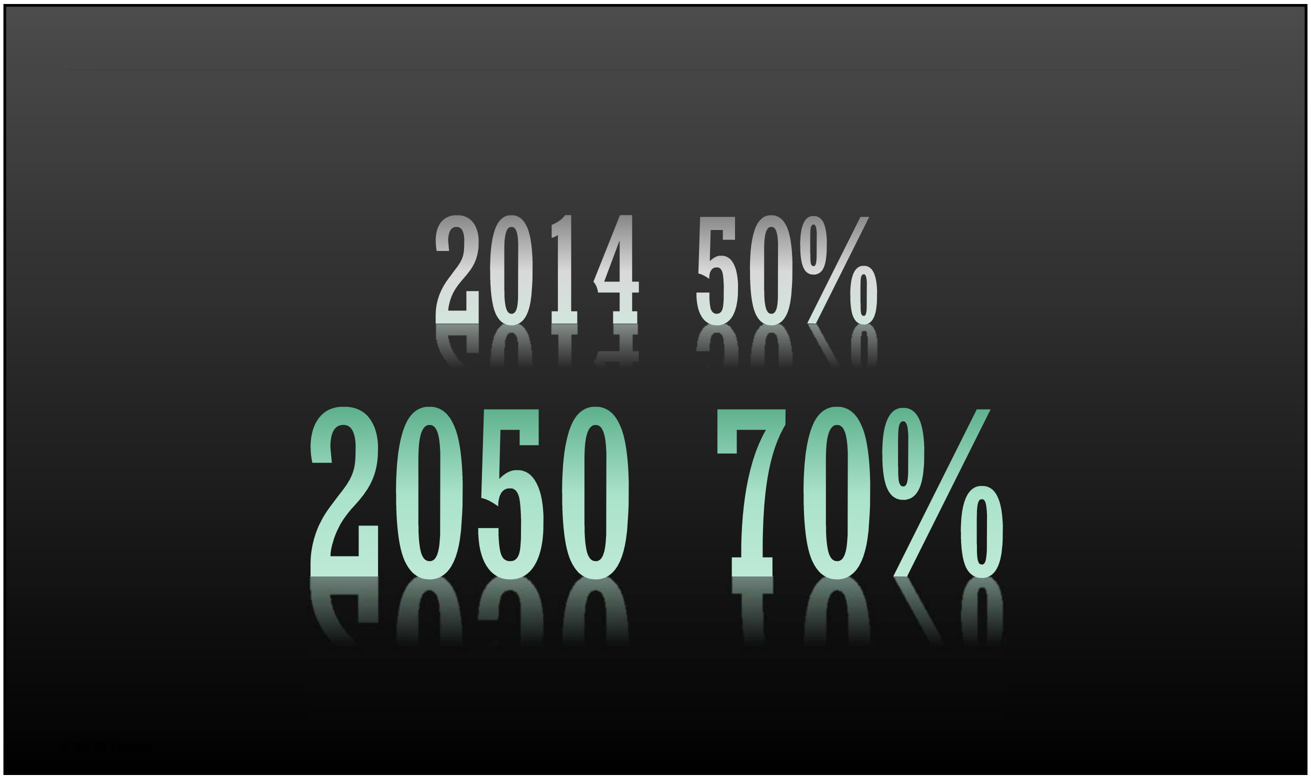
ASCENSEUR
SORTIE

Digital: v2.0

1:23 PM
Access My NYC
Accessible Transportation
Plan a Route

Other drivers for rapid adoption of intelligent transportation

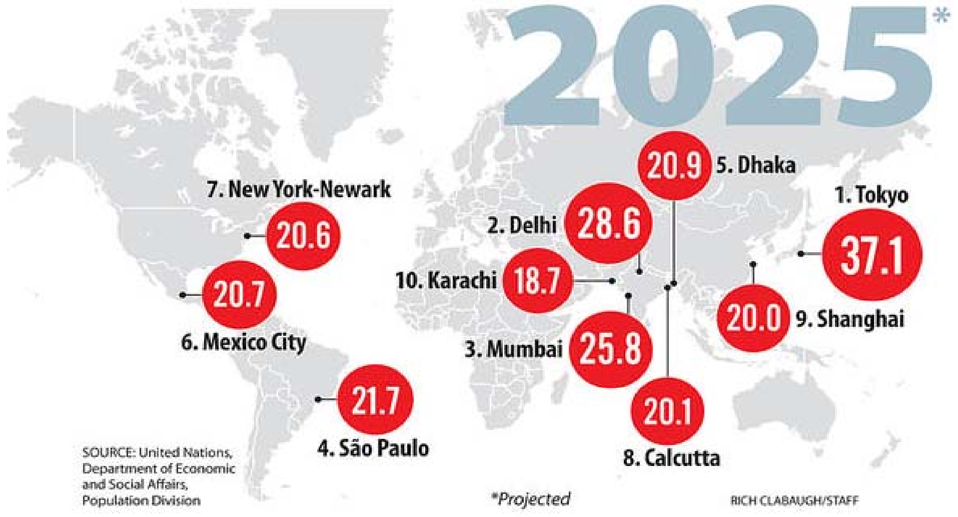
1



2014 50%

2050 70%

Concentrating risk in urban centers

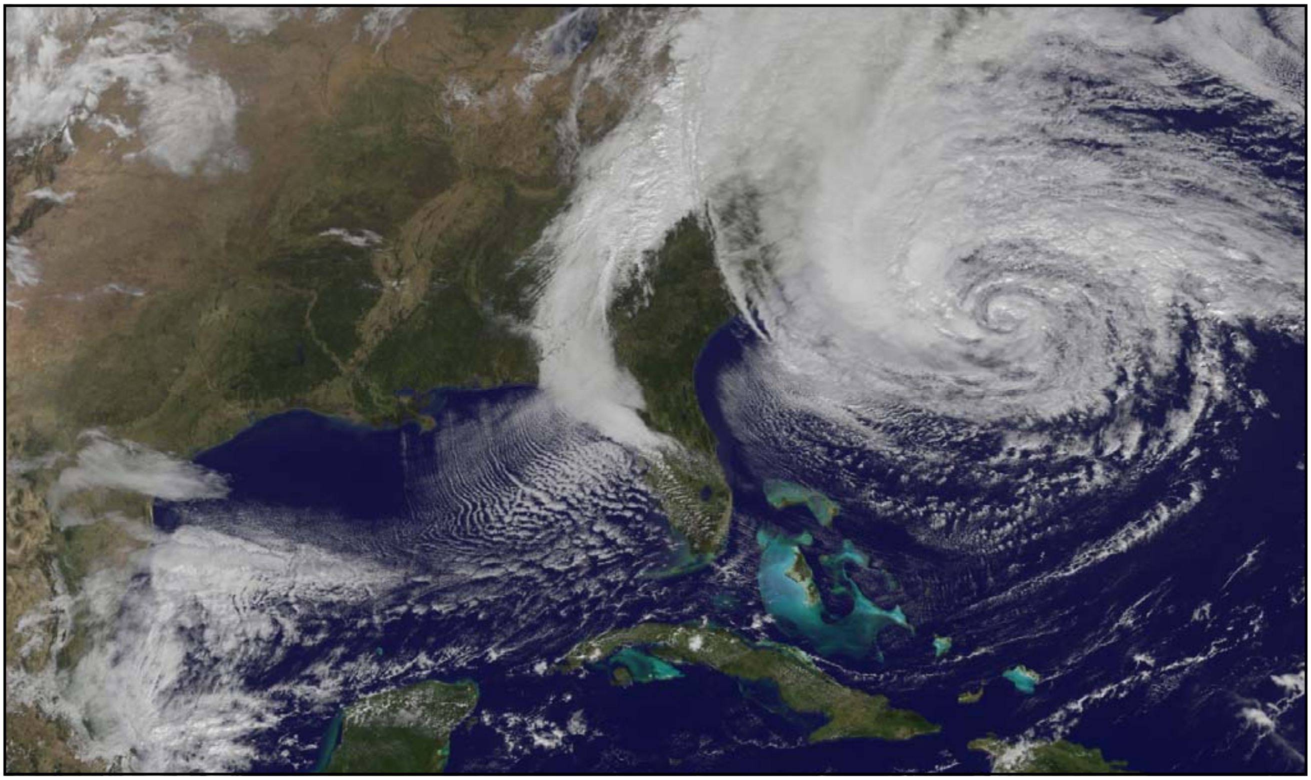

2025*
5. Dhaka
20.9
7. New York-Newark
20.6
1. Tokyo
37.1
2. Delhi
28.6
10. Karachi
18.7
20.7
6. Mexico City
20.0
9. Shanghai
3. Mumbai
25.8
21.7
20.1
4. São Paulo
8. Calcutta

SOURCE: United Nations, Department of Economic and Social Affairs, Population Division

*Projected

RICH CLABAUGH/STAFF

2



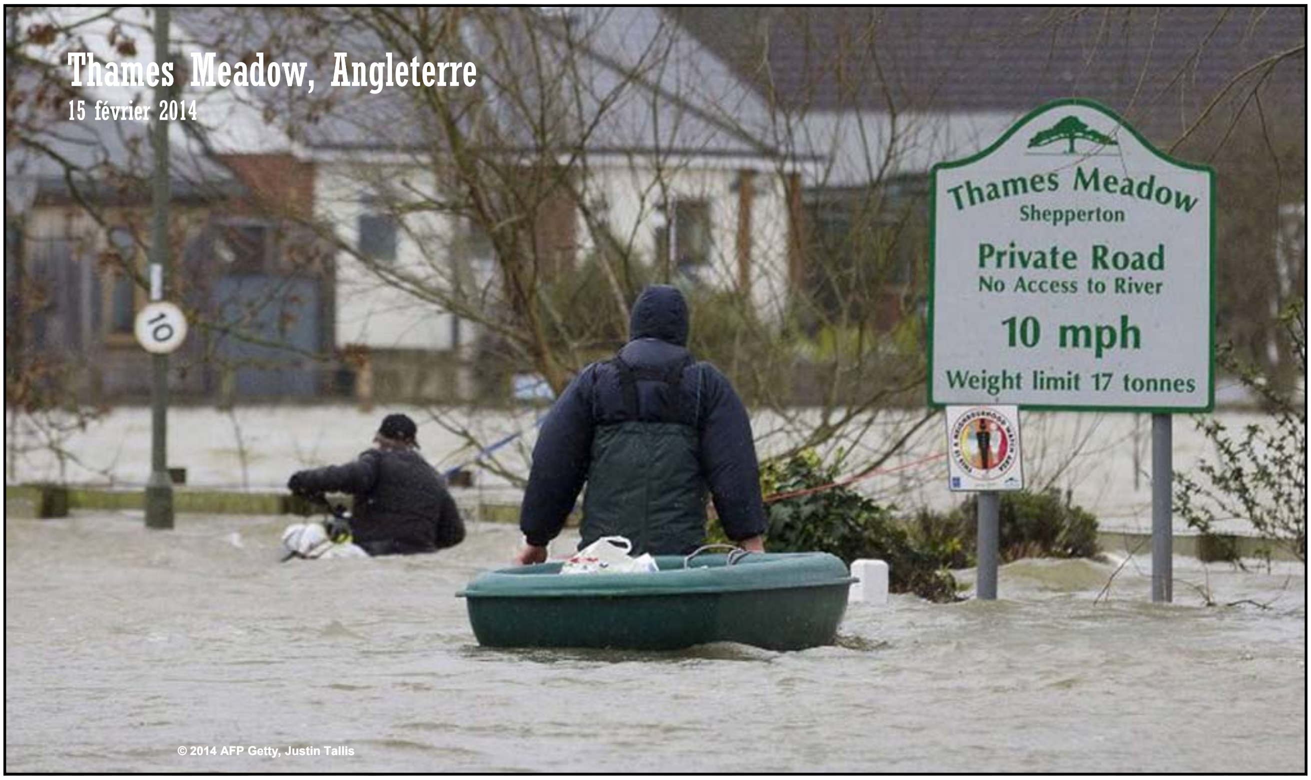
Athènes, Grèce

22 février 2013

© 2013 Reuters/John KolesID is

Thames Meadow, Angleterre

15 février 2014


10
Thames Meadow
Shepperton
Private Road
No Access to River
10 mph
Weight limit 17 tonnes

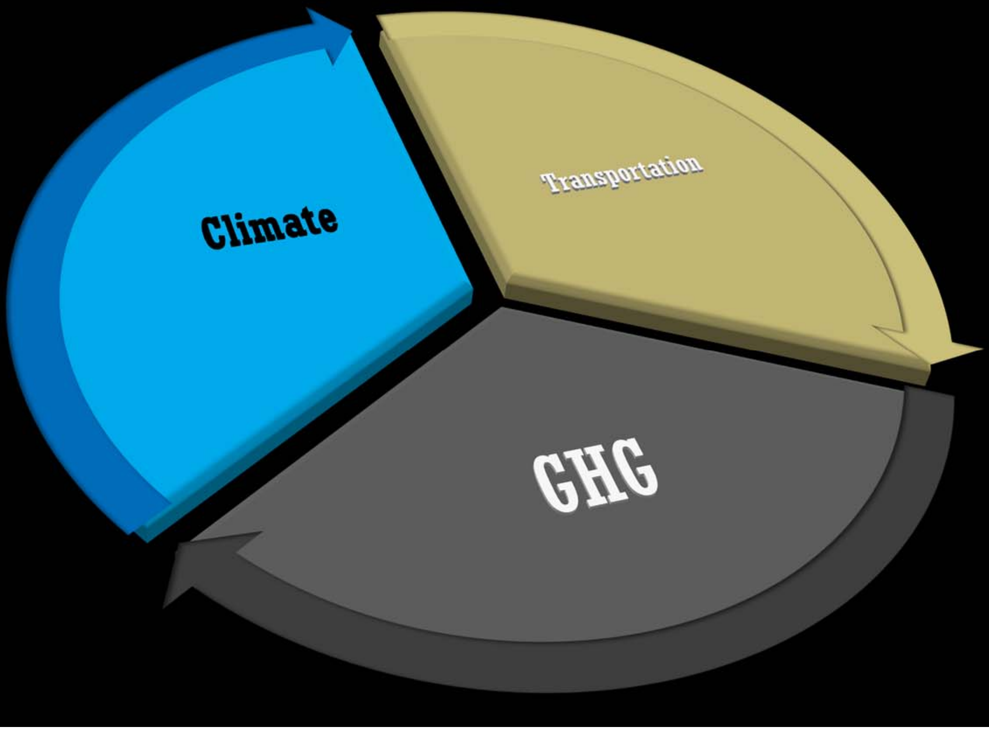
© 2014 AFP Getty, Justin Tallis

Toronto, Canada

8 juillet 2013

© 2013 AP Photo/La Presse canadienne, Winston Neutel

45%

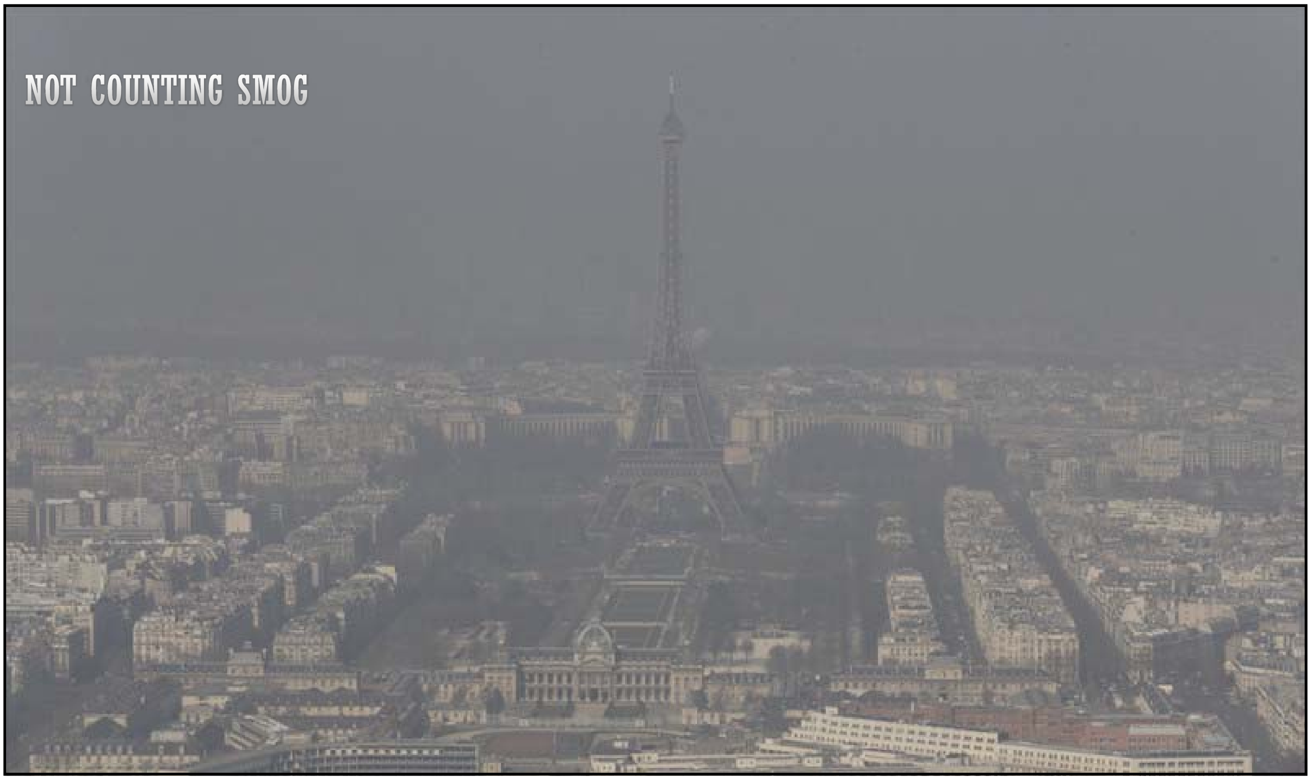


Climate

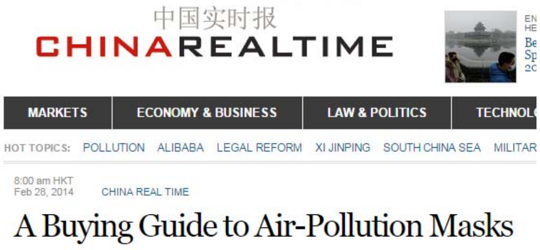
Transportation

GHG

NOT COUNTING SMOG



IBM



中国实时报
CHINAREALTIME

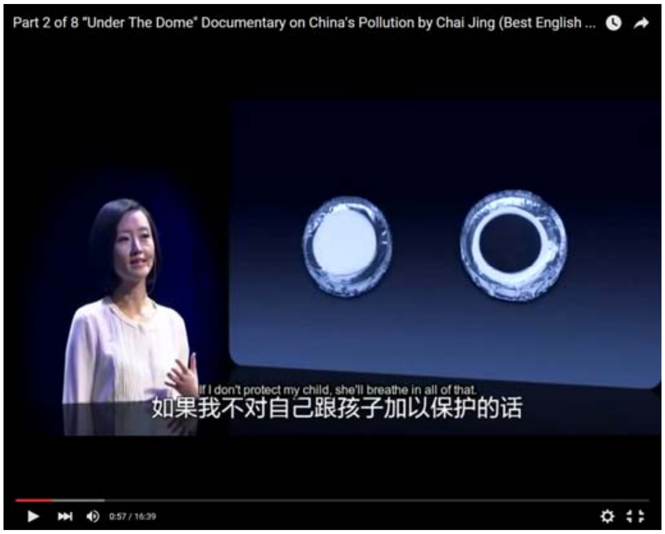
MARKETS | ECONOMY & BUSINESS | LAW & POLITICS | TECHNOL

HOT TOPICS: POLLUTION ALIBABA LEGAL REFORM XI JINPING SOUTH CHINA SEA MILITAR

8:00 am HKT
Feb 28, 2014

CHINA REAL TIME

A Buying Guide to Air-Pollution Masks



Part 2 of 8 "Under The Dome" Documentary on China's Pollution by Chai Jing (Best English ...

If I don't protect my child, she'll breathe in all of that.
如果我不对自己跟孩子加以保护的话

0:57 / 16:39

3

4

IBM

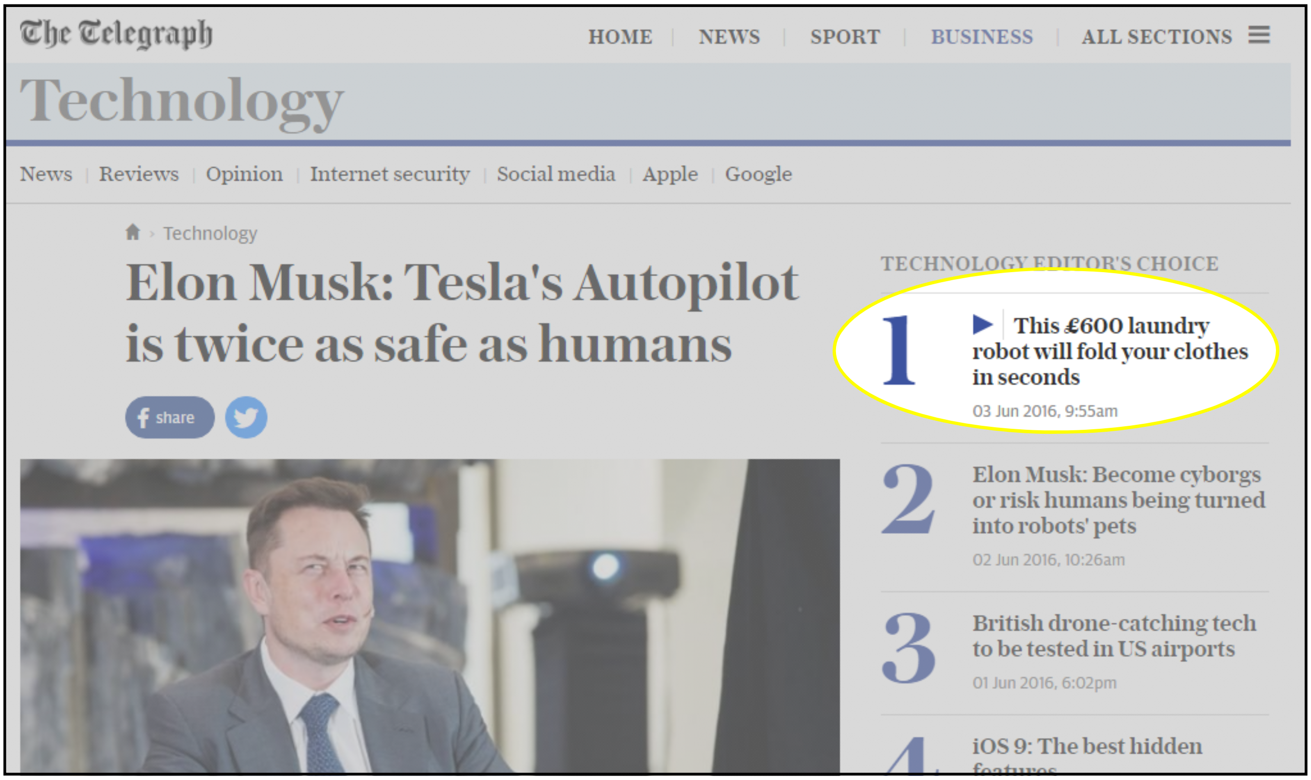
Annual Global Road Crash Statistics

- 1.3 million people die in road crashes each year
  - 3,287 deaths a day (1,000 under 25)
  - 20-50 million injured / disabled

- 2.2% of all deaths globally
  - 5th leading cause of death by 2030
  - 9th currently
  - 1st for ages 15-29
  - 2nd for ages 5-14

- Cost USD $518 billion globally, (1-2% of annual GDP)

ASIRT
ASSOCIATION FOR
SAFE INTERNATIONAL
ROAD TRAVEL



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Technology

Elon Musk: Tesla's Autopilot is twice as safe as humans

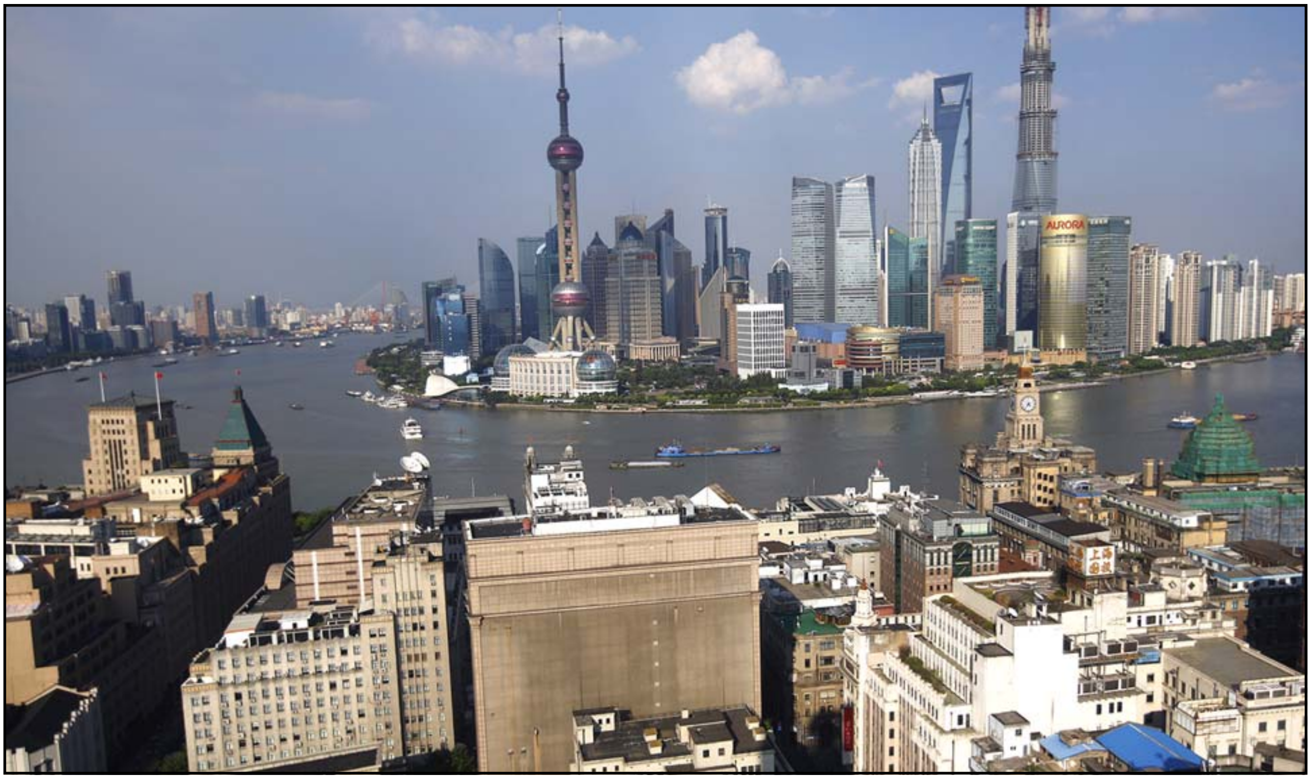
TECHNOLOGY EDITOR'S CHOICE

1 This £600 laundry robot will fold your clothes in seconds
03 Jun 2016, 9:55am

2 Elon Musk: Become cyborgs or risk humans being turned into robots' pets
02 Jun 2016, 10:26am

3 British drone-catching tech to be tested in US airports
01 Jun 2016, 6:02pm

4 iOS 9: The best hidden features


AURORA

广东

Downs-Thomson Paradox,

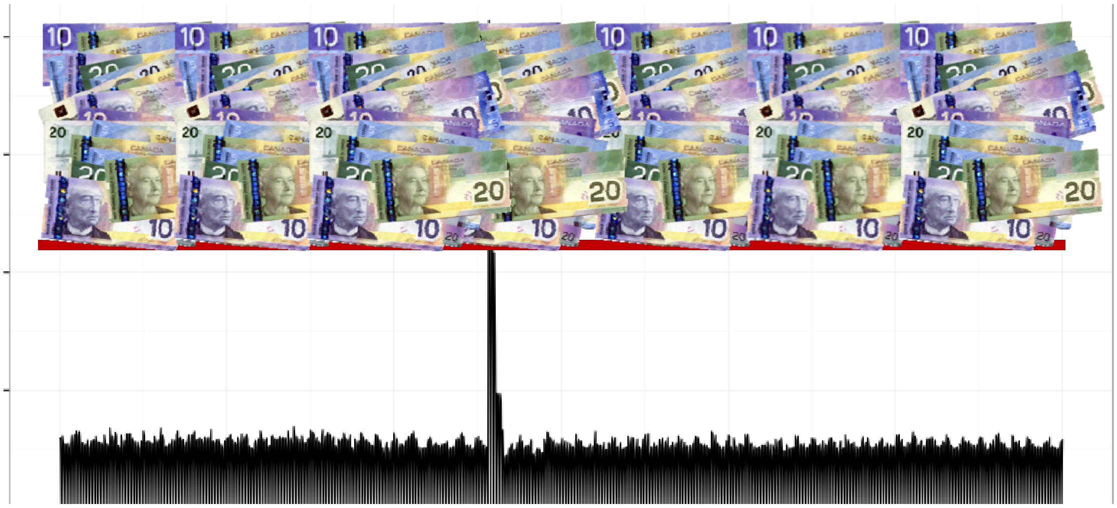
Induced demand

Answers?

Downs-Thomson paradox,

Reduced demand

Traffic evaporation



Reducing peak demand v1.0 (analog)

南口
9

IBM

Banning cars

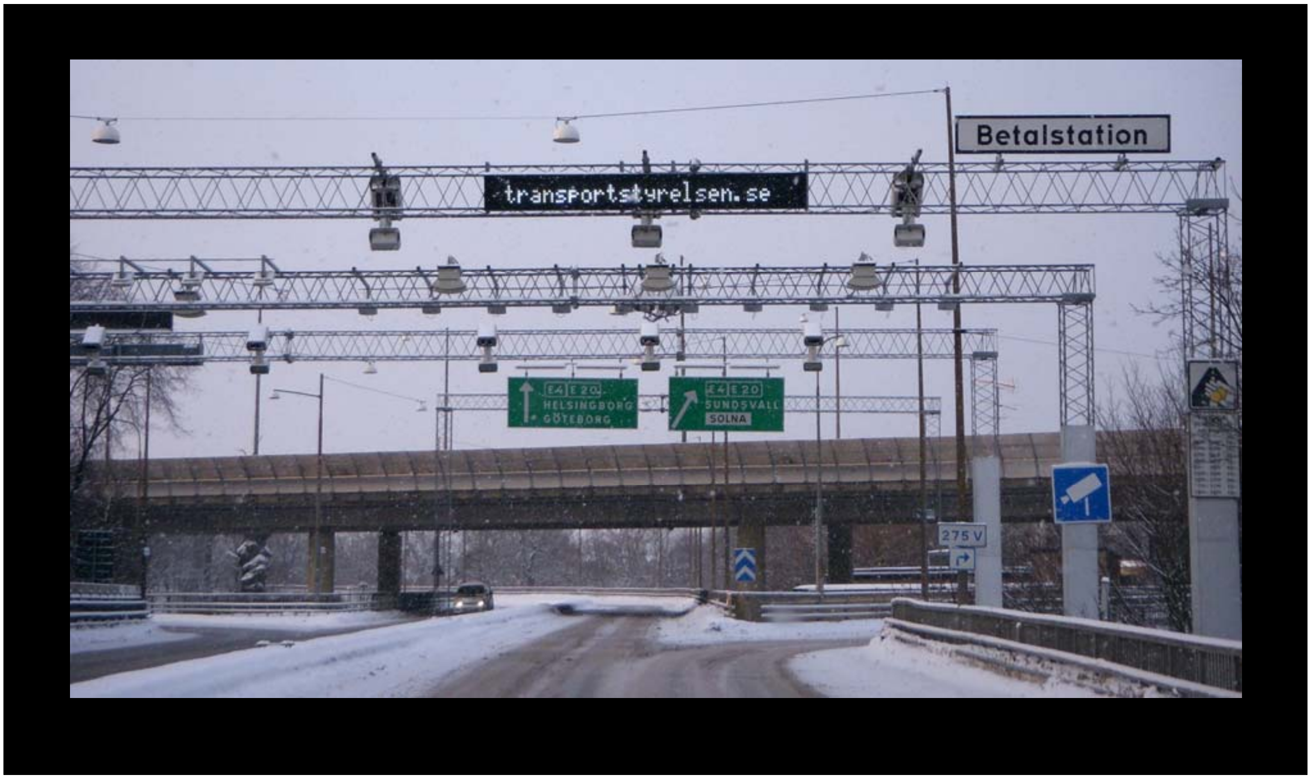
The Car-Free City

Oslo officials pledge to ban cars from the city's downtown area by 2019.

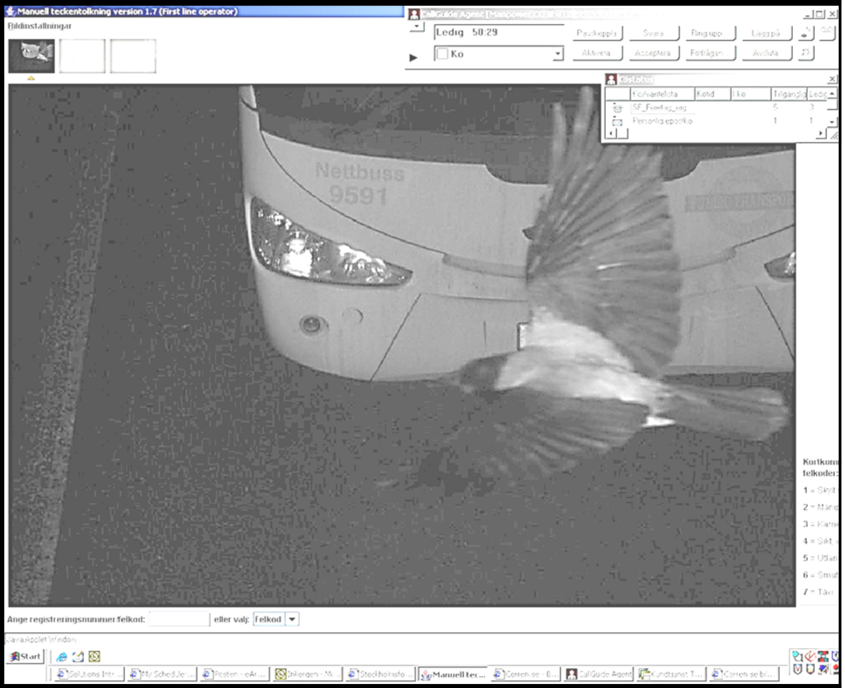
Smog-choked Paris forces half city's cars off the road and makes public transport free to fight air pollution

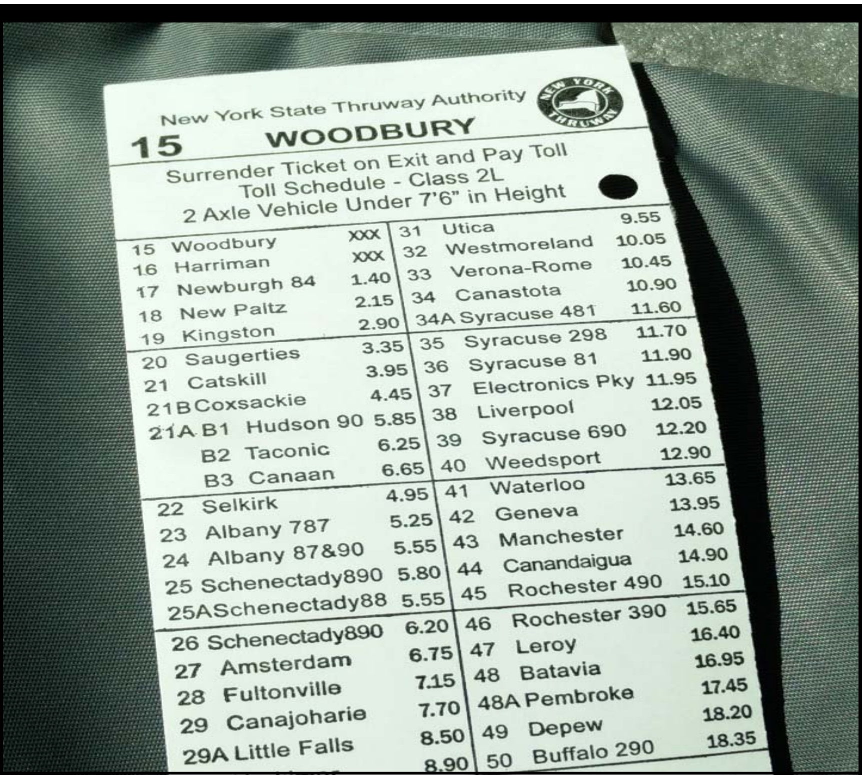
- **Only vehicles with number plates ending in an odd number were allowed**

Reducing peak demand v2.0 (digital: ITS)


Betalstation
transportstyrelsen.se
E4 E20
HELSINGBORG
GÖTEBORG
E4 E20
SUNDSVALL
SOLNA
275 V

Lucky driver


Manuell teckentolkning version 1.7 (First line operator)
Bildinställningar
CallGuide Agent
Ledig 50:29
Ko
Parkoppla
Svara
Ring upp
Lägg på
Aktivera
Acceptera
Förfrågan
Avsluta
Kö/Väntelista
Kötid
I kö
Tillgänglig
Ledig
SF_Företag_reg
Personlig epostkö
Nettbuss
9591
1 = Sikt
2 = Manip
3 = Kam
4 = Sikt
5 = Utlän
6 = Smut
7 = Tax
Ange registreringsnummer/felkod:
eller välj:
Felkod
Java Applet Window
Start
Solutions Intr...
My Schedule ...
Posten - eAr...
Inkorgen - M...
Stockholmsfo...
Manuell tec...
Corren.se - B...
CallGuide Agent
Kundtjänst T...
Corren.se bil...

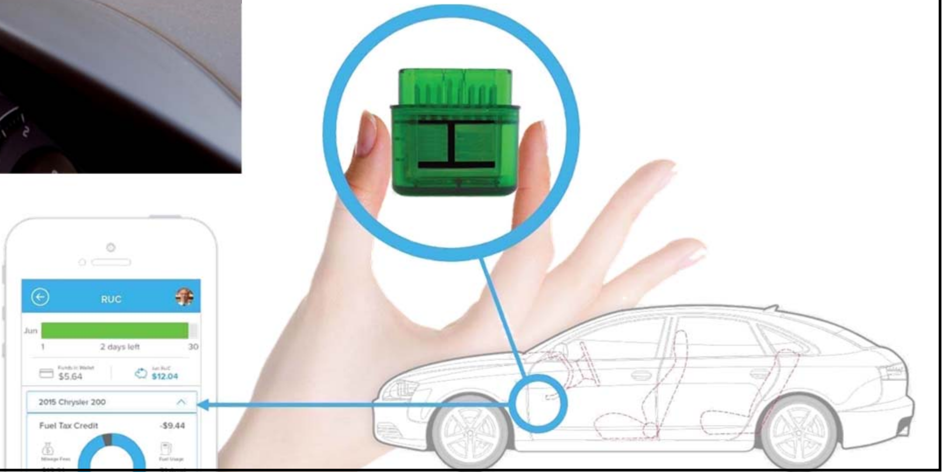


New York State Thruway Authority

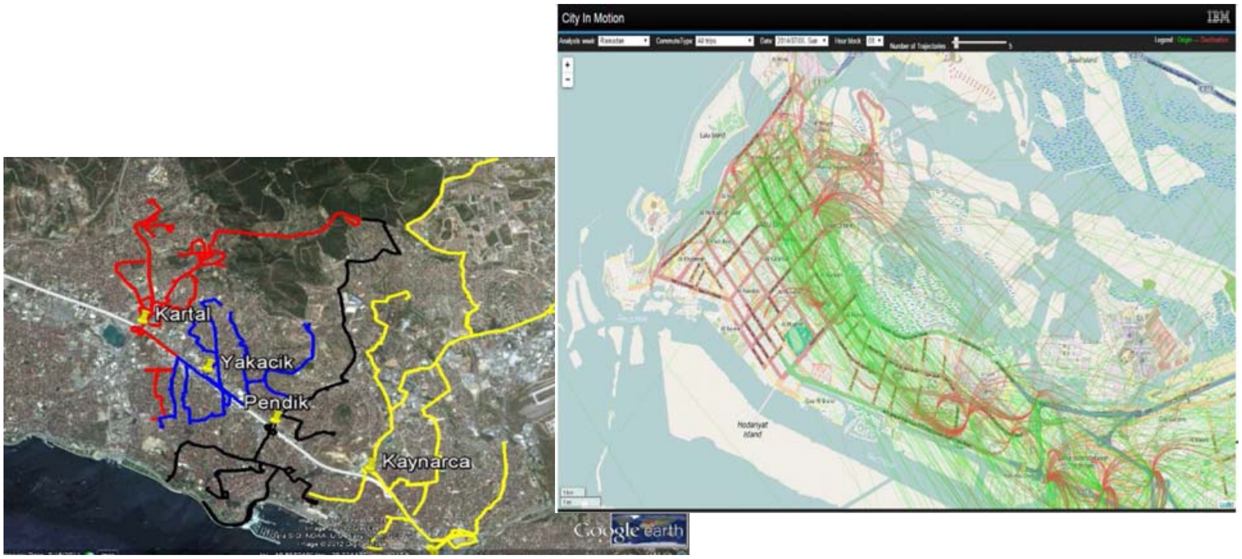
15 WOODBURY

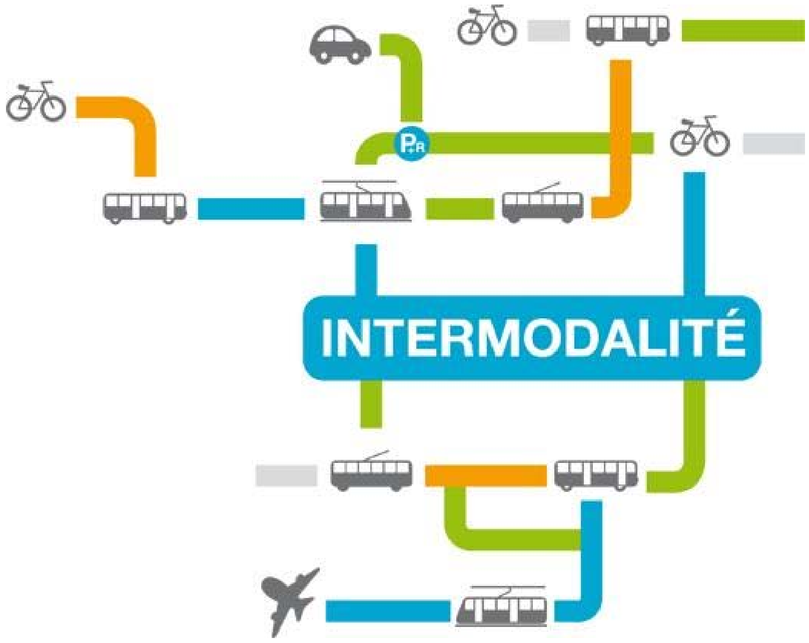
Surrender Ticket on Exit and Pay Toll
Toll Schedule - Class 2L
2 Axle Vehicle Under 7'6" in Height

15	Woodbury	XXX
16	Harriman	XXX
17	Newburgh 84	1.40
18	New Paltz	2.15
19	Kingston	2.90
20	Saugerties	3.35
21	Catskill	3.95
21B	Coxsackie	4.45
21A B1	Hudson 90	5.85
B2	Taconic	6.25
B3	Canaan	6.65
22	Selkirk	4.95
23	Albany 787	5.25
24	Albany 87&90	5.55
25	Schenectady890	5.80
25A	Schenectady88	5.55
26	Schenectady890	6.20
27	Amsterdam	6.75
28	Fultonville	7.15
29	Canajoharie	7.70
29A	Little Falls	8.50
		8.90
31	Utica	9.55
32	Westmoreland	10.05
33	Verona-Rome	10.45
34	Canastota	10.90
34A	Syracuse 481	11.60
35	Syracuse 298	11.70
36	Syracuse 81	11.90
37	Electronics Pky	11.95
38	Liverpool	12.05
39	Syracuse 690	12.20
40	Weedsport	12.90
41	Waterloo	13.65
42	Geneva	13.95
43	Manchester	14.60
44	Canandaigua	14.90
45	Rochester 490	15.10
46	Rochester 390	15.65
47	Leroy	16.40
48	Batavia	16.95
48A	Pembroke	17.45
49	Depew	18.20
50	Buffalo 290	18.35

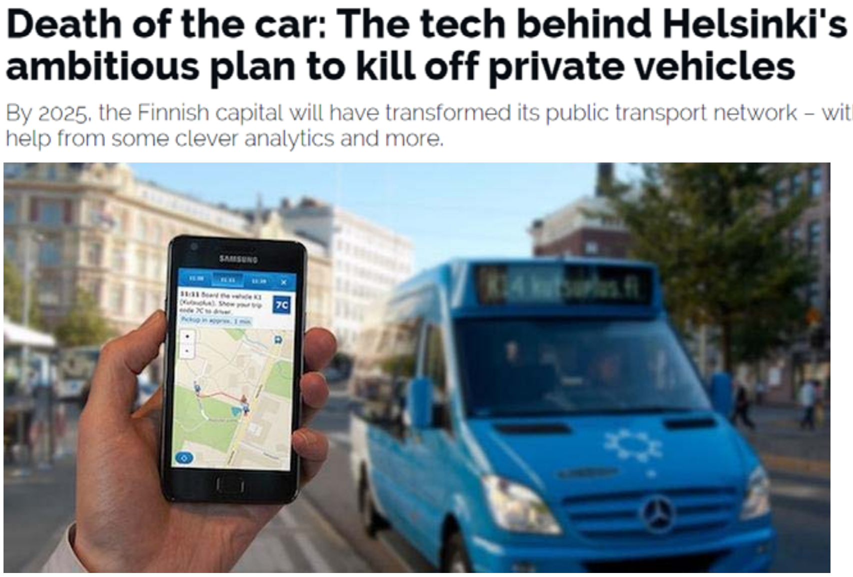

RUC
Jun
1
2 days left
30
$5.64
$12.04
2015 Chrysler 200
Fuel Tax Credit
-$9.44

Cities in Motion


City In Motion
IBM
Kartal
Yakacik
Pendik
Kaynarca
Google earth

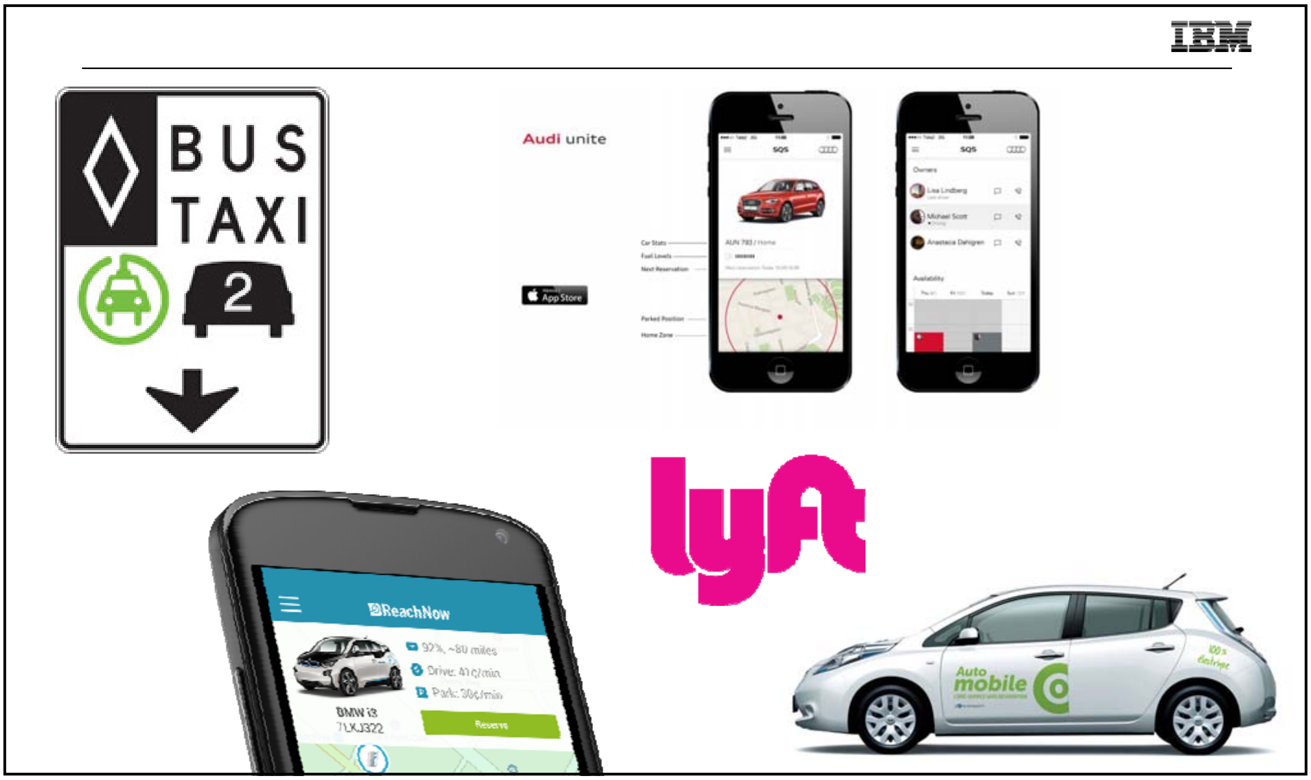


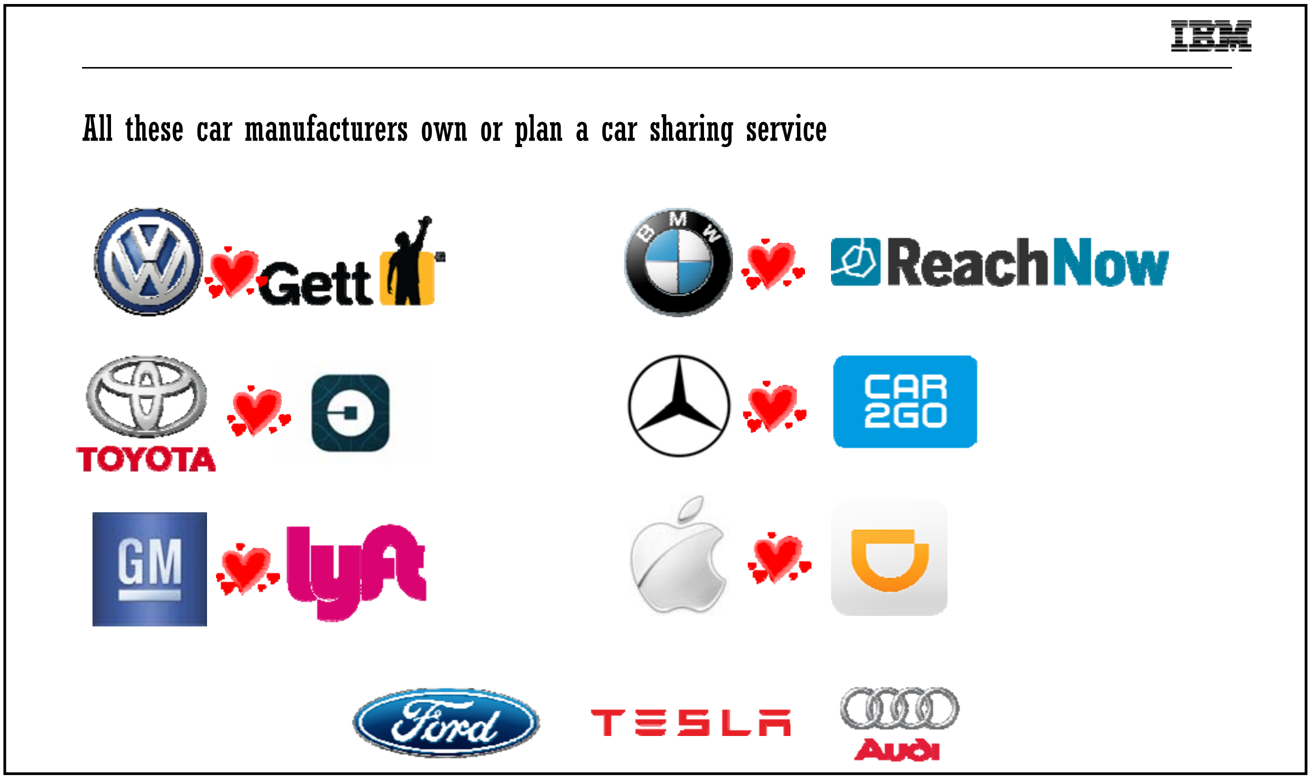
Mobility as a Service



Death of the car: The tech behind Helsinki's ambitious plan to kill off private vehicles

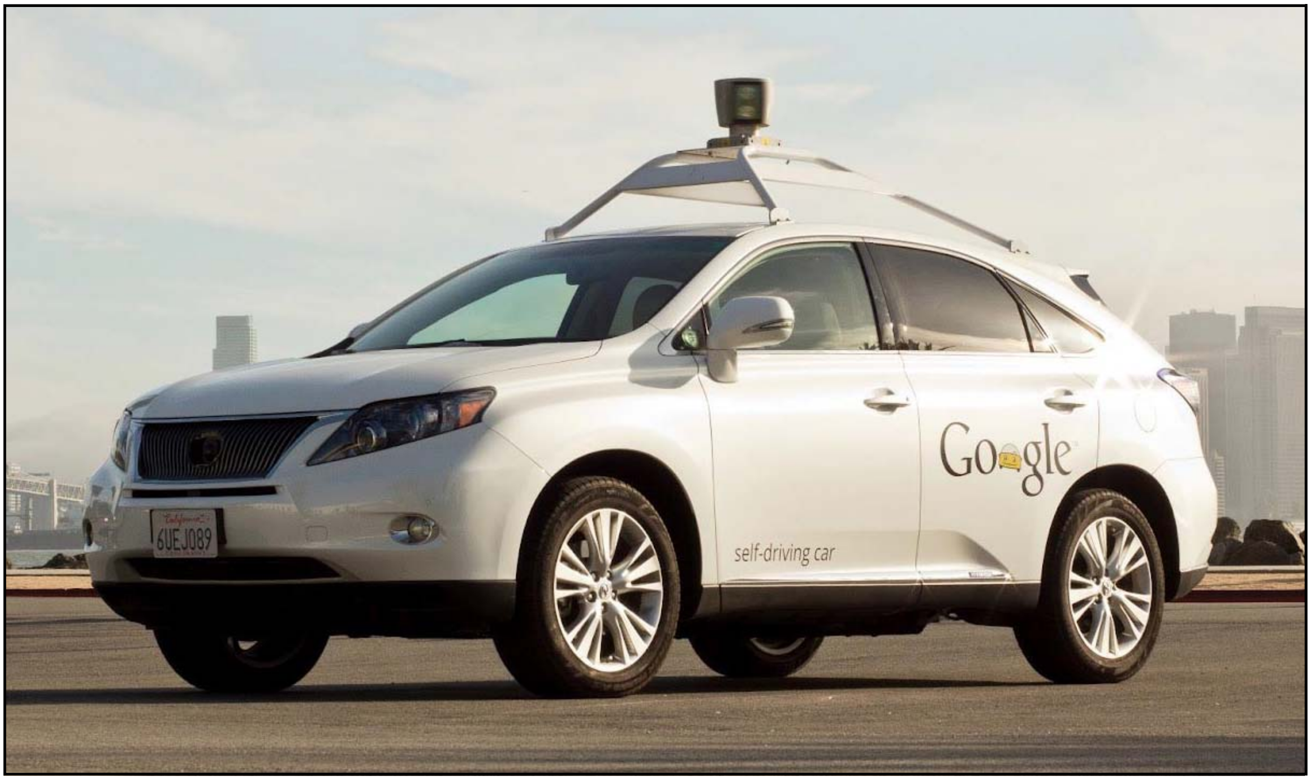
By 2025, the Finnish capital will have transformed its public transport network – with the help from some clever analytics and more.


IBM
BUS
TAXI
2
Audi unite
App Store
ReachNow
92%, ~80 miles
Drive: 41¢/min
Park: 30¢/min
BMW i3
7LKJ322
Reserve
lyft
Auto mobile


IBM

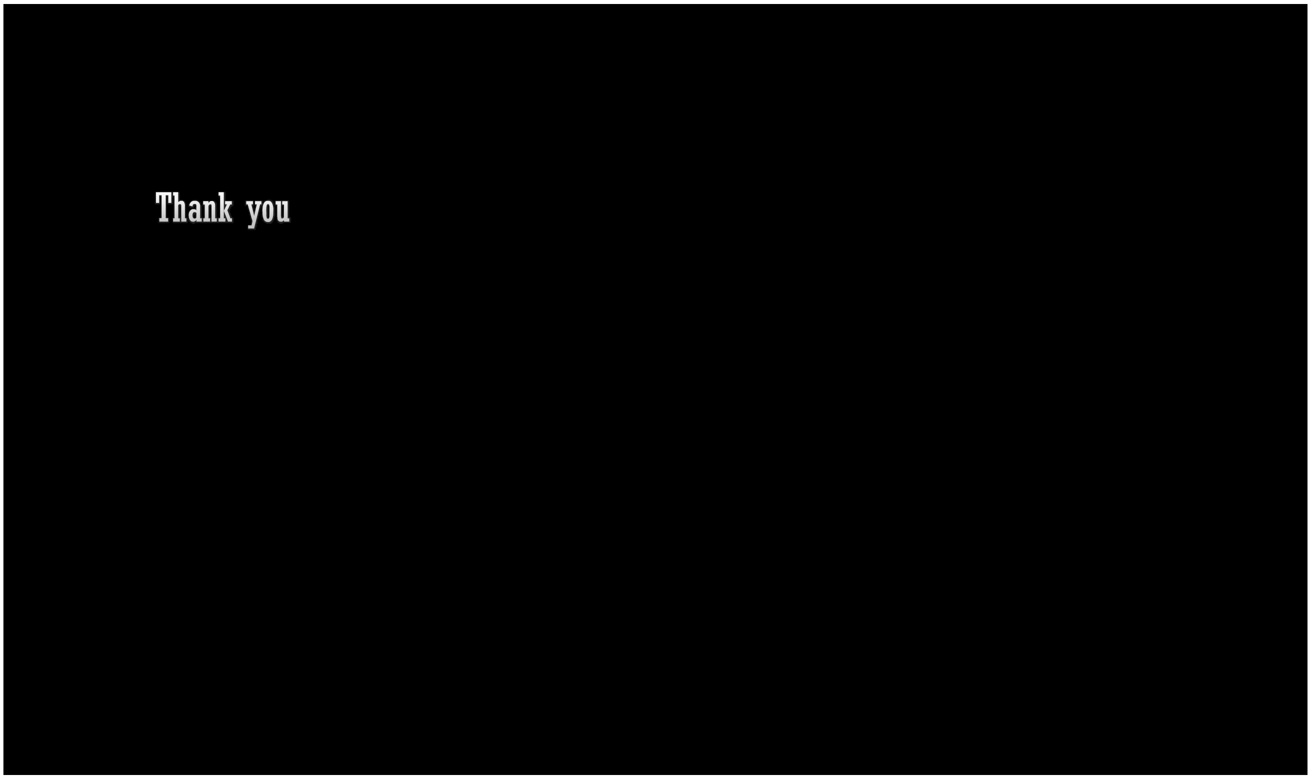
All these car manufacturers own or plan a car sharing service

Gett
ReachNow
TOYOTA
CAR2GO
GM
lyft
Ford
TESLA
Audi


Google
self-driving car
6UEJ089

Huge impact of autonomous cars on…

- Parking space necessity
- Parking revenue
- Infrastructure
- Car ownership and sharing
- Need for traffic enforcement
- Long distance commuting
- Taxi, truck drivers
- Mobility for the disabled and aged



Thank you