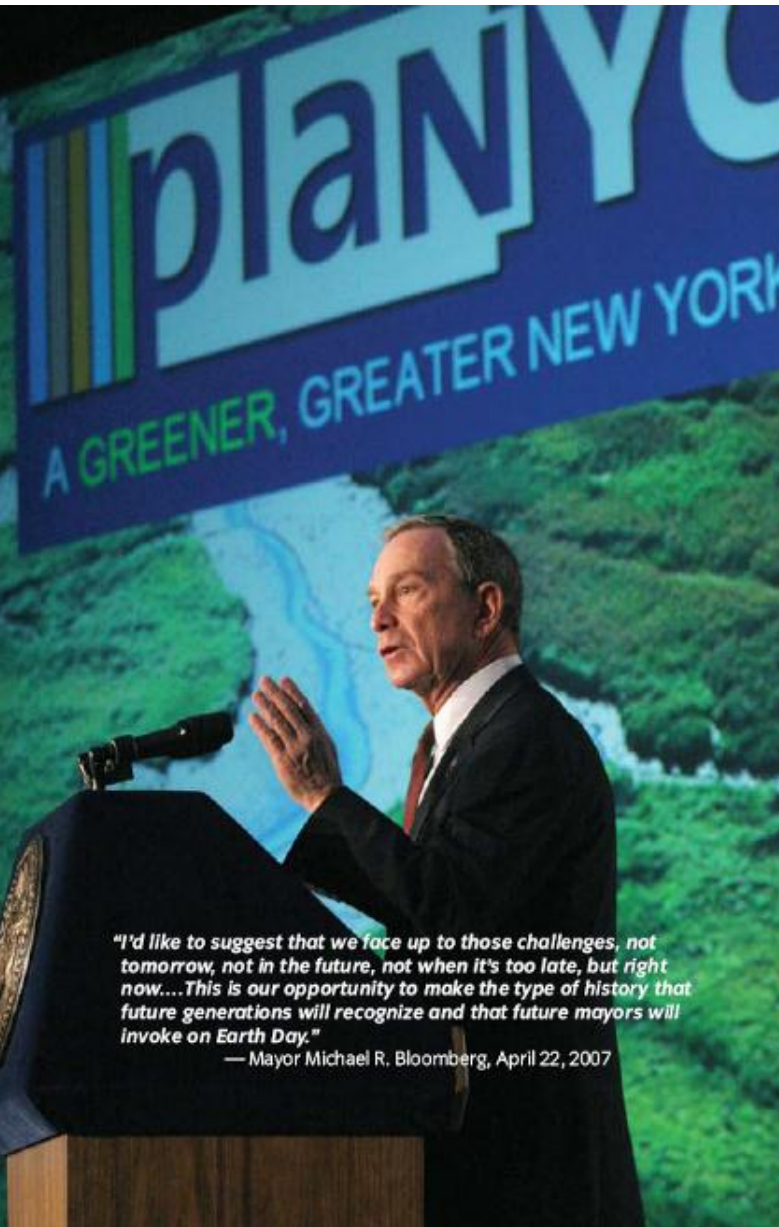


An aerial photograph of a city street intersection. In the upper left, a yellow taxi is stopped. In the center, a cyclist wearing a helmet and a purple shirt is riding down a dedicated bike lane marked with white lines and a bicycle symbol. To the right, several pedestrians are crossing the street. A dark blue car is visible in the lower right corner. The scene is set on a sunny day with shadows cast across the pavement.

# Highlights of NYC Transportation (& Green) Policy

Ari Kahn  
Mayor's Office of Long-term Planning & Sustainability





# I: General New York City Environmental Initiatives

*"I'd like to suggest that we face up to those challenges, not tomorrow, not in the future, not when it's too late, but right now....This is our opportunity to make the type of history that future generations will recognize and that future mayors will invoke on Earth Day."*

— Mayor Michael R. Bloomberg, April 22, 2007







Wh

D SEP  
YORS  
PO CONT

NEW YORK  
96133-IE  
-COMM

TOYOTA



I. NYC Green Initiatives:

Bus Rapid Transit





- Usage up by 5,000
- Speed improvements of 20% on 2<sup>nd</sup> Ave
- 98% of Riders Satisfied



Madison Square - 23<sup>rd</sup> & Broadway Before



After

## I. NYC Green Initiatives:

## Pedestrian Plazas & Bike Lanes

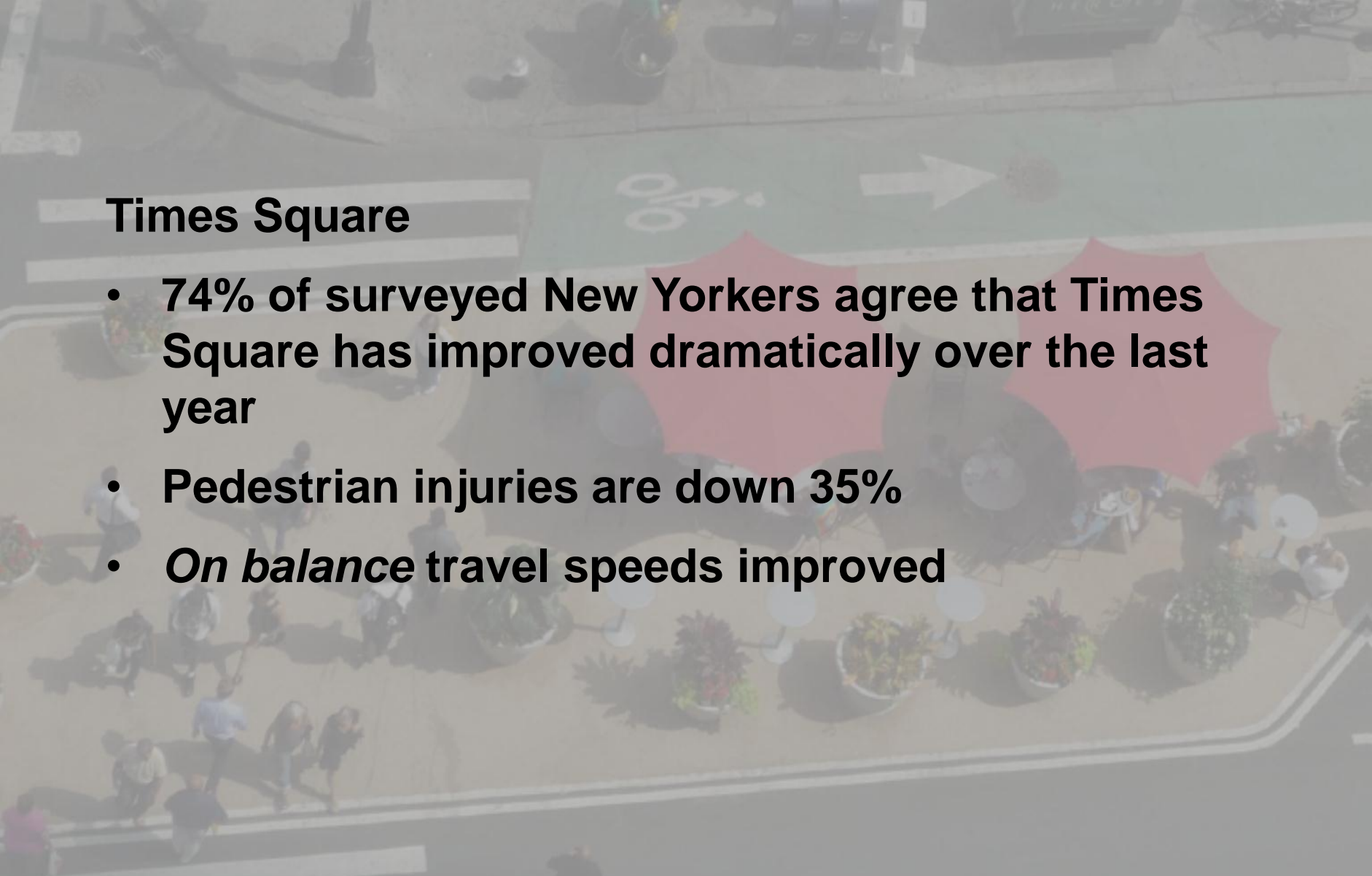




**I. NYC Green Initiatives:**

**Pedestrian Plazas & Bike Lanes**

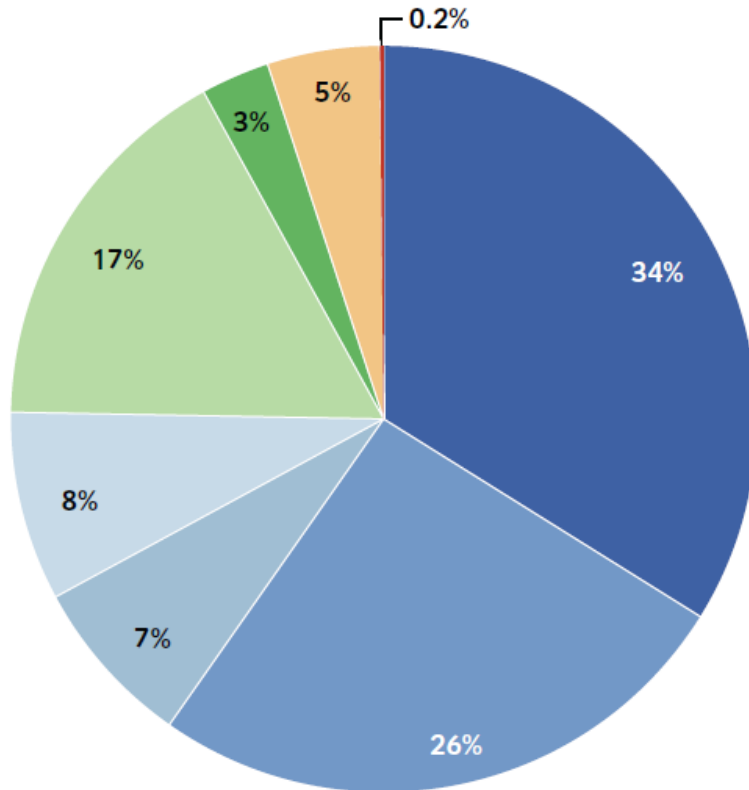




## Times Square

- **74% of surveyed New Yorkers agree that Times Square has improved dramatically over the last year**
- **Pedestrian injuries are down 35%**
- ***On balance* travel speeds improved**

## 2009 Citywide GHG Emissions by Sector



TOTAL = 50.8 MMTCO<sub>2</sub>e

Buildings = 75%

- Residential
- Commercial
- Industrial
- Institutional

Transportation = 20%

- On-road transportation
- Transit

Solid waste, wastewater, and fugitive = 5%

- Solid waste, wastewater, and fugitive

Streetlights and traffic signals = 0.2%

- Streetlights and traffic signals

I. NYC Green Initiatives:

Greener Greater Buildings





## Why NYC's Green Initiatives Work:

- Well conceived



## Why NYC's Green Initiatives Work:

- Well conceived
- Creates winners





## Why NYC's Green Initiatives Work:

- Well conceived
- Creates winners
- City tells a story & leads by example

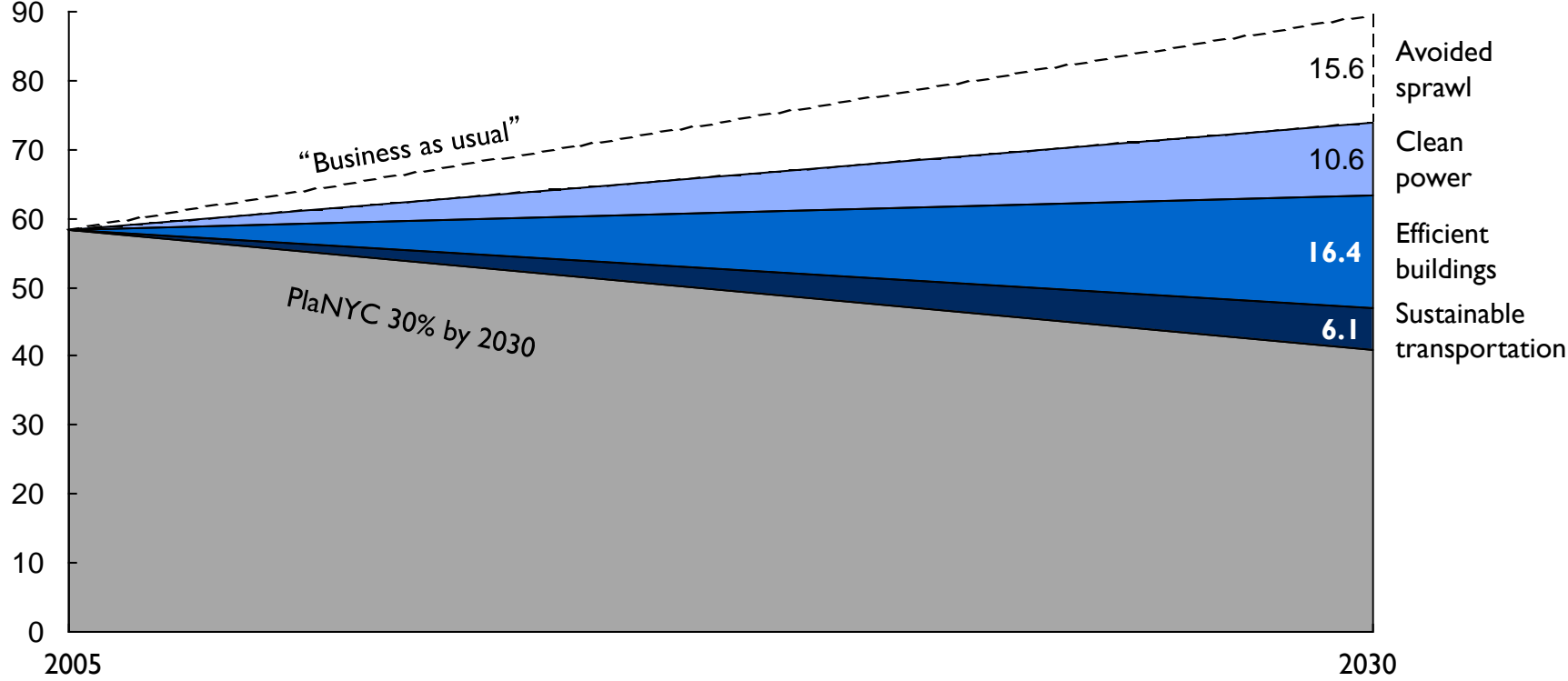


## II. A Case Study – NYC Electric Vehicle Policy



# NYC carbon abatement targets

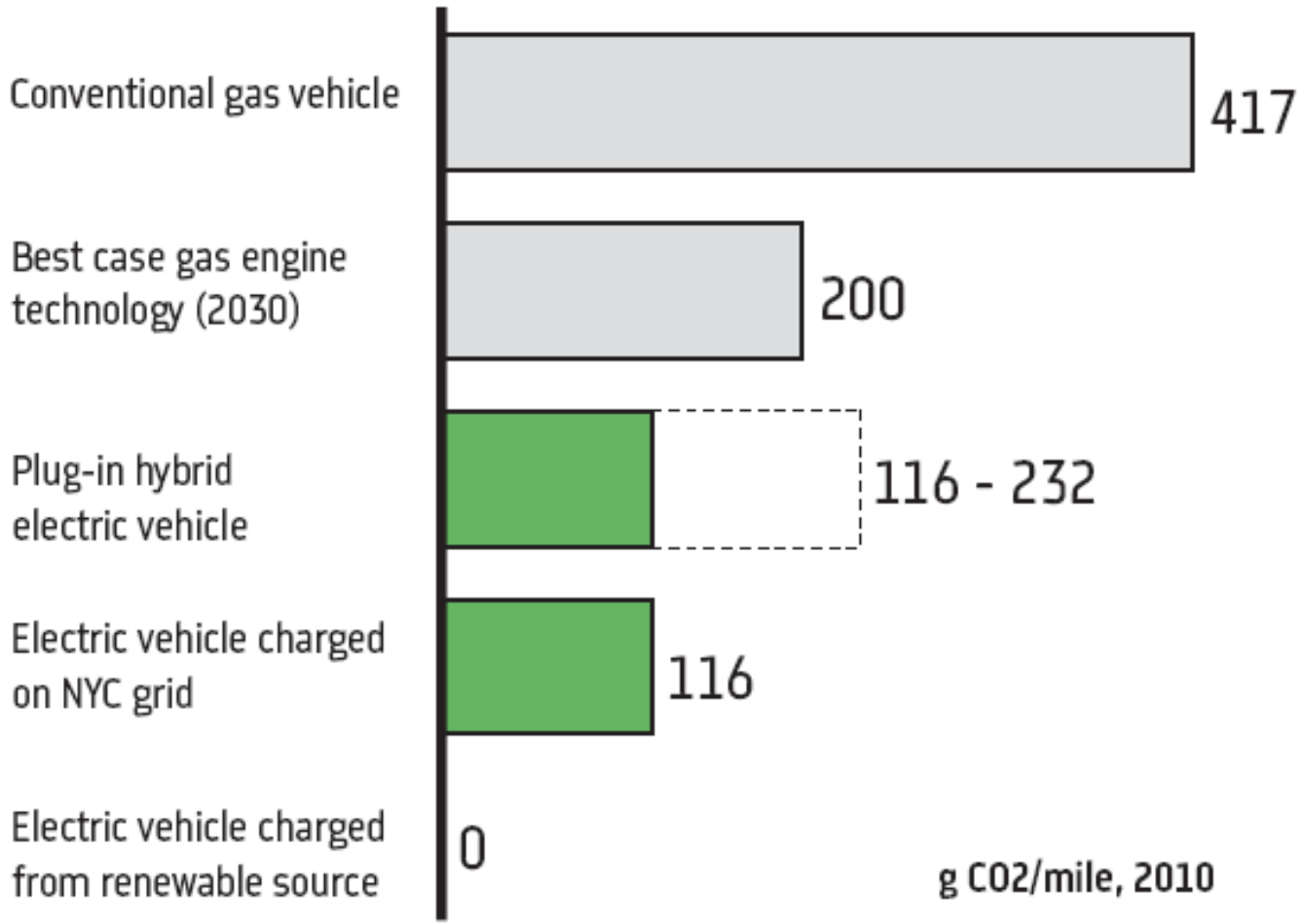
Millions of metric tons CO<sub>2</sub> per year



## II. Electric Vehicles

## The Rationale

# GHG Impacts – Conventional vs. Electric Vehicles



## II. Electric Vehicles

## The Rationale



## Potential early adopters

### 1 Green Auto Aficionados



- Vehicle used daily
- Feels EV is great for daily and long trips

### 2 Simple Greens



- Vehicle used less frequently
- Feels EV is great for daily and long-trips

### 3 Progressive Pragmatists



- Vehicle used daily
- Feels EV is okay for daily driving

## Probable late adopters

### 4 Unfit Urbanites



- Vehicle used less frequently
- Feels EVs won't fit trip patterns (mostly long trips)

### 5 Open But Unconvinced



- Feels EV won't work for daily driving

### 6 Luxury Loyals



- Vehicle used daily
- Feels EV won't fit with short or long trip driving

## Probable rejecters

### 7 Unwilling Conventionals



- Vehicle used daily
- Feels EV won't fit with short or long trip driving

## Car preferences

## Status attitudes

## Tech attitudes

## Green attitudes

## Cost sensitivity

## What will it take to adopt?

- Status and brand matters
- Performance & features focus

- Wants and will pay for new tech

- Strong green, will make sacrifices

- WTP for TCO
- WTP for green

- Need supply
- Recognition incentives, if any

- Basic features

- Wants and might pay for new tech

- Strongest green, will make sacrifices

- WTP for TCO

- Streamline home charger install
- Minimize cost

- Family car
- Basic features
- Brand does not matter

- Doesn't want new tech

- Medium green, can give up on features

- WTP for TCO
- Value buyer

- Insulate from risk
- Highlight operating cost savings

- Not family car
- Basic features

- Not interested in new tech

- Slight green, but no sacrifices

- Some WTP for TCO

- Streamline home charger installation, especially for apt dwellers

- Not a family car
- Status matters

- Interested in tech but risk averse

- Conflicted on green; doesn't want green in car

- Doesn't believe EV would lower cost

- Insulate from risk
- Provide charging infrastructure

- Status matters
- Performance & features focus
- Brand matters

- Interested in tech but risk averse

- Mix of green and not green but will never sacrifice

- No WTP for TCO

- Convince of EV value proposition
- Associate EVs with luxury

- Family car
- Status and performance don't matter

- Doesn't want new tech or risk

- Averse to green messaging

- Value buyer
- Won't accept any upfront increase

- Lower upfront cost and appeal to rational (vs attitudinal) decision

1 WTP = Willingness-to-Pay  
2 TCO = Total cost of ownership

# II. Electric Vehicles

# Results from McKinsey Study

Drive Electric NYC - Mozilla Firefox

http://www.nyc.gov/html/ev/html/home/home.shtml

NYC.gov Drive Electric NYC

Search | Email Updates | Contact Us

Residents | Business | Visitors | Government | Office of the Mayor

# DRIVE ELECTRIC NYC

Electric cars are some of the city's newest residents and we think they'll fit right in. With their help we can say "fuhgettaboutit" to gasoline prices, pollution, and oil dependence.



PHOTO INFO...

- HOME
- RIGHT FOR YOU?
- GOOD FOR NYC
- TAKE A DRIVE
- CITY INITIATIVES
- ABOUT DRIVE ELECTRIC
- CONTACT DRIVE ELECTRIC

## NYC STORIES



[Lisa & Mark](#), Queens  
 Lisa and Mark are cautious with new technology, but their next car may be electric. Without gas engines cars don't need oil changes, belts, or tailpipes. They like how clean they are, both in terms of the environment and design.



[Rich](#), Brooklyn  
 Rich wants a car with pickup and style. He also wants to stop paying \$100 for every fill up. He's looking for a high performing, high tech car.



[Christina](#), Manhattan  
 The environment has become increasingly important to Christina. Because of New York's clean grid, buying an electric car would reduce her contribution to climate change.

## NEWS & EVENTS

July 12, 2011  
 Mayor Bloomberg Announces Addition of 70 New Electric Vehicles to City's Fleet and Launches New City Efforts to Inform the Public About Electric Vehicles  
[Learn more](#)

PLAY  1 of 4 >

## II. Electric Vehicles

## Education & Outreach





## II. Electric Vehicles

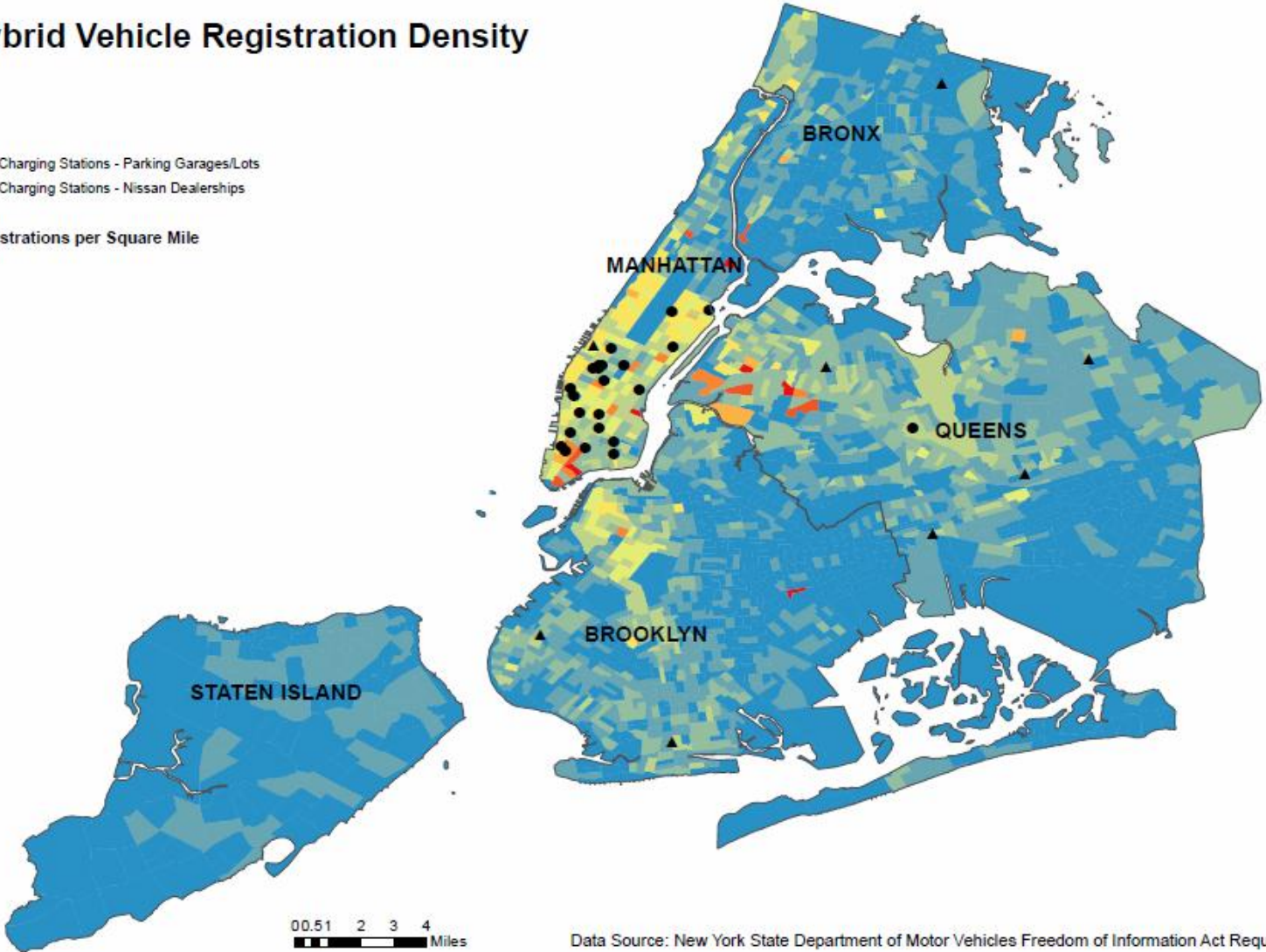
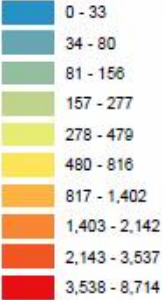
## Education & Outreach

# Map 5: Hybrid Vehicle Registration Density

**LEGEND**

- Electric Vehicle Charging Stations - Parking Garages/Lots
- ▲ Electric Vehicle Charging Stations - Nissan Dealerships

**Hybrid Vehicle Registrations per Square Mile**



Data Source: New York State Department of Motor Vehicles Freedom of Information Act Request



New York City - Flat Rate \$0.27/kWh			Comparison to Hybrid Vehicle: EV Premium: \$3,330		Comparison to Conventional Vehicle: EV Premium: \$6,560	
<i>Electricity Price</i>	<i>Cost per Gallon Gasoline</i>	<i>Miles Driven per Day</i>	<i>Cost Savings per Year</i>	<i>Payback Period (Years)</i>	<i>Cost Savings per Year</i>	<i>Payback Period (Years)</i>
\$0.27	\$3.50	40	\$255.18	13.05	\$1,567.15	4.19
\$0.135	\$3.50	40	\$728.22	4.57	\$2,040.19	3.22
\$0.0675	\$3.50	40	\$964.74	3.45	\$2,276.71	2.88
\$0.27	\$4.00	40	\$398.32	8.36	\$1,898.97	3.45
\$0.135	\$4.00	40	\$871.36	3.82	\$2,372.01	2.77
\$0.0675	\$4.00	40	\$1,107.88	3.01	\$2,608.53	2.51
\$0.27	\$2.50	40	(\$31.09)	N/A	\$903.51	7.26
\$0.135	\$2.50	40	\$441.95	7.53	\$1,376.55	4.77
\$0.0675	\$2.50	40	\$678.47	4.91	\$1,613.07	4.07
\$0.135	\$3.50	20	\$463.76	7.18	\$1,115.34	5.88
\$0.135	\$3.50	40	\$728.22	4.57	\$2,040.19	3.22
\$0.135	\$3.50	80	\$1,257.14	2.65	\$3,889.87	1.69

## II. Electric Vehicles

## Charging Rates

What's Next & How Do We Do It?



II. Electric Vehicles

Beyond Early Adopters





## What's Next & How Do We Do It?

- Further Unlock Demand
- Foster New Markets
- Understand How to Lead by Example



**II. Electric Vehicles**

**Beyond Early Adopters**



# Thank You

Ari Kahn  
Mayor's Office of  
Long-Term Planning & Sustainability  
[AKahn2@cityhall.nyc.gov](mailto:AKahn2@cityhall.nyc.gov)  
(212) 442-6365