

# **Nottingham's Electric Buses**

## **Progress and Plans**

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**Nottingham City Council**



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**City Council**

# Nottingham

0.5m residents

1m JTW

Compact

Strong City Centre

Standard mix

Unitary

Pro Public Transport



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# Nottingham Public Transport

Deregulation

Commercial Bus

Tram

Contracted Bus

Local - low freq/small

Free link buses – high freq/small

Park and Ride – high freq/big



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# Low emission progress

– commercial partnership

Money driven  
Statutory CC std  
Saloons/deckers  
Ethanol trial  
Gas trial  
Tram extension  
No hybrids – invest



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# Electric buses – contracted

## Why electric?

### Cost savings

- DfT Grant + WPL
- Cap rich/rev poor
- BSOG removed

### CO<sub>2</sub> & NOx

### Fuel security

### Wider policy – tangible

### Council strengths

- Own energy
- Infrastructure



# Electric buses – contracted

## Business case per bus

Capital cost difference £105k  
Grant (£85k)

Apportioned spare £40k  
Add'l 8 yr warranty £12k

Maintenance diff £0k  
Fuel savings (min) £18k

Payback (grant) 4 years  
Payback (no grant) 8.7 years



# Electric Bus Network

## Implementation stages

- operations mix
- charging network develop

Centrelink – high/small x4

Localinks – low/small x8

Medilink – high/small x16

Localinks – high/small x17

Citylinks – high/large x12



# Electric Bus Network

## Progress to date

### Phase 1 & 2 now in Phase 3

- infrastructure in
- buses delivered
- live May 14

### Phase 4

- buses ordered
- live Oct 14

### Phase 5

- fully funded
- live Oct 15



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# Feedback – project

Charging issues

Back-up charging

Independent operat'l  
base

Driving variation

Battery mileage

Emissions

Vehicles

Timetables/rosters



# Energy consumption and cost

Bus	A	B	C	D	E	F	G
Mean kWh per km	1.18	1.15	1.09	1.01	0.82	0.70	0.78

Fuel Type	Fuel unit cost	Fuel consumed L or kWh/km	£ per km*	£ % diff	Carbon kg	C % diff
<b>Diesel</b>	<b>£1.30</b>	<b>0.23</b>	<b>0.30</b>	<b>-</b>	<b>0.74</b>	<b>-</b>

Electricity	<b>£0.11</b>	<b>1.18</b>	<b>0.07</b>	<b>23.2</b>	<b>0.64</b>	<b>13.3</b>
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Electricity	<b>0.06</b>	<b>1.18</b>	<b>0.01</b>	<b>3.6</b>	<b>0.64</b>	<b>13.3</b>
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Electricity	<b>£0.11</b>	<b>0.7</b>	<b>0.02</b>	<b>5.7</b>	<b>0.38</b>	<b>48.6</b>
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Electricity	<b>0.06</b>	<b>0.70</b>	<b>0.02</b>	<b>28.7</b>	<b>0.38</b>	<b>48.6</b>
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\*with £.06 per km UK LCEB Rebate

# Feedback - policy

Perception

Branding

Engaging bus  
ops

Partnerships

Access areas

Unlock funds

Political



# Perception

Branding in/out  
Sponsorship  
Charging areas  
Sustain Trans Hub



# Future plans – ElectriCity...?



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Single electric solution

So far: tram, buses, etc

Unlock funds/ business

- Cars, taxis, larger buses, bikes
- LEZ
- local prod'n



# Nottingham, the ElectriCity



Thanks for listening, any questions?  
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