

# Presentation to IPH HIA Forum



## Cork

Metropolitan Area

### Smarter Travel Area National Competition

Stage 2 Submission April 2010

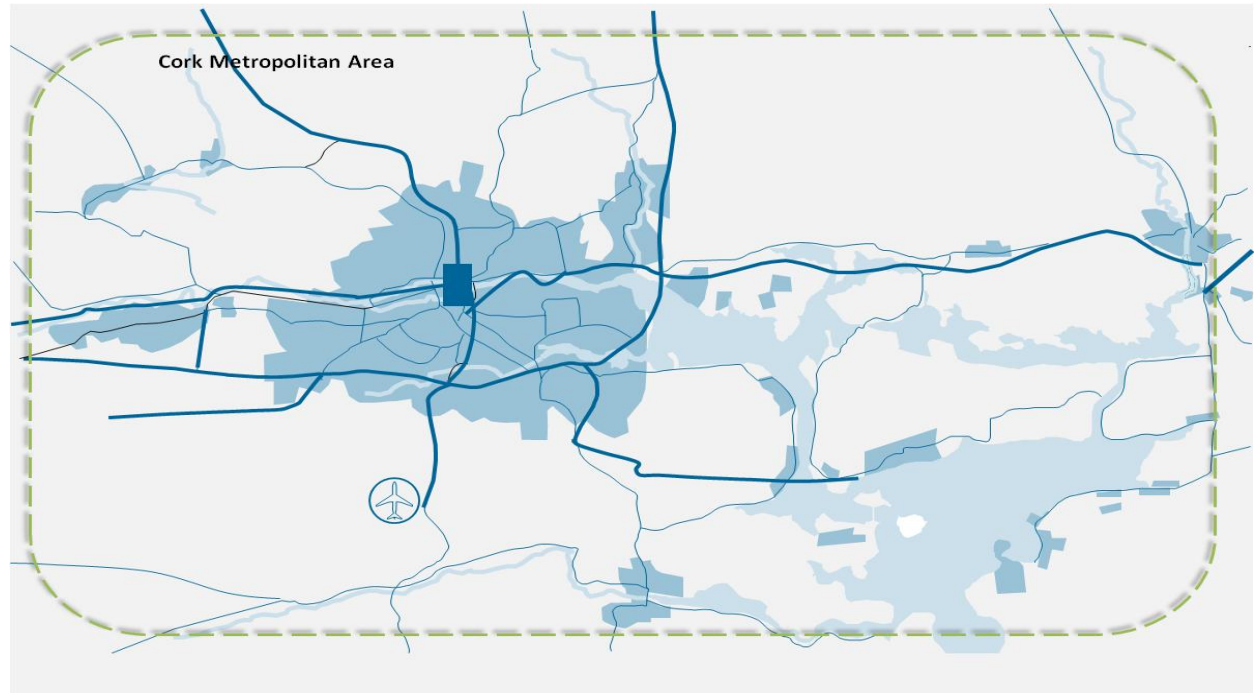


4<sup>th</sup> November 2010

# Background

- The population of the Cork Metropolitan Area is 270,000
- The problem to be overcome is the high level of car usage, e.g. of the 50,000 trips made each day to work in the Metropolitan region, 80% of the journeys are made by car
- The solution as set-out in detail in the Smarter Travel Area proposal will be delivered by targeting **5 specific travel groups** using **3 key themes**
- Around half the residents in Metropolitan Cork will be targeted directly by specific travel measures

- **Inputs**
- **Outputs**
- **Outcomes**
- **Impacts**



# Inputs

## Smarter Travel Area Themes and Target Groups:

Three core themes form the basis for a series of measures aimed at specific target travel groups.

### Theme 1:

**Travel to the Central Area:**  
Targeting all journeys to the central area

**(Target Group 1)**

### Theme 2:

**Suburban Commuting and Local Travel:**

Targeting journeys to the central area  
**(Target Group 2)**

Local short journeys **(Target Group 3)**

Journeys to school **(Target Group 4)**

*within 3 demonstration areas*

### Theme 3:

**Promotion and Marketing for Smarter Travel:**

Targeting the whole metropolitan area, in particular short journeys which could be made on foot. e.g. 20,000 trips made by car are under 5km in length.

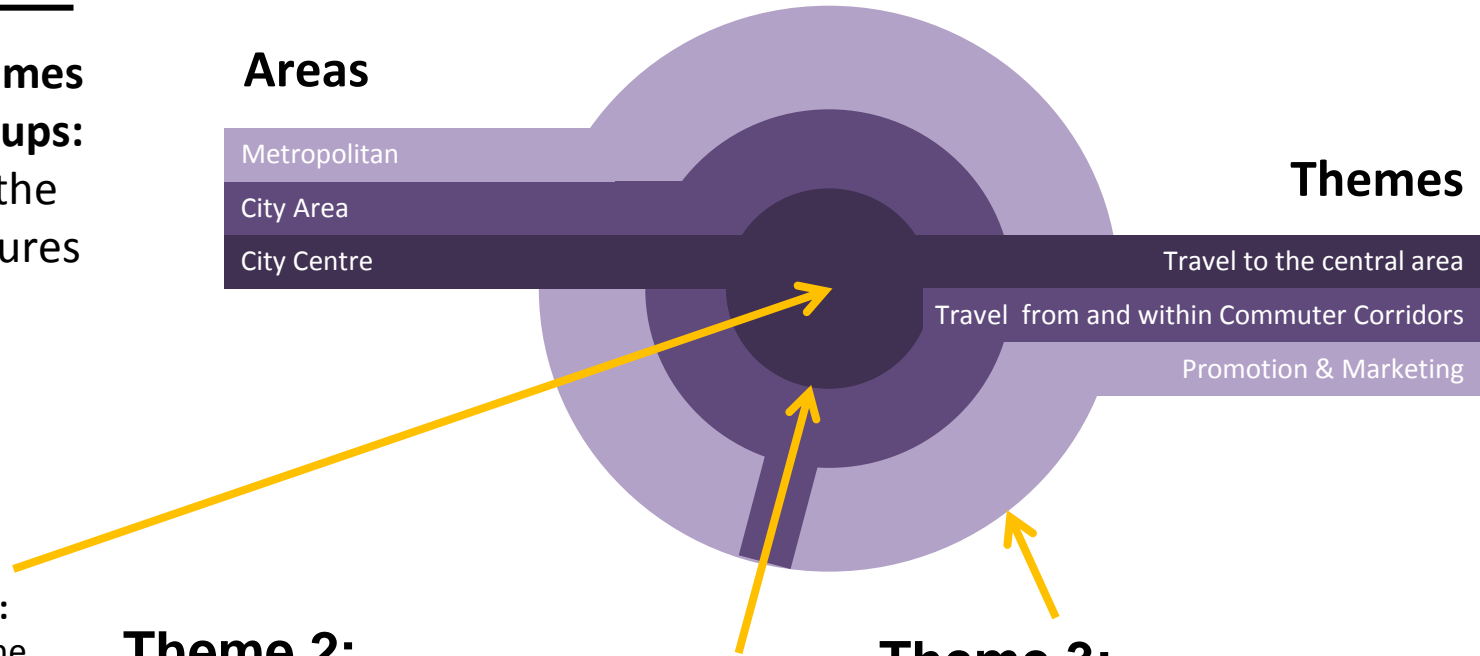
**(Target Group 5)**

## Areas

Metropolitan  
City Area  
City Centre

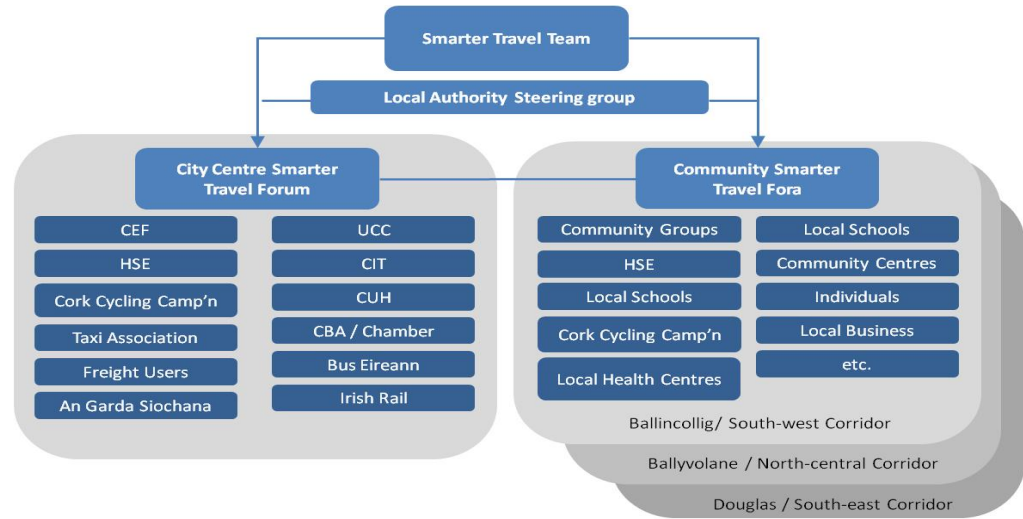
## Themes

Travel to the central area  
Travel from and within Commuter Corridors  
Promotion & Marketing



# Inputs

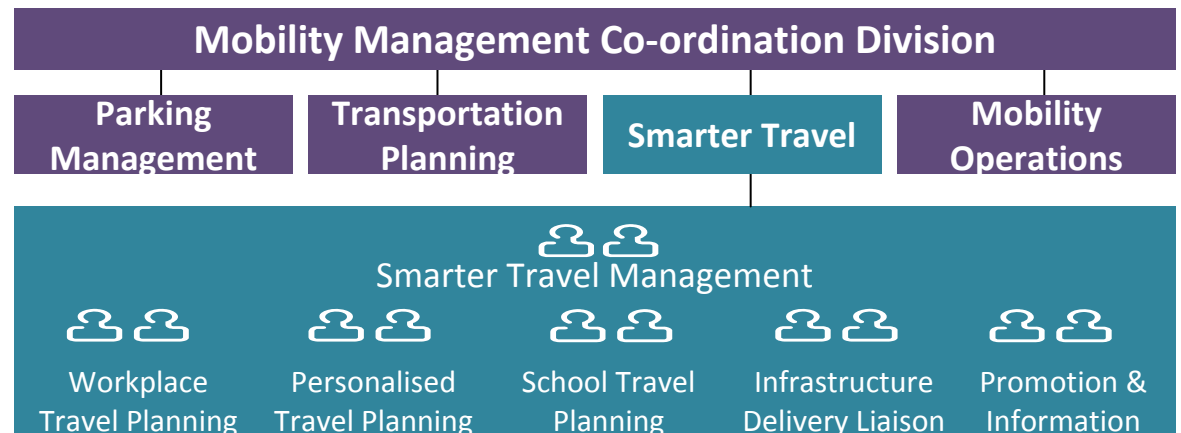
## 1. Stakeholders



## 2. Smarter Travel Area Team:

A Smarter Travel Area Team will be set-up to deliver specific measures through a series of sub-groups with particular roles:

Breakdown of 5-year Costs



# Outputs









## Measures for Theme 1

Travel to the Central Area





### Target Group 1

All journeys to the central area

### High Level Measure: Workplace Travel Planning

-  Workplace Travel Planning
-  Station Travel Plans
-  Travel Grants
-  Lift Share Service
-  Enhanced P&R service to University
-  Promotion of Car Clubs
-  Facility Grants
-  Bicycle parking facilities at P&R

### High Level Measure: Encourage Cycling and Walking in City Centre

-  Public Bike Scheme
-  Extension to pedestrian priority zones
-  Cycle Parking in City Centre
-  St Patrick Street Public Transport & Taxi priority



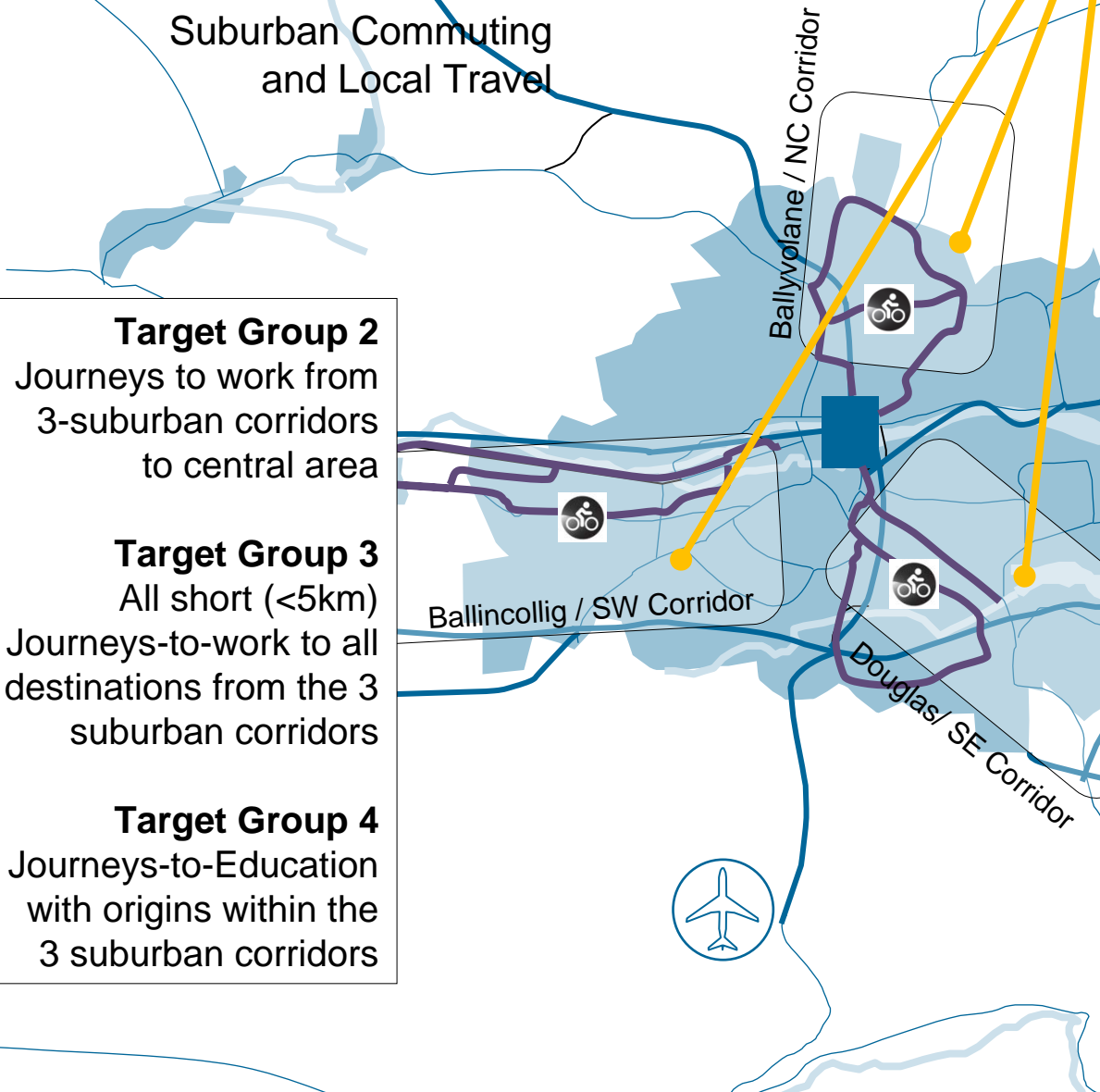
# Outputs

## Measures for Theme 2 Suburban Commuting and Local Travel

**Target Group 2**  
Journeys to work from  
3-suburban corridors  
to central area

**Target Group 3**  
All short (<5km)  
Journeys-to-work to all  
destinations from the 3  
suburban corridors

**Target Group 4**  
Journeys-to-Education  
with origins within the  
3 suburban corridors



### High Level Measure: Travel Measures for Commuter Communities

- Personalised Travel Planning
- Cycle Training
- Travel Grants
- Lift Share Service
- Improvements/Signage to cycle routes
- Cycle Parking at suburban Nodes
- Traffic signal re-configuration to prioritise walking & cycling

### High Level Measure: Improve Quality and Level of Service of Buses

- Bus & Cycle Route Quality/ Care
- Season Ticket direct sales
- Park Magic Payments extended to P&R
- Route branding/ bus Livery
- Bus Shelter upgrades

### High Level Measure: School Travel Planning

- School Travel Planning
- School Facility & Infrastructure Grants

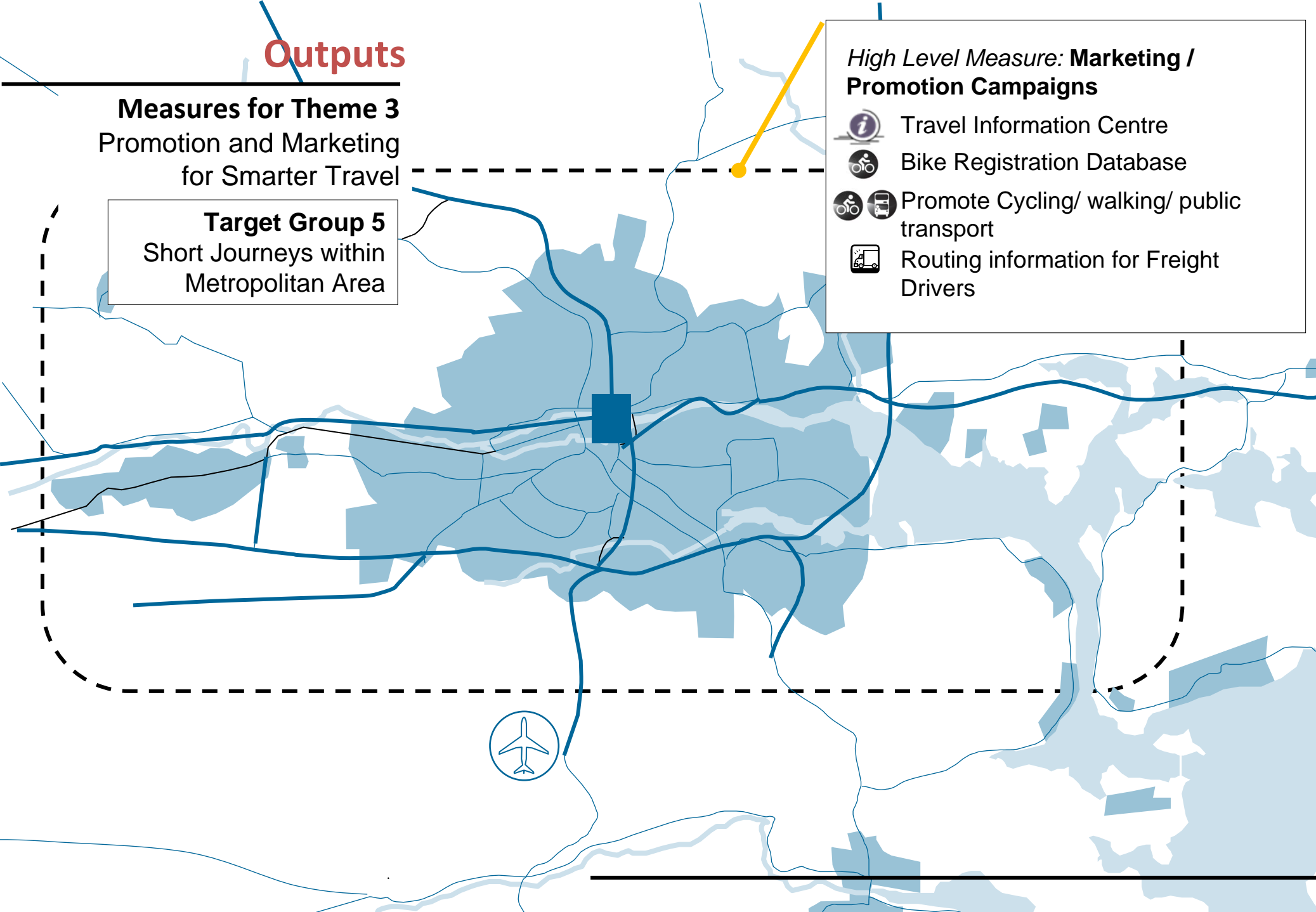
# Outputs

**Measures for Theme 3**  
Promotion and Marketing  
for Smarter Travel

**Target Group 5**  
Short Journeys within  
Metropolitan Area

*High Level Measure: Marketing / Promotion Campaigns*

-  Travel Information Centre
-  Bike Registration Database
-  Promote Cycling/ walking/ public transport
-  Routing information for Freight Drivers



## Key Outcomes

	<i>Theme (&amp; Target Group)</i>
▪ For city centre destinations car travel will reduce by between 10% for journeys from within the city, and 2% for longer journeys from ring towns.	<b>1 (1)</b>
▪ For targeted commuter corridors, a 5% switch to buses is targeted, giving a future bus mode share of around 20%.	<b>2 (2)</b>
▪ For local travel in commuter corridors i.e. short journeys, a 5% switch to walk mode is targeted.	<b>2 (3)</b>
▪ For school travel, the current mode share of car is forecast to reduce by 5% with a switch to mainly walking.	<b>2 (4)</b>
▪ Marketing and promotion of Smarter Travel is expected to engender a 1% mode shift to walking / cycling across the whole Metropolitan area.	<b>3 (5)</b>
▪ Awareness of sustainability, improved health, environmental issues associated with personal travel transport will increase significantly throughout communities, for all age ranges.	<b>(1-5)</b>
▪ Reduced CO <sub>2</sub> emissions of 6,500 tonnes	

***Each Target Group has been analysed and mode shift forecasts made according to distance of travel and measures to be implemented.***

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# Example Outcome

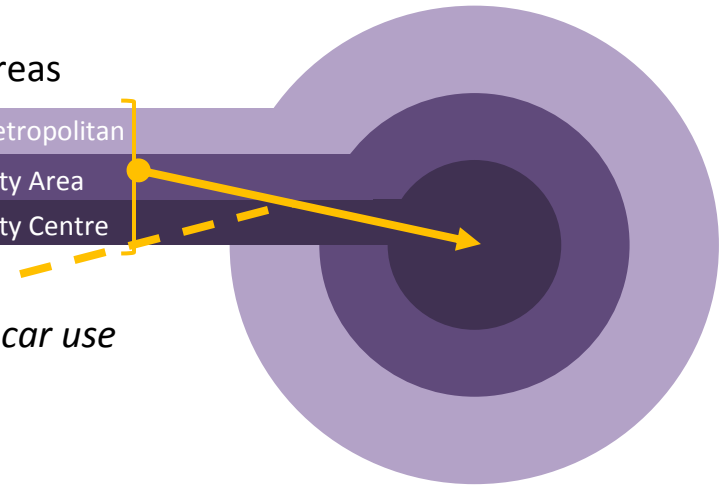
## Theme 1 Travel to the Central Area

**Target Group (1):** All Journeys-to-work to the central area (24,000 trips)

**Mode Change:** Switch journeys to walk, cycle, bus and car-share, reducing car use by **10%** from City areas, and by **2-3%** from Metro and CASP areas.

Areas

Metropolitan  
City Area  
City Centre



Target Group Origin	Reduction in Car Mode	Average Distance (km)	Increase in Mode Share			
City Central	-10%	0.7	2% (Bicycle)	2% (Walk)	5% (Bus)	1% (Car Share)
Rest of the City	-10%	3.1	2% (Bicycle)	2% (Walk)	5% (Bus)	1% (Car Share)
Metropolitan Area	-3%	12.0			2% (Bus)	1% (Car Share)
CASP Ring Area	-2%	29.0			1% (Bus)	1% (Car Share)
Rest of the Country	0%		No Modal Shift			

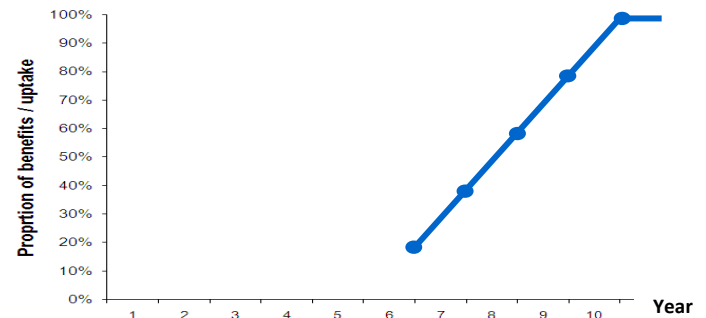
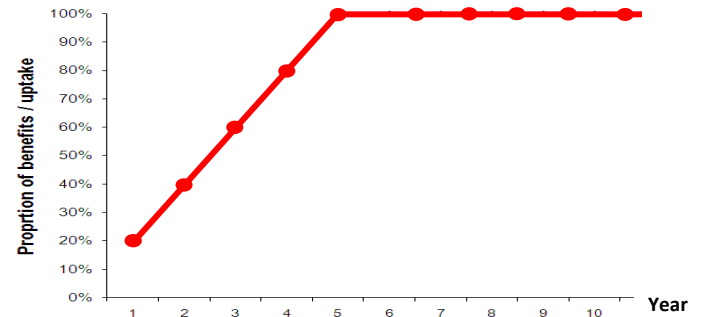
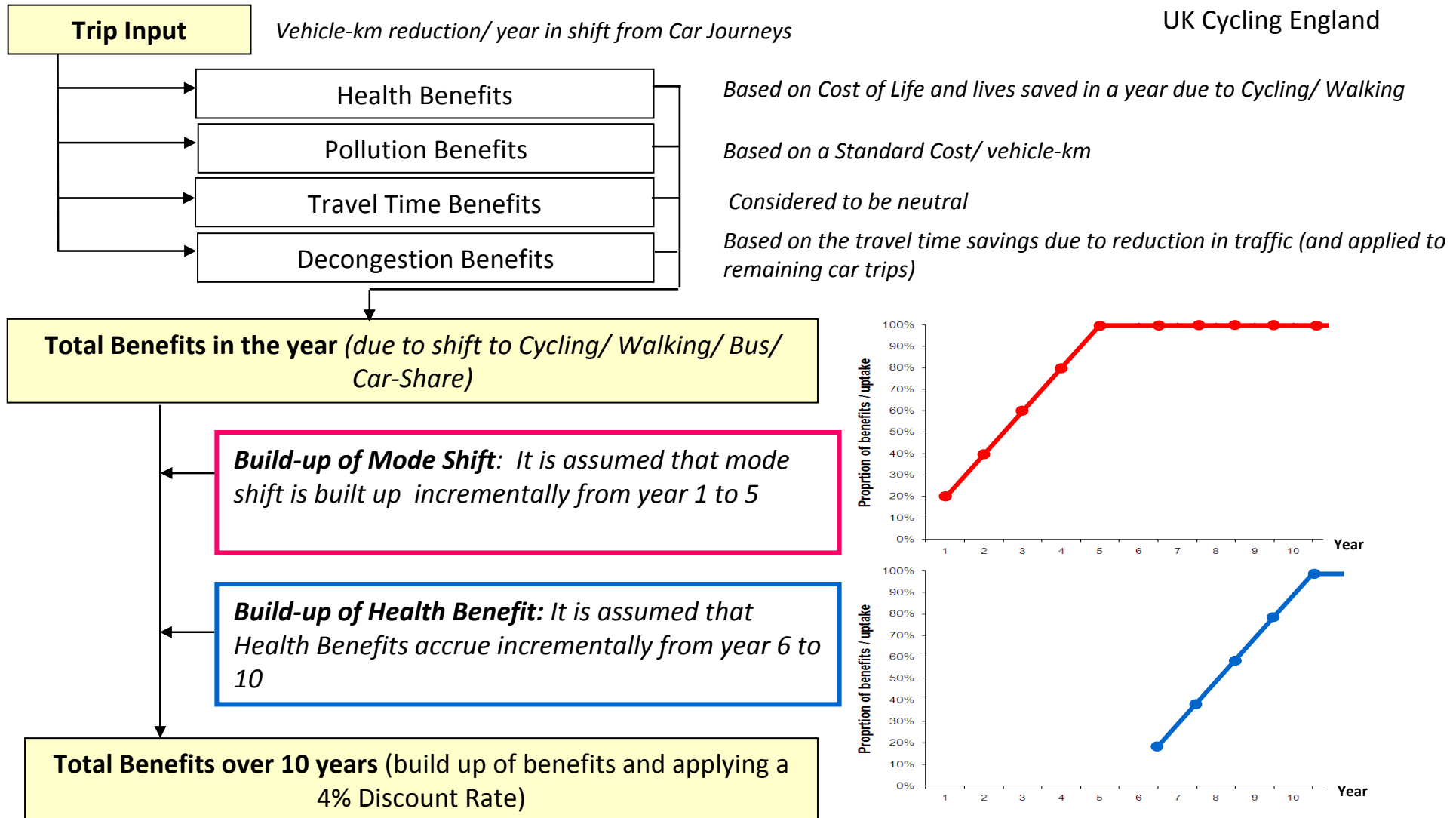
**Reduction in Vehicle-Km:** Circa 1400 trips are switched from single-occupancy car, equivalent to 1.9M vehicle-km and a PVB of **+€ 5.9M** over 10 years.  
The overall mode-shift from car is -6%.

Trip Details	On Foot	Bicycle	Bus	Car	Car Pax	Other	Total
Existing Trips	4,743	405	2,209	13,639	1,672	1,188	23,856
Existing Mode Share (%)	20%	2%	9%	57%	7%	5%	100%
Target Mode Shift (%)	1%	1%	3%	-6%	1%	0%	
Mode Shift in Trips	206	206	739	-1,381	230	0	
Future Mode Share (%)	21%	3%	12%	51%	8%	5%	100%
Future Trips	4,949	611	2,948	12,258	1,902	1,188	23,856
						<b>Veh-km</b>	<b>1.86 M</b>
						<b>PVB</b>	<b>5.86 M</b>

# Outcomes

## Cost Benefit Assessment Methodology

Ref. : Dept of Finance,  
 Dept of Transport,  
 WHO HEAT Assessment Tool,  
 UK Cycling England



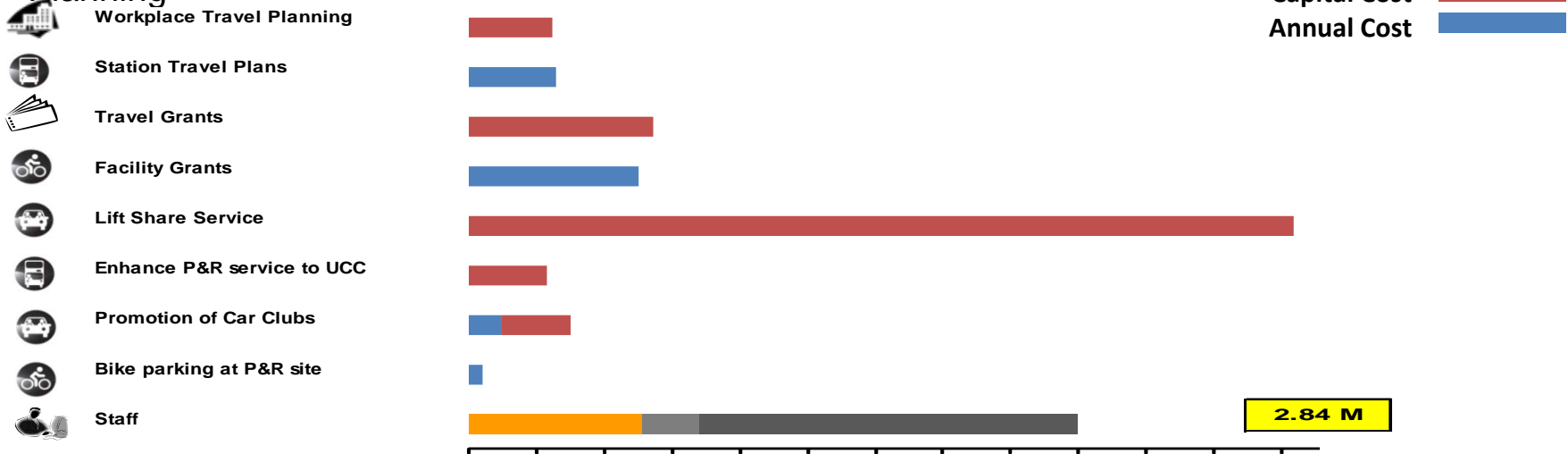
# Outputs

## Cost of Measures

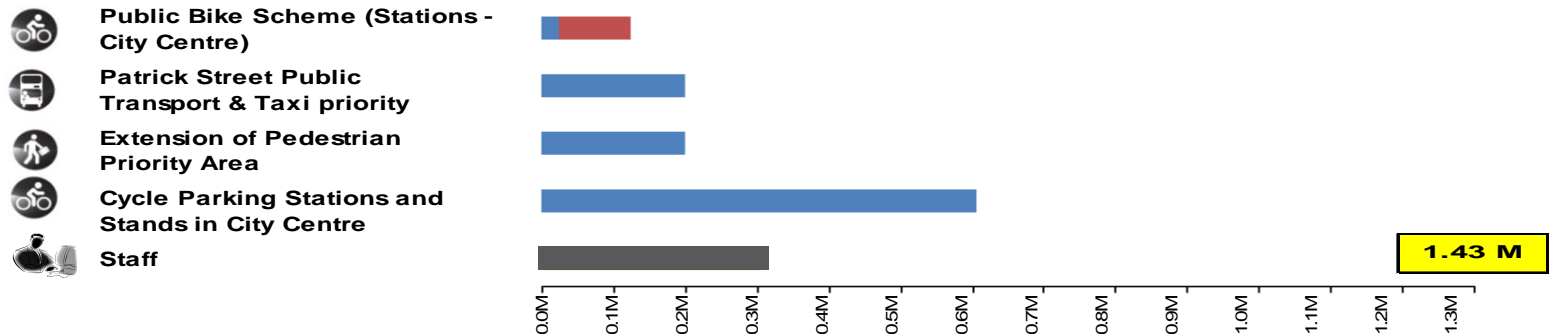
### Theme 1: Travel to the Central Area

#### High Level Measure: Workplace Travel

##### Planning



#### High Level Measure: Encourage Cycling and Walking in City Centre





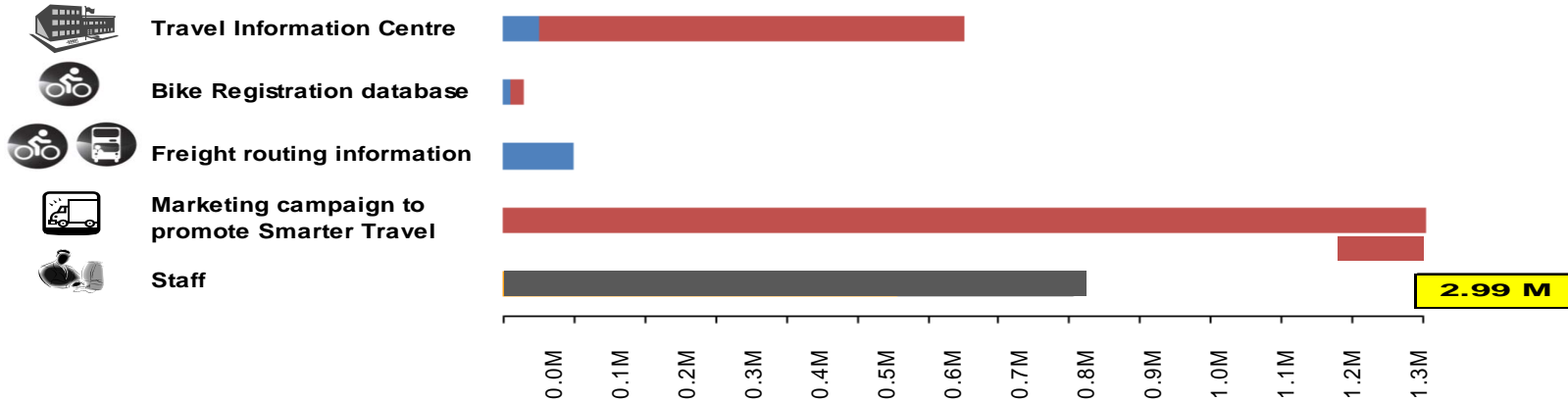
# Outputs

## Cost of Measures

Theme 3: Promotion and Marketing for Smarter Travel

### High Level Measure Marketing / Promotion Campaigns

**KEY**  
Capital Cost   
Annual Cost 

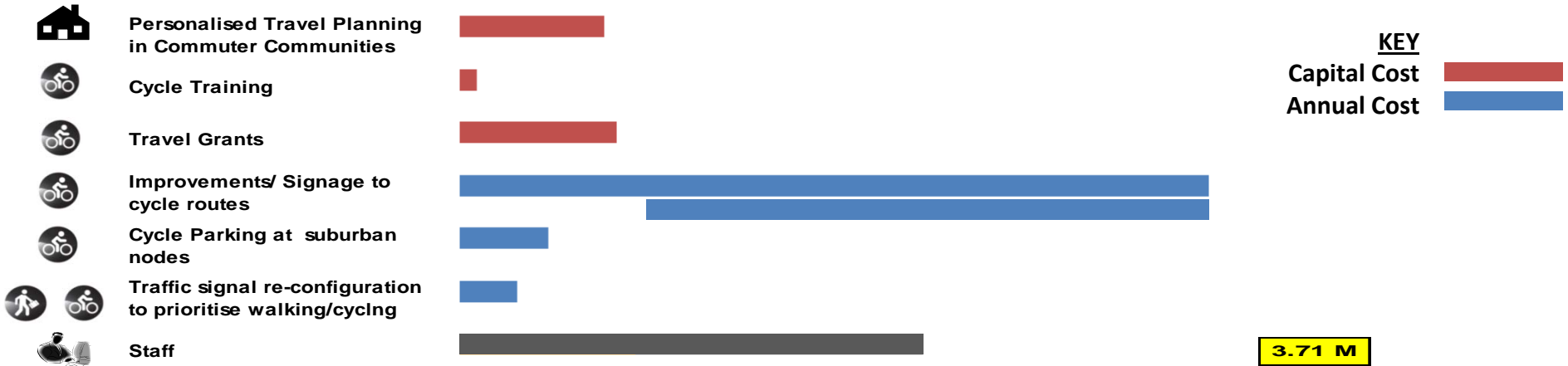


# Outputs

## Cost of Measures

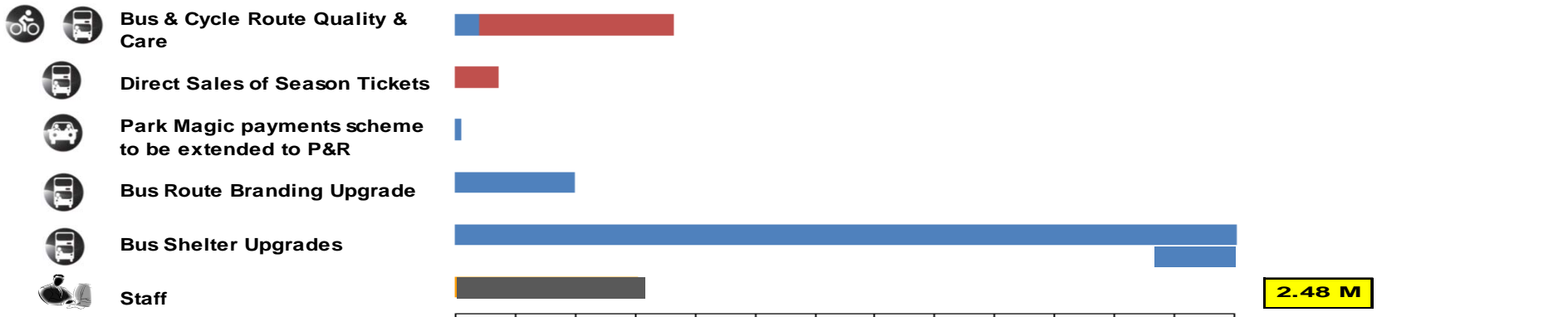
Theme 2: Suburban  
Commuting and Local Travel

### High Level Measure: Travel Measures for Commuter Communities



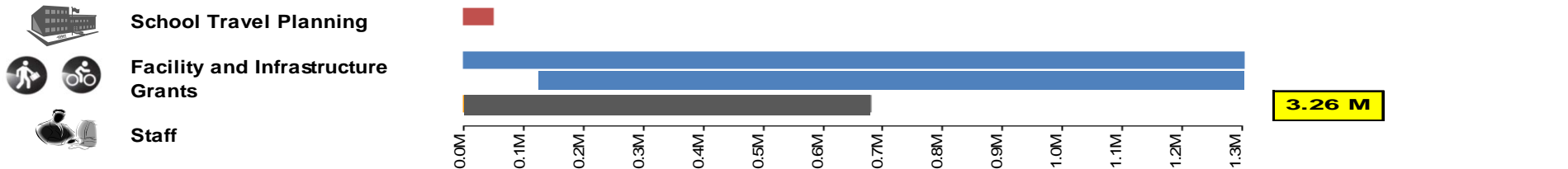
3.71 M

### High Level Measure: Improve Quality & Level of Service of Buses



2.48 M

### High level Measure: School Travel Planning



3.26 M

# Outcomes

## Summary of Mode Shift

**Total Metropolitan Area Mode Change:** For the Journey-to-Work target groups (excluding Education), a reduction of up to 6% is forecast for single occupancy car use (see Table).

<b>Trip Details</b>	<b>On Foot</b>	<b>Bicycle</b>	<b>Bus</b>	<b>Car</b>	<b>Car Pax</b>	<b>Other</b>	<b>Total</b>
Existing Trips	11,533	1,242	5,056	56,542	5,773	5,236	85,382
Existing Mode Share (%)	14%	1%	6%	66%	7%	6%	100%
Mode Shift in Trips	2956	861	1177	-5312	318	0	
Target Mode Shift (%)	3.5%	1.0%	1.4%	-6.2%	0.4%	0.0%	

# Impacts Summary

Mode Change Impacts	Theme 1	Theme 2	Theme 3	Total
Reduction of Veh-km/ year	1,862,211	2,815,744	576,692	5.25M
No. of cycle journeys /day	206	655	175	1,036
NO. of bus journeys/day	739	877	0	1,616
No. of walk journeys/day	206	1,875	874	2,955
No. of car share journeys/day	230	175	0	405
Benefits/year	Theme 1	Theme 2	Theme 3	Total
Health benefits	275,693	620,149	448,184	<b>1,38M</b>
Pollution benefits	310,058	468,821	96,019	<b>0.87M</b>
Travel time benefits	0	0	0	<b>0</b>
Congestion benefits	495,514	1,243,423	184,967	<b>1,92M</b>
PVC (after discounting)	<b>4,015,115</b>	<b>8,857,218</b>	<b>2,166,602</b>	<b>15.04M</b>
<b>PVB for 10 years (after discounting)</b>	<b>5,857,942</b>	<b>12,527,023</b>	<b>2,826,025</b>	<b>21,2M</b>

- **Forecast reduction of 6% for single occupancy car use**
- **Reduction in journey-to-work car flows of 40M vehicle km**
- **Pollution reduction and health benefits of €21M (over 10 years)**
- **Reduction in CO2 emissions of around 6,500 tonnes (over 10 years)**
- **The costs of the measures amount to €15M (after discounting)**
- **Taking into account journey mode switching for other types of journeys (Leisure, shopping etc) an overall Benefit-to-Cost ratio of approximately 3:1 is forecast**

## **Impacts**

**Cork City Council has been short listed for funding on the Smarter Travel Areas Competition – Final Announcement – December 2010**

**Mobility Management and ITS in Cork: Tenders have been issued to cater for an upgrade to the SCOOT UTC System which is being developed to support the Smarter Travel proposals**

**Smarter Travel seeks to influence peoples choices and offer incentives on travel options - Behavioural change**

**Taking into account journey mode switching for other types of journeys (Leisure, shopping etc) an overall Benefit-to-Cost ratio of approximately 3:1 is forecast**

**Personalised Travel Planning, PTP is key to the success of Smarter Travel – targeted motivational survey techniques undertaken by trained individuals**



## Impacts

- Taking into account journey mode switching for other types of journeys (Leisure, shopping etc) an overall Benefit-to-Cost ratio of approximately 3:1 is forecast
- Mobile ITS applications must be deployed to support more sustainable travel
- Community based leadership to deliver Behavioral Change – Community Based Social Marketing
- Ongoing discussion and blogs - [www.cbsm.com](http://www.cbsm.com)
- Personalised Travel Planning, PTP is key to the success of Smarter Travel

## **Impacts – Wider Benefits**

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- **Improved ‘quality of life’ and personal health benefits**
- **Better access to important destinations**
- **Improving the experience of end-to-end journeys**
- **Measures support the WHO’s *Health Cities Initiative***
- **Satisfaction with public transport**
- **Improved social and personal well-being leading to a better work-life balance**
- **Cost of not using a private car is released back to the individual as increased disposable income**

**Thank you for your attention**

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# Outputs

## Measures for Theme 1

Travel to the Central Area

### Measures

High Level measure	Project Type			
	Travel Planning Advice / Training	Transport Service	Promotion / Marketing	Infrastructure
<b>Workplace Travel Planning (1A)</b>	<ul style="list-style-type: none"> <li>■ Workplace Travel Planning</li> <li>■ Station Travel Plans (Bus Station, Rail Station)</li> </ul>	<ul style="list-style-type: none"> <li>■ Travel Grants</li> <li>■ Lift Share Service</li> <li>■ Enhanced P&amp;R service to University</li> </ul>	<ul style="list-style-type: none"> <li>■ Promotion of Car Clubs including Electric Vehicle</li> </ul>	<ul style="list-style-type: none"> <li>■ Facility Grants</li> <li>■ Bicycle parking facilities at P&amp;R</li> </ul>
<b>Encourage Cycling and Walking in City Centre (1B)</b>		<ul style="list-style-type: none"> <li>■ Public Bike Scheme (Stations - City Centre)</li> </ul>		<ul style="list-style-type: none"> <li>■ St Patrick Street Public Transport &amp; Taxi priority</li> <li>■ Extension to pedestrian priority zones</li> <li>■ Cycle Parking in City Centre</li> </ul>

# Outputs

## Measures for Theme 2 Suburban Commuting and Local Travel

### Measures

High Level measure	Project Type			
	Travel Planning Advice / Training	Transport Service	Promotion / Marketing	Infrastructure
<b>Travel Measures for Commuter Communities (2A)</b>	<ul style="list-style-type: none"> <li>■ Personalised Travel Planning in Commuter Communities</li> <li>■ Free cycle training for adults</li> </ul>	<ul style="list-style-type: none"> <li>■ Travel Grants</li> <li>■ Establish Lift Share service</li> </ul>		<ul style="list-style-type: none"> <li>■ Improvements and Signage to cycle commuting routes</li> <li>■ Cycle Parking at suburban Nodes</li> <li>■ Traffic signal re-configuration to prioritise walking and cycling</li> </ul>
<b>Improve Quality and Level Of Service Of Buses (2B)</b>		<ul style="list-style-type: none"> <li>■ Bus &amp; Cycle Route Quality / Care / Enforcement Mobile Team</li> <li>■ Season ticket direct sales at Bus Stops Route branding / bus Livery / Bus Upgrade</li> <li>■ Park Magic payments scheme extended to P&amp;R</li> </ul>	<ul style="list-style-type: none"> <li>■ Route branding / bus Livery / Bus Upgrade</li> </ul>	<ul style="list-style-type: none"> <li>■ Bus Shelter Upgrades</li> </ul>
<b>School Travel Planning (2C)</b>	<ul style="list-style-type: none"> <li>■ School Travel Planning</li> </ul>			<ul style="list-style-type: none"> <li>■ School Facility and Infrastructure Grants</li> </ul>

# Outputs

## Measures for Theme 3

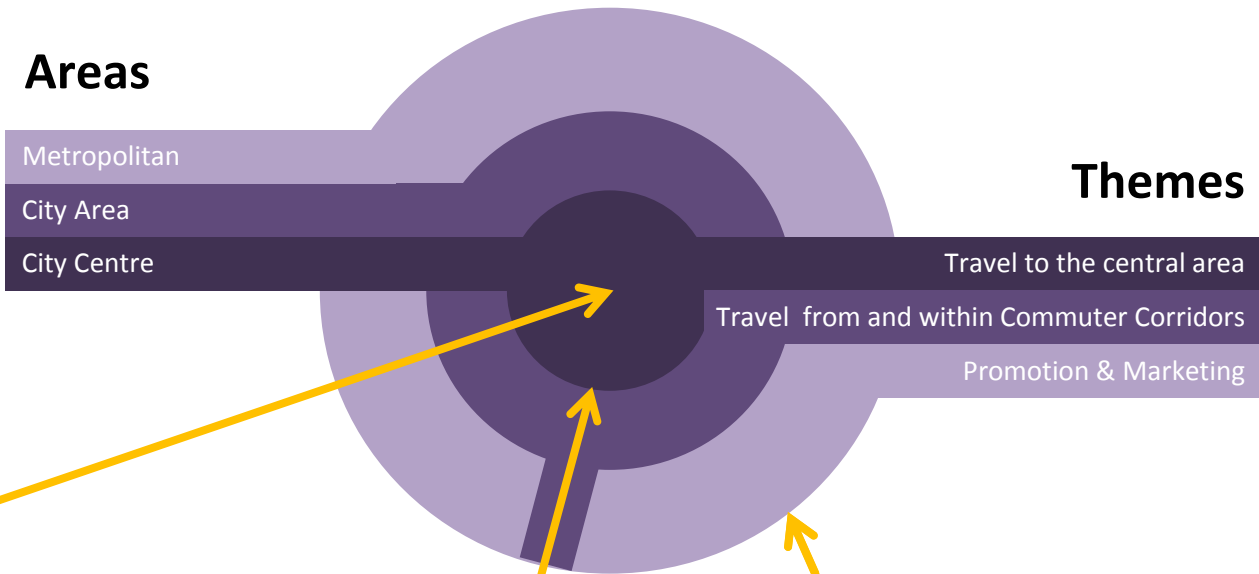
Promotion and Marketing  
for Smarter Travel

### Measures

High Level measure	Project Type			
	Travel Planning Advice / Training	Transport Service	Promotion / Marketing	Infrastructure
Marketing / Promotion campaigns (3)	<ul style="list-style-type: none"><li>■ Free cycle training for adults</li></ul>	<ul style="list-style-type: none"><li>■ Travel Information Centre</li><li>■ Bike Registration database</li></ul>	<ul style="list-style-type: none"><li>■ Promote cycling / walking / public transport</li><li>■ Routing information for Freight Drivers</li></ul>	

# Outputs

## Measures Summary



### Theme 1: Travel to the Central Area from all locations

#### Key Measures:

- Workplace Travel Planning in the central area,
- Incentives for use of Smarter Modes,
- Infrastructure improvements for walking / cycling

### Theme 2: Suburban Commuting and Local Travel:

#### Key Measures:

- Household Travel Planning,
- Incentives for use of Smarter Modes,
- Infrastructure improvements on cycle routes,
- Improvements to bus service and facilities.

### Theme 3: Promotion and Marketing for Smarter Travel

#### Key Measures:

- Promotion and Marketing

# Outcomes

## Theme 2

### Suburban Commuting and Local Travel

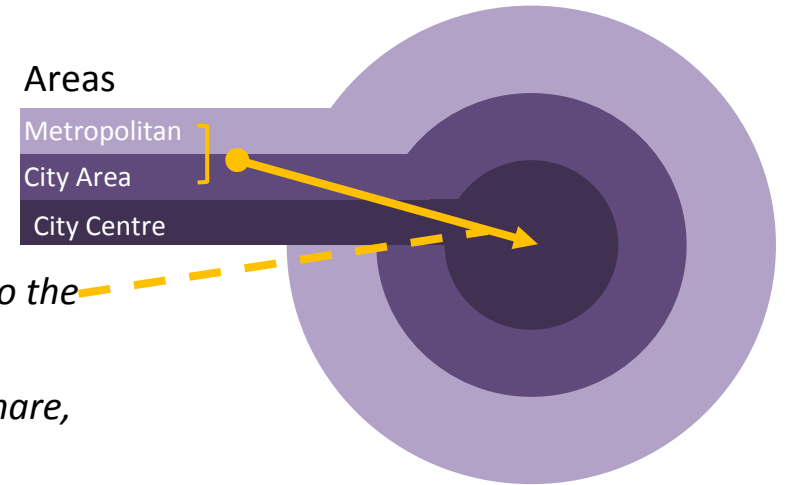
[Three Target Groups are identified for this theme]

**Target Group (2):** All Journeys-to-work from 3 suburban corridors to the central area, which equates to **8,700 trips**.

**Mode Change:** The aim is to switch journeys to cycle, bus and car-share, reducing car use by **8%**.

Areas

- Metropolitan
- City Area
- City Centre



Target Group Origin	Reduction in Car Mode	Average Distance (km)	Increase in Mode Share		
Ballingcolling	8%	8.5	2%	5%	1%
SW Ward	8%	4.5	2%	5%	1%
Ballyvolane	8%	3.0	2%	5%	1%
NC Ward	8%	3.0	2%	5%	1%
Douglas	8%	4.5	2%	5%	1%
SE Ward	8%	3.8	2%	5%	1%

**Reduction in Vehicle-Km:** Around 700 trips are switched from single-occupancy car to Bike, Bus and Car Share, equivalent to **0.8M veh-km/yr** and a PVB of **+2.75M** over 10 years. The overall mode-shift from car is **-8%**.

Trip Details	On Foot	Bicycle	Bus	Car	Car Pax	Other	Total
Existing Trips	1,366	193	1,192	4,978	737	308	8,774
Existing Mode Share (%)	16%	2%	14%	57%	8%	4%	100%
Target Mode Shift (%)	0%	2%	5%	-8%	1%	0%	
Mode Shift in Trips	0	175	439	-702	88	0	
Future Mode Share (%)	16%	4%	19%	49%	9%	4%	100%
Future Trips	1,366	368	1,631	4,276	825	308	8,774
						<b>Veh-km</b>	<b>0.81 M</b>
						<b>PVB</b>	<b>2.75 M</b>

# Outcomes

## Theme 2

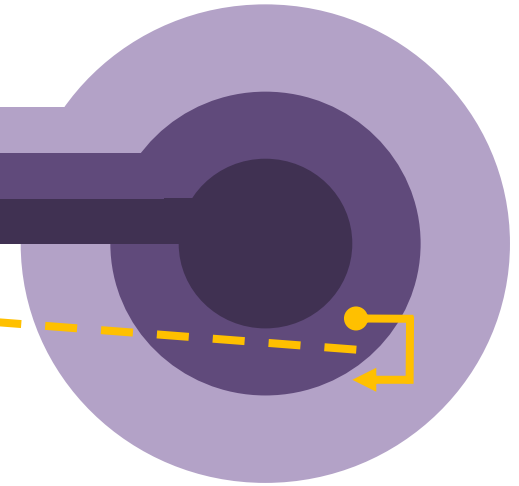
### Suburban Commuting and Local Travel; *continued*













**Target Group (3): All short (<5km) Journeys-to-work to all destinations from the 3 suburban corridors**

**Mode Change:** The aim is to switch 2% of short journeys to Walk, from a total of 21,000 journeys less than 5km in length (or 1% of the total journeys of 42,000).

#### Areas

- Metropolitan
- City Area
- City Centre



Reduction in Car Mode	Average Distance (km)	Increase in Mode Share
 2% of trips <5km	3.0	 2%
 2% of trips <5km	3.0	 2%
 2% of trips <5km	3.0	 2%
 2% of trips <5km	3.0	 2%
 2% of trips <5km	3.0	 2%
 2% of trips <5km	3.0	 2%

**Reduction in Vehicle-Km:** Around 350 trips are switched from single-occupancy car to Walk, equivalent to **0.6M veh-km/yr** and a PVB of **+ € 4.2M** over 10 years. The overall mode-shift from car is -1%.

Trip Details	On Foot	Bicycle	Bus	Car	Car Pax	Other	Total
Existing Trips	4,635	689	2,631	29,621	2,871	2,208	42,655
Existing Mode Share (%)	11%	2%	6%	69%	7%	5%	100%
Target Mode Shift (%)	1%	0%	0%	-1%	0%	0%	
Mode Shift in Trips	355	0	0	-355	0	0	
Future Mode Share (%)	12%	2%	6%	69%	7%	5%	100%
Future Trips	4,990	689	2,631	29,267	2,871	2,208	42,655
						<b>Veh-km</b>	<b>0.6 M</b>
						<b>PVB</b>	<b>4.21 M</b>



# Outcomes

## Theme 2

### Suburban Commuting and Local Travel; *continued*

**Target Group (4):** The Target Group for mode-switching is **Journeys-to-Education** with origins within the 3 suburban corridors, which equates to **30,000 trips**.

**Mode Change:** To increase Walk /Cycle usage, reducing travel by car by **6%**.

#### Areas

Metropolitan  
City Area  
City Centre

Target Group Origin	Reduction in Car Mode	Average Distance (km)	Increase in Mode Share	
Ballingcolling	6%	→ Ped 1.5, Cycle 2	5%	1%
SW Ward	6%	→ Ped 1.5, Cycle 2	5%	1%
Ballyvolane	6%	→ Ped 1.5, Cycle 2	5%	1%
NC Ward	6%	→ Ped 1.5, Cycle 2	5%	1%
Douglas	6%	→ Ped 1.5, Cycle 2	5%	1%
SE Ward	6%	→ Ped 1.5, Cycle 2	5%	1%

**Reduction in Vehicle-Km:** Around 1800 trips are switched from car, equivalent to **0.7M veh-km** and a PVB of **+€ 2.9M** over 10 years. The overall mode-shift from car is **-6%**.

Trip Details	On Foot	Bicycle	Bus	Car	Car Pax	Other	Total	
Existing Trips	9,020	444	3,775	1,888	14,178	1,114	30,419	
Existing Mode Share (%)	30%	1%	12%	6%	47%	4%	100%	
Target Mode Shift (%)	5%	1%	0%	-6%	0%	0%		
Mode Shift in Trips	1,521	304	0	-1,825	0	0		
Future Mode Share (%)	35%	2%	12%	0%	47%	4%	100%	
Future Trips	10,541	748	3,775	63	14,178	1,114	30,419	
							<b>Veh-km</b>	<b>0.68 M</b>
							<b>PVB</b>	<b>2.95 M</b>

# Outcomes

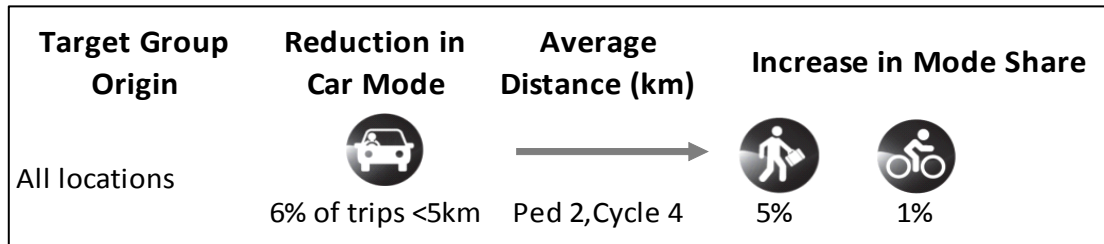
## Theme 3 Promotion & Marketing of Smarter Travel

### Areas



**Target Group (5):** Short journeys which are capable of being made on foot or by bicycle are targeted. **There are currently 17,000 journey-to-work trips per day within the Metropolitan area of less than 5km in length.**

**Mode Change:** The aim is to increase the proportion of Walk and Cycle usage, reducing travel by car by 6%.

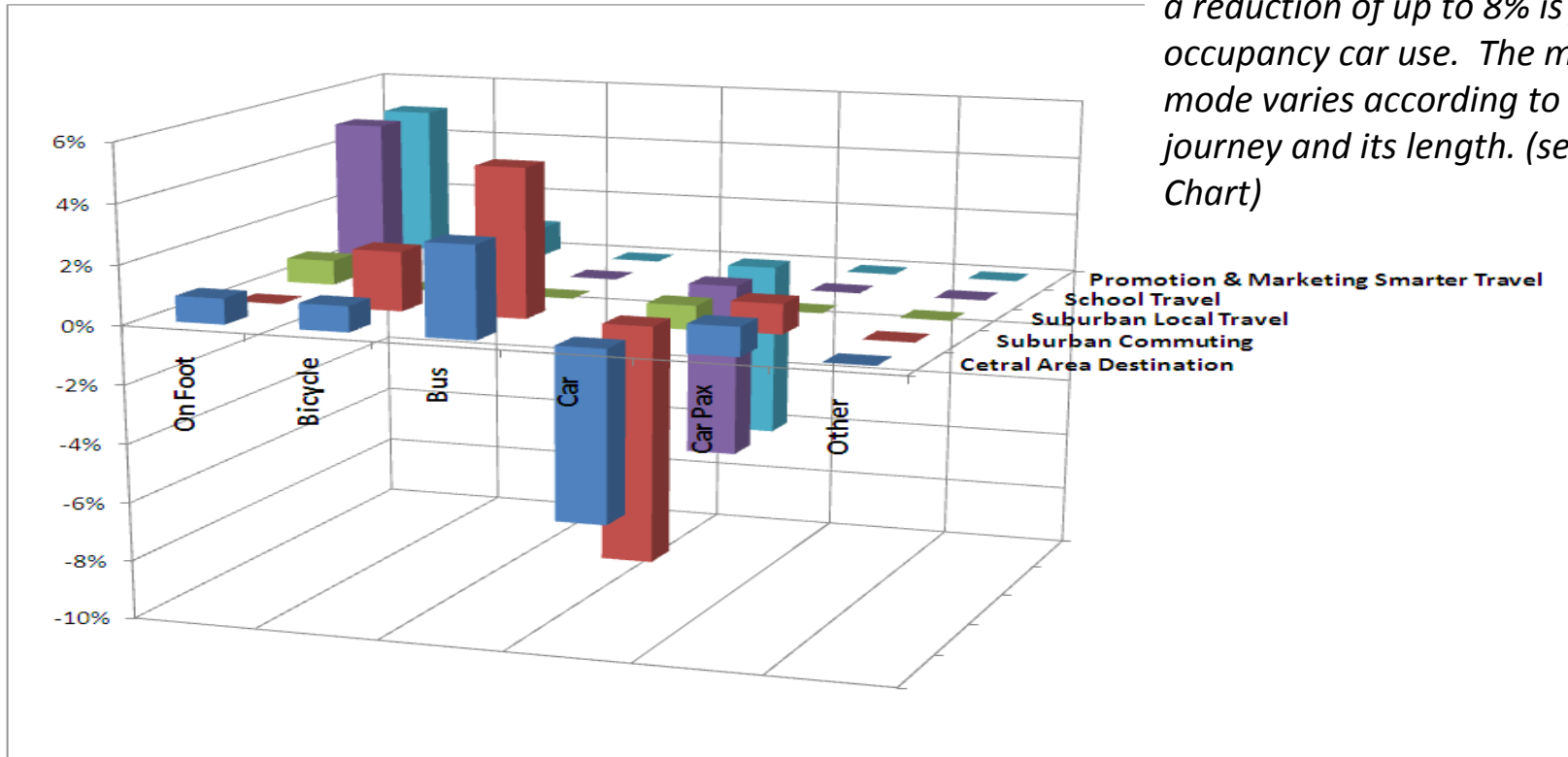


**Reduction in Vehicle-Km:** Based on average distances shown, around 1000 trips are switched from car, equivalent to **0.6M veh-km** and a PVB of **+€ 2.8M** over 10 years. The overall mode-shift from car is -6%.

Trip Details	On Foot	Bicycle	Bus	Car	Car Pax	Other	Total
Existing Trips	7,592	490	1,267	6,340	1,100	695	17,484
Existing Mode Share (%)	43%	3%	7%	36%	6%	4%	100%
Target Mode Shift (%)	5%	1%	0%	-6%	0%	0%	
Mode Shift in Trips	874	175	0	-1,049	0	0	
Future Mode Share (%)	48%	4%	7%	30%	6%	4%	100%
Future Trips	8,466	665	1,267	5,291	1,100	695	17,484
						<b>Veh-km</b>	<b>0.58 M</b>
						<b>PVB</b>	<b>2.83 M</b>

# Outcomes

## Summary of Mode Shift



Theme	Measures	On Foot	Bicycle	Bus	Car	Car Pax	Other
Theme 1	Cetral Area Destination	1%	1%	3%	-6%	1%	0%
Theme 2	Suburban Commuting	0%	2%	5%	-8%	1%	0%
	Suburban Local Travel	1%	0%	0%	-1%	0%	0%
	School Travel	5%	1%	0%	-6%	0%	0%
Theme 3	Promotion & Marketing Smarter Travel	5%	1%	0%	-6%	0%	0%