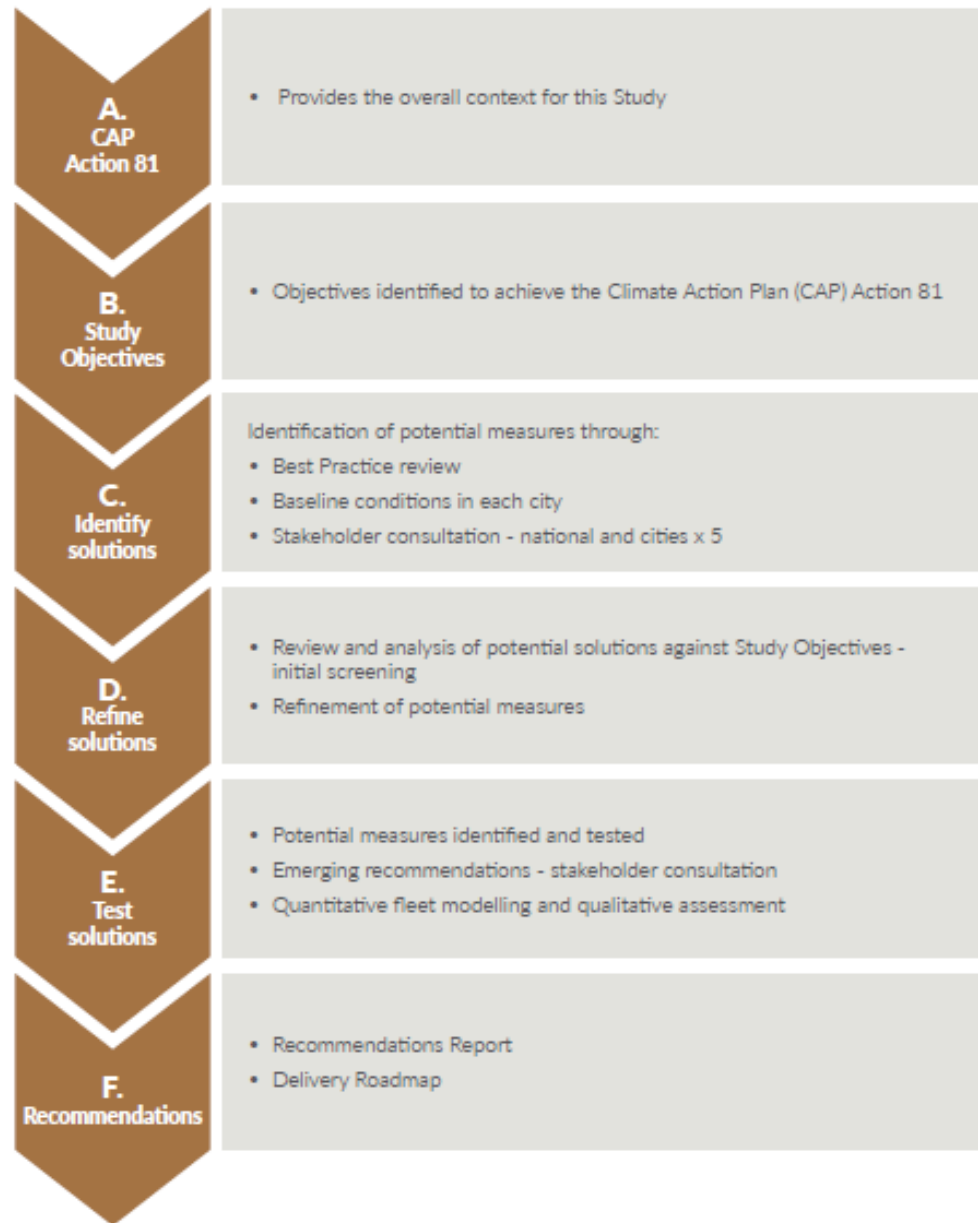# Draft Recommendations Report
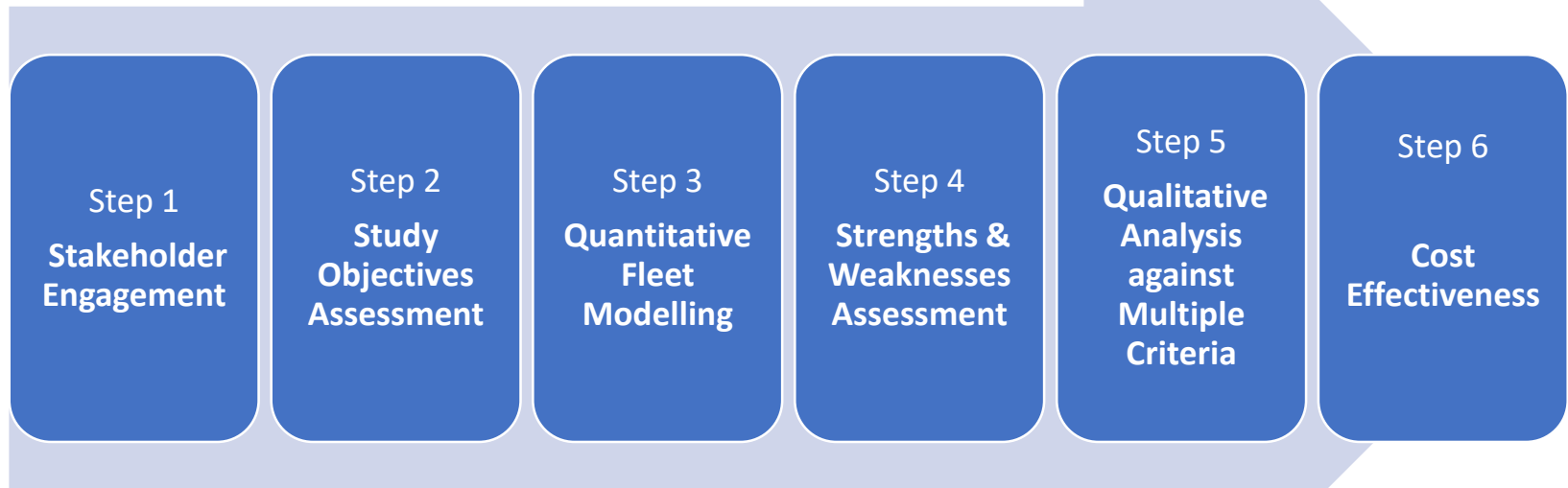
Five Cities Demand Management Study

Study Objectives & Methodology

Manage vehicular traffic congestion

Reduce greenhouse gas (GHG) emissions from road traffic

Improve the quality of the urban environment

Address air quality issues due to vehicular traffic emissions

A. CAP Action 81
- Provides the overall context for this Study

B. Study Objectives
- Objectives identified to achieve the Climate Action Plan (CAP) Action 81

C. Identify solutions

Identification of potential measures through:
- Best Practice review
- Baseline conditions in each city
- Stakeholder consultation - national and cities x 5

D. Refine solutions
- Review and analysis of potential solutions against Study Objectives - initial screening
- Refinement of potential measures

E. Test solutions
- Potential measures identified and tested
- Emerging recommendations - stakeholder consultation
- Quantitative fleet modelling and qualitative assessment

F. Recommendations
- Recommendations Report
- Delivery Roadmap

Phase E – Test Solutions

| Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
Stakeholder Engagement	**Study Objectives Assessment**	**Quantitative Fleet Modelling**	**Strengths & Weaknesses Assessment**	**Qualitative Analysis against Multiple Criteria**	**Cost Effectiveness**

Culminating with the identification of a set of proposed **Recommended Demand Management Measures**, and an emerging **Delivery Roadmap**

The Tiered Measures Approach
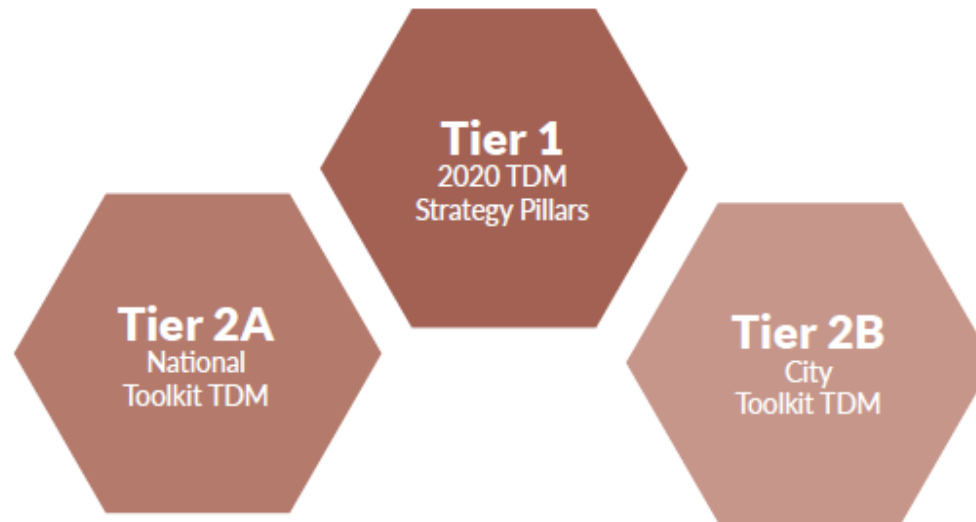
Tier 1 Transport Demand Management (TDM) Strategy Pillars – measures identified as having a potentially high scale of impact and change within the five cities. More detailed analysis undertaken to identify the most appropriate strategy. Overall ranking used to inform emerging Delivery Roadmap.

Tier 2 TDM Toolkit – can be applied in different ways and intensities, recognising the different circumstances of each city and their current and planned application of TDM interventions. Offers flexibility for national (Tier 2a) and local (Tier 2b) interventions to address delivery of the Study Objectives.

**All three tiers in combination will form the
future strategic direction of TDM in the five cities.**
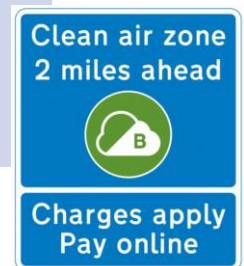
Tier One – Strategic Framework

Fiscal Management (FM)	Vehicle Taxation	FM01: Progressive Vehicle Taxation
		FM02: Vehicle Taxation per km
		FM03: Time/Location based Vehicle Taxation per km
	Alternative Fuels	FM05: Alternative Fuelled Vehicle Support
	Congestion Charging	FM11: Congestion Charging
Air Quality (AQ)	Clean Area Zones/Low Emissions Zones	AQ01: Clean Air Enabling Legislation
		AQ04: Clean Air Zone (CAZ) via ANPR
		AQ05: Clean Air Zone (CAZ) via National Vehicle Sticker Scheme
Parking & Traffic Management (PTM)	Workplace Parking Levy	PTM01: Workplace Parking Levy
	On-Street Parking Controls & Pricing	PTM04: Public Parking Controls
Planning Policy (PP)	Transport & Public Health	PP01: Healthy Streets Assessments
	Transport Appraisal Enhancements	PP03: Transport Appraisal Methodologies
	National Planning Framework Delivery Management	PP04: Enhance Delivery of National Planning Framework
	Development of 15-minute neighbourhoods	PP08: 15-Minute Neighbourhoods

Tier One – Initial Assessment Outcome

Rank	Recommended for Inclusion in emerging Roadmap	Not included in Roadmap due to higher ranking alternative	Further Consideration to Come
1	PP08 15 Minute Neighbourhoods		
2	PP04 National Planning Framework Delivery Management		
3		PP01 Healthy Streets – Overlaps with PP08	
4	PTM04 Public Parking Controls		
5	FM03 Time/Location Based Vehicle Taxation per km		
6	FM05 Alternative Fuelled Vehicle Support		
7	FM01 Progressive Vehicle Taxation		
8	PP03 Transport Appraisal Enhancements		
9		FM02 Vehicle Taxation per km – Overlaps with FM03	
10	AQ01 Clean Air Enabling Legislation		
11			FM11 Congestion Charge
12			PTM01 Workplace Parking Levy
13			AQ05 Clean Air Zone via National Vehicle Sticker System
14			AQ04 Clean Air Zone via ANPR (in conjunction with FM11 in Dublin)

Tier One – highlights from initial fleet modelling

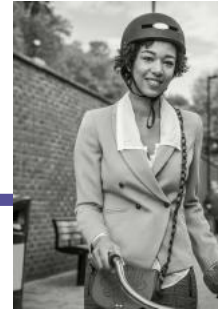| Measure	Fleet modelling results	
	CO$_2$	NO$_X$
FM01: Progressive Vehicle Taxation Progressive taxation measures towards cleaner, safer fleets	-33%	-63%
AQ01: Clean Air Enabling Legislation Clean Air Enabling Legislation, including bus & taxi licensing impacts	-26%	-60%
AQ04: Clean Air Zone (CAZ) via ANPR Where significant Air Quality concerns arise in individual cities	-34%	-71%
AQ05: Clean Air Zone (CAZ) via National Vehicle Sticker System Where significant Air Quality concerns arise in individual cities	-31%	-70%

Clean air zone
2 miles ahead
B

Charges apply
Pay online

Fiscal Measures (FM)	Alternative Fuels	FM06: Hydrogen Vehicle Trials
	Fuel Pricing	FM07: Fuel Taxation
	Scrappage Schemes	FM08: Vehicle to Vehicle Scrappage Scheme
		FM09: Vehicle to Mobility Credit Scrappage Scheme
	Incentivising Sustainable mobility	FM10: Sustainable mobility Incentives
Air Quality (AQ)	Clean Area Zones/Low Emissions Zones	AQ02: Air Quality Monitoring
		AQ03: Air Quality Citizen Engagement
Parking & Traffic Management (PTM)	EV Parking Strategies	PTM03: Electric Vehicle Charging Management
Planning Policy PP)	Transport & Public Health	PP02: Public Health & Transport
Behavioural Change (BC)	ISO 50001 Energy Management Certification	BC01: ISO50001 Energy Management Standard - Public Sector
		BC02: ISO50001 Energy Management Standard - Private Sector
	Eco-driving	BC09: Eco-Driving
	Behavioural Change Campaigns	BC10: Behavioural Change Campaign - Cleaner Fleets
Technology & Communication (TC)	Integrated Ticketing and Mobility as a Service	TC01: Next Generation Ticketing
		TC02: Mobility as a Service Pilot
	Connected Vehicles	TC09: Connected Vehicles

Tier Two A – National Toolkit highlights from initial fleet modelling

Measure	Fleet modelling results	
	CO$_2$	NO$_x$
FM09: Vehicle to Mobility Credit Scrappage Scheme Scrappage scheme providing mobility credits for sustainable mobility in exchange for high-polluting vehicles being scrapped. Further examination/evidence as regards the potential for a Pilot Study in larger cities, with smaller cities pending outcome.	-21%	-48%
AQ02: Air Quality Monitoring Continue EPA roll out of AQ monitoring stations, building capacity and capability for AQ modelling.	-21%	-48%
AQ03: Air Quality Citizen Engagement Continue EPA roll out of AQ citizen engagement programmes (e.g. Globe Schools, Curious Noses / Clean Air Ireland) to enhance awareness of air quality and support behavioural change.	N/A	N/A
BC10: Behavioural Change Campaign – Cleaner Fleets Behavioural change campaign to support switch to cleaner, lower emissions fleets for next vehicle purchases (including private cars & taxis)	-27%	-60%

| Fiscal Measures (FM)	Tolling	FM12: M50 Multi-Point Tolling
Parking & Traffic Management (PTM)	EV Charging Infrastructure Strategies	PTM02: Electric Vehicle Charging Strategy
	On-Street Parking Controls & Pricing	PTM07: Car Clubs/Car Sharing
	Residential & Workplace Parking Standards	PTM08: Residential Parking Standards
		PTM09: Workplace Parking Standards
		PTM10: Residential Parking Standards - EVs & Car Clubs
	Freight/Goods Delivery Management	PTM12: HGV Management Strategy
		PTM13: Active Kerbside Management
	Traffic Management	PTM14: Slow Zones
		PTM15: Decreased Speed Limits on Urban Motorways
		PTM16: Park & Ride
		PTM17: Car Free Zones & Streets
Behavioural Change (BC)	Mobility Management Plans	BC03: School Mobility Management Plans (MMPs)
		BC14: School Streets & Safer Routes to School
		BC04: Workplace Mobility Management Plans
		BC05: Flexible Working
		BC06: Staggering School and Workplace Start and Finish Times
		BC07: Residential Mobility Management Plans
		BC08: Area Mobility Management Plans
	Behavioural Change Campaigns	BC11: Reward Schemes
		BC12: Marketing New Schemes
		BC13: Disruption & Resilience
Technology & Communications (TC)	Intelligent Transport Systems	TC03: Real Time Passenger Information
		TC04: Ramp Metering on National Roads
	Variable Speed Limits	TC05: M50 Variable Speed Limits
	Urban Traffic Management Centres	TC06: Public Transport Control Centres
		TC07: Urban Traffic Management Centres
	Parking - Wayfinding & Variable Message Systems	TC08: Smart Parking Wayfinding & VMS

Tier Two B – City Toolkit highlights from initial fleet modelling

Measure	Fleet modelling results	
	CO_2	NO_X
PTM02: Electric Vehicle Charging Strategy Development & implementation of an EV charging strategy for each city for private cars and taxis, including: County Development Plan Parking Standards; on-street; Park & Ride; Rail Stations; Mobility Hubs; Multi-storey parking and e-Taxi charging infrastructure.	-31%	-49%
PTM08: Residential Parking Standards Reduced Residential Parking Standards for new developments in appropriate locations	N/A	N/A
PTM12: HGV Management Strategy Development & implementation of a HGV Management Strategy for each city	N/A	N/A
PTM17: Car Free Zones & Streets Identify areas within cities that could have a positive impact on Air Quality and quality of the Public Realm	N/A	N/A
BC14: School Streets & Safer Routes to School Resources to support with local School Streets & Safer Routes to School initiative, including consultation, implementation and monitoring.	N/A	N/A

The emerging Delivery Roadmap – approach
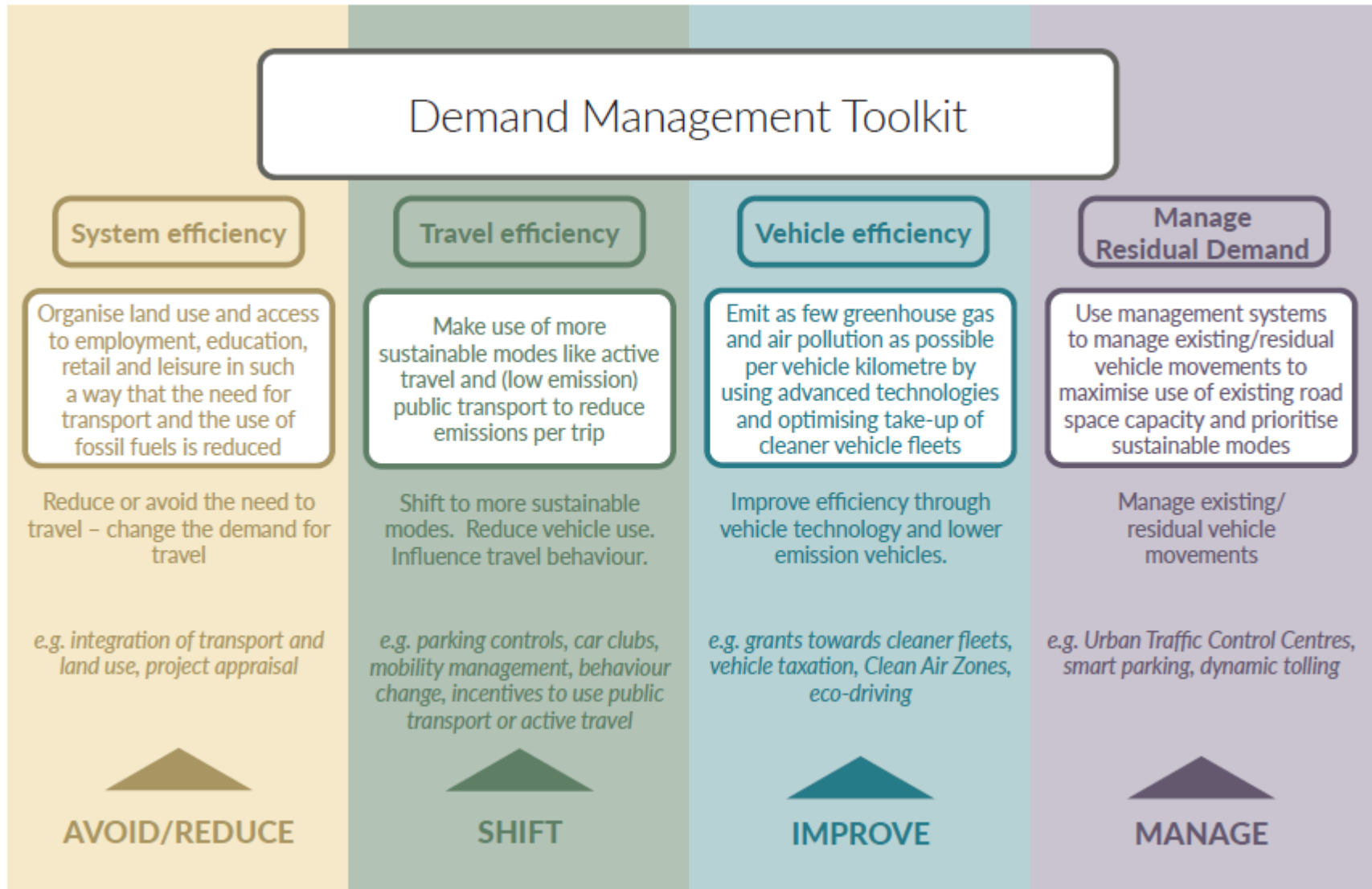
The emerging Delivery Roadmap – Tier One

Emerging top three Tier One recommendations

1st   PP08 – 15 Minute Neighbourhoods

2nd   PP04 – NPF Delivery Management

3rd   PTM04 – Public Parking Controls

Next Steps

Quantitative Assessment using **NTA's Regional Modelling System** on applicable Tier One measures.

Analysis will inform **refinement and prioritisation** of Recommendations Report and Delivery Roadmap.

Category	Subcategory	Measure	Measure Type	RMS Component
Fiscal	Vehicle Taxation	Progressive Vehicle Taxation (FM01)	Tier 1 Strategic	Adjustment to Price per Minute (PPM) & Price per Km (PPK) input parameters
		Time/Location based Vehicle Taxation per km (FM03)	Tier 1 Strategic	(Per km charge modelled to give indication of impact of this measure). Adjustment to Price per Minute (PPM) & Price per Km (PPK) input parameters
	Alternative Fuels	Alternative Fuelled Vehicle Support (FM05)	Tier 1 Strategic	Environment Module
	Congestion Charging	Further examination/ evidence required in relation to Congestion Charging within a specified zone (Cork & Dublin) (FM11)	Tier 1 Strategic	Road Assignment Model - Road charges and bans
Air Quality	Clean Area Zones/Low Emissions Zones	Clean Air Enabling Legislation (AQ01)	Tier 1 Strategic	Environment Module
		CAZ via a National Vehicle Sticker Scheme (AQ05)	Tier 1 Strategic	Environment Module to reflect fleet changes
Parking & Traffic Management	Workplace Parking Levy	Workplace Parking Levy within a pilot City (Galway) (PTM01)	Tier 1 Strategic	Changes to spaces available in Free Workplace Parking Module and Parking Distribution Module (i.e. Paid Parking)
	On-Street Parking Controls & Pricing	Public Parking Controls (PTM04)	Tier 1 Strategic	Parking Distribution Model

THANK YOU

SYSTRA