Údarás
Náisiúnta Iompair
National Transport Authority

Cork Metropolitan Area Transport Strategy

Supporting Measures Report

September 2018

National Transport Authority,
Dun Scéine,
Harcourt Lane,
Dublin 2.

Document Identification Table	
Client / Project Owner	National Transport Authority
Document Title	Cork Metropolitan Area Transport Strategy - Supporting Measures Report
Version	V2
Document Status	Draft

Document Status Tables

Version 1

	Name	Position	Date
Originated by	Sinéad Canny	Associate Director	14 December 2017
Checked by	John Paul FitzGerald	Project Manager	5 January 2018
Approved by	John Paul FitzGerald	Project Manager	5 January 2018
NTA Review			

Version 2

	Name	Position	Date
Originated by	John Paul FitzGerald	Project Manager	14/09/2018
Checked by	John Paul FitzGerald	Project Manager	14/09/2018
Approved by	John Paul FitzGerald	Project Manager	14/09/2018
NTA Review			

Version 3

	Name	Position	Date
Originated by			
Checked by			
Approved by			
NTA Review			

CONTENTS

1 Introduction

The National Transport Authority (NTA) is preparing a new transport strategy for the Cork Metropolitan Area (CMA) which will consider the future of the transport system in the CMA for the period up to the year 2035. Whilst the main strategy document deals with transport network configuration and infrastructure, the supporting measures included in this report comprise policies and interventions related to municipal leadership, individual attitudes and knowledge that aim to maximise the benefits from future changes and investments in CMA's transport provision.

This report explores potential supporting measures and sets out recommendations for options to be brought forward for further consideration, planning and implementation as part of the Cork Metropolitan Area Transport Strategy (CMATS). Many of these policies, notably those related to information, education and promotion as well as supportive development characteristics will be acted upon through the implementation of CMATS and its consideration in future policy and planning such as the Cork City and County Development Plans.

2 Issues and Rationale for Supporting Measures

2.1 What do Supporting Measures Aim to Achieve

Supporting measures seek to:

- Make the transport network easier to access:
  - for example, through information provision such as pedestrian wayfinding.
- Promote transport options, especially sustainable transport:
  - For example, through workplace travel planning.
- Manage the use of the transport network to derive greater efficiency:
  - For example, through parking management.
- Improve integration between transport networks to achieve greater combined benefits:
  - For example, through integrated public transport ticking such as Leap Cards.

The CMA's supporting measures will be essential to the creation of physical, social and cultural environments where walking, cycling and public transport are attractive alternatives to the private car. It will take a wide range of supportive initiatives to:

- create communities that support sustainable transport;
- improve public awareness and educate users on available options to help them make the best choices;
- promote sustainable transportation options; and
- improve end to end trip facilities and integration.

Supporting measures are primarily demand management oriented rather than supply oriented i.e. they attempt to manage people's travel rather than seeking to provide more physical capacity for travel (such as more roads, bus and train services etc). Supporting measures can, however, complement supply oriented programmes that, for example, either reduce the capacity for private vehicles or provide priority in traffic for new or existing public transport services. An example would be where on-street parking availability is reduced as a supporting measure and the space is reallocated to provide for cycle facilities or improved pedestrian environment or public transport priority.

2.2 The Role of Supporting Measures within CMATS

One of the key principles for CMATS is to reduce car dependency within the CMA whilst increasing the attractiveness of sustainable transport options. Another fundamental principle of the Strategy is to support the future growth of the CMA through the provision of an efficient transport network. Supporting measures have an important role to play in providing a future transport network that matches up to these principles. The full benefits of the significant investment that will be delivered under CMATS cannot be achieved through the provision of infrastructure alone and must be combined with the implementation of measures that support best use of that infrastructure.

3 CMATS Supporting Measures

There are numerous options available for supporting measures that could be applied or expanded within the Cork Metropolitan Area. Consideration was given, on the basis of professional judgement, to the following criteria:

- how efficient is the supporting measure / how easy the supporting measure is to deliver; and
- how effective is the supporting measure / the supporting measures' contribution to sustainability.

CMATS supporting measures are grouped into the following categories, each of which is described in detail in the following sections:

- 3.1 Land Use
- 3.2 Behavioural Change Programmes
- 3.3 Parking Management
- 3.4 Information and Awareness
- 3.5 End to End Trip Facilities and Integration Measures
- 3.6 Built Environment Measures
- 3.7 Strategic Road Demand Management Strategies

3.1 Land Use

Land use measures seek to provide for development which reduces car dependency and encourages the use of alternative modes. Land use policies that support the provision of new development in locations, layouts, and at densities, which support walking and cycling and enable the efficient provision of public transport services are to be encouraged alongside CMATS implementation.

The Land Use supporting measures comprise:

- LU-01 Transit Orientated Development
- LU-02 Appropriate Development Densities
- LU-03 Mixed Use Development Patterns
- LU-04 Providing for Permeability

3.1.1 LU-01 Transit Orientated Development

Transit Orientated Development	Transit Orientated Development (TOD) is the creation of compact, walkable communities centred around high quality public transport services.	**Description of Measure**	There is a major focus on TOD policies to support CMATS as outlined in the Land Use Integration section of the main Strategy Report.	**CMATS Opportunities**	Implementing this supporting measure will play an important role in achieving complementary transport networks and land uses/urban design that support each other so that the use of sustainable transport is optimised and facilitates best practices for land use.

3.1.2 LU-02 Appropriate Development Densities

Appropriate Development Densities	The density of development has a significant impact on the concentration and distribution of trip demand. Higher densities contribute to a compact urban footprint that brings more people closer to destinations and public transport services within easy walking distance.	**Description of Measure**	Appropriate development densities as a supporting measure will look to target higher development densities where there are good opportunities for sustainable transport and in a manner that supports the success of CMATS by better aligning the provision of transport with demand.	**CMATS Opportunities**	CMATS will provide the opportunity to integrate new development at appropriate densities with the well-defined future transport networks including delivering higher density development in conjunction with more attractive walk and cycle networks and public transport services. This supporting measure has the potential double benefit of both extending the catchment of sustainable modes to more people and places and improving the viability of future investment in public transport by attracting higher demand.

3.1.3 LU-03 Mixed Use Development Patterns

Mixed Use Development	Mixed use development patterns provide a choice of services and facilities locally and facilitate higher levels of walking and cycling by shortening travel distances.	**Description of Measure**	Mixed use development as a supporting measure plays an important role in shortening trip lengths by locating key destinations such as schools, health facilities, leisure and retail services within close proximity of where people live.	**CMATS Opportunities**	Mixed use development patterns of an appropriate scale are suitable across the CMA with the range and scale of non-residential development varying depending on the population density. Particular attention should be placed on the location of high trip intensity land uses such as schools in relation to residential areas.

3.1.4 LU-04 Providing for Permeability

Providing for Permeability	Providing for permeability is a key component of supporting a more walkable and cycle friendly City and facilitating better access to public transport.	**Description of Measure**	Good permeability is achieved through the availability of direct connections between origins and destinations that are accessible, safe and secure. The National Transport Authority's Permeability Best Practice Guide is available to assist local authorities and other organisations in tackling the issues that impact on permeability providing a basis for addressing the legacy of severance in Irish urban areas.	**CMATS Opportunities**	Permeability should be considered in relation to all future development. Opportunities to improve permeability to existing developed areas should be sought in conjunction with the implementation of the public transport, pedestrian and cycle network enhancements provided for within CMATS; of importance will be: ■ Direct, high-quality pedestrian connections to high capacity public transport corridors, bus stops and major walking destinations; ■ Pedestrian and cycle crossings to link areas that are separated by roads or other physical barriers including the use of countdown signals at appropriate crossings; and ■ Planning and design that ensures accessibility for persons with mobility challenges.

3.2 Behavioural Change Programmes

Behavioural change programmes are aimed at encouraging people to choose more sustainable transport options. Existing behavioural change programmes include the Smarter Travel Workplaces and Campuses programme directly managed by the NTA and the Green Schools Travel Module administered by the NTA and run by An Taisce on behalf of the Department of Transport, Tourism and Sport (DTTAS). Requirements for Travel Plans are set out in local authority development plans. As such, the local authorities also play a significant role in the review and monitoring of Travel Plans.

The Behavioural Change Programmes supporting measures comprise:

- BCP-01 Workplace Travel Plans
- BCP-02 Smarter Travel Campus
- BCP-03 Green Schools Programme

3.2.1 BCP-01 Workplace Travel Plans

Workplace Travel Plans	Workplace Travel Plans, also known as Mobility Management Plans, comprise a package of measures to promote / support sustainable travel patterns.	**Description of Measure**	The Smarter Travel Workplaces Programme, managed by the National Transport Authority, engages with larger employers in the CMA in the development and implementation of Workplace Travel Plans. The Cork City and County Development Plans include for the Travel Plan requirements for new developments.	**CMATS Opportunities**	Workplace travel planning provides the opportunity to communicate the implementation of CMATS and to promote the benefits of the Strategy directly with a large number of commuters. The continuation and expansion of workplace travel planning in the CMA will play an important role in delivering the behavioural change that is required to achieve the full benefits of CMATS.

3.2.2 BCP-02 Smarter Travel Campus

Smarter Travel Campus	Smarter Travel Campus is a behavioural change programme encompassing actions to encourage and support third level students and staff to walk, cycle, take public transport or carshare on the commute to campus.	**Description of Measure**	Smarter Travel Campus is a hands-on programme managed by the National Transport Authority working with Third Level Institutions to implement campus travel plans. For example, University College Cork are an active Smarter Travel Campus Partner Campus for a number of years and engage in initiatives during the year to promote smarter travel.	**CMATS Opportunities**	The Smarter Travel Campus programme can act as a supporting measure for CMATS by providing the opportunity to communicate the implementation of CMATS and to promote the benefits of the Strategy directly with the CMA's third level population, particularly including those attending and working in the large third level institutions, UCC and CIT.

3.2.3 BCP-03 Green Schools Programme Travel Module

Green Schools Programme	Travel is the fourth theme of the Green-Schools programme under which schools prepare action plans to promote and increase the number of students walking, cycling, scooting, using public transport or carpooling on the way to school.	**Description of Measure**	The National Transport Authority works with An Taisce to oversee a school travel module as part of the Green Schools programme. The NTA has published a Toolkit for School Travel that presents a set of measures for use by schools to promote ways of reducing car use on the trip to and from school.	**CMATS Opportunities**	Potential to extend the Green Schools Programme to all schools in the CMA providing the opportunity to communicate the implementation of CMATS and to promote the benefits of the Strategy directly with the school population.

3.3 Parking Management

The availability and price of parking are major determinants of the relative attractiveness of the private car versus sustainable transport options. Parking management measures include pricing and supply controls that make car use more expensive and less convenient, thereby increasing the relative attractiveness of non-car modes. Parking has a significant influence on people's travel behaviour. Transport demand management through parking restraint can be targeted to locations where accessibility by alternative modes is high thereby encouraging mode shift to public transport, walking and cycling. Parking restraint can also be applied as a fiscal measure or alongside land use planning measures.

3.3.1 P-01 On-Street Parking Controls

On-Street Parking Controls	On-street parking controls generally comprise parking charges, parking duration limits and/or time of day parking restrictions.	**Description of Measure**	Effective parking control strategies aim to provide for a suitable balance of long and short term parking and parking duration limits to specific sites or areas. Cork City Council operates a Pay Parking system for payment of On-Street Parking.	**CMATS Opportunities**	The availability and pricing structure for council controlled on-street parking within the CMA should be reviewed alongside CMATS implementation.

3.3.2 P-02 Parking Standards for New Developments

Parking Standards for New	Appropriate car parking standards are required to manage the parking supply and to encourage high quality parking layouts for new developments.	**Description of Measure**	Parking standards for new developments are set out in the Cork City and County Development Plans.	**CMATS Opportunities**	CMATS provides the opportunity to enforce stricter parking controls in targeted areas alongside improvements to sustainable transport to further encourage alternatives to car commuting. Parking standards can also be used to support other measures such as more compact development patterns or urban realm improvements.

3.3.3 P-03 Reductions in the Availability of Parking

Reductions in the Availability of Parking	Reducing the availability of parking is a highly effective way of making sustainable transport relatively more attractive in comparison to the private car.	**Description of Measure**	Reductions in the availability of parking can be achieved through development controls. Reducing parking supply also has the potential to support other measures by reallocating surface car parking to urban realm improvements, sustainable modes or more compact development for example.	**CMATS Opportunities**	Particular focus should be placed on encouraging reductions in the availability of parking in the vicinity of the CMATS high capacity public transport corridors and encouraging shared and/or structure parking to enable more compact development patterns. CMATS proposes the removal of significant levels of on-street parking in order to accommodate the public transport priority measures. The benefit in this context is two-fold as the removal of on-street parking enables more efficient public transport while reducing the attractiveness of private car travel.

3.3.4 P-04 Workplace / Private Parking Levies

Workplace / Private Parking Levies	The availability of free private parking at key destinations has a significant impact on the relative attractiveness of the private car versus sustainable transport options.	**Description of Measure**	By influencing parking supply, local authorities and organisations can foster a market for priced (rather than free) parking.	**CMATS Opportunities**	As part of CMATS implementation, employers and private parking providers should be encouraged to limit or eliminate the availability of free parking particularly in areas served by the CMATS high capacity public transport corridors.

3.4 Information and Awareness

Information, education, promotion and outreach measures, that are aimed at raising awareness and improving understanding of the options available to help people to recognise the travel choices available to them, can play an important role in overcoming barriers to switching from private car use to sustainable modes.

The use of technology in the communication of information has developed considerably over recent years and opportunities to take advantage of effective and efficient new methods of communication should be explored as part of the implementation of CMATS.

The Information and Awareness supporting measures comprise:

- IA-01 Journey Planner
- IA-02 Real Time Passenger Information
- IA-03 Marketing/Information Campaigns

3.4.1 IA-01 Journey Planner

Journey Planner	Journey Planners make the public transport network easier to understand and provide the public with readily accessible information on the transport options available to them.	**Description of Measure**	The National Transport Authority's National Journey Planner and Cycle Planner helps people plan personal journeys, door-to-door, anywhere in Ireland, using public transport, cycling (including Cork Coca Cola Bikes) and / or walking. There is also an App available for Android and iPhone.	**CMATS Opportunities**	Journey planners are an effective way to reduce one of the potential barriers to mode shift to sustainable transport within the CMA by allowing people to understand how they might travel without the use of the private car. The Journey Planner will need to be updated and maintained as the implementation of CMATS progresses.

3.4.1 IA-02 Real Time Passenger Information

Real Time Passenger Information	RTPI provides accurate information on actual departure and arrival times, enabling passengers to more efficiently plan their trips and the public transport operator to maintain or improve performance.	**Description of Measure**	The National Transport Authority is currently providing a RTPI service for bus passengers in Cork City. RTPI signs are located where they will provide information to the greatest number of bus passengers and to include as many main routes as possible. All Bus Éireann stops are included on the website, smartphone Apps and SMS phone services.	**CMATS Opportunities**	RTPI displays and associated Apps have a multitude of benefits that include reducing perceived wait times, making public transport schedules easier to understand, and helping passengers to plan their journeys. The systems and information databases required to deliver RTPI also result in operational benefits and help in the planning of services and identification of issues such as reliability. There is potential to extend the RTPI infrastructure within the CMA alongside the implementation of public transport improvements delivered by CMATS.

3.4.2 IA-03 Marketing/Information Campaigns

Marketing/Information Campaigns	Information provision and appropriate marketing are important factors that can encourage people to use sustainable modes.	**Description of Measure**	Transport for Ireland is the "single public transport brand" which the National Transport Authority has developed to promote and integrate public transport provision in Ireland. The Authority also delivers marketing campaigns and other customer engagement activities to promote, deliver and encourage sustainable transport use.	**CMATS Opportunities**	In delivering sustainable transport improvements consideration should be given to branding, marketing, and advertising and using smart, creative, cost-efficient campaigns targeted at increasing and maintaining sustainable transport demand. Information campaigns should be an integral part of CMATS delivery.

3.5 End to End Trip Facilities and Integration Measures

3.5.1 I-01 Interchange Facilities

Interchange Facilities	One of the features of a successful public transport network is how effectively and attractively the opportunities for interchange between various operators and modes are presented.	**Description of Measure**	Effective interchange can significantly enhance the opportunity to use public transport to access a range of destinations. Key aspects of high quality interchange includes coordinated scheduling, comfortable and attractive waiting areas, clear and legible information, and minimised distances between connected services.	**CMATS Opportunities**	During the period of the Strategy provision should be made for high quality passenger interchange points integrated with the revised transport networks. In particular, interchange between the proposed radial and orbital bus services, and between bus services and the two high capacity public transport corridors, of which Kent Station will be a major interchange.

3.5.1 I-02 Integrated Ticketing

Integrated Ticketing	Integrated ticketing and smartcard technology offers a convenient way to pay public transport fares. Smart ticketing allows for responsive fare structures to be implemented to simplify use and offer better value for money. Leap offers significant discounts on cash fares and facilitates daily and weekly capping.	**Description of Measure**	Only 10% of passengers on the Cork commuter rail network currently use Leap e-purse and there is likely to be significant benefits to passengers should they switch to Leap for their travel.	**CMATS Opportunities**	One of the goals of CMATS is to deliver an integration transport system that is interconnected to allow people and goods to move efficiently throughout the CMA and to provide access with a variety of modes for people. Promotion of Leap in Cork will help to inform existing and potential passengers of the benefits of using Leap. There are opportunities to extend the range of payment options and integrated ticketing measures over the lifetime of the Strategy.

3.5.1 I-03 Public Transport Fares

Public Transport Fares	To ensure that public transport fares are attractive and customer friendly, the broad principle for transit fares should include a system that is: ▪ Easy to use and understand; ▪ Regionally integrated; ▪ Designed to provide price incentives for more frequent use; and ▪ Affordably priced to make transit an attractive alternative to the private car	**Description of Measure**	Public transport faces several areas of competitive disadvantage relating to the price of travel: free parking (especially at workplaces) is the most significant. In the 2017 Fares Determination, the National Transport Authority made significant improvements to the attractiveness of Cork's public transport fares by: ▪ Simplifying the Cork Commuter Rail Fares – reducing the number of fare zones from 5 to 3 and adjusting the origin-destinations to reflect a more distance based pricing structure; ▪ Expansion of the Bus Éireann city fare area to better reflect the current movement of people and include new city suburbs and industrial areas; ▪ Increase the Leap discount to 30% on both city and stage carriage bus services; and ▪ Extending free travel on PSO subsidies public transport to young children up to the age of 5.	**CMATS Opportunities**	The ongoing improvements to public transport fares being implemented by the NTA should be continued within the lifetime of CMATS. A fares structure review should be undertaken to ensure that the CMATS networks are supported in a manner that encourages increased public transport use and provides for appropriate cost recovery. The development and implementation of a CMA-wide zone based fare structure should be undertaken. For example: Trips that involve the use of multiple public transport services should be considered as a single trip and the fare applied based on the zone to zone fare structure, not the number of public transport services used.

3.5.2 I-04 Bicycle Hire / Sharing Scheme

Bike Sharing Scheme	A public bicycle sharing scheme, such as Cork Coca Cola Zero Bikes, can be very effective in addressing the 'last kilometre' of a trip and is very beneficial in widening the catchment of public transport.	**Description of Measure**	The Coca Cola Zero Bike scheme launched in Cork in December 2014 and currently comprises 31 stations and 300 bikes across the City Centre.	**CMATS Opportunities**	There is potential for the expansion of the bicycle sharing scheme with a particular focus on the strategic cycle network included within CMATS and the high capacity public transport corridors. Other bicycle hire schemes such as dockless bicycles could also be considered within the CMATS lifetime.

3.5.1 I-05 Private Carpooling / Car Sharing Scheme (Lift Sharing)

Carpooling	Carpooling for commuter trips to work and education can reduce traffic congestion and delivers benefits to the individual by way of travel savings. Commuter trips are the most suitable to carpooling as they are undertaken most often and with a pattern of routine.	**Description of Measure**	Carpooling is most effective when it is undertaken on a company-wide or office-wide/specific location basis. The National Transport Authority actively supports Car Sharing through the Smarter Travel Workplaces Programme and the primary carpooling initiatives in Cork currently includes the NTA's carsharing.ie website.	**CMATS Opportunities**	Places of work can incentivise Lift Sharing through initiatives such as priority parking for Carpooling staff and there is a benefit to employers through reduced overall parking requirements. Carpooling schemes in high employment areas such as Ringaskiddy to cater for trips that are hard to serve by public transport, walking or cycling.

3.5.1 I-06 Public Car Sharing Schemes (Car Clubs)

Car Sharing Schemes	Public car sharing a model of car rental where people rent cars for short periods of time, often by the hour. They are attractive to customers who make only occasional use of a vehicle, as well as others who would like occasional access.	**Description of Measure**	Car sharing schemes can reduce the number of cars on the road and frees up land traditionally used for parking spaces. By supporting people who choose not to own a car, car sharing can encourage use of public transport, walking and cycling.	**CMATS Opportunities**	Interventions that support the provision of car sharing schemes should be considered as part of CMATS such as reserving parking spaces for public car sharing schemes like GoCar.

3.5.2 I-07 Park and Ride

Park and Ride	Park and Ride involves providing car parking spaces at public transport interchanges to provide access to the City Centre via public transport with managed secure parking.	**Description of Measure**	Park and Ride as a component of the CMATS is a means of increasing the accessibility of the transport network to a population that might not otherwise access the network through modes such as walking, cycling or public transport transfer. The location of Park and Ride sites is key to achieving the desired benefits of private car reductions.	**CMATS Opportunities**	Park and ride sites are proposed at key locations around the periphery of Cork City within the CMA in order to widen the catchment and maximise the use of the proposed public transport network. It can strengthen the public transport system and support a more robust public transport network if implemented without compromising access for other modes of travel.

3.6 Built Environment Measures

3.6.1 BE-01 Public Realm and Urban Design

Urban Realm	Urban design that creates a visually appealing urban environment is often very conducive to encouraging walking, cycling and public transport. Further benefits of high quality urban design is the contribution to creating urban and natural environments that foster strong local business, create strong communities and contribute to quality of life.	**Description of Measure**	A mobility friendly built environment includes a safe pedestrian environment, safe street crossings, easy to access public destinations, a mix of housing choices, nearby health centres and recreational facilities. Additional mobility / age friendly urban design features usually includes tactile paving, adequate street and park furniture such as rest benches, legible pedestrian signage and well-lit walking areas. Further security measures can be very effectively achieved through good urban design principles such as ground floor activity providing passive surveillance.	**CMATS Opportunities**	In the context of supporting CMATS, good urban design is the art of arranging the external physical environment to support sustainable transport. It evolves from many public and private decisions, made over time, in land use planning, architecture and engineering fields.

3.6.1 BE-02 Pedestrian and Cycle Wayfinding

Pedestrian and Cycle Wayfinding	Wayfinding, or legibility, relates to how people can find their way around an area. For pedestrians and cyclists this is of particular importance as they are more likely to move through an area if the route is clear and easy to follow.	**Description of Measure**	There are several principles that go into wayfinding, such as architectural clues, surface treatments, lighting, sight lines, and signage. The Design Manual for Roads and Streets provides guidance on wayfinding.	**CMATS Opportunities**	Wayfinding techniques should be delivered alongside the CMATS strategy particularly for the implementation of the improved walking and cycling networks. Signage and lighting can be designed to complement good wayfinding design. This can be further promoted through easily legible pedestrian and cycle route maps for the CMA area delivered in conjunction with CMATS highlighting primary routes.

3.6.2 BE-02 Security Measures

Security Measures	Decisions to use the public transport, walking and/or cycling networks are influenced by perceptions of safety and security as well as its accessibility and cost.	**Description of Measure**	Through the implementation of CMATS and reflection of the Strategy in future policy and planning, transport safety and security issues should be considered through: ▪ Innovative physical measures such as aesthetically pleasing landscaping and design ▪ Operation measures; and ▪ Public awareness initiatives.	**CMATS Opportunities**	Addressing safety and security issues is a high priority for sustainable modes and must be considered if CMATS is to achieve its public transport objectives

3.6.3 BE-3 Community Gain Programmes

Community Gain	Community Gain Funds are an effective way of integrating new developments with existing communities to the benefit of both.	**Description of Measure**	Community Gain Programmes are implemented in conjunction with particular major infrastructure schemes or developments to fund projects that seek to enhance communities and improve social cohesion at a local level.	**CMATS Opportunities**	The possibility of initiating community gain programmes in conjunction with CMATS should be explored to support the changes the Strategy will bring about.

3.7 Strategic Traffic Demand Management Strategies

3.7.1 STDM-01 Road User Charging

Road User Charging	There can be different purposes and benefits of road user charging in demand management terms including: ▪ Prioritising strategic traffic – for example the Dublin Port Tunnel is free for HGV's and tolled for private cars; ▪ To influence route choice; ▪ To deter the use of the private car in specific areas or at specific times of the day – for example urban area congestion charging schemes.	**Description of Measure**	Pricing measures to manage road use include: ▪ Fixed location tolling - commonly associated with the delivery of major infrastructure such as a bridge or tunnel; ▪ Road based tolling – usually associated with sections of motorway; ▪ Road user charging variations by time of day; ▪ Distance based tolling; ▪ Cordon based road user charging, e.g. city centre congestion charging	**CMATS Opportunities**	As it currently stands, CMATS does not include any specific measures for road user charging. However, over the duration of the Strategy, subject to road traffic conditions and the successful delivery of alternative modes, the opportunity for revised road user charging approaches should be considered if deemed appropriate.

3.7.2 STDM-02 HGV Management Strategies

HGV Management Strategies	Heavy Good Vehicles (HGVs) and freight represent a key economic driver moving goods throughout the CMA and nationwide. HGVs due to their size can have significant impacts on traffic operations, in particular within urban environments.	**Description of Measure**	HGV management measures include: ▪ HGV restrictions with Cork City Centre, the manner of implementation, HGV access routes and extent of scheme should be reviewed. ▪ Mobility management planning at key freight locations such as the Port of Cork to reduce the HGV impact during peak periods. ▪ Delivery restrictions within urban areas to reduce HGV impact on urban centres during peak periods.	**CMATS Opportunities**	The restriction of HGVs from Cork City Centre will improve the environment for active modes and improve safety, while the regulation of delivery times can improve the traffic operations. Where road user charging on strategic traffic routes is considered appropriate, HGVs should not be charged, in a manner similar to the Dublin Port Tunnel.

3.7.3 STDM-03 Strategic Road Corridor Demand Management Strategies

Road User Charging	Corridor based demand managements strategies can be very effective in ensuring the efficient operation of the strategic road network.	**Description of Measure**	The strategies can combine different demand management approaches and generally aim to make best use of Intelligent Transport Systems such as: ▪ Variable Speed Limits ▪ Incident Detection Systems ▪ Variable Message Signs ▪ Ramp Metering on National Routes	**CMATS Opportunities**	Strategic Road Demand Management Studies, such as the N40 Demand Management Study prepared by TII, should be undertaken and implemented as part of CMATS along appropriate corridors identified through traffic monitoring over the lifetime of the Strategy.