DRAFT

Vision Zero Strategy Document

for the Public Engagement Activity

This Strategy Document, when finalised, will support the delivery of a Road Safety Service in Essex, Southend & Thurrock

Version 0.9.1 – Draft for the Engagement Activity – 14th September 2021
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1.0 Introduction to the Engagement Activity

This document outlines the Safer Essex Roads Partnership’s draft Vision Zero Strategy which will be used for the engagement activity commencing on 14th September 2021; it is supported by a Summary document.

This document gives some background to the Safer Essex Roads Partnership (the Partnership) and states the vision and targets which have been agreed. The document summarises the strategic actions and road safety performance indicators that the Partnership proposes to pursue the aspiration of achieving zero road deaths and serious injuries on Essex roads by 2040 (referred to as “Vision Zero”) and an interim casualty reduction target for 2030. This document also summarises the ‘Safe System’ approach to road safety which sits at the heart of Vision Zero.

The public engagement activity will be undertaken in September / October 2021. The final Vision Zero Strategy will take effect from 1st April 2022 but will be reviewed by April 2025 at the latest, in recognition of the developments occurring, and required, across Essex to meet multiple demands.

Although this draft Vision Zero Strategy document is based on an internationally recognised and proven approach, it has been adapted to provide a realistic model that could be delivered in Essex, Southend, and Thurrock.

Although the Partnership includes the three local authority areas responsible for maintaining the highway network, the Partnership itself is currently only funded and set up to deliver non-engineering elements of road safety; that is education, enforcement, and engagement.

This document details the Partnership’s success in reducing casualty numbers and severity over the past 20 years but recognises that a major step change is required, by multiple partners, if we are all to benefit from a road network that is free from death and serious injury.

The Strategy recognises that this step change will only happen if improvements to all the layers of protection are made and if we coordinate improvements, not only within road safety, but with changes required to address climate change and economic recovery, for example. The document recognises that we all can, and do, influence the safety of ourselves and others on the road.

The Partnership recognises that people and businesses may be recovering from the impacts of the Covid-19 restrictions for some time but, it is perhaps because of that, that we should all desire to return to a transport system that does not accept death and serious injury as an acceptable price to pay for mobility.

Therefore, the Partnership urges you to consider this draft strategy, to let us know your thoughts as to how a safe road network might be achieved in Essex and how you might be able to contribute. Please help us shape this strategy and define the actions required to stop road death being the biggest cause of death to our young people in Essex.
2.0 Background to the Safer Essex Roads Partnership

The Partnership was formed in April 2014 with the sole aim of delivering a coordinated road safety service across the area covered by the local authorities comprising Essex County Council, Southend on Sea Borough Council and Thurrock Council.

By April 2015, the Partnership comprised ten formal partner organisations who had all signed-up to a Memorandum of Understanding that covered the seven-year period between April 2014 and March 2021. The Memorandum of Understanding detailed the aims and objectives of the Partnership, how the partner organisations would work together and the roles and responsibilities of each partner organisation. Organisations were invited to become formal partner organisations based on the contribution they could make to delivering the Partnership’s aims and objectives.

The Partnership was formally launched to the media in September 2015.

During 2014/15, the Partnership’s Governance Board approved casualty reduction targets that stated by the end of December 2020, the Partnership should achieve, as a minimum:

- a 40% reduction in deaths and serious injuries (formerly referred to as killed and seriously injured casualties); and
- a 25% reduction in slightly injured casualties. Owing to the progress that was made between 2014 and 2018, the slightly injured casualty reduction target was revised to 40% in January 2019.

The percentage reductions quoted above were related to the average baseline figures determined for the five-year period between 2005 and 2009.

For 2020, some 722 deaths and serious injuries were recorded which represented a 48% reduction from the baseline figure. The number of slight injuries recorded in 2020 was 2,632 and this represented a 49% reduction from the baseline figure.

These figures represented a successful period for the Partnership during which it had met its targets. However, there is still much work for the Partnership to do.

A new Memorandum of Understanding was introduced in April 2021, and this agreement covers the five-year period between 1st April 2021 and 31st March 2026. The Memorandum of Understanding contains a clause which allows the agreement to be extended for a further period of up to 5 years to the 31st of March 2031.

The Partnership is not a legal entity, and the Memorandum of Understanding enables additional organisations, who can positively contribute to the Partnership’s aims and objectives, to be invited to become a formal partner organisation at any stage.

This draft Vision Zero Strategy document is one of the key documents that supports the Partnership’s Memorandum of Understanding.
On 1st April 2021, the Partnership comprised the following eleven partner organisations (nine public service organisations and 2 charitable organisations, the latter indicated in the list below by **):

- Essex County Council,
- Essex Police,
- Office of the Police, Fire and Crime Commissioner for Essex,
- Essex Fire & Rescue Service,
- Southend on Sea Borough Council,
- Thurrock Council,
- Highways England (Bedford & Guildford offices),
- the East of England Ambulance Service NHS Trust,
- ** the Essex & Herts Air Ambulance Trust, and
- ** the Safer Roads Foundation.

In the Memorandum of Understanding, that came into effect on the 1st of April 2021, the Partnership adopted a new vision and a casualty reduction target setting the challenge with reaching zero deaths and serious injuries by 2040 supported by an interim target of a 50% reduction in deaths and serious injuries by 2030. The vision and interim target are discussed in more detail in Section 3.0.

### 3.0 What are the Aims and Objectives of the Safer Essex Roads Partnership and how does the Partnership work?

As part of the Memorandum of Understanding, the Partnership has formally adopted the following aims and objectives:

The **aims** of the Partnership are to:

- Achieve zero road deaths and serious injuries by 2040¹; this aim will be referred to as “Vision Zero” which is to be realised through the adoption of the “Safe System” approach to road safety.
- Deliver a data-led, sustainable, and cost-effective road safety service via an annual Partnership Plan.
- Place quality of service at the heart of everything the Partnership does to retain and build public confidence in the Partnership and road safety delivery.

¹ This **aspiration** relates to the number of deaths & serious injuries that are recorded by Essex Police in a 12-month period to the 31st of December 2040.
The objectives of the Partnership are to:

- Achieve an interim casualty reduction target of recording no more than 415 deaths and serious injuries (DSI) in the twelve-month period to 31st December 2030\(^2\).
- Develop a range of Road Safety Performance Indicators\(^3\) (RSPIs) that will provide a measure of progress towards the Vision Zero aspiration and the interim casualty reduction target for 2030.
- Promote, support, and encourage the adoption and delivery of the Safe System approach to road safety within all eleven partner organisations and other stakeholder organisations.
- Continue to deliver elements of the Vision Zero Strategy, detailed in this document, for which the Partnership has responsibility.
- Deliver external communication about the Safe System approach to road safety and the aspiration of zero deaths and serious injuries by 2040 to attract support from every road user in the Partnership’s area.
- Work locally, regionally, and nationally engaging with individuals, groups, and formal organisations, as required, to attract additional funding, resources, or intelligence in pursuit of the Partnership’s aims and objectives.

The Partnership makes appropriate use of any funding that it can generate from the range of activities it undertakes although, at present, most of this funding is obtained via the Partnership’s participation in the National Driver Offender Re-Training Scheme (NDORS), used as a disposal option for certain low-level traffic offences detected by police force areas across the UK.

It is a fundamental principle of the Partnership’s Memorandum of Understanding that all funding generated shall be invested in trying to meet the Partnership’s aims and objectives for the benefit of all road users in the Partnership’s area.

To achieve the stated aims and objectives an annual Partnership Plan, commencing on the 1st of April each year, is approved by the Partnership’s Governance Board. The Partnership Plan is the mechanism that is used to approve the prioritisation and allocation of funding to data-led interventions and actions developed because of this Vision Zero Strategy document.

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\(^2\) This target relates to the number of deaths & serious injuries that are recorded by Essex Police in the 12-month period to the 31st of December 2030.

\(^3\) The RSPIs will be included in the Vision Zero Strategy document that will take effect from 1st April 2022.
The Partnership Plan comprises three documents which are summarised below:

- A **Finance Plan** detailing a value-for-money approach towards the collection of receipts from services provided, operational day-to-day expenditure for the Partnership’s core activities (i.e., operating the safety camera systems, processing the resulting offences and offence disposal options which includes the administration and delivery of NDORS courses).

- An **Activity Delivery Schedule** detailing all activities that will be delivered in pursuit of the Partnership’s aims and objectives. The Schedule comprises two types of interventions: **Activity A**, which relates to all enforcement-based interventions undertaken, and **Activity B**, which relates to all education, communication and engagement interventions undertaken, and

- A **Communications Plan** which details all the education, communication, and engagement activities to be undertaken. The Communications Plan is a supporting document to the five-year Communications Strategy that supports the Partnership’s Memorandum of Understanding.

The Partnership has a governance and management structure in place which is summarised below:

**Governance** is provided by a Governance Board; the Governance Board is currently chaired by an elected member from Essex CC. The Governance Board comprises elected members and senior officers / senior representatives from each of the eleven partner organisations. The Governance Board meets quarterly and challenges the plans developed for casualty reduction work and will seek to remove any barriers which may inhibit the delivery of those plans.

The Governance Board approves all formal documents prepared by the Partnership together with all planned investment. The Board’s role is to ensure all delivery targets are met and importantly provides a platform from which the eleven partner organisations can work together more effectively and efficiently to achieve the Partnership’s aims and objectives.

**Management** is provided by a Strategic Group which is supported by two Sub-Groups (one supporting Activity A and the other supporting Activity B) and any number of Task & Finish Groups that are created to progress specific projects that are deemed necessary by the Strategic Group.

The Strategic Group is responsible for the preparation of all formal documents produced by the Partnership (such as this Vision Zero Strategy document and the annual Partnership Plan) and seeking the necessary approval to those documents from the Governance Board. The Strategic Group and Sub-Groups are responsible for operational delivery and ensuring best practice is achieved and compliance with the aims and objectives is maintained.

There are four dedicated job roles that are funded by the Partnership; the role of these members of staff are primarily to pursue and coordinate the aims and objectives of the Partnership and to provide the necessary support and links to the eleven partner organisations.
The four dedicated job roles are:

- **Partnership Manager** – responsible for co-ordinating the day-to-day activities of the Partnership and ensuring a robust monitoring regime is in place so regular reports can be given to the Governance Board, the Strategic Group, and its Sub-Groups regarding the implementation of the annual Partnership Plan.

- **Communications Manager** – responsible for the delivery and coordination of all communications matters for the Partnership, in compliance with the five-year Communications Strategy accompanying the Memorandum of Understanding and the Communications section of this Vision Zero Strategy document. The Communications Manager is also responsible for maintaining the Partnership’s social media platforms.

- **Communications Assistant** – responsible for providing support to the Communications Manager in delivering the role described above; with particular focus on website content and social messaging to support Vision Zero, and

- **Road Safety Data & Strategy Analyst** – responsible for providing all forms of data interrogation and analysis to support delivery of the Partnership’s aims and objectives and to ensure all activities undertaken are data-led. Also responsible for advising and guiding the Governance Board and Strategic Group on strategy matters and maximising the potential that can be gained from all data sources available to the Partnership.

In addition to the above roles there are approximately 60 full-time members of Essex Police support staff who are responsible for processing approximately 100,000 offences each year. The offences are captured by the range of safety camera systems that have been installed by the highway authorities over the past 30 years in approximately 135 different locations together with other targeted enforcement activities that are carried out by the Partnership in pursuit of its aims and objectives. All these members of staff are funded by the Partnership.

A team of 10 full-time members of Essex CC staff are engaged to deliver National Driver Offender Retraining Scheme (NDORS) courses on behalf of Essex Police to approximately 50,000 clients annually. Lastly, there are also approximately 20 full-time equivalent members of staff employed across the other partner organisations that support the delivery of activities undertaken by the Partnership. All these members of staff are funded by the partner organisations.
Background to the Partnership Adopting Vision Zero

The Vision Zero\(^4\) aspiration was first adopted by the Partnership in April 2016 although, at that time, the Partnership did not set a date for achieving the aspiration.

Although the Partnership’s casualty reduction target for 2020 required a 40% reduction in deaths and serious injuries, compared to the baseline figure determined for the five-year period between 2005 and 2009, the 2020 figure of 722 deaths and serious injuries represented a 49% reduction.

Whilst the 49% reduction is hugely encouraging and represents the results of much successful activity, it is likely that it was lower than anticipated due to the influence of restrictions, introduced by the UK Government because of the Covid-19 pandemic, on traffic flow and composition.

It can be determined from Graph 1 below that the current downward trend in the number of deaths and serious injuries\(^5\) does not give a realistic proposition of achieving Vision Zero in any meaningful timescale.

Graph 1 – deaths & serious injuries between 2005 and 2020

Following three years of research and discussions, the Partnership agreed that the global evidence and experience from countries that had implemented Vision Zero using a Safe System approach to road safety could be adapted to deliver Vision Zero in Essex and that it should set a challenging timescale to drive action.

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\(^4\) ‘Towards Zero’, ‘Sustainable Safety’ and ‘Safe System’ are alternative names for ‘Vision Zero’ that all fundamentally do not accept death and serious injury as an acceptable product of mobility.

\(^5\) After Essex police adopted the Department for Transport’s new collision recording system in 2015, referred to as the CRASH system, it became necessary to adjust the figures to facilitate accurate year-on-year comparisons.
The Partnership recognises that road users have a major role within the Safe System approach and must use the transport system safely, by complying with traffic laws for instance, so public support for a mobility system that prevents death and serious injury is essential.

The Partnership also recognises that it must engage with, and support, its partner organisations; particularly those that have responsibility for the delivery of improvements within the Safe System approach to road safety, such as for roads and roadsides, and with other elected bodies, businesses and organisations who will be encouraged to ensure that actions and services they provide are not unintentionally detrimental to the desired outcomes of zero deaths and serious injuries by 2040 (and that Vison Zero is not unintentionally detrimental to their aims).

The Partnership released the Vision Zero concept to the media in November 2020.

Graph 2 below demonstrates how the interim casualty reduction target for 2030 and the Vision Zero aspiration were determined from the actual death and serious injury figures recorded by Essex Police between 2010 and 2019.

Graph 2 – 2030 Interim Casualty Reduction Target & 2040 Vision Zero Aspiration

There is a firm belief that the time is now right for Essex residents, businesses, and road users to want Essex roads to be free from death and serious injury by 2040. Based on current knowledge, deaths and serious injuries on the roads are largely preventable. Hence, how can adopting any figure other than zero be justified as the Partnership’s long-term aspiration for deaths and serious injuries on its roads?

The Partnership will adopt a leading role in encouraging all parties to pursue the aspiration.
The Partnership’s Vision Zero aspiration has also been adopted with the knowledge of the following international commitments:

- The United Nations / European Union (UN/EU) context; the Partnership’s interim casualty reduction target for 2030 is consistent with the UN resolution for “improving global road safety” adopted in August 2020 and the Stockholm Declaration agreed by UN Member States in February 2020 which called for a reduction in road traffic deaths and serious injuries by at least 50% from 2020 to 2030.

- In June 2019, the European Commission published its EU Road Safety Policy Framework 2021-2030 which contains the EU’s long-term strategic goal of Vision Zero – no deaths or serious injuries on European roads by 2050.

The Partnership does not underestimate the complexity of the task to achieve Vision Zero, but is totally committed to providing the leadership, encouragement, energy, drive, coordination, monitoring, evaluation and the sharing of its knowledge for the journey ahead; it is hoped the public, and all interested organisations will accept this challenge and contribute to this Vision Zero Strategy document and the ultimate aspiration of zero deaths and serious injuries on the Partnership’s roads by 2040.

### 4.0 What does Vision Zero mean and how can it be achieved?

Nationally and internationally, Vision Zero is an ethical stance stating that it is not acceptable for human mistakes on the road network to lead to death or serious injury.

Vision Zero can be viewed as a paradigm shift, where the responsibility for road safety is shifted from the traditional approach, centred on individual road-users, to a more collective approach involving all people who are responsible for designing, building, operating, maintaining, and using the road network.

This group of people includes policy makers, politicians, local government officials, planners, engineers, road designers, vehicle manufacturers, emergency and hospital care providers and the police service who not only respond and deal with incidents on the road network but who are also responsible for the enforcement of road traffic laws and regulations. Each person within this diverse group contributes important knowledge and expertise to try and deliver a safe road network.

Vision Zero requires considerable effort so that the collisions that will inevitably continue to occur on the road network do not lead to either deaths or serious injuries. The focus is on the roads, the vehicles and the people who use the road system.

Despite the adoption of a more collective and shared approach to road safety, it is ultimately every road user’s responsibility to comply with road traffic laws and regulations and failure to do so may result in them being prosecuted.

Vision Zero is underpinned by the Safe System approach to road safety. The Safe System approach is generally accepted as best practice in road safety; the approach is endorsed as best practice by the World Health Organisation (WHO) and the Organisation of Economic Cooperation and Development (OECD). The OECD has produced one of the most comprehensive documents that discusses the [Safe System approach to road safety](#).
The WHO acknowledges that whilst trying to prevent the occurrence of all road collisions is commendable, it is unrealistic, but deaths and serious injury are preventable. International organisations and road safety experts recommend the Safe System approach to road safety to all countries as the road safety mechanism towards the elimination of death and serious injury as a long-term aspiration.

The aim of the Safe System approach is to work systematically, affordably, acceptably and for however long it takes on a strategy leading towards the road network being eventually free from death and serious injury. It is important to develop the strategy so that it is specific to the local context, informed by local knowledge and evidence.

Following extensive national and international research, this document represents the Partnership’s understanding of the Safe System approach to road safety and how it can be applied across the Essex, Southend, and Thurrock local authority areas.

The Safe System approach has evolved over many years and derives most notably from the Swedish Vision Zero policy, adopted by the Swedish parliament in 1997 and the Dutch Sustainable Safety strategies, adopted in the mid-1990s.

Nationally, the UK Government first endorsed the Safe System approach in its British Road Safety Statement, published in 2015 and this was an important factor behind the Partnership adopting a similar approach in April 2016. The British Road Safety Statement was subsequently withdrawn in July 2019 and replaced by the British Road Safety Statement 2019 “A Lifetime of Road Safety” which set-out an action plan for the next two years.

The Safe System approach is being taken up increasingly in Europe, Australasia, and North America at regional, national and city levels. Many organisations within the UK have adopted Vision Zero / Safe System approach including Transport for London, Transport Scotland, Vision Zero SW road safety partnership comprising Devon, Cornwall, Plymouth, Torbay and the Isles of Scilly, Cambridgeshire and Peterborough and Highways England (for the Strategic Road Network).

5.0 What is the Safe System Approach to Road Safety?

According to the Safe System approach, death and serious injury from road traffic collisions is preventable and not an inevitable price to be paid for mobility.

The Safe System approach views human life and health as paramount and should be the first and foremost consideration when designing, building, operating, and maintaining a road network. Each person involved in these four disciplines will need to be educated on what the Safe System is and why it is important that everyone accepts the shared responsibility and plays their part to ensure it is fully implemented within every aspect of road safety. Ultimately though, everyone is expected to use the roads safely and comply with the rules.
The fundamental principles of a Safe System are that:

- Road users are human, and they will make mistakes which can lead to collisions; hence the Safe System needs to accommodate people’s mistakes.
- The human body has a limited physical ability to tolerate impact forces before injury occurs.
- A shared responsibility exists amongst the people who design, build, operate, maintain, and use the road network to prevent collisions that result in death or serious injury.
- A proactive approach should be taken to making all parts of the road system safe rather than waiting for events to occur and then reacting. All parts of the system must be strengthened to multiply the protective effects so that if one part of the road system fails, road users are still protected from the risk of death and serious injury.

The Safe System approach to road safety aims for a more forgiving road system that considers the safety needs of all road users.

The Safe System promotes a combination of measures that will reduce the risk of road users dying or being seriously injured from their mistakes by taking the physics of human vulnerability into account; hence, in the event of a collision within a Safe System, the impact forces remain below the threshold likely to cause death or serious injury.

In adopting the Safe System approach to road safety in the Partnership’s area, the following five ‘layers of protection’ will be adopted:

- Safe Speeds
- Safe Vehicles
- Safe Road Use
- Safe Roads & Roadsides
- Post Collision Response & Care

Each of these ‘layers of protection’ will be a factor in almost every death or serious injury that occurs on the road network.

Therefore, it will be important to recognise this fact during the development of strategies and action plans together with the overlap that will inevitably occur between each of the ‘layers of protection’.

The definition of a collision under the Safe System approach to road safety is the ‘result of a system failure’ rather than the currently used definition of the ‘failure of a road user to cope with their environment’. However, this definition in no way removes or alleviates the responsibility of any road user to comply with the rules (i.e., road traffic laws and legislation) of the road.
Figure 1 below illustrates diagrammatically the layers of protection concept for the Safe System approach to road safety; note, the road user is at the heart or centre of the diagram.

**Figure 1 – Illustration of the ‘Layers of Protection’ surrounding Road Users**

So, as an example, the following ‘layers of protection’ all have the capacity to reduce the impact of collisions in the Partnership’s area:

- **Safe Roads & Roadsides** - improving the road infrastructure so that it minimises either the risk of collisions occurring or reducing the risk of death or serious injury when a collision does occur.

- **Safe Vehicles** - using vehicles that are designed to incorporate features that either reduce the risk of collision involvement or offer greater levels of protection for the occupants in the event of a collision.

- **Safe Speeds** - reducing the speed of traffic to levels that reduce the chances of death or serious injury if an impact does occur.

Collectively, the three examples given above form ‘layers of protection’ around a road user that ensures that if one element of the Safe System fails another one will compensate to reduce the likelihood of death or serious injury.
All five ‘layers of protection’ are discussed in more detail later in this section.

The Safe System approach will create conditions within the Partnership whereby the focus of the efforts made is not only on casualty reduction (the vulnerability of the casualties) but also on road danger reduction (the sources of danger). This condition requires the adoption of a proactive approach rather than a reactive approach.

The Partnership already delivers activities to support other local authority policy areas, such as active and sustainable travel, and will continue to engage with these and other policy areas to highlight the Safe System approach to road safety and determine whether any new collaborations will be of mutual benefit.

As an example, the highway authorities have policies to encourage the take-up of walking and cycling that will help to mitigate climate change and improve air quality by reducing carbon dioxide emissions from transport. The Partnership provides training to support walking and pedal cycling (e.g., cycling training is provided mostly via the Department for Transport’s Bikeability scheme) and will look at ways of increasing the number of residents that take-up this training.

The main policy areas that are supported by the Safe System approach to road safety include:

a) **Environment / Climate Change** – changes in weather conditions (e.g., higher temperatures and greater levels of rainfall) will require drivers and riders to learn how to adapt to these changes.

Reducing traffic speeds has the potential to reduce vehicle emissions, that contribute to air pollution, by smoothing traffic flow and creating a safer environment that encourages walking and cycling. For the first time in the UK, air pollution has been recognised as a cause of a person’s death; on 16th December 2020, Southwark Coroner’s Court in London found that air pollution ‘made a material contribution’ to the death of a 9-year-old child.

b) **Sustainable Travel & Active Travel** – includes strategies that encourage walking and cycling and the use of electric vehicles and e-bikes / e-scooters so that they become the more popular choice for shorter, everyday journeys (say up to 3 miles).

However, a significant increase in walking and cycling or in the use of unprotected electric vehicles, such as scooters (either by the numbers participating and / or the distances travelled) may lead to an increase in the number of deaths and serious injuries involving pedestrians, cyclists, or riders.

If there were an increase in number of deaths and serious injuries it may still represent a reduction in risk (the number of deaths or serious injuries for each measure of distance (i.e., mile or kilometre that each user type travels) so careful interpretation of the data will be required.

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6 **Sustainable Travel** - supports the mobility needs of society in a manner that is least damaging to the environment and does not impair the mobility needs of future generations. **Active Travel** - a mode of transport which involves physical activity such as walking and cycling to get from one destination to another.
There is a ‘safety in number’ effect which demonstrates that increasing the proportion of journeys undertaken by pedal cycles (to at least 10%) eventually creates a safer environment in which to cycle as drivers become more accustomed to their presence and this may be a valid road safety reason for encouraging more people to use pedal cycles.

c) **Public Health & Wellbeing** – achieving a reduction in road casualties prevents premature death and injury, particularly amongst motorcyclists, young people, pedal cyclists, and pedestrians. Worldwide, road death is the biggest killer for people aged between 5 and 29. In the UK, 41% of accidental deaths and 11% of all deaths among 15 to 24-year-olds were from road traffic collisions (DfT, 2018). In England, transport accidents are the second most common cause of death among 5- to 19-year-olds, behind suicide and the third most common cause of death among 20- to 34-year-olds behind suicide and accidental poisoning (Public Health England, 2017).

Public Health & Wellbeing and road safety is linked by several factors, such as, the speed and volume of traffic that can cause injuries and which may discourage people from taking-up healthy activity outside the home. Increases in the levels of cycling and walking can improve health and increase the proportion of people living in healthy and safe communities.

Leading an active lifestyle goes a long way to reducing the risk of developing vascular disease and helps reduce the risks of heart attack and stroke. Keeping active helps control weight, lowers blood pressure and cholesterol as well as improving mental health and generally improving well-being.

The financial costs of death and injury on the road are considerable. These costs are incurred through property damage and insurance premiums, emergency services responses, transportation delays from resulting traffic jams, health care costs and ongoing social care for life changing injuries and time taken off work.

These costs have been measured on a per casualty and per collision basis by the Department for Transport (DfT). For 2019 in Essex alone, these costs amounted to a total of £205million, of which £127million was incurred by the taxpayer, including £104million in social care costs.

DfT research highlights that hospital admissions are consistently at least three times the number of casualties reported via STATS 19\(^7\). The Partnership is aware of this disparity and will work with the local NHS Trusts to gain a greater understanding of the situation in the Partnership’s area and see whether improved data sharing may be necessary in pursuit of the Vision Zero aspiration.

The disparity between hospital admissions and casualties reported via STATS 19 may become a greater influence in the future if people walk and cycle more and continue to report injuries through hospitals rather than the police service.

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\(^7\) The **STATS19** database is a collection of all road traffic collisions that resulted in a personal injury and were reported to the police within 30 days of the collision.
The health of road users also needs to be taken into account; physical health can deteriorate with age, with eyesight, mobility, and flexibility all likely to be affected at some point. Fatigue, stress, poor mental health and the use of prescription and over-the-counter drugs/medicines can also adversely affect a road user’s behaviour on the road which can affect road safety.

d) **Travelling for Work & Workplace Culture** – it is estimated around one-third of all collisions on the road network involve at least one person who was at work.

Health and Safety law applies to work activities on the road in the same way it does to all work activities; it applies to employers as well as the self-employed. The law requires the assessment of risks for the various types of driving tasks undertaken. In addition, the safety critical features of the journey purpose, the vehicle to be used and the driver/rider must be considered as these are equally important factors in the risk of collision involvement and the severity of any injury.

The Partnership provides free support with driving for work policies, training or any other support required by Essex businesses.

Implementing the Safe System approach to road safety can produce economic savings for society, as the costs of preventing casualties are usually substantially less than the actual costs of treating these casualties.

As stated earlier, for implementing the Safe System approach to road safety, the Partnership has adopted five ‘layers of protection’. Each ‘layer of protection’ is discussed in general terms below and demonstrates the type of activities that may be included. However, it should be evident that there will be a significant overlap between activities undertaken against each of the ‘layers of protection’; coordination will be a key responsibility of the Partnership:

**Safe Speeds:**

For the Safe Speeds ‘layer of protection’, speed limits should be based on supporting the avoidance of collisions and reducing the speed at which impacts occur. This approach tries to ensure that the human body’s limit for physical trauma is not reached or exceeded.

The Safe System approach aims to establish appropriate speed limits according to the features and characteristics of the road, the function the road serves, and the physical tolerance of those who use the road.

Lowering speed limits does reduce deaths and serious injuries even though not all drivers/riders obey speed limit reductions. For all roads, speed needs to be managed to levels that favour the probability of survival (or limits the risk of death or serious injury) when a collision does occur.

A Safe System speed is currently defined as the impact speed where the probability of death is less than 10%; these speeds are commonly referred to as survivable impact speeds. These survivable impact speeds are based on an average determined over a sizeable number of cases in which there is considerable variability caused by the type and size of vehicle, the age and health status of the road user, the point of impact etc.
The Partnership acknowledges that by referring to the 10% probability value above it is accepting the incidence of some deaths and serious injuries, which is contrary to the Partnership’s long-term Vision Zero aspiration. However, it is anticipated, the quantifiable definition of a tolerable impact speed and hence an acceptable level of risk will change over time both with experience and new evidence.

Openness and flexibility are needed on what constitutes a Safe System and on the speeds that a system can accommodate to provide protection to road users. The expected greater use of inherently safer vehicles, incorporating advances in collision avoidance and occupant protection technologies, a greater proportion of the recorded collisions will be managed within Safe System limits. This is an area of the Safe System approach to road safety that will continue to evolve.

Table 1 below shows the currently internationally recognised target Safe System speeds for a range of road types – these are for guidance purposes only.

<table>
<thead>
<tr>
<th>Road and section types combined with road users</th>
<th>Target Safe System speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roads used by cars and vulnerable road users</td>
<td>30 km/h (18mph)</td>
</tr>
<tr>
<td>Junctions with possible right-angle conflicts between cars</td>
<td>50 km/h (30mph)</td>
</tr>
<tr>
<td>Roads where head-on collisions are possible (with either cars or fixed objects)</td>
<td>70 km/h (43mph)</td>
</tr>
<tr>
<td>Roads with no possible head-on or right-angle conflicts and no vulnerable road users</td>
<td>&gt;100 km/h (60mph)</td>
</tr>
</tbody>
</table>

**Table 1 – Survivable Impact or Safe System Speeds**

*Source – Table 5.1 of the International Transport Forum report entitled “Zero Road Deaths and Serious Injuries” 2016*

An effective speed management strategy will be essential to support the Safe Speed ‘layer of protection’, but it should be recognised that a speed management strategy will also support the Safe Roads & Roadsides ‘layer of protection’ which is discussed later in this section. Speed management is recognised nationally and internationally as a key component of the Safe System approach to road safety.

An effective speed management strategy, encompassing a robust speed enforcement strategy, is essential because the speed at which drivers and riders choose to travel can:

- Increase the severity of any injuries sustained in a collision.
- Increase the potential for collisions because higher speeds reduce the time a driver or rider must react and increases the vehicle’s kinetic energy.
- Reduce the stability of a vehicle to manoeuvre and evade a hazardous situation (e.g., whilst negotiating a curve).
- Make it more difficult for other road users to judge and react to the speed and distance of an approaching vehicle.
Speeding (defined as a vehicle travelling at a speed greater than the posted speed limit) or inappropriate speeds (defined as a vehicle travelling within the posted speed limit but at a speed which is deemed too high for the prevailing conditions) are estimated to contribute to about one-third of collisions in which the death of at least one road user is recorded.

Research indicates that a 1km/h (0.6mph) decrease in average speed corresponds with a 2% decrease in all collisions, a 3% decrease in serious collisions and a 4% to 5% decrease in fatal collisions. Correspondingly, an increase in average speed by the same amount leads to the same percentage increases in collision types.

The World Health Organisation estimates that a 5km/h (3.1mph) decrease in average speeds could lead to a 30% reduction in fatal collisions.

**Safe Road Use:**

For this ‘layer of protection’, all road users are required to be competent at all levels which includes:

- Paying full attention to the road ahead and the task in hand.
- Adapting to the conditions (weather, lighting, the presence of other road users etc.).
- Travelling within the posted speed limits.
- Not driving while impaired through drink, drugs, (including over the counter and prescription medicines) or fatigue.
- Not being distracted by in-vehicle technology (mobile phones, entertainment systems, satellite navigation devices etc.).
- Giving sufficient room to all other road users, no matter what their mode of travel.

Safe Road Use includes being mindful of the hierarchy of road users, which ensures that those road users who can do the greatest harm (e.g., goods vehicles, cars etc.) have the greatest responsibility to reduce the danger or threat they may pose to other more vulnerable road users, such as, motorcyclists, pedal cyclists, pedestrians, and horse riders. Safe Road Use also requires road users to always show respect to other road users and assume responsibility for other people’s safety as well as their own.

The Partnership will adopt measures, strategies and interventions that will encourage Safe Road Use. Education interventions are particularly important to ensure road users are risk aware, can develop coping strategies for high-risk situations and act appropriately to keep themselves and others safe on the road.

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8 A collision on the road network in which one or more road users are seriously injured

9 A collision on the road network in which one of more road users dies within 30 days because of the injuries sustained in the collision
An increase in combined publicity and enforcement of key road safety rules - speed in particular - is the main mechanism by which improved road safety results can be achieved in the short term. Increasing the use of seat belts and discouraging driving whilst under the influence of drink and/or drugs are also highly important and will continue to be positively pursued by the Partnership.

Safe Roads & Roadsides:

For this ‘layer of protection’, roads and roadsides must be designed to reduce the risk of collision and to mitigate the severity of any injury should a collision occur. A combination of the design and maintenance supported by the implementation of a range of strategies, to ensure that roads and roadsides can be as safe as possible, can reduce casualties, particularly those involving death and serious injury.

One way in which the number of casualties can be reduced is to segregate or physically separate road users travelling in opposing directions (e.g., by the provision of a central reservation / traffic island) or at significantly different speeds (e.g., pedal cyclists and motor vehicles).

If this approach is not viable then promoting positive behaviours and safer sharing of spaces, as well as the appropriate use of speed limits and signage, together with sufficient levels of publicity and enforcement to obtain high levels of compliance, can provide an affordable and sustainable way to protect the most vulnerable road users.

It is estimated that road infrastructure and road surroundings are a contributory factor in about 30% of collisions and that the Safe Roads & Roadsides ‘layer of protection’ is most likely to deliver reductions in the number of road deaths. In the Partnership’s area, about 60% of road deaths occur on non-built-up roads (i.e., where the posted speed limit is 50mph or greater). The main collision types which need to be addressed to reduce road deaths are single vehicles losing control and striking an object and head-on collisions.

The Partnership is aware that affordability is going to be one of the key challenges the highway authorities will have in adopting the Safe Roads & Roadsides ‘layer of protection’ but well designed and maintained roads can reduce the probability of collisions occurring and ‘forgiving’ roads and roadsides can reduce the severity of collisions that do happen.

Other strategies that will assist the highway authorities in assessing the safety quality of their road network and to target priorities for delivering the Safe Roads & Roadsides ‘layer of protection’ is to invest in a systematic Star Rating and Risk Mapping exercise for their road network. These are proactive assessments that complement the more traditional reactive analysis of high-risk collision sites.
The Star Rating exercise is based on road inspection data and provides an objective measure of the level of safety which is ‘built-in’ to the road for vehicle occupants, motorcyclists, pedal cyclists, and pedestrians. A Star Rating between 1 (lowest rating) and 5 (highest and safest rating) is awarded. Broadly speaking, research shows that when using the proven International Road Assessment Programme (iRAP) method\(^\text{10}\) for determining the Star Rating, a road user’s risk of death or serious injury is approximately halved for each incremental improvement in Star Rating.

The International Road Assessment Programme believes that improving all the world’s roads to a 3-star rating or higher standard is an important strategy to achieve the United Nation’s Sustainable Development Goals target of halving road deaths and injuries by 2030.

The Risk Mapping exercise uses personal injury collision data arising out of the interaction of road users, vehicles, and the road environment; the metrics used are usually collisions per km (or mile) or collisions per km (or mile) travelled per vehicle type (e.g., car, motorcycle, pedal cycle etc.). The results of the Risk Mapping exercise are designed to assist the highway authorities prioritise interventions introduced under this ‘layer of protection’.

Further details about the assessments can be found on the International Road Assessment Programme website.

Safe Vehicles:

For this ‘layer of protection’, vehicles are design and regulated to minimise the occurrence and consequence of collisions to road users. This applies not only to vehicle occupants, but also to pedestrians, pedal cyclists, horse riders and motorcyclists.

Making vehicles safer involves the use of both ‘active’ safety measures, such as Autonomous Emergency Braking (AEB), Intelligent Speed Assistance (ISA), Stability Control and Lane Departure Warning, which can prevent collisions from occurring and ‘passive’ safety measures such as seat belts, airbags and general crash worthiness which protect occupants and other road users if a collision does occur. Technology within vehicles, such as feedback from the speedometer and seat belt reminders can also educate road users about safe road use; these are further examples of ‘passive’ safety features.

It is also vital to ensure that vehicles using the roads meet road safety and environmental standards; one way of meeting this requirement is via the annual MOT test which is required for all vehicles from the third anniversary of its registration.

The Safe Vehicles ‘layer of protection’ is a relatively new intervention for the Partnership to embrace that was not wholly considered under the previous approach to road safety. However, under the Safe System approach to road safety, it has been established that the Safe Vehicles ‘layer of protection’ is most likely to deliver sustainable and cost-effective reductions in the number of seriously injured casualties.

\(^{10}\) The iRAP method is the gold-standard for such assessments but locally derived methods can be used if they can be undertaken more cost effectively, but the potential benefits may be more difficult to quantify.
The Partnership acknowledges that the amount of involvement in this ‘layer of protection’ will be largely confined to:

- Promoting knowledge about the safety features within vehicles and encourage the owners of these vehicles to use and activate the safety features provided.
- Increasing awareness about the European New Car Assessment Programme (Euro NCAP) safety rating system for cars.
- Encouraging road users, including fleet operators, to purchase the safest vehicles they can afford.

The development of new safety features (‘active’ or ‘passive’) will rest with the vehicle manufacturers and the Government who can mandate that safety features are introduced within a specific timeframe for vehicles sold in the UK.

The Euro NCAP provides the information to support the Safe Vehicles ‘layer of protection’ and provides a valuable means of assessing whole car safety quality. A good correlation exists between Euro NCAP test results and collision outcomes. Each new vehicle assessed under this scheme will be awarded between 0 and 5 stars (five stars being the safest). Research has found that five-star rated cars have a 68% lower risk of a fatal injury and a 23% lower risk of serious injury compared to two-star rated cars.

The Euro NCAP safety ratings are based on the assessment of the four following areas:

- Adult Occupant Protection (for the driver and passenger).
- Child Occupant Protection.
- Pedestrian Protection.
- Safety Assist which evaluates driver-assistance and collision-avoidance technologies.

The design and development of new vehicles and in particular the inclusion of new safety features is evolving all the time. As an example, by mid-2022, all new cars, trucks, buses, vans, and sport utility vehicles will have to be equipped with advanced safety systems which include:

- Intelligent speed assistance,
- Alcohol interlock installation facilitation,
- Driver drowsiness and attention warning systems,
- Advanced driver distraction warning systems,
- Emergency stop signals,
- Reversing detection systems,
- Event data recorders
- Accurate tyre pressure monitoring.
Cars and vans must also include:

- Advanced emergency braking systems,
- Emergency lane-keeping systems and
- Enlarged head impact protection zones capable of mitigating injuries in collisions with vulnerable road users, such as pedestrians and cyclists.

In addition, trucks and buses will have to be designed and manufactured in such a way that the blind spots around the vehicles are significantly reduced. These vehicles will also have to be equipped with advanced systems capable of detecting pedestrians and cyclists located near the vehicle.

Further details about the assessment process and the rating of most vehicles can be found on the Euro NCAP website.

**Post-Collision Response & Care:**

Post-Collision Response & Care is a key Safe System strategy aimed at reducing the severity of injury once a collision has occurred. For major injuries, clinical experts define the post-impact care needed as a ‘chain of help’ starting with the action taken by the injured themselves, or more commonly by lay bystanders at the scene of the collision, access to the pre-hospital medical care system, emergency rescue, pre-hospital medical care, trauma care and helping the injured, who have suffered debilitating injury, to re-integrate into work and family life. The effectiveness of this ‘chain of help’ depends upon the strength of each of its links.

Research covering several countries within the OECD\(^\text{11}\) for the 26-year period between 1970 and 1996, concluded that between 5% and 25% of the reduction in road deaths may have been due to improvements in medical care and technology.

For the Post-Collision Response & Care ‘layer of protection’, the Partnership is fortunate to have the three main emergency services (Police, Fire & Ambulance) together with the Essex & Herts Air Ambulance Trust amongst its formal partner organisations; these organisations will inevitably play an important role in supporting and delivering against this ‘layer of protection’.

The Partnership recognises it is vital to work with the National Health Service to enable the best possible response to collisions that occur on its road network to ensure the best care is given to those road users injured in a collision. Health outcomes for casualties rely on the speed at which the incident can be detected, located and emergency medical care provided, either at the scene, or in hospital.

\(^\text{11}\) The Organisation for Economic Co-operation and Development (OECD) – an international organisation currently comprising 36 countries
The support of the emergency services will also be vital to facilitate investigations into the causes of deaths and serious injuries so lessons can be learned, and patterns can be identified so they can be integrated into future remedial actions.

This ‘layer of protection’ can have an impact on reducing the severity of injury consequences once a collision has occurred. Improving post incident responsiveness (by those first-on-the-scene and emergency services personnel) to minimise the impact on casualties is one area on which the Partnership can focus.

One such method of improving post incident responsiveness is by promoting the use of the eCall crash notification scheme. This facility became mandatory on all new cars sold in Europe after April 2018 and in the event of a collision, an eCall equipped car automatically establishes a connection to the nearest emergency service centre. Even if no passenger can communicate a ‘minimum set of data’ is transmitted to the emergency services including the location of the collision. The eCall system can also be activated by pushing a button within the vehicle so that if a driver witnesses a collision, they can immediately summon the emergency services even if they don’t know exactly where they are. It is estimated the use of eCall reduces response times by 50% in rural areas and 60% in built-up areas.

Trauma experts consider the response time critical in reducing the severity of injury consequences once a collision has occurred. Delays during the first hour can influence the chances of survival and the completeness of recovery and the first 20 to 25 minutes after a collision are critical to lowering the probability of death.

For Europe, it is estimated that for every death there are four permanently disabling injuries, such as to the brain or spinal cord, ten serious injuries and forty minor injuries. Disability is usually defined as an individual’s inability to carry out a normal range of daily activities due to physical and or psychological consequences.

Research has found that about 50% of deaths from road traffic collisions occur within minutes, either at the scene or while in transit to hospital; these are referred to as ‘immediate’ deaths. For those patients taken to hospital around 15% of deaths occurred between one and four hours after the collision; these are referred to as ‘early’ deaths but around 35% of deaths occurred after four hours and these can be referred to as ‘late’ deaths.

Research has concluded that 35% to 50% of deaths could be considered as treatable i.e., those occurring during the ‘early’ and ‘late’ phases. It has been concluded that 5% to 10% of deaths are ‘definitely preventable’ and a higher share of the deaths as ‘possibly preventable’ due to improved trauma management.

Hence, the above information illustrates that treatment within the first hour can largely determine a critically injured person’s chances of survival and can turn a fatal collision into a serious one. Research from America also confirms that survival rates during the ‘early’ to ‘late’ phases mainly depends on the quality of hospital treatment; it concluded that the risk of death in trauma centres is significantly lower than in non-trauma centres.
Safe System Leadership

Figure 2 below has been taken from the Parliamentary Advisory Council for Transport Safety (PACTS) website to illustrate the range of leadership functions that the Partnership needs to adopt so it works in a structured manner to encourage delivery of the Safe System approach to road safety.

The Partnership recognises it may have limited influence in the legislation function but accepts that it can play a significant role in showing leadership, developing and funding annual plans (via the annual Activity Delivery Schedule), co-ordinating and promoting activities across the Partnership and monitoring and evaluating progress towards the interim casualty reduction target for 2030 and the long-term Vision Zero aspiration. Carrying out research and development, including knowledge transfer, will be a vital activity across all the functions shown.

Figure 2 – Showing the five Safe System ‘layers of protection’ and associated management functions

It is essential that the five ‘layers of protection’ adopted by the Partnership are supported by a comprehensive data interrogation, analysis, and evaluation process; Section 8.0 of this document deals with this aspect.
6.0 The Partnership’s Vision Zero Strategy / Approach

To achieve the Vision Zero aspiration by 2040 and the interim casualty reduction target for 2030, the Partnership has developed a high-level strategic objective for each Safe System ‘layer of protection’. To accompany each ‘layer of protection’ there is a range of strategic actions that the Partnership will undertake.

All strategic objectives and strategic actions have been aligned with the principles of a Safe System approach to road safety. In developing the high-level strategic objectives and the accompanying strategic actions, the following approach has been adopted:

- **Vision Zero** is the aspiration.
- The **Safe System** approach to road safety is how the aspiration is to be achieved.
- **Education** and **Encouragement** will reduce the number of road users unintentionally operating outside the Safe System parameters.
- **Enforcement** will reduce the number of road user deliberately operating outside the Safe System parameters.

The high-level outcome against each ‘layer of protection’ is given in Table 3 below:

<table>
<thead>
<tr>
<th>Safe System ‘Layer of Protection’</th>
<th>High-Level Outcome for each ‘Layer of Protection’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safe Speeds</td>
<td>Road users understand the risks and implications of exceeding the speed limit and therefore, travel at appropriate speeds to the conditions and within posted speed limits.</td>
</tr>
<tr>
<td>Safe Road Use</td>
<td>Road users who know and comply with the rules of the road and take responsibility for the safety of themselves and others, especially the vulnerable.</td>
</tr>
<tr>
<td>Safe Roads &amp; Roadsides</td>
<td>They are self-explaining in that their design encourages safe travel so that they are predictable and forgiving of mistakes.</td>
</tr>
<tr>
<td>Safe Vehicles</td>
<td>That vehicle fleets comprise well maintained vehicles that reduce the risk of collisions and, in the event of a collision, reduce the harm to road users, including pedestrians, pedal cyclists, motorcyclists and vehicle occupants.</td>
</tr>
<tr>
<td>Post Collision Response &amp; Care</td>
<td>Providing a more effective and appropriate response to collisions. Road victims receive appropriate medical care and rehabilitation to minimise the severity and long-term impact of their injuries. Learnings from collisions are captured and acted upon. Families of those killed or seriously injured are appropriately supported.</td>
</tr>
</tbody>
</table>

*Table 3 – High Level Outcome for each Safe System ‘Layer of Protection’*
The Road Safety Performance Indicators that will be used to monitor progress towards the high-level outcome for each ‘layer of protection’ are detailed in Section 8.0.

To deliver the high-level strategic objectives, a comprehensive range of strategic actions will be commenced by the Partnership during the three-year period between April 2022 and March 2025. These strategic actions are outlined below; all will require some element of further development to become a deliverable action.

A representative from within one of the partner organisations will be nominated to ‘lead’ on each strategic action but it is expected that multiple partner organisations will be involved in delivering each action.

The scope of work to be undertaken within each action will be documented within an Action Plan and this will need to be approved by the Partnership’s Strategic Group and ratified by the Partnership’s Governance Board before activity can commence. Some actions may require further governance or approval from within the organisations responsible for delivery.

All strategic actions will be supported by education, communication, and engagement activities in accordance with the Partnership’s Communications Strategy document.

**Strategic Actions**

**General**

1) Review the governance structure of the Partnership, including roles & responsibilities, to ensure it is aligned with the Vision Zero strategy and develop a culture of regular collaboration with other local authority policy areas (see section 5.0, pages 14, 15 and 16) to seek greater alignment with the Vision Zero concept and the Safe System approach to road safety.

2) Consider creating a Community Engagement Fund to encourage engagement and participation by organisations, such as parish councils, district councils, and community speed watch groups etc. to promote the Vision Zero aspiration and the Safe System approach to road safety within their area of responsibility. Such a fund could be used to support low-level financial investment for approved local, mainly non-engineering-based, initiatives in support of the Partnership’s aims and objectives.

3) The Partnership will review data annually via the Road Safety Performance Indicators (RSPI) whilst developing each annual Partnership Plan (see Section 3.0 on page 5) that is structured to meet the Partnership’s aims and objectives (see Section 3.0 on page 4).

4) All actions implemented in pursuit of the 2030 casualty reduction target and the 2040 Vision Zero aspiration will be documented in the Partnership’s annual Activity Delivery Schedule

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12 The Action Plan will cover items such as the evidence-base, nominated ‘lead’, make-up of delivery team, links to other policy areas, anticipated outcome, and timescale.
Safe Speeds

High-Level Outcome - Road users understand the risks and implications of exceeding the speed limit and therefore, travel at appropriate speeds to the conditions and within posted speed limits.

The Partnership will pursue the following Strategic Actions:

5) Provide speed enforcement based on aiding collision-avoidance and reducing the speed at which impacts occur.

6) Encourage each highway authority partner to review its speed management strategy with the aim of setting appropriate and consistent speed limits that match the mobility need, the environment, the quality of the road infrastructure, the safety of the vehicles that use the road and consider the human body’s tolerance to impact forces before fatal or serious injuries are sustained. Guidance on what constitutes a Safe System or survivable impact speed is given in Table 1 on page 17.

7) Prepare a comprehensive speed enforcement strategy which is aimed at increasing compliance with the speed limits posted across each highway authority’s road network.

8) Prioritise Safe Speeds in educational interventions and awareness campaigns, including its dealings with Essex businesses, with the aim of increasing road users' awareness of the Vision Zero Strategy and that death and serious injuries on the roads are unacceptable and not the price to be paid for mobility. In addition, the desire for safe speeds, knowledge of the law, risks and compliance aids that will result in high levels of road users complying with posted speed limits will also be prioritised in the educational interventions and awareness campaigns.

Safe Road Use

High-Level Outcome - Road users who know and comply with the rules of the road and take responsibility for the safety of themselves and others, especially the vulnerable.

The Partnership will pursue Strategic Actions against the following categories of Enforcement, Education and Communication.

Enforcement:

9) Review and document the Partnership’s ‘broader’ enforcement strategy (aligned with the speed enforcement strategy) to encourage greater compliance with traffic laws aimed at reducing deaths and serious injuries; namely those concerning seatbelt wearing, driving under the influence of drink or drugs, and driving whilst distracted, particularly if using a handheld mobile phone.

10) Promote compliance with road traffic laws as the most influential action that any road user can take to reduce deaths and serious injuries on the road acknowledging that compliance with speed limits will have the greatest benefit.
Education:

11) Encourage employers to support the safety of their employees through the provision of the highest possible Euro NCAP rated vehicle (that may also have to meet climate change requirements) and the inclusion of robust road safety / driving for work policies and a road safety culture within their organisation and workplace practices.

12) Evaluate a strategy of annually increasing the amount of enforcement activity carried out by Essex Police and, where appropriate and within national guidelines, referring offenders to the range of seven education-based National Driver Offender Re-Training Scheme (NDORS) Courses. At present, an average of 3,750 clients are referred to these courses each month with approximately 80% being offered the National Speed Awareness Course.

Communications:

13) Use all appropriate media outlets to encourage all road users to become more familiar with the Highway Code and to understand the attributes of safe road use and to encourage them to aspire to that expectation. This will include their choice of vehicle and safety equipment as well as how they choose to behave on the road.

Safe Roads & Roadsides

High Level Outcome – They are self-explaining in that their design encourages safe travel so that they are predictable and forgiving of mistakes.

The Partnership will pursue the following Strategic Actions:

14) Provide expert advice and encouragement to the highway authorities to create a safe and ‘forgiving’ road network that reduces the risk of collisions resulting in death or serious injury.

15) Provide support and encouragement to each of the three highway authorities to adopt, within the next 3 years, a method of risk/safety rating (a Star Rating) based on road inspection and other quantitative data, that provides a simple and objective measure of the level of safety which is ‘built-in’ to the road for vehicle occupants, motorcyclists, pedal cyclists, and pedestrians.

16) Provide support and encouragement to each of the three highway authorities to review their current programme of road maintenance and road improvements within the next 5 years. Prioritising safety could lead to the development of a programme of route / corridor treatments, in accordance with the safety ratings, that could reduce the number of collisions and the likelihood of further collisions leading to deaths and serious injuries on its worst performing roads.
17) Within the next 5 years, support and encourage each of the three highway authorities and/or their delivery partners in the Safe System approach, by:

- Incorporating the Safe System approach into its Strategies, policies and plans including transportation, development, planning, sustainability, traffic management, hierarchy, and speed. This will lead to safe and consistent design, particularly in areas where the highway authority wishes to encourage non-car travel. This work will include new developments, major and minor road improvements, and routine maintenance functions.

- Providing Safe System training for all those involved in the approval, design, delivery, and maintenance of schemes involving the highway.

- Investigating the possible benefits of working towards ISO 39001 (Road Traffic Safety Management System).

18) The Partnership’s Road Safety Data & Strategy Analyst will carry out detailed analysis of the factors surrounding collisions in which at least one death was recorded and a proportion of collisions in which at least one serious injury was sustained, so knowledge can be shared and used for the development of targeted remedial actions within the Safe System approach to road safety.

Safe Vehicles

High Level Outcome - That vehicle fleets comprise well maintained vehicles that reduce the risk of collisions and, in the event of a collision, reduce the harm to road users, including pedestrians, pedal cyclists, motorcyclists and vehicle occupants.

The Partnership will pursue the following Strategic Actions:

19) Encourage the purchase of vehicles with the highest Euro NCAP safety ratings to fleet managers and members of the public. Explanations will be given as to how the safety ratings are derived, what ‘active’ and ‘passive’ safety features are and how they should be used.

20) With the average age of a licensed car in Great Britain being approximately 8.6 years at the end of 2020, advice will be provided to drivers who may be using vehicles, say, older than five-years old, that do not incorporate the latest ‘active’ and ‘passive’ safety features and what behaviours could be adopted in mitigation.

21) Continue to enforce the removal of unsafe / illegal vehicles from its roads.
Post Collision Response & Care

High Level Outcome – Providing a more effective and appropriate response to collisions. Road victims receive appropriate medical care and rehabilitation to minimise the severity and long-term impact of their injuries. Learnings from collisions are captured and acted upon. Families of those killed or seriously injured are appropriately supported.

The Partnership will pursue the following Strategic Actions:

22) Instigate discussions with the emergency services to determine whether they feel there are opportunities to reduce the response time of their attendance at road traffic collisions and how this could reduce the severity or consequences of any injuries sustained, particularly considering the Safe System approach to road safety.

23) Support the development of educational campaigns to encourage prompt and accurate reporting of collision locations by members of the public, using technological aids, such as ‘what-3-words’ and the eCall system.

24) Evaluate whether the promotion of first-aid training to professional drivers and the availability of certain first-aid equipment (e.g., defibrillators) would be effective in supporting this ‘layer of protection’.

25) Consider adopting the national ‘Biker Down’ campaign, which is led by the Fire & Rescue Service, aimed at providing first-aid training to motorcycle users.

7.0 Education, Communications and Engagement

Effective communications, across a range of audiences, sectors, and platforms, is essential in supporting the delivery of this strategy.

The Partnership found from initial social media engagement that many people do not actively consider their safety when using the roads and do not seek safety information about vehicles, equipment or routes for their journey and do not keep up to date with changes to the Highways Code or legislation. It is likely that some people will perceive Vision Zero as unrealistic, as they believe that road death is an inevitable consequence of road use.

The Partnership’s communications around Vision Zero and the Safe System approach to road safety will increase public awareness of the importance of road safety in saving lives and preventing life changing injuries by increasing societal visibility of road collisions and their impact; particularly to young people (road collisions are the biggest single cause of death to young people).

The Partnership will use the thematic messaging from the Partnership’s Communication Strategy to support the strategic actions identified in this strategy. The themes are;
**SHARED VISION (VISION ZERO)**

The Partnership will inform, listen to and enthuse the people of Essex to desire the outcome of no road deaths or serious injuries for road users in Essex.

**UNIFIED APPROACH (SAFE SYSTEM)**

Demonstrate that to achieve the vision both personal and collective responsibility are required, with road users who know and comply with rules of the road and take responsibility for themselves and others, especially those more vulnerable than themselves.

**EVIDENCE LED**

Keep the people of Essex appraised of the most relevant and accurate information to support and encourage choices that optimise safety.

A tactical plan of Vision Zero communications activity will be developed following consultation.

**8.0 Performance Management (How do we know we are progressing?)**

In 2040, the Partnership will know whether Vision Zero; the ambition to achieve zero road deaths and serious injuries in Essex, has been achieved.

It is a simple task for the Partnership to track the number of deaths and serious injuries each year and plot these on a graph, as in Graph 3 below, to see whether the numbers are following the required downward trajectory. The Partnership will monitor this monthly and publish annual figures on our website - https://saferessexroads.org/collision-data/

**Graph 3 – The required trajectory of deaths and serious injuries to achieve Vision Zero by 2040.**
It is important to monitor progress towards Vision zero in detail to know whether targeted actions are achieving the desired outcomes within the desired timescales. The Partnership will therefore monitor activities (what is undertaken) and outcomes (their impact) of those targeted activities.

Outcomes can be split into direct and indirect outcomes. A direct outcome is the effect of the intervention (both intended and unintended), an indirect outcome is the knock-on effect on the overall aim. For example, an intervention to address speed-related collisions could have three measures:

a) Activities – number of motorists receiving an intervention educating them about speeding.

b) Direct outcome – change in observed speed compliance rates; and

c) Indirect outcome – change in number of speed-related collisions.

In road safety, the indirect outcome is almost always some variation on “reduction in the number of collisions involving deaths and serious injuries”. This outcome is relatively easy to measure but, with the exception of site-specific engineering schemes, it is usually difficult to attribute any changes to a single intervention. This is because road collisions are multi-factor events in which many layers of protection have proved insufficient, representing a failure of the system as a whole. There are also likely to be several interventions targeting the same direct outcome and the contribution of each can be difficult to isolate with any confidence.

For this reason, interventions are usually only evaluated against direct outcome measures, not indirect measures. These direct outcomes measure things that can be attributed to the activity or intervention.

The link between a direct outcome and an indirect outcome is provided by a ‘logic model’. This logic model, supported by data and research, describes how the intervention is expected to make a positive contribution to the overall strategic aim – in this case Vision Zero.

For example, if the collision data shows that exceeding the speed limit is a frequent contributor to collisions, and research shows that a reduction in traffic speeds is associated with reductions in casualties, then we can build a logic model that says, “Improving speed limit compliance will help reduce casualties”.

If we design an intervention to help drivers / riders adhere to the speed limit, and the evaluation shows improved speed limit compliance among drivers / riders who took part in the intervention, then our logic model gives us confidence that delivering this intervention will contribute to our overall aim.

**Following this procedure for the development of an intervention provides confidence that the activity will have the desired effect on direct outcomes and the direct outcomes will have the desired effect on indirect outcomes / overall aims.**
If evaluation shows that the intended direct outcome is not being achieved, the Partnership will review the logic model at the earliest possible opportunity.

The graphic below illustrates how the Partnership uses data, research, and logic models to develop interventions that will deliver the Vision Zero Strategy.
The Strategic Assessment has informed the Partnership what the objectives should be, but there is a need to understand how much progress is being made towards achieving those objectives. RSPIs (Road Safety Performance Indicators) are measures that indicate the level of progress towards achieving these objectives.

RSPIs must be selected carefully to prioritise and incentivise activities that will have positive outcomes to improve the layers of protection within the safe system approach. The Table overleaf shows the RSPIs the Partnership proposes to monitor progression towards Vision Zero.

**Vision Zero itself is not a RSPI, it is the recognition that if everyone plays their part and accepts the shared responsibility then together the ambition of zero deaths and serious injuries on the Partnership's roads can be achieved.**

**Road Safety Performance Indicators**

The table overleaf summarises a range of measures that will be used to monitor activity and outcomes towards achieving Vision Zero.
<table>
<thead>
<tr>
<th>Safe System Layer of Protection</th>
<th>Measure</th>
<th>Data source</th>
<th>Success Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safe Roads &amp; Roadsides</td>
<td>Develop safety rating system for roads in the Partnership’s area to measure future improvements in the safety of the network</td>
<td>Work is in progress to develop a measure using a range of data sources and collection methods</td>
<td>System in place to rate any road by 2024</td>
</tr>
<tr>
<td></td>
<td>Change in the number of deaths and serious injuries on the roads in the Partnership’s area</td>
<td>STATS19 data</td>
<td>50% reduction by 2030</td>
</tr>
<tr>
<td>Safe Road Use</td>
<td>Number of deaths where a car occupant was not wearing a seatbelt</td>
<td>STATS19 data</td>
<td>Reduction towards zero</td>
</tr>
<tr>
<td></td>
<td>Number of deaths involving a vehicle driver impaired through drink or drugs</td>
<td>STATS19 data</td>
<td>Reduction towards zero</td>
</tr>
<tr>
<td></td>
<td>% of people agreeing with statements in support of never committing traffic offences</td>
<td>Survey data</td>
<td>Increase towards 100%</td>
</tr>
<tr>
<td>Safe Speeds</td>
<td>% of vehicles travelling within the posted speed limit</td>
<td>Automatic traffic counters / telematics data</td>
<td>Increase towards 100%</td>
</tr>
<tr>
<td>Post Collision Response &amp; Care</td>
<td>% of priority collision locations to which appropriate emergency service arrive within 18 minutes of being notified</td>
<td>Fire and Ambulance command and control data</td>
<td>Increase towards 100%</td>
</tr>
<tr>
<td>Safe Vehicles</td>
<td>Percent of passenger car sales to registered keepers living in the Partnership’s area with a EuroNCAP rating of at least 4 stars</td>
<td>DVLA data and Euro NCAP lookup</td>
<td>Increase towards 100%</td>
</tr>
</tbody>
</table>

The Partnership will use a range of more detailed measures to inform priorities on an annual basis. For example, examining changes in the rate of cyclist and pedestrian casualties per road user mile will help determine if measures designed to make these modes of travel safer are having the desired effect.
9.0 **References**

The list of references below is not complete but it does indicate the main documents that have been consulted in developing the Partnership’s draft Vision Zero Strategy document.


5) “Sustainable & Safe” – A Vision and Guidance for Zero Road Deaths – World Resources Institute Global Road Safety Facility (WRI.ORG & WORLD BANK.ORG/GRSF) – 2018


9) UN General Assembly, seventy-fourth session, Agenda item 12, *Improving global road safety.* UN Resolution A/74/L.86. 18 August 2020.


13) *East Regional road user safety plan – 2020 – 2025 – Highways England*
14) “Driving Change” – Road Safety Strategy for Western Australia 2020 – 2030

15) “Developing safe system road safety indicators for the UK” – PACTS 2018


19) *Post-impact care 2018* – European Commission / European Road Safety Observatory (ERSO)

20) *Safety Ratings 2018* – European Commission / European Road Safety Observatory (ERSO)

Appendix A

Summary of Factors Recorded in Fatal and Serious Collisions
| Variable                                                                 | Safe System Pillar | Type                              | % deaths | % serious Injuries | Number of deaths & serious injuries per year (2017 - 2019) | Notes                                                                 |
|-------------------------------------------------------------------------|--------------------|-----------------------------------|----------|-------------------|----------------------------------------------------------|                                                                     |
| Infrastructure contributing to or failing to prevent collision          | Safe Roads         | Design and maintenance            | 8.3%     |                   | 227                                                      | Figure is 45% for a small sample of fatalities                      |
| Collisions with objects off the carriageway                             | Safe Roads         | Passive safety                    | 10.0%    |                   | 273                                                      |                                                                       |
| Pedestrian or cyclist in asymmetric collision with heavier road user    | Safe Roads         | Segregation                       | 29.2%    |                   | 797                                                      | 53% of all collisions were asymmetric                               |
| Defects with vehicles contributing to collisions                        | Safe Vehicles      | Vehicle maintenance               | 1.7%     |                   | 46                                                       | Figure is 12.8% for a small sample of fatalities                    |
| Involving car-occupant casualties                                       | Safe Vehicles      | Vehicle type                      | 44.3%    |                   | 1209                                                     |                                                                       |
| Involving P2W rider casualties                                          | Safe Vehicles      | Vehicle type                      | 23.0%    |                   | 628                                                      |                                                                       |
| Involving pedestrian casualties                                         | Safe Vehicles      | Vehicle type                      | 18.1%    |                   | 494                                                      |                                                                       |
| Involving cyclist casualties                                            | Safe Vehicles      | Vehicle type                      | 11.7%    |                   | 319                                                      |                                                                       |
| Involving vans, goods vehicles, buses or other heavy commercial vehicles| Safe Vehicles      | Vehicle type                      | 17.9%    |                   | 489                                                      |                                                                       |
| Speed and carelessness related contributory factors                     | Safe Speed         | Behaviour                         | 31.2%    |                   | 852                                                      |                                                                       |
| Driver or rider impaired by drugs or alcohol                            | Safe Road User     | Behaviour                         | 8.1%     |                   | 221                                                      | Roughly 70:30 split of alcohol:drugs                                |
| Driver or rider inattention, poor observation and distraction           | Safe Road User     | Behaviour                         | 43.1%    |                   | 1177                                                     |                                                                       |
| Pedestrian careless, reckless or deliberately dangerous action          | Safe Road User     | Behaviour                         | 2.4%     |                   | 66                                                       |                                                                       |
| Pedestrian impaired by drugs or alcohol                                 | Safe Road User     | Behaviour                         | 1.8%     |                   | 49                                                       |                                                                       |
| Pedestrian inattention, poor observation or distraction                 | Safe Road User     | Behaviour                         | 11.4%    |                   | 311                                                      |                                                                       |
| Non-wearing of seatbelts                                               | Safe Road User     | Behaviour                         | 7.2%     |                   | 197                                                      | Recorded rate is 3.5%, 7.2% figure is estimate accounting for status unknown |
| Poor turn or manoeuvre                                                 | Safe Road User     | Behaviour                         | 11.6%    |                   | 317                                                      |                                                                       |
| Illness or disability mental or physical                               | Safe Road User     | Behaviour                         | 4.2%     |                   | 115                                                      |                                                                       |
| Pedestrian aged under 16                                               | Safe Road User     | with CF                           | 3.3%     |                   | 90                                                       |                                                                       |
| Cyclist aged under 16                                                  | Safe Road User     | with CF                           | 1.5%     |                   | 41                                                       |                                                                       |
| Pedestrian aged 16-25                                                  | Safe Road User     | with CF                           | 1.6%     |                   | 44                                                       |                                                                       |
| Cyclist aged 16-25                                                     | Safe Road User     | with CF                           | 0.8%     |                   | 21                                                       |                                                                       |
| P2W rider aged 16-25                                                   | Safe Road User     | with CF                           | 6.1%     |                   | 166                                                      |                                                                       |
| Car driver aged 16-25                                                  | Safe Road User     | with CF                           | 14.0%    |                   | 382                                                      |                                                                       |
| Pedestrian aged 26-69                                                  | Safe Road User     | with CF                           | 4.8%     |                   | 132                                                      |                                                                       |
| Cyclist aged 26-69                                                     | Safe Road User     | with CF                           | 2.9%     |                   | 80                                                       |                                                                       |
| P2W rider aged 26-69                                                   | Safe Road User     | with CF                           | 9.9%     |                   | 270                                                      |                                                                       |
| Car driver aged 26-69                                                  | Safe Road User     | with CF                           | 35.5%    |                   | 970                                                      |                                                                       |
| Pedestrian aged 70+                                                    | Safe Road User     | with CF                           | 1.7%     |                   | 45                                                       |                                                                       |
| Cyclist aged 70+                                                       | Safe Road User     | with CF                           | 0.2%     |                   | 6                                                        |                                                                       |
| P2W rider aged 70+                                                     | Safe Road User     | with CF                           | 0.2%     |                   | 7                                                        |                                                                       |
| Car driver aged 70+                                                    | Safe Road User     | with CF                           | 8.0%     |                   | 218                                                      |                                                                       |
| Commercial driver aged 26-69                                           | Safe Road User     | with CF                           | 7.2%     |                   | 197                                                      |                                                                       |