



# ARMY AND NAVY JUNCTION IMPROVEMENTS

Public Information Brochure

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# FOREWORD

Chelmsford is the county city of Essex with an important regional and sub-regional role, providing homes, jobs, shopping, healthcare, education, leisure and recreation. Being able to access and move around the city easily and without delay is a key element in maintaining Chelmsford's prosperity and supporting future growth.

As outlined in the *Chelmsford Future Transport Network Strategy*, our vision for Chelmsford is to have a transport system which is 'best in class', offering enhanced connectivity, access and choice to residents, commuters, visitors and businesses alike.

It is therefore imperative that we have high-quality transport infrastructure in place if Chelmsford is to continue to grow and prosper. Delivering much-needed improvements to the Army and Navy junction is a central part of that and a huge priority for the council. The junction is a critical part of the Chelmsford transport network and a vital gateway into and out of the city. However, it is already operating significantly over capacity in the morning and evening peak times, leading to delays, unreliable journey times and poor air quality.

The need for improvements has been further highlighted by the permanent closure of the flyover in September 2019 – a decision taken on safety grounds following the recommendations of a detailed engineering report, which revealed new defects within the flyover's concrete foundations. While I appreciate

the impact of the closure will be of concern to many people, we will not place any Essex resident in danger. The next steps are now to safely remove the flyover. Measures have already been put in place to help keep traffic moving in the interim and I would like to thank drivers who have planned their journeys accordingly and either changed their routes, the times they have travelled and/or switched to different forms of transport to get in and out of the city, helping to ease pressure on the junction. Moving to more sustainable modes such as walking, cycling and passenger transport is vital, not only now, but in the years to come, with sustainable transport forming an essential part of Chelmsford's future.

A long-term solution is required at the Army and Navy junction and that is exactly what we are seeking. My focus, working alongside the Army and Navy Taskforce, is securing funding and delivering improvements as quickly as possible. I am delighted to be able to update you on the work that has taken place so far to identify key priorities for the project and develop initial ideas as to how this key junction could be improved. We have made a firm commitment to

keep the public informed throughout the process and I am pleased to be able to share the initial options at this early stage before a full public consultation on a refined list of options. It is important to emphasise that no decisions have been made at this point.

Although we are progressing things as quickly as possible, the solution must be the right one and there are important processes we must follow. Work is ongoing to carefully assess the initial options and establish which are likely to be the most effective in improving the junction and encouraging more sustainable travel, while avoiding putting additional pressure on other roads in the city centre area.

Thank you again for your patience and understanding while we move forward with this vital project.



Cllr Kevin Bentley

**Cllr Kevin Bentley**  
**Essex County Council**

**Deputy Leader and Cabinet Member**  
**for Infrastructure**



# INTRODUCTION

The Army and Navy junction in Chelmsford is one of the key gateways into and out of one of the UK's newest cities; named after a popular public house and music venue which was closed and redeveloped some years ago.

The junction consists of a five-arm roundabout, which until recently had a tidal flyover. Up to 60,000 vehicles a day use the junction and it is already operating significantly over capacity during the morning and evening peak times. As a result, it suffers from severe congestion.

The tidal flyover, which has now closed, carried one-way traffic (cars only) to and from the A1060/A1114 over the roundabout. The direction of travel changed at different times of the day to support traffic flows.

The flyover was a steel and concrete structure and was constructed in 1978 as a temporary traffic solution. It was routinely closed overnight in both directions for maintenance works.

Improvements to the junction are long overdue and this brochure outlines the work that has taken place so far to identify initial options for a long-term solution.



Existing junction

# RECENT DEVELOPMENTS

In September 2018, movement of a supporting column to the flyover was reported by a member of the public. This was confirmed by engineers and further movement was identified elsewhere. The structure was subsequently closed.

A period of inspection and testing of the flyover followed and repairs to the failed elements were carried out. This work addressed the new defects and enabled the flyover to reopen on 22 October 2018. During this time, analysis was undertaken by design specialists which revealed that the defects were caused by the record high temperatures over the summer in July and August 2018.

However, the repairs did not address the root cause of the movement and on 26 July 2019 similar defects to those in 2018 were identified. The new defects had again occurred during a period of record temperatures.

Essex County Council (ECC) took urgent action and Councillor Kevin Bentley, Deputy Leader of ECC and Cabinet Member for Infrastructure, announced the flyover would be closed for the foreseeable future. On 16 September 2019, it was confirmed that the flyover would be closed permanently on safety grounds following the recommendation of a detailed engineering report, which revealed new defects within the concrete foundations of the flyover.

Measures have already been put in place to help keep traffic moving in the interim while a long-term solution for the junction is developed. Drivers are advised to plan their journeys accordingly and either change their routes, the times they travel and/or switch to different forms of travel such as walking, cycling or public transport. Further measures for the short-term are also being worked on.

Councillor Bentley has updated the Government on the situation and discussed funding bids for junction improvement works. The development of future options for the junction are being progressed as quickly as possible. This process involves the careful consideration and analysis of all available options for a long-term, sustainable solution to the Army and Navy junction to minimise delay, protect Chelmsford's local economy, support the productivity of local businesses and enhance the quality of the surrounding environment.

### SIGNIFICANT HOUSING GROWTH

The new Chelmsford Local Plan identifies 16,495 new homes to be built in the period up to 2036. This means more people using the city's road network in the future, increasing the likelihood of congestion.

### PHYSICAL LANDSCAPE

The flyover structure is considered by some people to be an eyesore and impacts on the landscape of the city for visitors and residents.

### FLYOVER CLOSURE

The high temperatures experienced across the UK in July 2019 caused a technical fault with the flyover, resulting in it being closed indefinitely. It has since been permanently closed. This enhances the strain on the junction.

### SAFETY AND RESILIENCE

The junction in its existing state does not have the resilience for current levels of traffic. This is unsafe, preventing emergency vehicles from gaining access to incidents and the city centre.



### CAPACITY

The Army and Navy junction is already operating significantly over capacity in AM and PM peak times. Once over 90% capacity, the network has minimal resilience to cope with traffic incidents.

### IMPACT ON THE ENVIRONMENT

Reliance on car travel, regular idling of vehicles and the current lack of infrastructure for cleaner modes of travel is damaging to the environment and contributes to climate change.

### PRODUCTIVITY

Persistent queues at the Army and Navy junction compromise the productivity of local businesses and their supply chains.

# CHELMSFORD FUTURE TRANSPORT NETWORK STRATEGY

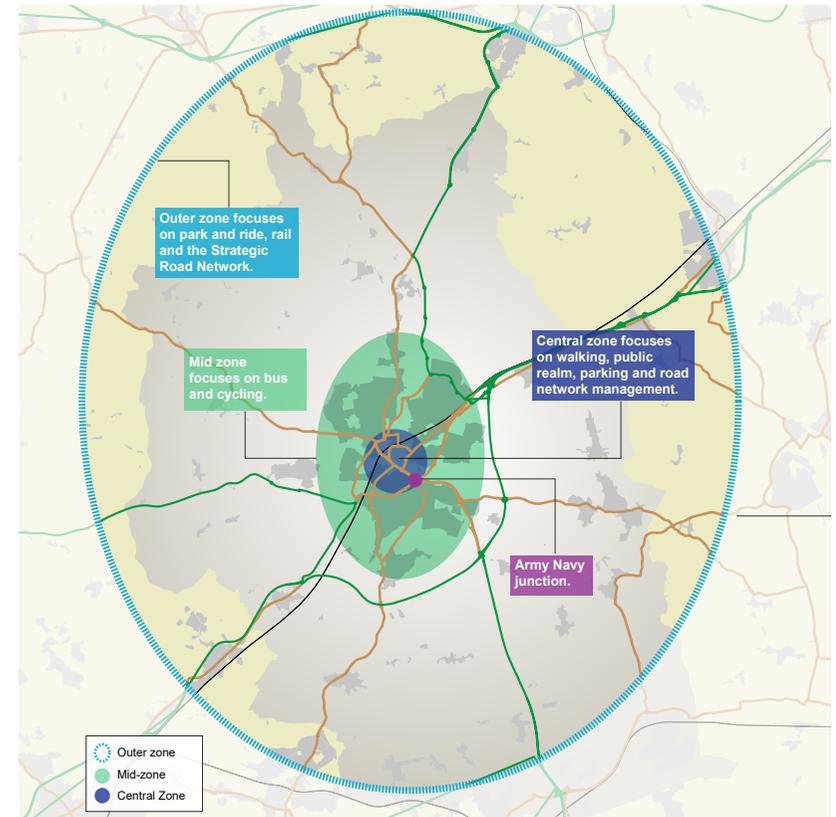
The vision for Chelmsford is to have a transport system which is 'best in class', offering enhanced connectivity, access and choice to residents, commuters, visitors and businesses alike.

The Chelmsford Future Transport Network Strategy outlines the approach being taken to Chelmsford's future transport network to make all modes of transport attractive and give people real choice in the way they travel, helping to keep the city moving, protect the environment and support further economic growth.

An average road is operational at up to 90% capacity; the remaining 10% provides flexibility, resilience and reliability. However, the Chelmsford road network is operating at 96% capacity during peak times so the volume of traffic can lead to delays. With only 4% capacity left, it is crucial that something is done to ease the pressure on Chelmsford's road network. The strategy, which Essex County Council engaged with the public about in Spring 2017, explains the approach being taken to resolve the issue.

It focuses on the type of journey - short, medium and long distance – and is achieved through a zonal approach, with different types of schemes prioritised in different zones and a greater emphasis on more sustainable modes towards the centre of the City.

The Army and Navy junction sits on the border of the centre and mid zones in the Chelmsford Future Transport Network Strategy, meaning any proposed scheme must include measures that improve and encourage sustainable travel.



Chelmsford Future Transport Network Strategy - Approach

# ARMY AND NAVY TASKFORCE

A dedicated Army and Navy Taskforce, made up of local representatives and elected members of the Parish, City and County Councils, has been established to drive forward a longer-term solution for the Army and Navy junction and to lobby Government for funding any improvements identified.

The Taskforce is an advisory body, which, in partnership with Essex Highways, is assisting the decision-making process in considering the future of the Army and Navy junction and the immediate transport network.

Members meet on a regular basis to provide feedback and insight to help shape the initial options being explored and developed. The Taskforce is also expected to assist in identifying, pursuing and securing sources of funding, as well as understanding the planning requirements and implications of the emerging proposals.

The Taskforce plays a key role in the communication of scheme progress; helping share updates for residents, businesses, councillors and the local media.

Since the start of the development of this scheme the Taskforce has met six times and discussions have included potential funding streams, raising matters with the Department for Transport and the required approval processes for the scheme. The minutes of the Taskforce meetings are all available online at: [www.essex.gov.uk/armyandnavy](http://www.essex.gov.uk/armyandnavy).

# PROJECT OBJECTIVES

To develop the right long-term solution, which encompasses the vision set out in the Chelmsford Future Transport Network Strategy and also addresses the problems experienced at the junction, it was necessary to identify a series of objectives. These are as follows:

- Provide **enhanced connectivity** for communities within and beyond Chelmsford to support and promote sustainable housing, economic growth and regeneration, both now and in the future
- Offer **inclusive, attractive, and safe active travel** measures (walking and cycling) across an improved and comprehensive network to encourage increased use
- Improve **safety and the perception** of safety for all users on the Chelmsford City network to enhance and promote a safe travelling environment
- **Positively manage resilience and journey time reliability**, improving journey times for passenger transport services travelling into/out of the city centre core
- **Actively manage resilience and journey time reliability** for private transport trips within the core urban area of Chelmsford and, in particular, management of through-trips
- **Manage environmental conditions** (air quality and noise)
- Where possible, **increase the attractiveness** of the gateway into the city centre through design and public realm enhancements

These objectives have been agreed by the Taskforce and are being used to assist in assessing and prioritising the emerging options. They are also consistent with National Government Policies, which will provide a strong basis upon which to prepare any business cases for funding the improvements.



*Parkway approach to the Army and Navy junction*

# ENGAGING KEY PARTNERS

In March 2019, representatives from various groups were invited to attend workshops about the Army and Navy junction. Three events were held - one for businesses, one for transport groups and one for local community groups.

The purpose of these events was to provide an early opportunity for a variety of key audiences to find out more about the background and objectives for the scheme, to discuss the principles and priorities that must be considered and share their knowledge and experiences of the junction. The feedback captured from these sessions has been used to help inform the development of the initial options presented in this brochure.

Congestion and delay at the junction were the most common points raised by those in attendance at the events and many of the other issues identified were also related to this. In addition to congestion, there was a consensus that the flyover is an eyesore, but its removal could create more problems because network users rely on it and it is an important element of the city's transport system.

Other common themes from the workshops included pollution, safety, housing development and its influence on traffic, the structural condition of the flyover, and cyclist and pedestrian access.

Groups were given the opportunity to identify the objectives that were most important to them and the highest priority was as follows:

*To positively manage resilience and journey time reliability, improving journey times for passenger transport services travelling into/out of the city centre core.*

Finally, the groups came together and suggested some ideas about potential solutions for the junction, which included new park and ride facilities, changes to school drop-off times, a new two-lane flyover, changing of the design of the roundabout and improvements to pedestrian and cyclist infrastructure. These ideas have subsequently helped the project team to shortlist the five initial options presented in this brochure, and these will be packaged with other potential sustainable transport improvements across the city.

# DEVELOPING INITIAL OPTIONS

The engagement workshops with local business, transport and community groups resulted in several suggested solutions to the Army and Navy junction, which were subsequently discussed by the Army and Navy Taskforce. These ideas varied in approach and included highways-based solutions, different policy measures, enhanced public transport infrastructure and campaigns to encourage people to use more environmentally-friendly modes of travel.

Extensive work has been carried out to sift a significant number of potential ideas to the five options presented in this brochure which are now undergoing further assessment.

The options were initially categorised into highways options (providing improvements in junction capacity for private vehicles) and sustainable options (encouraging greater use of public transport and active travel such as walking and cycling). They were then further divided into major and minor options, based on likely cost and potential impact on either traffic capacity or traffic reduction.

Options were ranked within the categories using a scoring system based on the Department for Transport's Early Assessment Sifting Tool (EAST) to identify the better performing options within each category. Considerations included whether the suggested solutions met the scheme objectives, the effect on junction performance and the city's wider transport network, environmental and visual impact, value for money and constructability, taking into account the floodplain, complex utility connections or the impact on local buildings (e.g. need for building demolition).

The four best performing major highways options were taken forward for further study, along with a package of minor road layout improvements (forming the fifth major highways option).

The best performing major sustainable option was combined with the best performing minor sustainable measures to create a package of sustainable measures that will be added to each of the five major highways options, to meet the sustainability objectives of the scheme and ensure that all highways options are assessed on an equal basis. This resulted in identifying the five initial options now undergoing further study and examination. They are:

- Minor Road Layout Improvements
- Two-way Flyover
- Hamburger Roundabout
- Enlarged Roundabout
- Separate T-Junctions

As outlined on the pages that follow, the options vary in their advantages and disadvantages in terms of cost, environmental impact and potential to increase the capacity of the junction and reduce congestion and delay. More detailed modelling and testing of the remaining options is continuing before a revised shortlist of potential solutions for the junction is agreed.

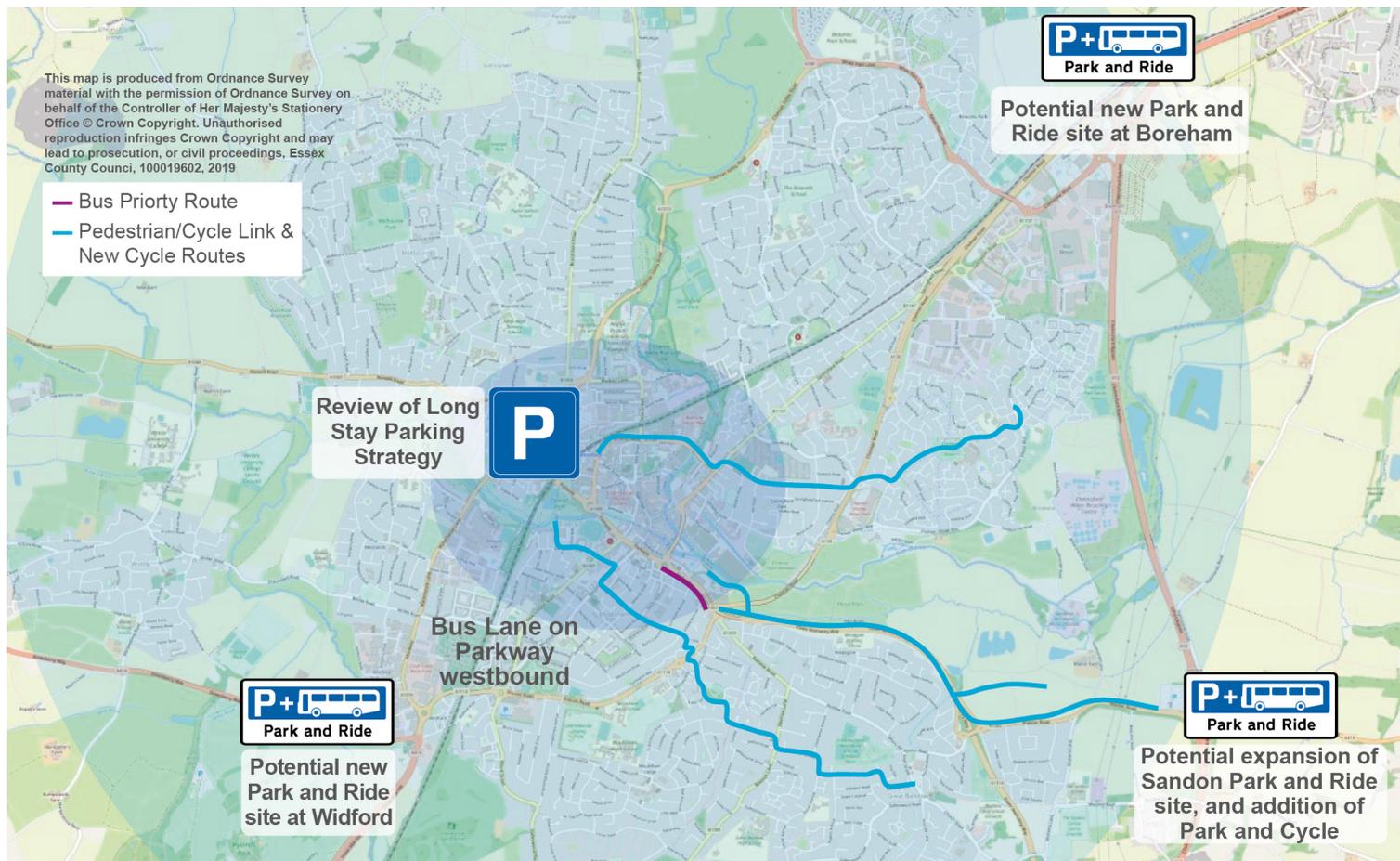
A full public consultation on the shortlist will then follow and help in identifying a preferred option.

# SUSTAINABLE TRANSPORT MEASURES

The Department for Transport has stressed the importance of sustainable transport infrastructure in any solution to help reduce travel demand at the junction and throughout the city centre and to support longer term growth for the City.

In light of the proposed future housing and economic growth outlined in the Chelmsford Local Plan, a significant shift towards more sustainable forms of transport by both new and existing residents is required to keep the city moving.

A city-wide package of sustainable measures is being developed that will be combined with each of the five initial options and will form a vital part of the project. This could include a combination of some of the following:



- New Park and Ride sites and/or increased spaces at Sandon Park and Ride
- New cycle routes from Chelmer Village, Great Baddow and Moulsham to the city centre
- Improved bus priority on Parkway
- Improved walking and cycling facilities at the Army and Navy junction
- A quality bus contract, giving the council greater control over ticket prices, routes and travel times
- Travel planning support for businesses and schools
- A cycling rewards programme
- Review of long stay parking strategy

Potential Sustainable Transport Measures

# OPTION A

## Minor Road Layout Improvements

A package of minor highways improvements, including an extension to the Parkway to Chelmer Road slip road, an additional lane on the roundabout between Parkway and Essex Yeomanry Way, an extra lane on entry to the roundabout from Essex Yeomanry Way, bus lanes on either side of Parkway and enhanced pedestrian and cycling routes.

### Advantages

- Promotes public transport use through improved bus priority and enhanced pedestrian/cyclist routes
- Lower cost in comparison to other options
- Lower maintenance costs
- Lowest impact on floodplain
- Improves landscape by removing flyover
- Would include bus lanes on either side of Parkway while maintaining two lanes for general traffic in each direction

### Disadvantages

- Doesn't address delays at the junction as effectively as other options
- Potential to cause congestion and delay on other parts of the city's road network

Options are subject to further assessment and detailed design work. The chosen option will also include a package of sustainable transport measures. Challenges in implementing a solution will include complex utility diversions, ability to construct the option and environmental/visual impact, including any potential effect on the floodplain

# OPTION A

## Minor Road Layout Improvements

These images are initial concept drawings and for illustrative purposes only.

The chosen option could include ground-level crossings and/or cycle/pedestrian bridges rather than the enhanced subway incorporated in the images. This will be investigated in the next stage of the project.



*View of the Army and Navy junction from Parkway*



*The Army and Navy junction from Essex Yeomanry Way*

# OPTION B

## Two-way Flyover

A new modern standard two-way flyover allowing a significant amount of traffic to avoid the roundabout and travel to and from Parkway and Essex Yeomanry Way in both directions.

As shown, the structure would have to be much longer than the existing flyover to be built to modern design standards.

A one-way flyover was discounted because it would take up almost as much space and offer lower capacity benefits.

### Advantages

- Increase in capacity at the Army and Navy junction
- Likely to result in reduced queuing on Essex Yeomanry Way during morning peak period

### Disadvantages

- Likely to result in more congestion in central Chelmsford than other options following planned growth in Chelmsford
- No bus lane possible on Parkway (eastbound) due to lack of space
- Significant visual impact due to the necessary size of the structure to comply with modern standards
- Likely to be significantly more expensive than other options
- Would require more maintenance than other options

Options are subject to further assessment and detailed design work. The chosen option will also include a package of sustainable transport measures. Challenges in implementing a solution will include complex utility diversions, ability to construct the option and environmental/visual impact, including any potential effect on the floodplain

# OPTION B

## Two-way Flyover

These images are initial concept drawings and for illustrative purposes only.

The chosen option could include ground-level crossings and/or cycle/pedestrian bridges rather than the enhanced subway incorporated in the images. This will be investigated in the next stage of the project.



*Aerial view of the two-way flyover from Parkway direction*



*View of the junction from Chelmer Road*

# OPTION C

## Hamburger Roundabout

Otherwise known as a throughabout, this option would allow traffic to travel straight between Essex Yeomanry Way and Parkway through the centre of the junction without using the roundabout. Traffic travelling to other arms of the junction would use the roundabout.

Traffic signals would be used to manage traffic flows and priority.

### Advantages

- Improves landscape by removing flyover
- Promotes public transport use through improved bus priority and enhanced pedestrian/cyclist routes
- Relatively low build and maintenance costs
- Would include bus lanes on either side of Parkway while maintaining two lanes for general traffic in each direction
- Would work well with ground level pedestrian/cycle crossings, reducing cost and construction timescales

### Disadvantages

- Does not enable as many vehicles to travel into the town centre as a two-way flyover at peak times
- Would require some land from the floodplain for left-turn-only lane from Chelmer Road to Essex Yeomanry Way

Options are subject to further assessment and detailed design work. The chosen option will also include a package of sustainable transport measures. Challenges in implementing a solution will include complex utility diversions, ability to construct the option and environmental/visual impact, including any potential effect on the floodplain

# OPTION C

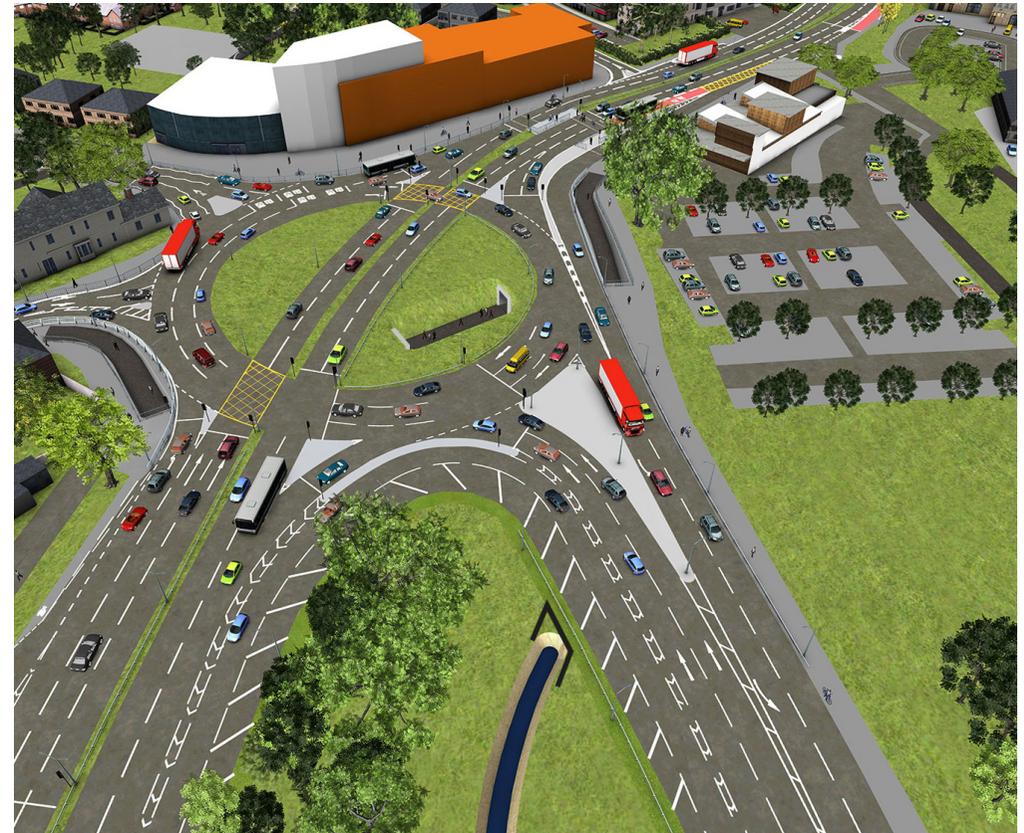
## Hamburger Roundabout

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The chosen option could include ground-level crossings and/or cycle/pedestrian bridges rather than the enhanced subway incorporated in the images. This will be investigated in the next stage of the project.



*View of the Parkway approach to the Hamburger roundabout*



*Aerial view of the Essex Yeomanry Way/Chelmer Road approaches to the junction*

# OPTION D

## Enlarged Roundabout

The existing roundabout would be enlarged into the floodplain, creating a larger circulatory. The approach lanes on Parkway would also be widened. Traffic flows would be managed by traffic signals.

### Advantages

- Improves landscape by removing flyover
- Promotes public transport use through improved bus priority and enhanced pedestrian/cyclist routes
- Medium construction cost
- Low maintenance costs
- Would include bus lanes on either side of Parkway while maintaining two lanes for general traffic in each direction

### Disadvantages

- Doesn't address delays at the junction as well as other options
- Potential to cause congestion and delay on other parts of the city's road network
- Greater impact on floodplain than some options

Options are subject to further assessment and detailed design work. The chosen option will also include a package of sustainable transport measures. Challenges in implementing a solution will include complex utility diversions, ability to construct the option and environmental/visual impact, including any potential effect on the floodplain

# OPTION D

## Enlarged Roundabout

These images are initial concept drawings and for illustrative purposes only.

The chosen option could include ground-level crossings and/or cycle/pedestrian bridges rather than the enhanced subway incorporated in the images. This will be investigated in the next stage of the project.



*The Army and Navy junction from the Parkway approach to the roundabout*



*Aerial view from the Essex Yeomanry Way/Chelmer Road approaches*

# OPTION E

## Separate T-Junctions

Existing roundabout removed and two new T-junctions created – one linking Essex Yeomanry Way/Parkway and Chelmer Road, and the other linking Essex Yeomanry Way/Parkway and Van Diemens Road.

Traffic signals would be used to control traffic flow at the junctions, as well as traffic joining Van Diemens Road from Baddow Road.

### Advantages

- Gives greater priority to strategic traffic movements between Essex Yeomanry Way and Parkway than most other options
- Promotes public transport use through improved bus priority and enhanced pedestrian/cyclist routes
- Could open surrounding land for public realm improvements
- Lower maintenance costs than the flyover

- Improves landscape by removing flyover
- Would include bus lanes on either side of Parkway while maintaining two lanes for general traffic in each direction
- Would work well with ground level pedestrian/cycle crossings, reducing cost and construction timescales

### Disadvantages

- High construction cost
- Significant impact on floodplain, but could be mitigated by providing replacement land in area of removed carriageway.
- Potential to cause congestion and delay on other parts of the city's road network as a result of re-prioritisation of approach arms

Options are subject to further assessment and detailed design work. The chosen option will also include a package of sustainable transport measures. Challenges in implementing a solution will include complex utility diversions, ability to construct the option and environmental/visual impact, including any potential effect on the floodplain

# OPTION E

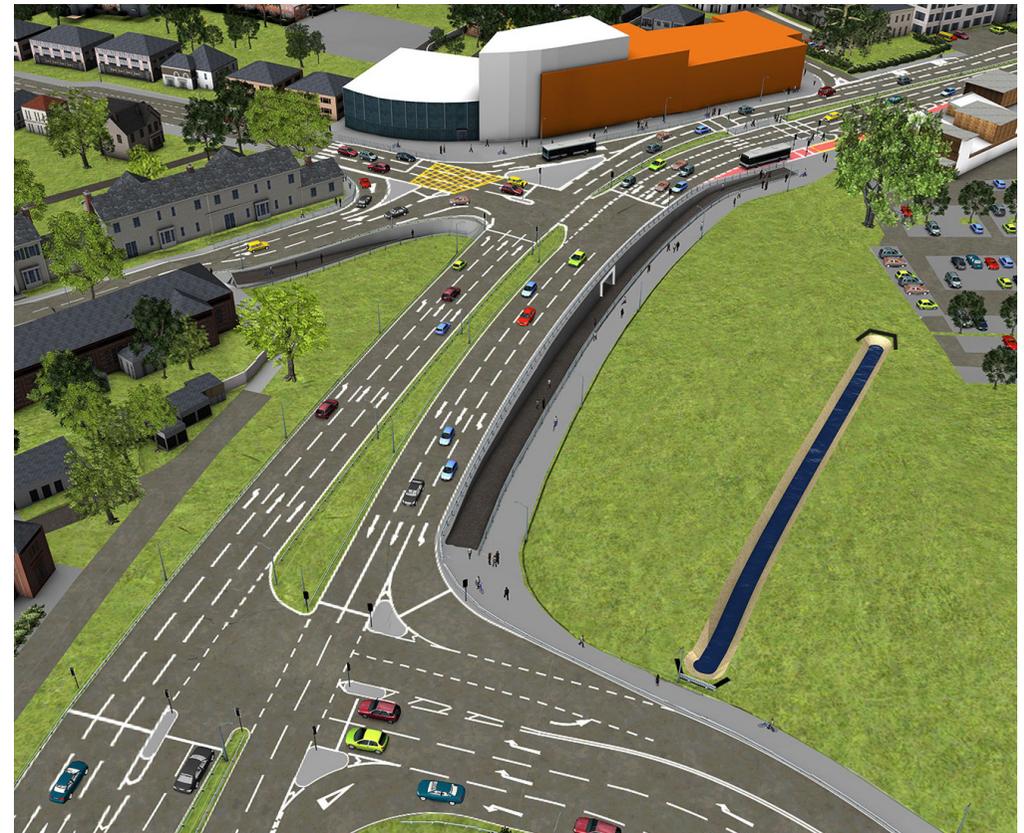
## Separate T-Junctions

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The chosen option could include ground-level crossings and/or cycle/pedestrian bridges rather than the enhanced subway incorporated in the images. This will be investigated in the next stage of the project.



*View from the Parkway approach to the junctions*



*View of the Essex Yeomanry Way/Chelmer Road junction*

# WHAT HAPPENS NEXT?

The purpose of this public information exercise is to share the work that has been carried out so far to identify potential improvements to the Army and Navy junction and outline the initial options that have been developed before further analysis takes place.

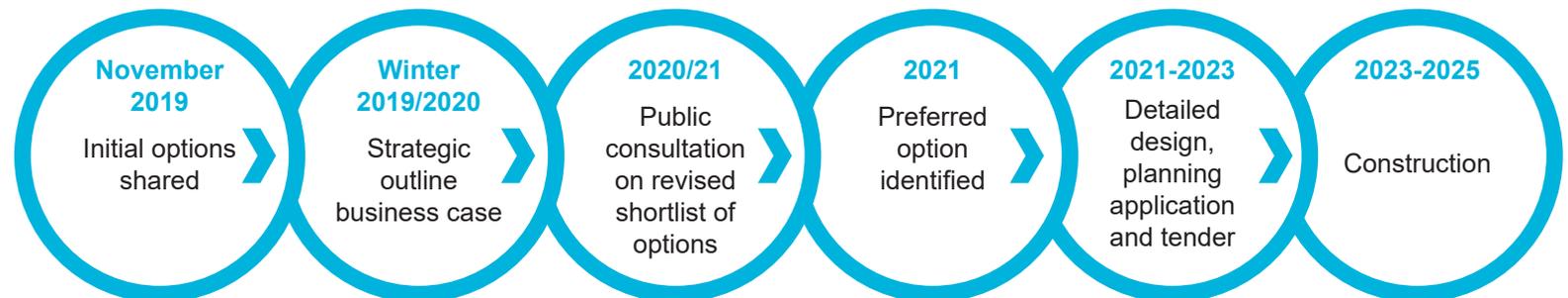
By sharing information at this early stage, you will have a better idea of the challenges faced and the initial ideas being explored before having an opportunity to have your say when a refined shortlist of options is presented for full formal public consultation at a later date.

It is important to emphasise that no decisions have been made and the team is still assessing how the initial options could be optimised and combined with potential sustainable transport improvements.

The following diagram gives a broad timeline of the next steps for the project. Steps have already been taken to reduce the programme where possible and every effort is being made to identify further opportunities. However, it is vital that we achieve the best possible solution and we must follow central government, legal and planning processes.

Thank you for your interest in the Army and Navy scheme and for taking the time to read this brochure.

For more information about the scheme and to subscribe to the email newsletter for the project, please visit [www.essex.gov.uk/armyandnavy](http://www.essex.gov.uk/armyandnavy)



**This information is issued by**

Essex County Council

**You can keep up to date with the latest updates on this scheme and subscribe to the project e-newsletter at:**

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