A350 Melksham Bypass Public Consultation

Supporting information – scheme options 7 to 10

Contents

	Page		Page
Reference guide	1	Option 9c	7
Option 7a, 7b, 7c	2	Option 10a	8
Option 8a	3	Option 10b	9
Option 8b	4	Option 10c	10
Option 9a	5	Option 10d	11
Option 9b	6		



Reference guide

This page provides a guide to the layout and type of content found on the following pages of this document.

Description

An overview of the option.

Key features

A summary of the key design features, such as design speed, road length, river / rail crossings.

Option Plan

A plan illustrating the location of the option, shown against key constraints.

Options for new road links are illustrated as potential route corridors at this stage. This reflects the potential variability of specific road alignment. Where route corridors are more constrained there may be less potential variability or flexibility in the actual road alignment.

Plan key: Electricity sub-station Power lines Listed buildings Key junctions Railway line Key housing developments Towards Trowbridge / Westbury Melksham rail station Towards Devizes Areas of woodland A365 Melksham Canal Link Project (CP16 Wiltshire Core A361 Strategy) of Cleave Flood Zone

Emerging assessment findings

A summary of key points relating to how the option performs against the various business case assessment criteria.

At this stage, assessment is predominantly a comparative exercise which considers the impacts of different options in a consistent manner. Please refer to the main information pack for further details.

Following this consultation a smaller number of option(s) will be progressed to more detailed assessment.

An indicative value for money considers the expected scale and type of scheme benefits and impacts set against the costs. The Department for Transport utilises these value for money bands when considering schemes.

Assessment

A visual representation of how the option performs against business case assessment criteria – six categories are shown down the right hand side.

Two main approaches are used to visualise the information:

Assessment against economic, social and environmental criteria

Large beneficial impact

Moderate beneficial impact

Slight beneficial impact

Neutral

Slight adverse impact

Moderate adverse impact

Large adverse impact

Assessment against affordability and deliverability

High (better)

Medium / high
Medium

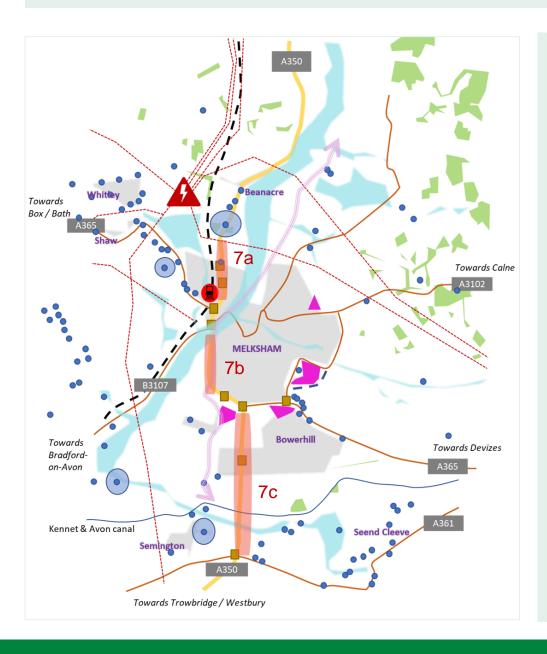
Medium / low
Low (worse)



Description — This option involves improvements to sections of the existing A350 route through Melksham. The northern section (7a) is between Leekes and the rail station. The middle section (7b) is between Farmers Roundabout and Semington Roundabout. The southern section (7c) is between Western Way and Littleton Roundabout.

Varies (as existing) Design speed Length 1.8 miles (approx) Design area 2 hectares (approx) Junctions (new) Railway crossings

River / canal crossings



Emerging assessment findings – Option 7

- · This option is expected to have a lower scale of impact against the primary scheme objectives. There is potential for moderate journey time improvement. However, the scale of impact is expected to be limited by existing speed restrictions and what could feasibly be achieved at some of the more constrained sections. Severance, accidents and noise / air quality on the existing A350 would not be directly addressed. Provision of additional high-quality and safe walking / cycling provision would be difficult to achieve with the traffic volumes, and without further restricting vehicle journey times.
- Compared to other road-based options, there would be less direct landscape / visual impact and loss of greenfield land.
- The complexity of delivery is expected to be medium overall. The northern section (7a) is constrained with little land available without loss of properties. For the middle section (7b) conversion to dual-carriageway would require extension to the existing bridge or a new bridge over the River Avon and an embankment over the floodplain. The southern section (7c) is the most feasible, with potential future dualling having been factored into the original construction of the road.
- This option would involve greater disruption to A350 traffic during construction than bypass options due to the need for traffic management throughout the period of construction works.
- The estimated cost of this option is medium. The southern section (7c) has potential to be combined with any of the shorter bypass options in order to address predicted future traffic growth that would not be addressed directly by those options.

Indicative overall Value for Money: **Low to Medium**

Assessment

Journey times - north/south Journey times- other routes Accidents Walk / cycle opportunities

Strategic

Economic

Environment

Traffic reduction Business users

Reliability

Wider economic impacts

Noise Air quality

Greenhouse gases

Landscape / townscape Historic environment

Biodiversity Water environment

Non-business users Physical activity

Journey quality Accidents

Security Severance

cost (construction only)

Affordability - operating and maintenance costs (60yrs)

Cost certainty (risk)

Ease of delivery (complexity)

Delivery timescales

Acceptability (initial prior to consultation)

Social Affordability - indicative **Financial** Management **Description** — This option provides a bypass link to the west of Melksham town between the A350 north of Beanacre and the A350 Western Way. From the north it crosses the railway line, passes to the west of the electricity sub-station and through Whitley Golf Course. It intersects the A365 Bath Road and continues south, crossing the railway line again, the River Avon and the B3107 — all in close proximity — and connects to the A350 via a new junction.

Design speed 60 mph

Length 4 miles (approx)

Design area 16 hectares (approx)

Junctions (new) 5 (3 intermediate)

Railway crossings 2
River / canal crossings 1

Walk / cycle opportunities

Traffic reduction

Business users

Reliability

Accidents

Assessment

Journey times - north/south

Journey times- other routes

Strategic

Economic

Environment

Social

Financial

Management

Wider economic impacts

Noise

Air quality

Greenhouse gases

Landscape / townscape

Water environment

Historic environment
Biodiversity

Non-business users

Physical activity
Journey quality

Severance

Accidents
Security

Affordability - indicative cost (construction only)

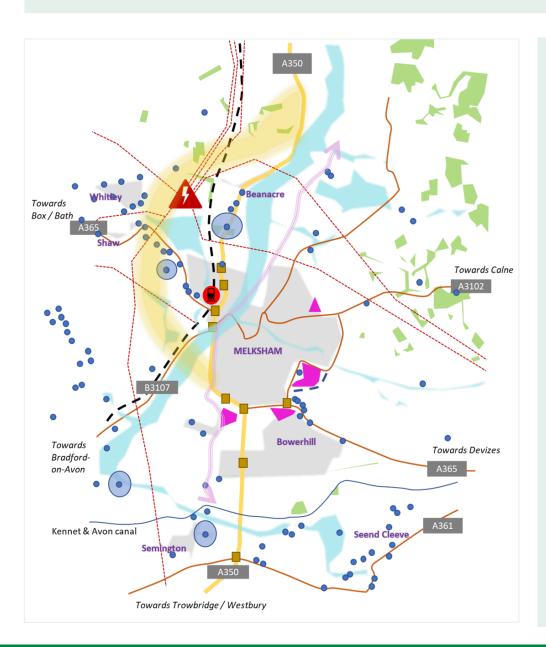
Low / Medium Affordability - operating and maintenance costs (60yrs)

Low Cost certainty (risk)

Low / Medium Ease of delivery (complexity)

Medium Delivery timescales

Low / Medium Acceptability (initial – prior to consultation)



Emerging assessment findings – Option 8a

- This option performs well against the primary scheme objectives. It provides a complete bypass of Beanacre and most of Melksham, with the potential to reduce north-south journey times by approximately 3 minutes and to also reduce journey times between A350 (south) and A365 (west).
- The route corridor for this option is subject to a number of constraints and this increases the delivery risk and technical complexity. The route would directly impact Whitley Golf Course and Roundponds Farm Solar Park.
- The structures required for rail, road and floodplain crossings would be expected to result in some adverse landscape and visual impacts due to the scale and height of the structures. There are likely to be beneficial and adverse localised noise and air quality impacts. Traffic relief along the A350 would have beneficial impacts for adjacent properties. Some localised adverse impacts are also likely, associated with properties in closer proximity to the route corridor, such as around A365 Bath Road and the village of Shaw The cost of this bypass option is moderate to high. It is higher than option 10b (short bypass to the east).
- Similar to other shorter bypass options, there would be scope to consider an enhanced version of this option, in conjunction with option 7 (on-line improvements) – in particular option 7c, dualling of the A350 between Littleton Roundabout and Western Way.

Indicative overall Value for Money: Low to Medium

Description — This option provides a full bypass to the west of Melksham town between the A350 north of Beanacre and the A350 south of Hampton Park (Bowerhill). From the north it crosses the railway line, passes to the west of the electricity sub-station and through Whitley Golf Course. It intersects the A365 Bath Road and continues south, crossing the railway line again, the River Avon and the B3107 and connects to the A350 via a new junction.

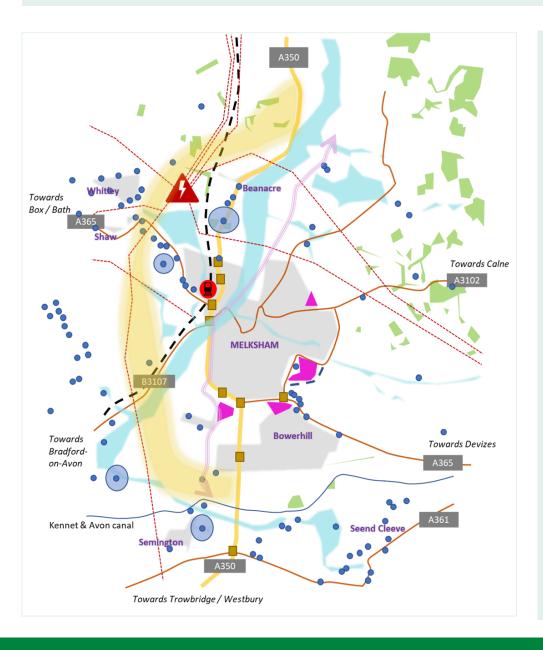
Design speed 60 mph
Length 5.6 miles (approx)

Design area 22 hectares (approx)

Junctions (new) 7 (5 intermediate)

Railway crossings

River / canal crossings



Emerging assessment findings - Option 8b

- This option performs well against all of the primary scheme objectives. The route bypasses Beanacre and Melksham. Estimated potential journey time benefits are in the region of 4 minutes saving per vehicle for the main north-south movement (AM peak) and the estimated reduction in traffic on the existing A350 is in the region of 30 to 40%.
- Similar to option 8a, the route corridor for this option is subject to a number of constraints and this increases the delivery risk and technical complexity. The route would directly impact Whitley Golf Course and Roundponds Farm Solar Park.
- There are no statutory environmental designations expected to be impacted by this option. The structures required for rail, road and floodplain crossings would be expected to result in some adverse landscape and visual impacts due to the scale and height of the structures. There are likely to be beneficial and adverse localised noise and air quality impacts. Traffic relief along the A350 would have beneficial impacts for adjacent properties. Some localised adverse impacts are also likely, associated with properties in closer proximity to the route corridor, such as around A365 Bath Road and the village of Shaw.
- Overall, this option performs similarly to option 10c (long bypass to the east), but with a higher estimated cost and with greater technical and environmental risk.

Indicative overall Value for Money: Low to Medium

Assessment

Journey times – north/south

Journey times- other routes

Accidents

Walk / cycle opportunities

Traffic reduction

Business users

Reliability

Wider economic impacts

Noise

Air quality

Greenhouse gases

Landscape / townscape
Historic environment

Biodiversity

Water environment

Non-business users
Physical activity

Journey quality
Accidents

Security
Severance

Affordability - indicative cost (construction only)

Low / Medium Affordability - operating and maintenance costs (60yrs)

Low Cost certainty (risk)

Low Ease of delivery (complexity)

Medium Delivery timescales

Low / Medium Acceptability (initial – prior to consultation)

Financial

Strategic

Economic

Environment

Social

Description — This option provides a shorter bypass to the west of Melksham town, similar to option 8a. The route corridor runs to the east of the substation, with a section parallel to the railway line. It crosses South Brook and Shurnhold Fields and intersects the A365 Bath Road. It then continues in a south easterly direction to cross the railway line, the River Avon and the B3107 before connecting to the A350 via a new junction south of Farmers Roundabout.

Design speed 60 mph
Length 3.1 miles (approx)

Design area 15 hectares (approx)

Junctions (new) 5 (3 intermediate)

Railway crossings

River / canal crossings

Assessment

Journey times – north/south

Journey times- other routes

Strategic

Economic

Environment

Social

Financial

Management

Accidents

Walk / cycle opportunities

Traffic reduction

Business users

Reliability

Wider economic impacts

Noise

Air quality

Greenhouse gases

Landscape / townscape
Historic environment

Biodiversity

Water environment

Non-business users

Physical activity
Journey quality

Accidents

Security
Severance

£80m to £95m Affordability - indicative cost (construction only)

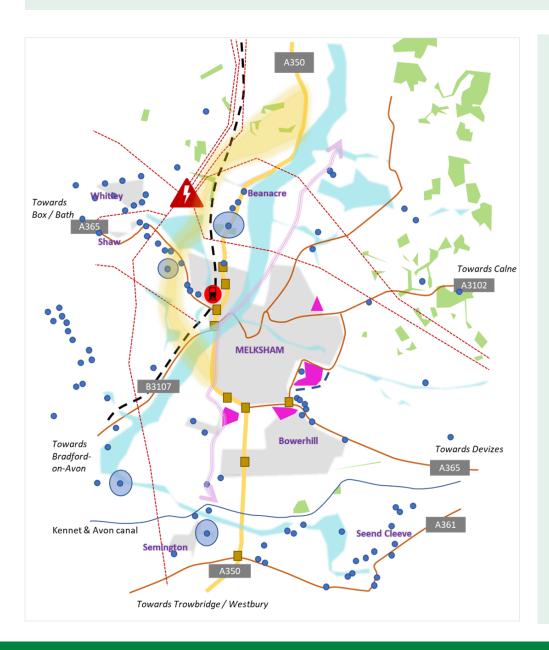
Low / Medium Affordability - operating and maintenance costs (60yrs)

Low Cost certainty (risk)

Low Ease of delivery (complexity)

Medium Delivery timescales

ow / Medium Acceptability (initial – prior to consultation)



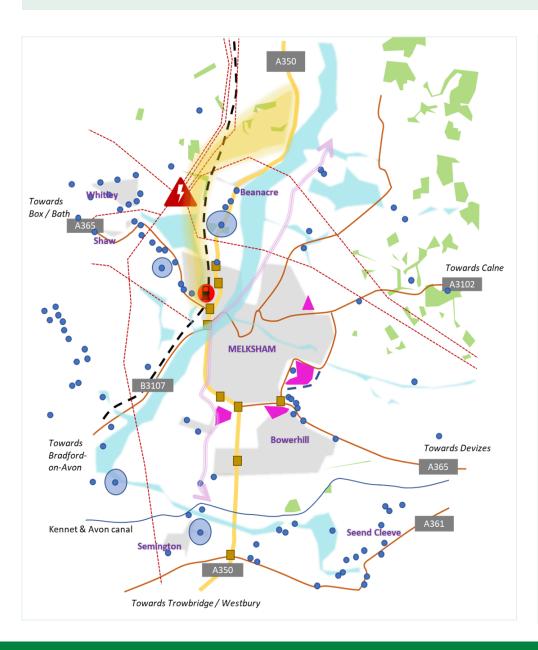
Emerging assessment findings – Option 9a

- This option performs moderately well against the primary scheme objectives. The route bypasses Beanacre and part of Melksham. Estimated potential journey time benefits are in the region of 2 to 3 minutes saving per vehicle for the main north-south movement (AM peak). Some traffic relief would be achieved on the existing A350.
- Similar to option 8a, the route corridor for this option is subject to a number of constraints and requires rail, road and river crossings. This increases the delivery risk and technical complexity. Due to the physical constraints the route would likely be technically sub-standard in achieving the desired 60 mph design speed.
- The route would directly impact Shurnhold Fields, south of South Brook. It passes in close proximity to properties at A365 Bath Road and Shurnhold and would result in adverse noise and air quality impacts at these locations. Visual impacts could also potentially be significant within this area, particularly if the road is raised across the South Brook floodplain.
- Overall, this option is expected to provide fewer benefits than Option 8a and with a higher cost and less flexibility with regards to specific route alignment and any scope for future-proofing. It would therefore be expected to provide lower overall value for money.

Indicative overall Value for Money: Low

Description — This option provides a partial bypass between the north side of Beanacre and A365 Bath Road. The route corridor is the same as option 9a at the northern end, but it crosses Dunch Lane and stays parallel to the railway line as it runs south to the A365. The route passes between South Brook, allotments and residential properties on the west and the railway line on the east. A new junction would be required from the A365, east of Roundpond.

Design speed 60 mph Length 2.3 miles (approx) Design area 9 hectares (approx) Junctions (new) Railway crossings



Emerging assessment findings – Option 9b

River / canal crossings

- This option is expected to have a lower scale of impact against primary scheme objectives. The route bypasses Beanacre but then re-joins the A350 at Bath Road junction, putting traffic back onto the A350 north of Farmers Roundabout. Estimated potential journey time benefits are in the region of 2 minutes saving per vehicle for the main north-south movement (AM peak). Some traffic relief would be achieved on the existing A350, north of the junction with the A365.
- This option does not require crossing of the River Avon, but does involve crossing the railway line. The route corridor passes through agricultural land to the north and land under equestrian use adjacent to the railway line. The route would pass through land between Southbrook Road and the railway line - this area is prone to flooding and the road could have adverse impacts (noise, air quality, flooding) on nearby properties in Southbrook Road.
- The complexity of delivery is expected to be medium to high. Due to the physical constraints the route would likely be technically sub-standard in achieving the desired 60 mph design speed, and have less flexibility with regards to specific route alignment and any scope for future-proofing.
- The estimated cost of this option is medium to high the cost is significantly higher than option 10a (shorter bypass to the east) which is similar in length.

Indicative overall Value for Money: Low

Assessment

Journey times - north/south Journey times- other routes Accidents Walk / cycle opportunities

Business users

Reliability

Wider economic impacts

Noise Air quality

Greenhouse gases

Landscape / townscape Historic environment

Biodiversity Water environment

Non-business users

Physical activity Journey quality

Accidents

Security Severance

Affordability - indicative cost (construction only)

Affordability - operating and maintenance costs (60yrs)

Cost certainty (risk) Low

Low Ease of delivery (complexity)

Delivery timescales

Acceptability (initial prior to consultation)

Strategic Traffic reduction

Economic

Environment

Social

Financial

Management

Option 9c

Description — This option provides a partial bypass between the north side of Beanacre and A365 Bath Road. From the north the route corridor begins to the east of the A350, running adjacent to the River Avon. It then heads west, crossing the A350 and the railway line before turning to the south and passing between South Brook, allotments and residential properties on the west and the railway line on the east to connect with the A365.

Design speed

Length

1.8 miles (approx)

Design area

8 hectares (approx)

Junctions (new)

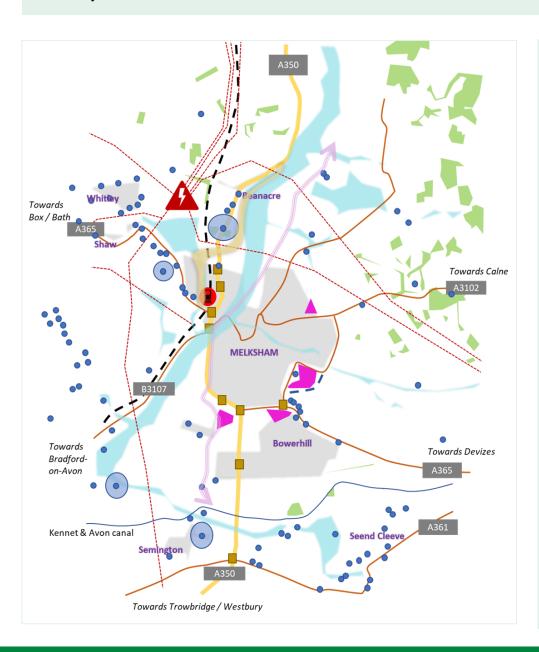
2

Railway crossings

1

River / canal crossings

0



Emerging assessment findings – Option 9c

- This option is expected to have a lower scale of impact against primary scheme objectives. It is similar to option 9b. The route bypasses Beanacre via a winding route and then re-joins the A350 at Bath Road junction, putting traffic back onto the A350 north of Farmers Roundabout. Estimated potential journey time benefits are in the region of 1 to 2 minutes saving per vehicle for the main northsouth movement (AM peak).
- This option does not require crossing of the River Avon, but the route passes through and adjacent to floodplain, and also involves crossing the railway line. The route corridor passes through agricultural land and land under equestrian use adjacent to the railway line. The route would pass through land between Southbrook Road and the railway line this area is prone to flooding and the road could have adverse impacts (noise, air quality, flooding) on nearby properties in Southbrook Road.
- The complexity of delivery is expected to be medium to high. Due to the physical constraints the route would likely be technically sub-standard in achieving the desired 60 mph design speed and have less flexibility with regards to specific route alignment and any scope for future-proofing
- The estimated cost of this option is medium to high the cost is significantly higher than option 10a (shorter bypass to the east) which is similar in length.

Indicative overall Value for Money: Low

Assessment

Journey times – north/south
Journey times- other routes
Accidents
Walk / cycle opportunities

Strategic

Economic

Environment

Social

Financial

Management

Traffic reduction

Business users

Reliability

Wider economic impacts

Noise
Air quality

Greenhouse gases

Landscape / townscape

Historic environment
Biodiversity

Water environment

Non-business users
Physical activity
Journey quality

Accidents
Security

Severance

Affordability - indicative cost (construction only)

Low / Medium Affordability - operating and maintenance costs (60yrs)

Low Cost certainty (risk)

Low Ease of delivery (complexity)

Medium Delivery timescales

Low / Medium Acceptability (initial – prior to consultation)

Option 10a

Description — This option provides a new link between the A350 north of Beanacre and the existing Eastern Way distributor road (at the A3102). By utilising sections of the existing highway network it could create a route that bypasses Beanacre and most of Melksham. A proposed developer link road (with planning consent) between the southern end of Eastern Way and Spa Road could form part of this route.

Design speed

Length

1.9 miles (approx)

Design area

Junctions (new)

Railway crossings

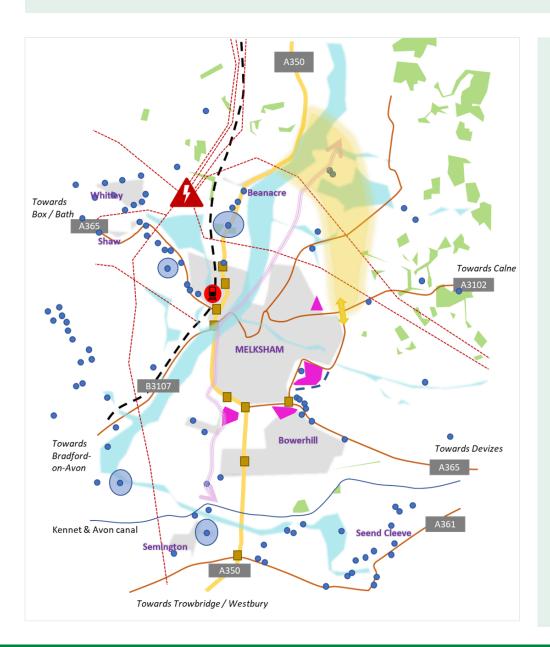
River / canal crossings

60 mph (40mph on existing)

1.9 miles (approx)

6 hectares (approx)

2



Emerging assessment findings - Option 10a

- This option performs moderately well against the primary scheme objectives. Potential journey time savings are estimated to be in the region of 1 to 2 minutes north to south. It would have potential to reduce severance by diverting some traffic from the existing A350 (including local traffic from eastern Melksham heading north). The scale of benefit is lower than longer bypass options.
- The lower footprint would result in a reduced scale of overall visual impact and loss of land. It would still be necessary to cross the River Avon floodplain.
- Increased traffic volumes through the Spa Road area and Eastern Way could have adverse impacts (e.g. noise, air quality, severance) on adjacent housing areas. Further improvements to these existing parts of the network are likely to be required to cater for increased traffic volumes.
- This is the lowest cost bypass option. Taking into account other supporting improvements potentially required it would be an affordable option. The technical complexity is relatively low, although the reliance upon existing parts of the network means less flexibility.
- There would be scope to consider an enhanced version of this option, in conjunction with option 7 (on-line improvements) – in particular option 7c, dualling of the A350 between Littleton Roundabout and Western Way.

Indicative overall Value for Money: Medium

Assessment

Journey times – north/south
Journey times- other routes
Accidents
Walk / cycle opportunities

Strategic

Economic

Environment

Social

Financial

Management

Traffic reduction

Business users

Reliability

Wider economic impacts

Noise
Air quality
Greenhouse gases

Landscape / townscape
Historic environment

Biodiversity

Water environment

Non-business users
Physical activity
Journey quality
Accidents

Security
Severance

£30m to £45m Affordability - indicative cost (construction only)

Affordability - operating and maintenance costs (60yrs)

Medium Cost certainty (risk)

Medium Ease of delivery (complexity)

Medium / High Delivery timescales

Medium Acceptability (initial – prior to consultation)

Option 10b

Description — This option provides a new link between the A350 north of Beanacre and the existing Eastern Way distributor road. It is similar to option 10a but bypasses more of the existing Eastern Way. A proposed developer link road (with planning consent) between the southern end of Eastern Way and Spa Road could form part of this route.

Design speed

Length

Design area

Junctions (new)

Railway crossings

River / canal crossings

60 mph (40mph on existing)

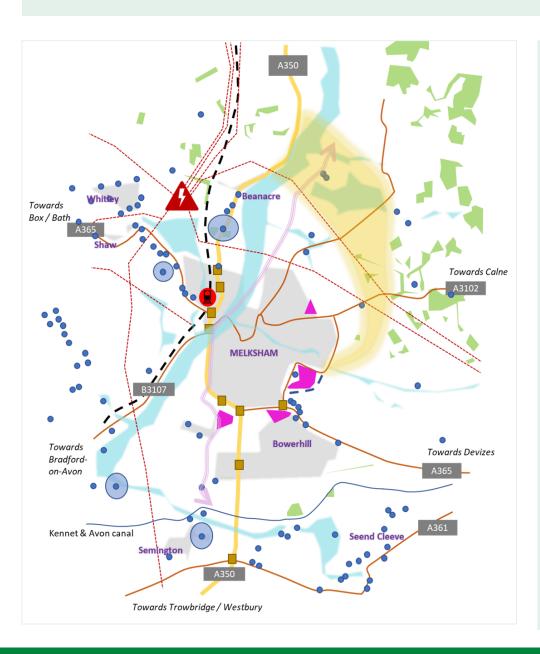
2.8 miles (approx)

10 hectares (approx)

4

Railway crossings

0



Emerging assessment findings - Option 10b

- This option performs moderately well against the primary scheme objectives. Potential journey time savings are estimated to be in the region of 2 to 3 minutes north to south. The scale of benefits is greater than option 10a, but less than the longer bypass options (10c, 8b), and also option 8a.
- Increased traffic volumes through the east of Melksham could have adverse impacts (e.g. noise, air quality, severance) on adjacent housing areas, such as through the Spa Road area. These localised impacts would be less than option 10a, although there would be a greater loss of farmland and potential visual / amenity impacts around Sandridge Common associated with option 10b.
- This is a medium cost bypass option. The additional section of new road means that it is higher cost than option 10a, but taking this into account plus other supporting improvements potentially required it would remain an affordable option. The technical complexity is relatively low, although reliance upon existing parts of the network means less flexibility.
- Similar to option 10a, there would be scope to consider an enhanced version of this option, in conjunction with option 7 (on-line improvements) – in particular option 7c, dualling of the A350 between Littleton Roundabout and Western Way.

Indicative overall Value for Money: Low to Medium

Assessment

Journey times – north/south
Journey times- other routes
Accidents
Walk / cycle opportunities

Traffic reduction

Business users

Reliability

Wider economic impacts

Noise

Air quality

Greenhouse gases

Landscape / townscape
Historic environment

Water environment

Biodiversity

Non-business users

Physical activity
Journey quality

Accidents
Security

Severance

Affordability - indicative cost (construction only)

Medium Affordability - operating and maintenance costs (60yrs)

Medium Cost certainty (risk)

Medium Ease of delivery (complexity)

Medium Delivery timescales

Medium Acceptability (initial – prior to consultation)

Strategic

Economic

Environment

Social

Financial

Management

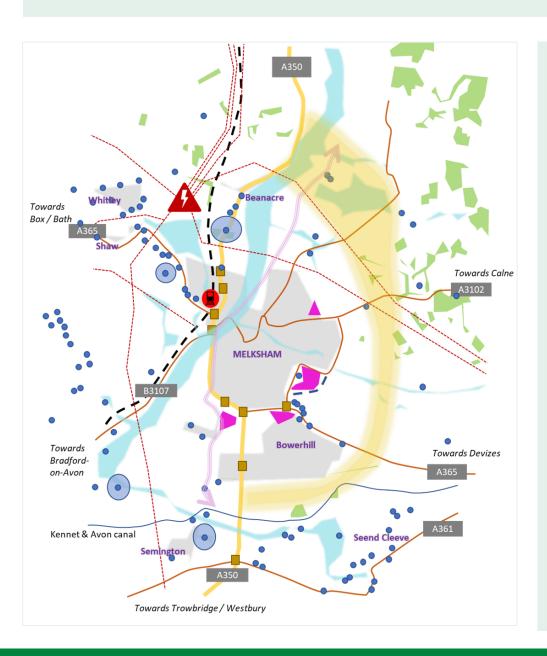
Option 10c

Description — this is a long bypass option to the east of Melksham town. The route corridor connects the A350 north of Beanacre with the A350 south of Bowerhill. At the northern end, crossing of the River Avon and floodplain is required. The corridor intersects the A3102 and the A365. At the southern end the corridor remains north of the Kennet & Avon canal

Design speed 60 mph Length 5.1 miles (approx) Design area 22 hectares (approx) Junctions (new) 5 (3 intermediate)

River / canal crossings

Railway crossings



Emerging assessment findings – Option 10c

- This option performs well against the primary scheme objectives. Estimated potential journey time benefits are in the region of 3 to 4 minutes saving per vehicle for the main north-south movement (AM peak).
- This option is predicted to draw the most traffic from other routes. The estimated reduction in traffic on the existing A350 is approximately 40%. Smaller reductions are predicted on other routes including the High Street and Eastern Way.
- There are likely to be beneficial and adverse localised noise and air quality impacts. Traffic relief along the A350 would have beneficial impacts for adjacent properties. Some localised adverse impacts are also likely, associated with properties in closer proximity to the route corridor, including at Lower Woodrow Road and A3102 Sandridge Common. There are no statutory environmental designations expected to be impacted by this option. The corridor passes through land associated mainly with farming and equestrian uses.
- This option is the lowest expected cost of the long bypass options under consideration.
- The feasibility of delivery is considered to be good there is good scope to avoid or minimise impacts on key constraints and ability to achieve necessary design standards.

Indicative overall Value for Money: **Medium to High**

Assessment

Journey times - north/south Journey times- other routes Accidents

Walk / cycle opportunities Traffic reduction

Business users

Reliability

Wider economic impacts

Noise Air quality Greenhouse gases

Landscape / townscape Historic environment

Biodiversity Water environment

Non-business users Physical activity Journey quality Accidents

Security Severance

Affordability - indicative cost (construction only)

Affordability - operating and maintenance costs (60yrs)

Cost certainty (risk)

Ease of delivery (complexity)

Delivery timescales

Acceptability (initial prior to consultation)

Strategic

Economic

Environment

Social

Description — this is a long bypass option to the east of Melksham town. It is similar to Option 10c but the southern end of the corridor connects to the A361, crossing the Kennet & Avon canal and Semington Brook. The A361 / Littleton Roundabout may require improvement to connect the route back to the main A350. At the northern end, crossing of the River Avon and floodplain is also required. The corridor intersects the A3102 and the A365.

Design speed 60 mph
Length 5.9 miles (approx)

Design area 23 hectares (approx)

Junctions (new) 5 (3 intermediate)

Railway crossings

River / canal crossings 2

Emerging assessment findings – Option 10d

- This option performs well against the primary scheme objectives and similar to option 10c. Estimated potential journey time benefits are in the region of 3 to 4 minutes saving per vehicle for the main north-south movement (AM peak) and estimated traffic reduction on the A350 is up to 40%.
- There are likely to be beneficial and adverse localised noise and air quality impacts. Traffic relief along the A350 would have beneficial impacts for adjacent properties.
 Some localised adverse impacts are also likely, associated with properties in closer proximity to the route corridor. There are no statutory environmental designations expected to be impacted by this option. The corridor passes through land associated mainly with farming and equestrian uses. The crossing of the Kennet & Avon canal is likely to affect its setting, with potential visual and amenity impacts.
- This option performs less well in relation to affordability it has a higher cost than option 10c, although still lower than option 8a.
- The feasibility of delivery is considered to be moderate the crossing of the canal and Semington Brook at the southern end and the likely need for additional enhancements to the A361 and Littleton Roundabout presents additional delivery challenges compared to option 10c.

Indicative overall Value for Money: Medium



Assessment

Journey times – north/south

Journey times- other routes

Accidents

Walk / cycle opportunities

Traffic reduction

Business users

Reliability

Wider economic impacts

Air quality

Noise

Greenhouse gases

Landscape / townscape

Historic environment
Biodiversity

Water environment

Non-business users
Physical activity
Journey quality

Accidents
Security

Security

Affordability - indicative cost (construction only)

Low to Medium Affordability - operating and maintenance costs (60yrs)

Low to Medium Cost certainty (risk)

Low to Medium Ease of delivery (complexity)

Medium Delivery timescales

Medium Acceptability (initial – prior to consultation)

Financial

Strategic

Economic

Environment

Social

Management



Towards Trowbridge / Westbury

Bradford-

on-Avon

Kennet & Avon canal

Bowerhill

Towards Devizes