

# EWR Route Analysis

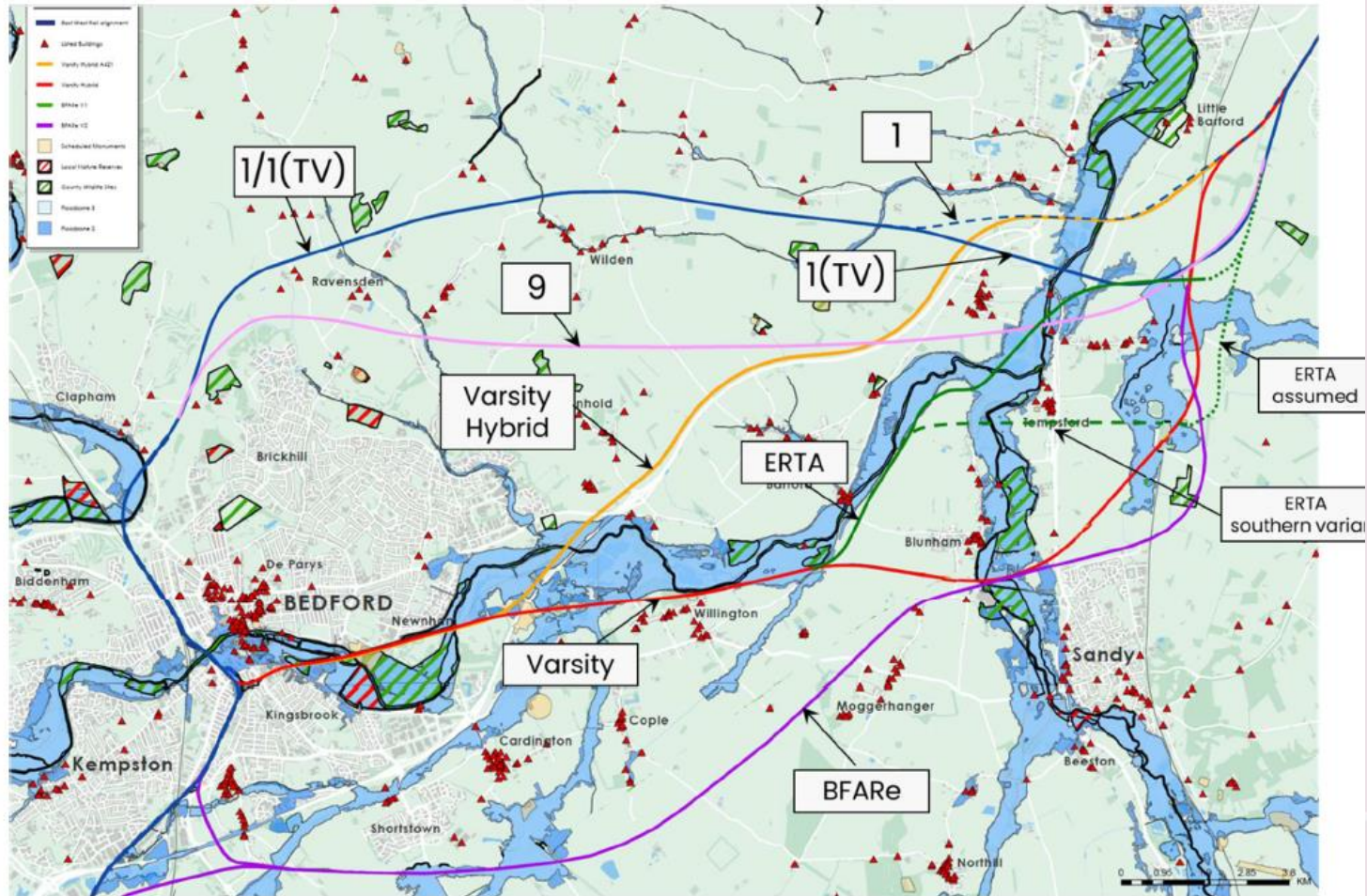
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# Routes Assessed



# Flooding Analysis

- We engaged specialist flood consultants JBA to assess EWR's contentions regarding the impact of flooding from potential southern routes.
- JBA found that:
  - A technical review could be conducted on the supplied model but would not offer meaningful value as modelling work is still ongoing.
  - It would also not fulfil typical technical review processes given the lack of reporting provided.

# Flooding Analysis

- This view was based on the following findings:
  - The modelling provided by EWR is not a final version.
  - Hydrological estimates were undertaken in 2021. These are not up to date and have not been approved by the Environment Agency.
  - New hydrological methods adopted since 2021 mean the currently adopted flows may be an underestimate.

# Flooding Analysis

- No detailed design of proposed development options has been provided.
- The options included in the supplied model are simplified representations of the proposed scheme to aid high-level conceptual decision-making.
- EWR has said that they intend to continue model development over the coming months.
- Currently, the flooding argument from EWR is **NOT PROVEN**

# Economic Analysis

- Economic consultants Systra were asked to review the economic impacts of EWR on Bedford.
- This work builds on two previous studies.
  - The impact of station locations in 2019.
  - The impact of post-COVID travel patterns in 2022.
- This work does not include benefits from any future developments, e.g. Universal Studios.

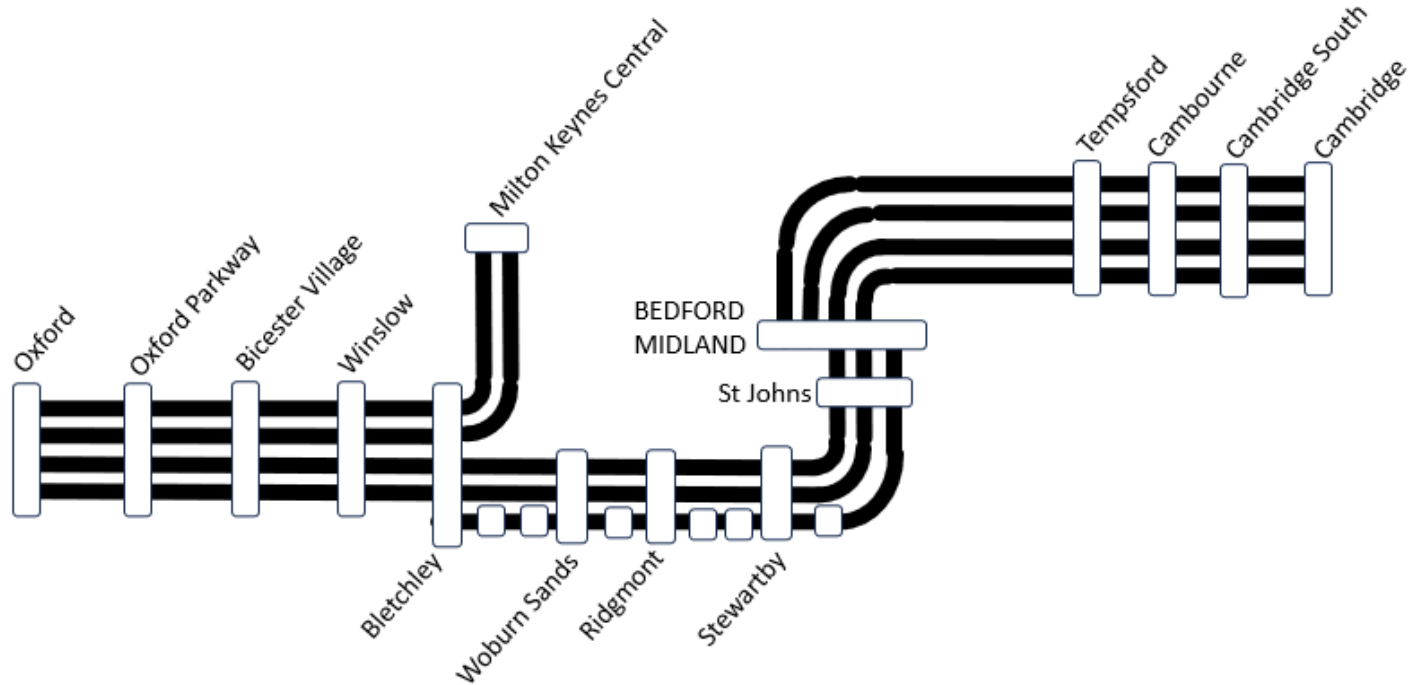
# Economic Analysis

- This work compares three different service patterns based on:
  1. The EWR preference for a route going through Bedford to the north
  2. A southern route which bypasses Bedford for through trains from Oxford to Cambridge, but retains Cambridge – Bedford services
  3. A southern route where all Oxford – Cambridge trains call at, and reverse in, Bedford.



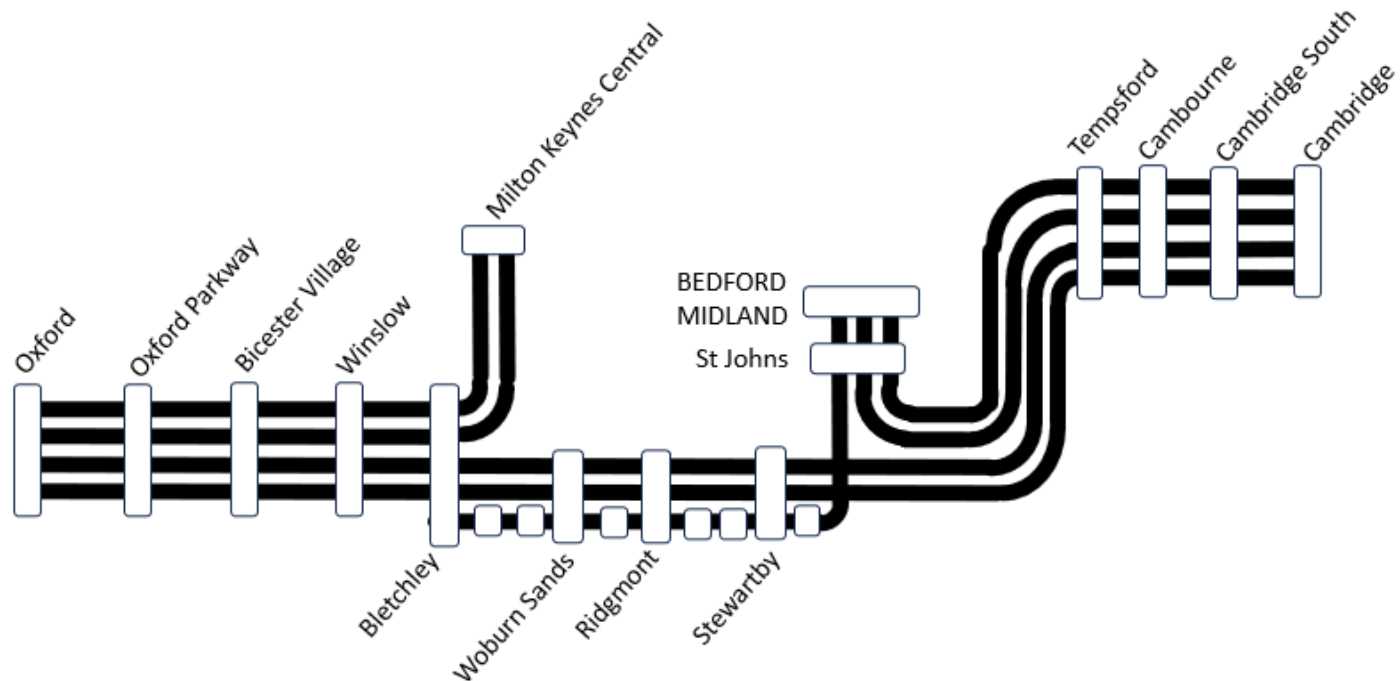
# Economic Analysis

- Option 1 Route Diagram:



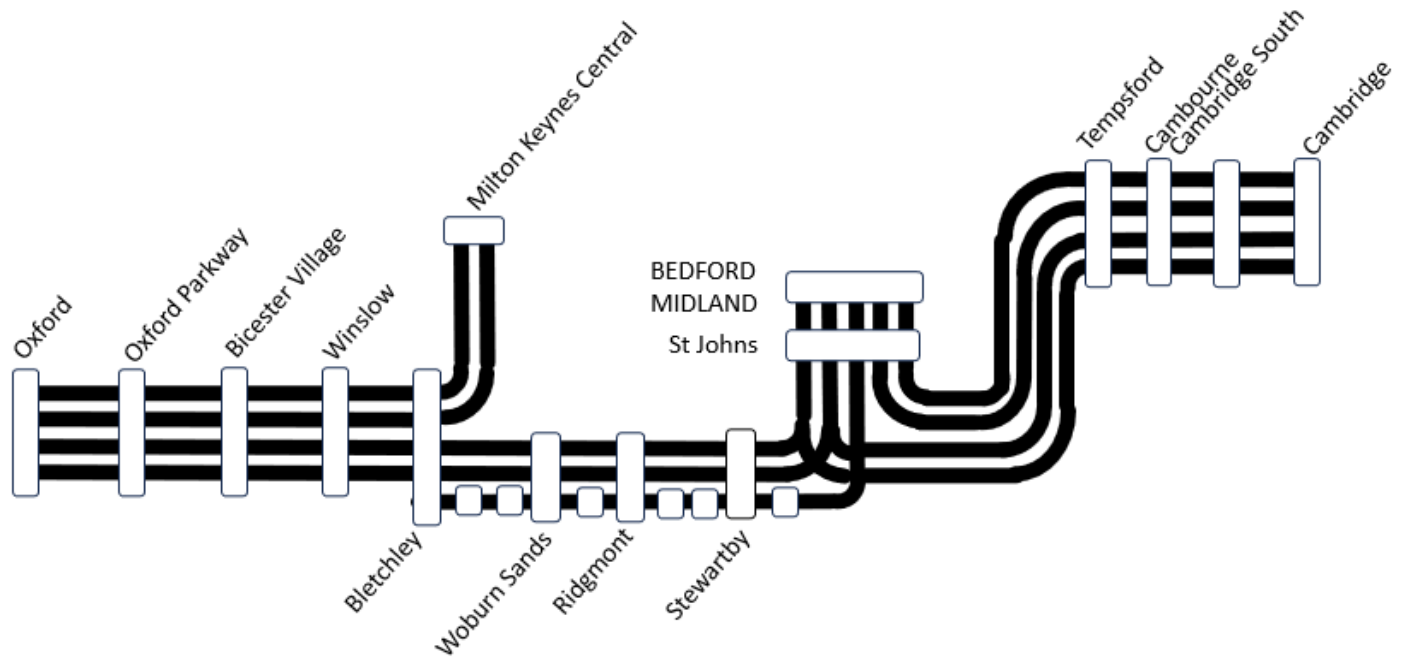
# Economic Analysis

- Option 2 Route Diagram:



# Economic Analysis

- Option 3 Route Diagram:



# Economic Analysis

- This work builds on the 2022 study and explores the following areas:
  - Agglomeration impacts
  - Labour supply impacts and the impact of hybrid working
  - Direct impact on households and commuting patterns attributable to hybrid working

# Economic Analysis

	OPTION 1	OPTION 2	OPTION 3
GVA (Single Year)	£12.70m	£12.28m	£12.55m
Labour Supply (Single Year)	£1.77m	£1.60m	£1.61m
Single Year Total	<b>£14.4m</b>	<b>£13.9m</b>	<b>£14.1m</b>
60 Year Discounted Present Value	<b>£268.72m</b>	<b>£257.57m</b>	<b>£262.96m</b>

# Economic Analysis

- In all options, EWR represents a sizeable boost to the economy in Bedford worth between £257m and £268m over 60 years.
- The difference between options is comparatively limited. Options 2 and 3 both show a reduction in overall benefits, but
  - Option 2 only represents 4% less than Option 1,
  - Option 3 is only 2% less.

# Economic Analysis

- Why are these results different to previous findings?
  - The BFARe / ERTA proposals are no longer an “either / or” scenario serving Bedford Midland OR a southern parkway station. In all the new options, at least some trains call at Bedford Midland.
  - These journeys all serve Cambridge, a link that carries more economic benefit than links to Oxford.
  - A 30-minute journey frequency is still attractive (as it is for the St Pancras – Bedford – Corby services).

# Criteria Analysis

- SLC Rail was commissioned to review the eight routes shown earlier in this presentation to:
  - Determine whether the arguments advanced by EWR Co in favour of their preferred route for the proposed new railway linking Bedford to Cambridge appear valid; and
  - Understand how well the various alternative route options perform in respect of agreed criteria when compared to ERW Co's preferred route option.



# Criteria Analysis

- A total of 13 criteria have been assessed, with each being compared to the “Reference Case” of EWR Co’s preference for Route 1 (TV):
  1. Impact on residential properties
  2. Environmental impacts including flooding
  3. Carbon impacts
  4. Construction costs
  5. Operational costs
  6. Economic rationale

# Criteria Analysis

7. Predicted benefits (including regeneration, GVA and housebuilding)
8. Construction impacts
9. Loss of car parking
10. Air quality and associated health impacts
11. Local traffic impacts at proposed station locations and proposals for their mitigation
12. Suitability for freight and the impact of it
13. Impact on Local Plan 2040 sites

# Criteria Analysis

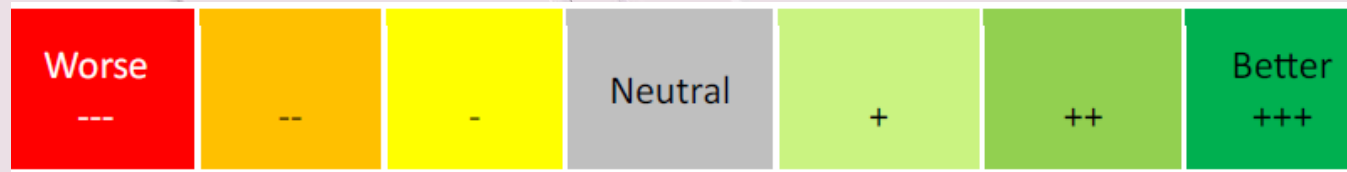
- Unfortunately, it has not been possible to compare the routes on all of these criteria.
- There is not currently sufficient information to determine the relative impact of each route in terms of:
  - Construction costs
  - Carbon Impacts
  - Non-monetary benefits

# Criteria Analysis

- In order to compare the eight routes, we have to choose one as a “Reference Case”.
- The Reference Case used here is the route preferred by EWR in their RUA – Route 1(TV)
- In the review process this route is therefore shown in grey as “neutral”, and all other routes shown as better or worse performing than it.
- This does not imply that we think the effects of Route 1(TV) would actually be neutral.

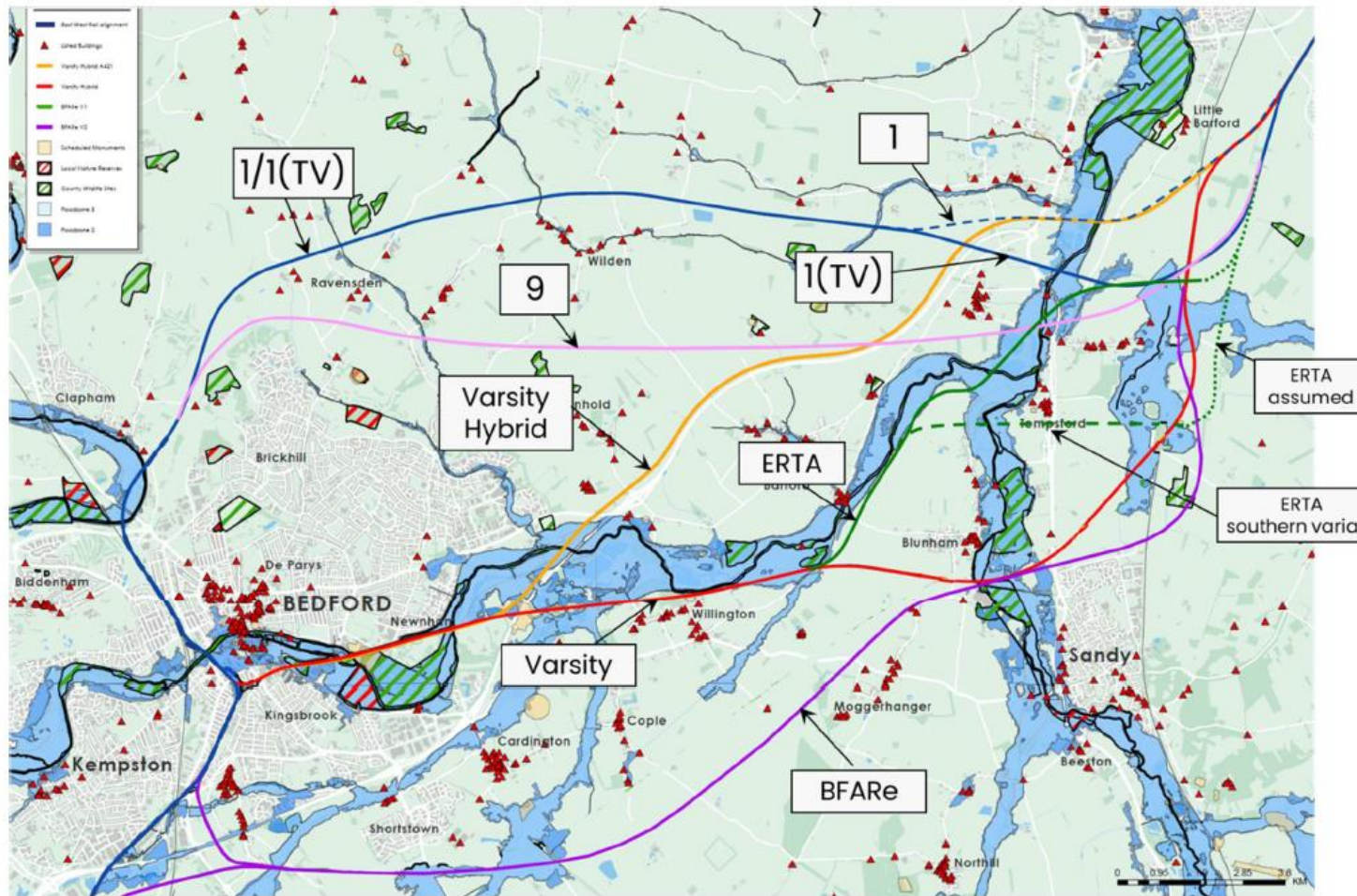
# Criteria Analysis

- The following table summarises the impact of each route compared to the reference case
- It uses a seven-colour scale to indicate the relative impact of each route for each criterion



- Not all criteria carry equal weight, and the order in which they are shown is not intended to imply any relative importance.

# Routes Assessed



		RA1(TV) (Ref case)	RA1	RA9	Varsity	Varsity Hybrid	BFARe	ERTA	ERTA Variant
7.2	Residential Properties	Baseline 65 affected	No change 65 affected	No change 65 affected	No impact	No impact	10-20 affected	No impact	Some demolition
7.3	Environmental Features	Baseline	No change	No change					
	Flooding	Baseline	No change	No change					
	Heritage Assets	Baseline	No change						
	Agricultural Land	Baseline	No change	No change	No change	No change	No change		
	Open Space	Baseline	No change	No change			No change		
7.4	Carbon impacts	<i>(Not possible to assess at this stage)</i>							
7.5	Construction cost	<i>(Not possible to assess at this stage)</i>							
7.6	Operational costs	<i>Similar for all options</i>							
7.7	Economic rationale	Baseline	No change	No change				No change	No change
7.8	Other benefits	<i>(Not possible to assess at this stage)</i>							
7.9	Construction Impacts	Baseline	No change	No change	No change	No change		No change	No change
7.10	Car Parking	Baseline	No change	No change					
7.11	Air Quality (construction)	<i>Similar for all options</i>							
	Air Quality (operation)	<i>Similar for all options</i>							
7.12	Traffic local to stations	<i>Similar for all options</i>							
7.13	Freight suitability	Baseline	No change	No change					
	Freight Impacts	Baseline	No change	No change					
7.14	Local Plan 2040 sites	Baseline			No change	No change		No change	No change
	Bedford-Cambridge trains per hour*	4	4	4	2	2	2	4	4



# Criteria Analysis

- This analysis does not throw up a clear “winner” amongst the routes considered. The analysis does not show any alternative route to be clearly superior to EWR's proposal
- It will be for decision-makers to determine which of the criteria are of most importance in their decision-making processes.
- Further development of each option may alter their relative scoring compared to other options.



# Four Tracks vs Six Tracks

- Five arguments are advanced by EWR Co in support of the preference for six tracks in their Route Update Announcement:
  1. Current levels of railway congestion
  2. Timetabling issues
  3. Constraining future growth on the railway
  4. Speed restrictions
  5. Impact on Wixams station

# Four Tracks vs Six Tracks

- Current levels of railway congestion
  - The Bedford station area is already congested with train services, even before EWR services are added.
  - As EWR will have its own dedicated platforms, the issue cannot be about the station area, but just the section of the Slow Lines between where the Cambridge Line converges and Bedford North Junction (through the Poets area). This section of railway has low utilisation.

# Four Tracks vs Six Tracks

- Timetabling issues
  - It would be extremely difficult to introduce EWR services on the existing four tracks and within the existing train timetable.
  - This depends on how flexible the rail industry is prepared to be with other services and at other locations. It seems inequitable that Bedford should suffer in order to neatly accommodate EWR services at, for example, Oxford and Cambridge.

# Four Tracks vs Six Tracks

- Constraining future growth on the railway
  - It would constrain future growth of services on the Midland Main Line, especially for freight.
  - A high proportion of the freight paths though Bedford in the current timetable are not used on a given day. E.g., on a typical weekday in January 2024 there were 78 freight paths in the timetable (both directions, and excluding paths which are alternatives to each other), but only 21 freight trains actually ran: **27% utilisation.**

# Four Tracks vs Six Tracks

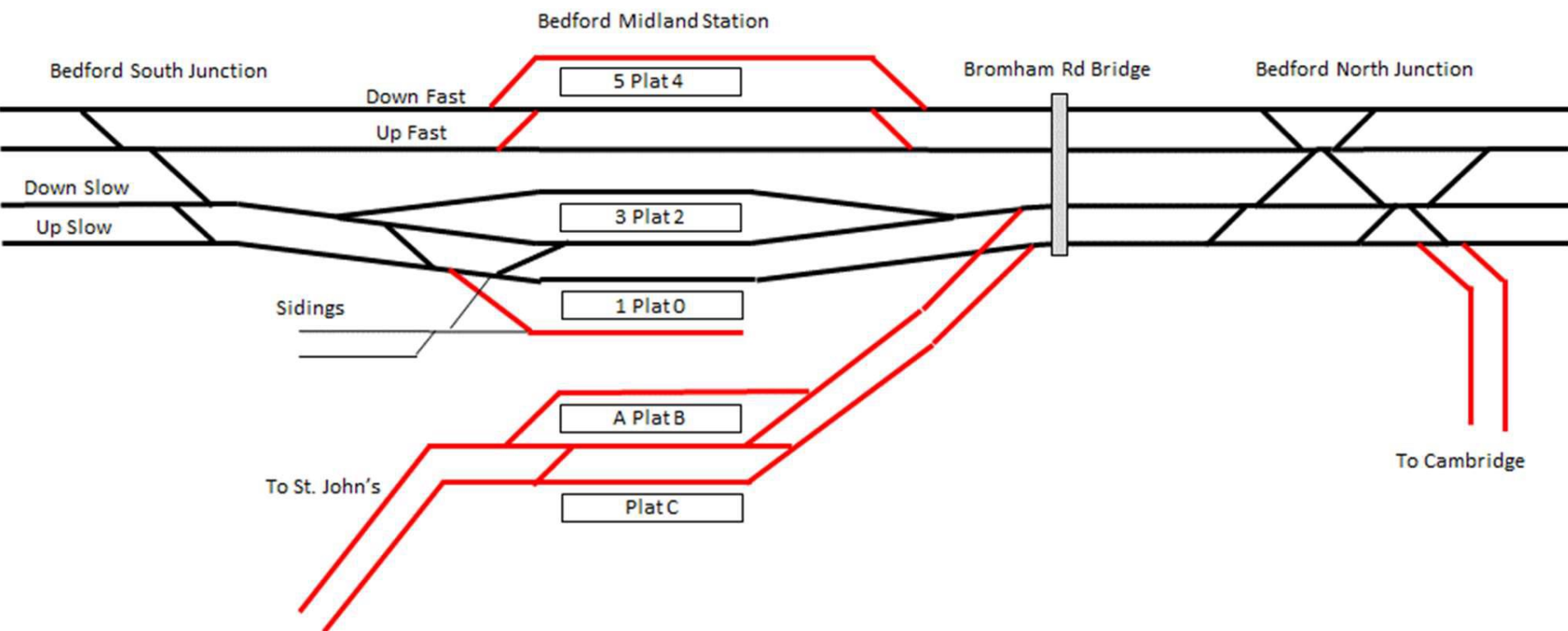
- Speed restrictions
  - It would be very difficult to signal and maintain both EWR and existing services effectively within the 4-track section without negative impacts on the speed of trains.
  - This contention can only be proven one way or the other by detailed modelling and infrastructure design work which has not yet been undertaken.

# Four Tracks vs Six Tracks

- Impact on Wixams station
  - A 4-track solution would increase use of the existing platforms at Bedford, exacerbating the performance and growth constraints and threatening the ability to accommodate a new station at Wixams.
  - The 4-track solution modelled by Arup has six platforms: four dedicated to GTR services (0-3) compared to 2½ at present and two for EMR services (4-5) compared to 1½ at present. Wixams would be unaffected.

# Four Tracks vs Six Tracks

- This diagram from EWR shows how a track arrangement could work:



# Four Tracks vs Six Tracks

- SLC have set out the following findings:
  - Platform 3 should be clear for much of the day, as GTR services would still have three platforms to use (more than the current 2½) as EMR services would use platforms 4-5.
  - It would then be possible to hold a freight in that platform, thus breaking the link between EWR and GTR services.
  - It is recommended that EWR Co is asked to demonstrate whether this could be made to work.



# Four Tracks vs Six Tracks

- The following are key points:
  - The modelling inevitably shows that the 6-track alignment provides a more resilient solution for EWR services.
  - This is clearly desirable, but whether it is **necessary** is a different matter.
  - Whilst the modelling does show a performance reduction in a 4-track solution compared to 6-tracks, the Arup report does not quantify this to allow a meaningful cost-benefit comparison between options.
  - The performance impact of 4-tracks can be mitigated by additional infrastructure, e.g., platforms 0 and 5.

# Four vs Six – Conclusions

- Four tracks appear to be a workable solution if:
  1. Future freight growth can be accommodated by increasing the existing poor utilisation of paths from c.27% and by infrastructure changes that are driven by that growth not by EWR services.
  2. Platform 5 is constructed so that all EMR services are concentrated on platforms 4 and 5 and do not interact with GTR services. This has the added benefit that long distance inter-city services could call at Bedford once more.

# Four vs Six – Conclusions

- Four tracks appear to be a workable solution if:
  3. An additional platform 0 is constructed so GTR services are able to use 4 platforms: 0, 1, 2 and 3, offering more capacity than they have at present.
  4. Freight trains make use of platform 3 to be held where necessary in order to fit in with other traffic north and south of Bedford.

# Four vs Six – Conclusions

- Four tracks appear to be a workable solution if:
  5. Compromises and timetable constraints are accepted at other locations on the EWR route, so Bedford is not forced to accept the worst downsides of the construction of the railway.
  6. There are layouts for Bedford Midland which accommodate a southern alignment past Bedford with the reversal of some or all EWR services in the station. In these instances, the issue of four or six tracks north of the station does not arise.

# Summary

- **Flooding analysis** –
  - EWR case not proven on current evidence.
- **Economic analysis** –
  - Southern routes are almost as good as northern.
- **Criteria analysis**
  - All routes have pros and cons.
  - Decision-makers must weigh them appropriately.
- **Four or Six Tracks**
  - Four tracks is still a viable option.

# Next Steps

- The reports from Systra and SLC will be published on the Council website tomorrow.
- The Mayor will seek a meeting with EWR Co to discuss our findings.
- When the statutory consultation on EWR takes place (currently expected in June), the findings will be used to inform the Council's response.
- That response will be agreed at a meeting of Full Council.