Development of a ‘Bus Biased’ Corridor

Midlands Highways Alliance

September 2025

AECOM – Mark Stapley

Safety Moment

There are many excuses someone will give for not working safely

- I didn’t know,
- I didn’t have time,
- I lost my PPE
- I have done it plenty of times nothing will happen

It Won’t Happen to Me!!!!!

When an employee has done the same task or has been in the same occupation for many years, they can have the “it won’t happen to me mindset.”

Believing you are not susceptible to the hazards of the job is a quick way to be injured!

No matter how much experience you have, the necessary steps still need to be taken to prevent an incident from occurring

AECOM’s process for Developing ‘Bus Biased’ Corridors has been derived from the guidance set out in the Department for Transport (DfT) Local Transport Note (LTN) 1/24: Bus User Priority.

Mark Stapley
National Traffic Control
Engineering Lead (UK&I),
AECOM

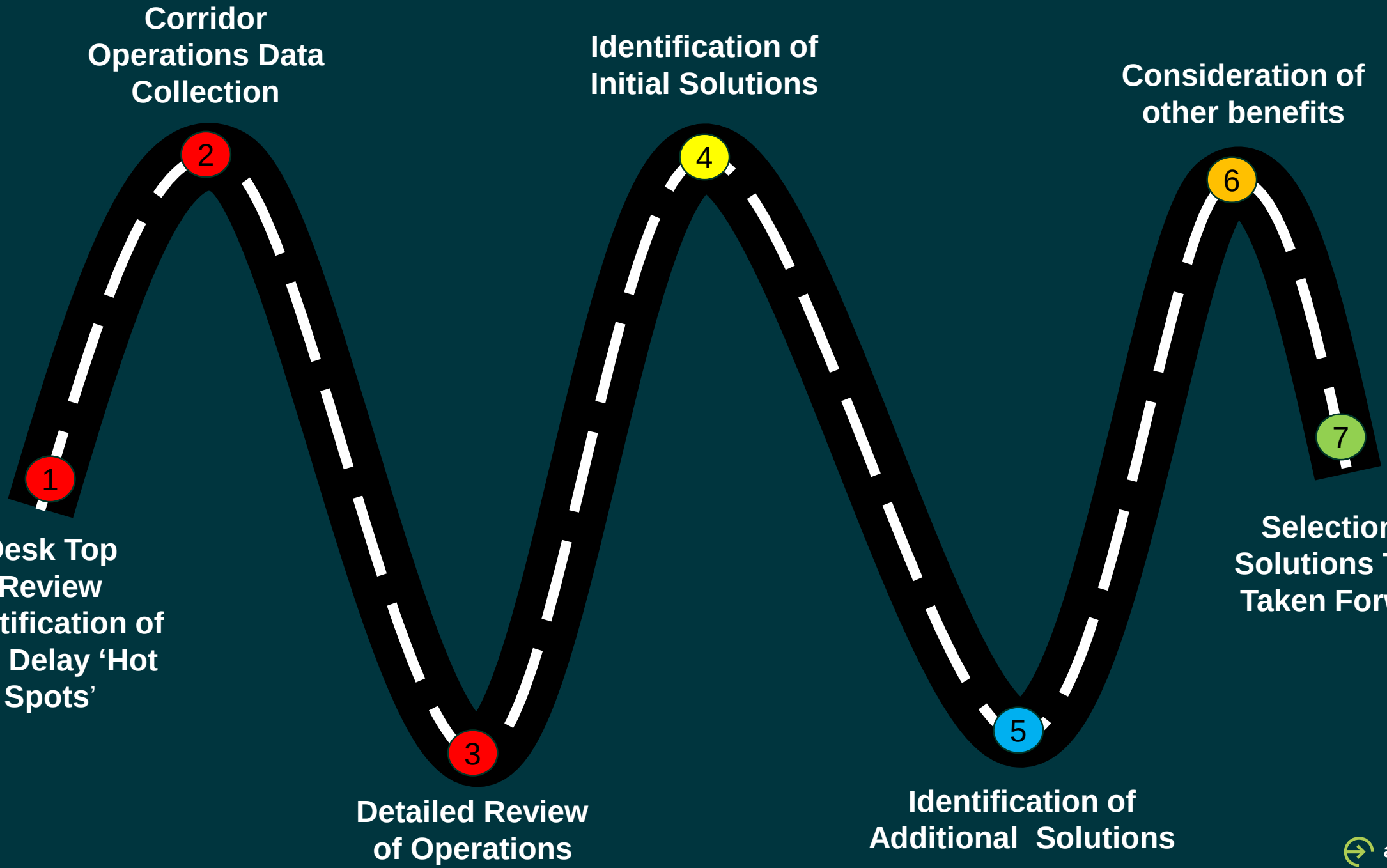
LTN 1/24 Bus User Priority

Key Takeaways

Key Takeaways – 12 things to note from LTN 1/24

1. Bus user priority not bus (vehicle) priority
2. Focus on the door-to-door passenger trip not just the part travelling on the vehicle
3. If a passenger can't get to a bus stop or doesn’t feel safe getting there or waiting, they won't use a bus no matter how fast or reliable
4. Understand and consider all components of delay on a bus users' trip
5. Bus stop cages should provide space for easy/safe entry, stopping and exit
6. Bus laybys should not be used where speed limit is under 40 mph
7. Bus improvements can be direct, indirect or complementary – they don’t have to be obvious to the travelling public
8. Bus user priority is not just about bus lanes
9. A bus or priority lane only improves speed/reliability if there is congestion
10. Kerbside controls are a fundamental component of the improvement toolkit
11. Centralised traffic control systems using AVL is the preferred method for technology applications, as it brings many benefits.
12. An assessment is required (before, during and after) for the application of technology, ensuring all existing technologies (signals etc) are actual operating correctly.

Development of a Bus Biased Corridor - Traffic Management and Control Strategy


Corridor Operations Data Collection
Identification of Initial Solutions
Consideration of other benefits
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Desk Top Review Identification of Bus Delay 'Hot Spots'
Detailed Review of Operations
Identification of Additional Solutions
Selection of Solutions To be Taken Forward

Defining the Problem

Desk Top Review / Identification of Delay 'Hot Spots'

This will require information from the Bus Companies / Highway Authority to establish where the biggest delays and journey time variability are being seen along the corridor. This will help identify the areas in which the most effective improvements can be made to bus journey times and reliability

Corridor Operations Review

Collect site data to identify other potential areas which could cause delay and / or represent an opportunity for improvement such as traffic signals sites, controlled crossings, parking & loading controls. This would include the need for site visits / corridor travel survey. This will allow for a better understanding of the route.

Detailed Review of Operations

Information of the current operation of any traffic signals, parking restrictions, loading times, etc will be required from the Highway Authority. A detailed review of the corridor operations and infrastructure would be carried out during peak times. It will help identify any existing issues that could be rectified ensuring the corridor is operating at its most efficient before applying any new solutions.

Identifying the Solution

Identifying the Solution

Identification of initial Solutions

Identify solutions that can reduce delay and improve bus journey reliability, where possible. Example – A traffic signal junction currently operating on VA control with no form of PSVP control could be upgraded to MOVA & AVL PSVP control making the operation more efficient and prioritising selected vehicles, when required. Example – relocate / remove bottle necks along corridor such as parking / loading or right turn movements that may be blocking. As per LTN 1/24, consider what introduces friction and impacts on free flow operation.

Additional solution identification

Identify addition solutions that may not have an immediate effect on the bus journey but could influence road user behaviour, etc. over time.

Example – VMS signage on the approach to the P&R showing journey times for cars to city centre and journey times for B&P bus to city centre (hopefully lower)

Consideration of other benefits

How can solutions be developed to provide further non-direct benefits and / or ensure futureproofing of the network.

Selection of Solutions to be Taken Forward

Example solutions in place of or included with dedicated bus lanes

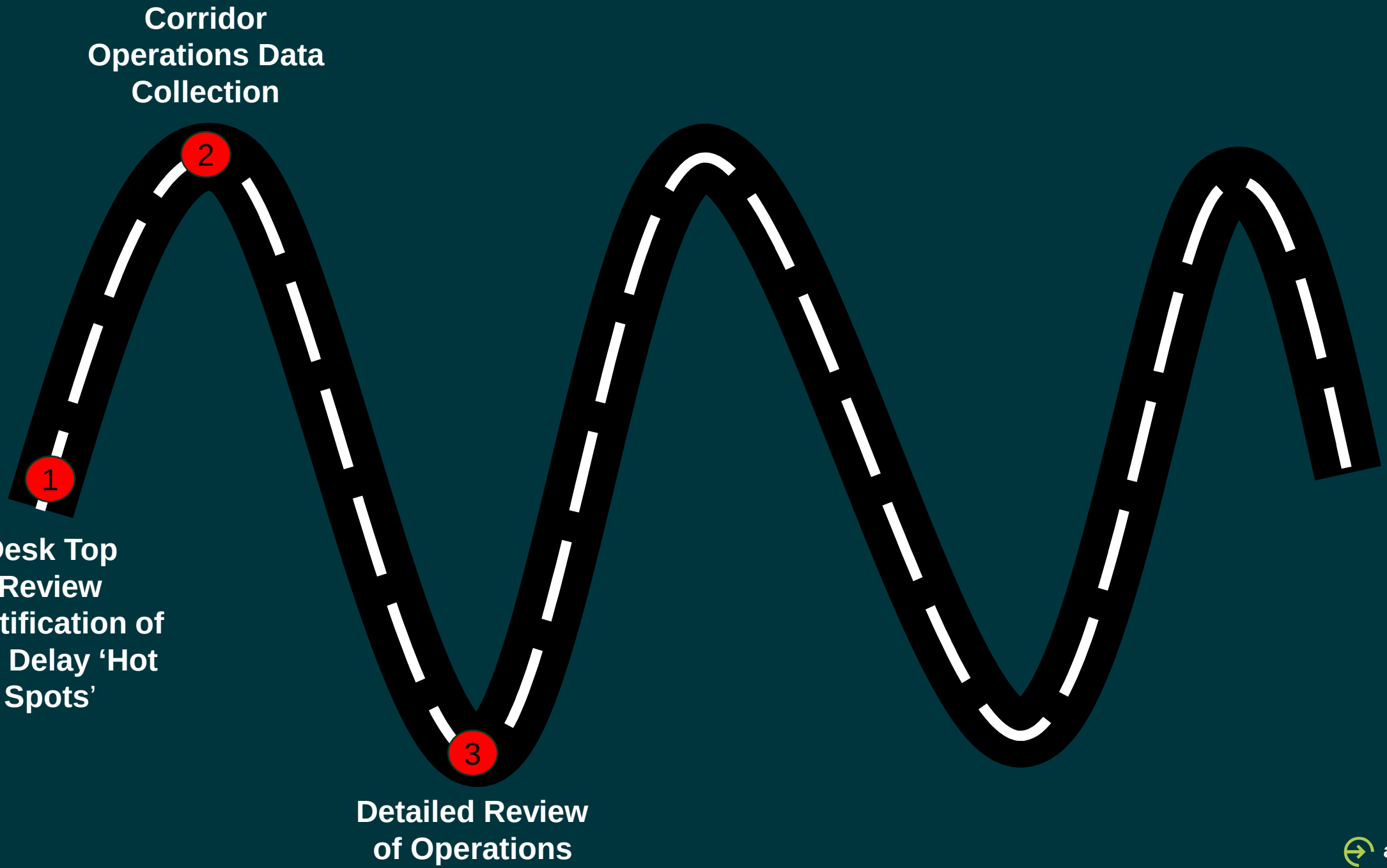
- Upgrades to Traffic Signals, including more efficient control modes and advance detection applications.
- Managing queues to provide virtual bus lanes / clearways and / or provide traffic management at bottle necks.
- Relocating / redefining parking areas to help free up space to allow for free flow of traffic
- Restriction to parking / loading areas during peak times to assist with the flow of traffic along the corridor.
- Remove / adjust / introduce right turning traffic movement areas to reduce blocking of the corridor.
- Use of technology to monitor bus journeys and / or potential delays caused by incidences on the networks.
- Use of technology to give information to and / or influence bus users
- Updates to the corridor / network that reduces friction to bus journey

Consideration also needs to be made of the effects of other traffic schemes in the area

Case Study - WECA B&NES Section 6 (Bath)
Newbridge P&R to Winsor Bridge Junction

Case Study - WECA B&NES Section 6 (Bath)

Initial concept design proposed a bus lane from P&R to Windsor Bridge, eastbound only. Estimated reduction for bus journey time was 60 seconds (E/B Only). High cost, time and environmental impacts.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‘Hot Spots’ - Site Locations

WECA B&NES Section 6 (Bath) Review

ID No.	Location	Operation	Observations	Initial Solution	Additional Solutions	Further Benefits
1	Twerton Fork Junction (5001)	T-Junction with separate, non-signalled, LT slip E/B. MOVA Control with no BP. No controlled pedestrian facilities	Free Flow A4 E/B, though slow-moving queue does form up to junction from river bridge (traffic slows to go over bridge especially big vehicles) RT from A36 occasionally blocks traffic exiting A4 W/B and A36 E/B due to layout of junction (GW to E/B A4) In general, the junction appeared to operate well in the AM peak with minimal delays. Visibility issue on A4 W/B approach due to junction layout, this caused vehicles to approach slowly, (more noticeable in the PM Peak) and causes delay as signals are configured to hold on to the phase to allow for this slow movement. In PM creates a slow-moving queue back through the upstream P&R junction			
2	Newbridge Rd P&R Junction (1081)	T-Junction accessing P&R. MOVA control with No BP. No controlled pedestrian facilities	Fairly Quiet early in AM peak, in general site operates well with minor delay. However, LT filter / RTIGA usage sometimes causes delay due to the way they terminate. Queue from downstream junction started to form later in AM peak. Downstream junction is busy (rat run) with vehicles forcing their way-out creating delay on A4. In addition, a lot of bad parking around the junction causes delay to big vehicles, especially around the traffic island. Low cycle usage, ASLs not being used. P&R was not too busy in AM peak, plenty of spaces, suggests opportunity for promoting modal shift			

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3	Newbridge Road/Old Bridge Hill/Brassmill Lane junction	Priority crossroads	Significant left in/right in flows from traffic accessing A4 to A431. Creating friction and generating traffic flows.			
4	Newbridge Rd nr Charmouth Rd	Mid-Block Crossing. VA with no BP.	Heavily used crossing due to nearby school. Delay due to crossing not clear of pedestrians, mostly school kids			
5	Newbridge Road from Charmouth Road to Ashley Terrace	Kerbside parking	Kerbside parking and Inconsistent parking restrictions narrowing the road and causing friction and delay to larger vehicles including buses.			
6	Newbridge Rd nr Station Rd	Mid-Block Crossing. VA with no BP.	Crossing being called despite no pedestrians wanting to cross (already crossed in gaps or walked away)			

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7	Newbridge Rd / Upper Bristol Street (1026)	Fork Junction. UTC / SCOOT control with no BP. Pedestrian controlled facilities on Newbridge Rd West and Newbridge Hill.	Simple operation but queuing from upstream junction E/B causes delay. When bus is at bus stops on exits of junction, more noticeable on Newbridge Hill, this causes delay at junction. Pedestrian crossing on Newbridge Rd west is in front of private drive. Phase B (Traffic W/B) is quite far from opposing crossing phase			
8	Locksbrook Road/Upper Bristol Road	Priority junction	Wide junctions with generous kerbline and a combined double exit to both Windsor Villas and Locksbrook Road. Drivers fail to give way to pedestrians and pedestrian movement is inhibited by the current layout. Locksbrook Road serves as various industrial/commercial units.			

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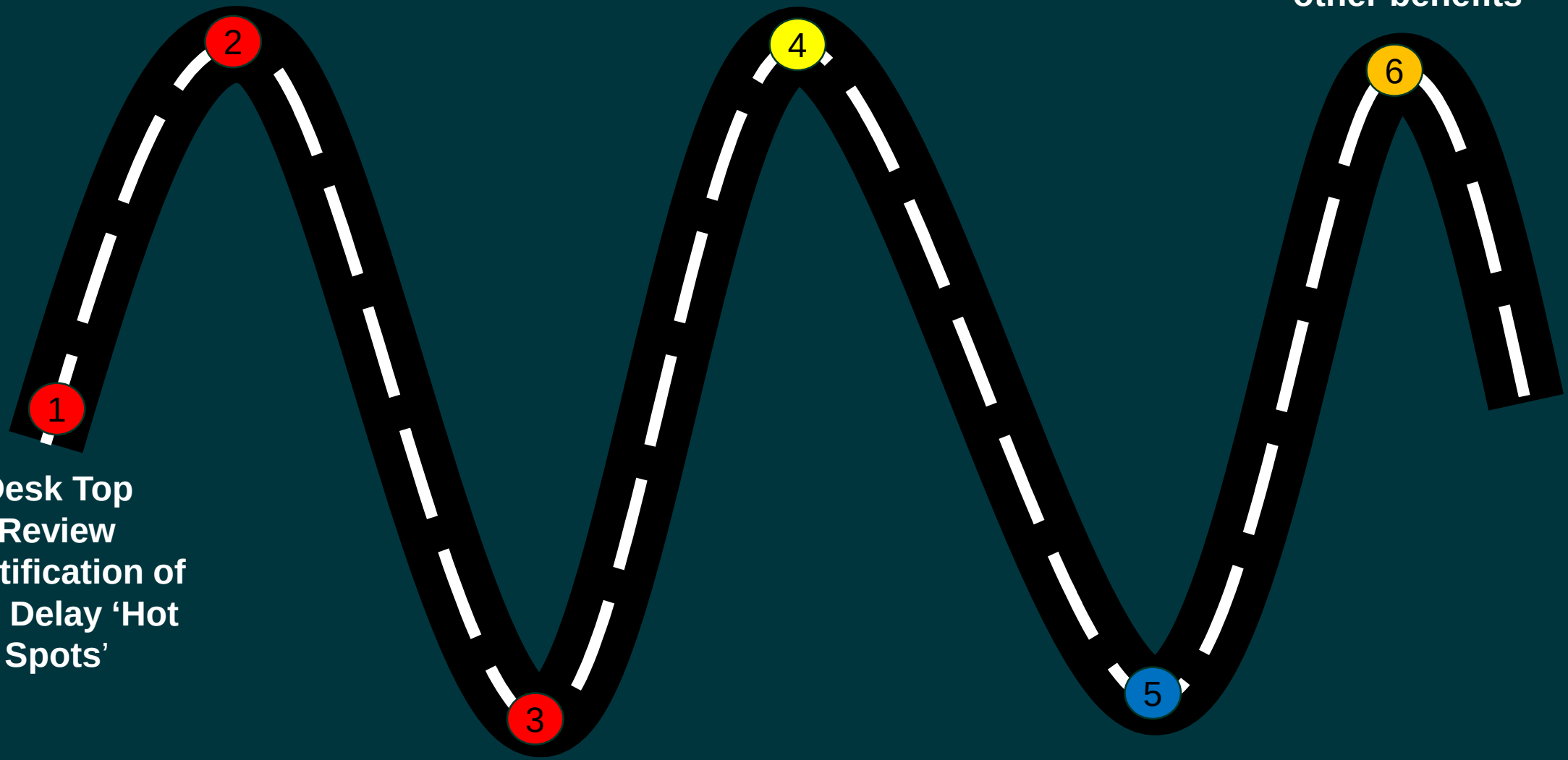
9	Upper Bristol St / Windsor Bridge Rd Junction (1040)	T-Junction. UTC / SCOOT control with no BP. Pedestrian controlled facilities across Upper Bristol Street & Windsor Bridge LT Slip	Junction operates fairly well considering how busy it is and restrictions of junction. Queue back along Windsor Bridge Rd sometimes effects junction movements. Entry / Exit of TESCO car park causes some delay. Due to width of lanes on A4 E/B, ASLs are not being used. Bus stopped at bus stop on W/B exit sometimes blocks LT slip from Windsor Bridge Rd			
10	Corridor Wide	CCTV Monitoring	CCTV monitoring appears to only be present at the traffic signal junctions			
11	Corridor Wide	Enforcement	Vehicles parking on sections subject to waiting restrictions.			



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4	Newbridge Rd nr Charmouth Rd	Mid-Block Crossing. VA with no BP.	Heavily used crossing due to nearby school. Delay due to crossing not clear of pedestrians, mostly school kids	Add AVL BP (Hold)	Renew traffic signal equipment to ensure crossing is operating to its max efficiency. Improve pedestrian access to Bus Stop.	Apply pedestrian countdown facility to help clear crossing ready for vehicle green
5	Newbridge Road from Charmouth Road to Ashley Terrace	Kerbside parking	Kerbside parking and Inconsistent parking restrictions narrowing the road and causing friction and delay to larger vehicles including buses.	Increase kerbside controls	Introduce kerbside controls min 7am to 7pm 7 days with peak hour loading both sides.	-
6	Newbridge Rd nr Station Rd	Mid-Block Crossing. VA with no BP.	Crossing being called despite no pedestrians wanting to cross (already crossed in gaps or walked away)	Add AVL BP (Hold)	Renew traffic signal equipment to ensure crossing is operating to its max efficiency.	Add kerbside detection

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8	Locksbrook Road/Upper Bristol Road	Priority junction	Wide junctions with generous kerbline and a combined double exit to both Windsor Villas and Locksbrook Road. Drivers fail to give way to pedestrians and pedestrian movement is inhibited by the current layout. Locksbrook Road serves as various industrial/commercial units.	Tighten junction radii and narrow to minimise crossing distances	Redesign junction layout	Consider raised side road treatment.

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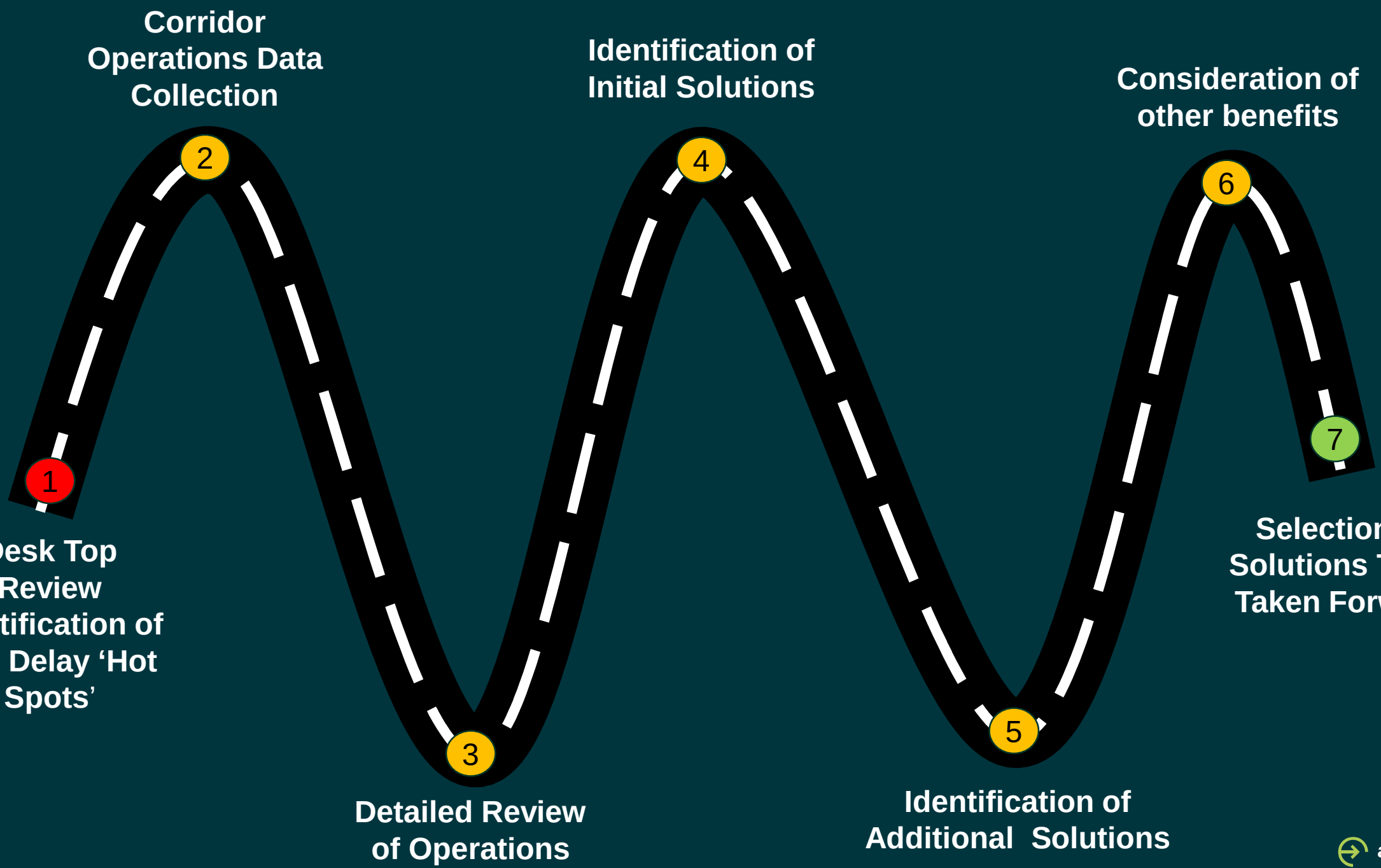
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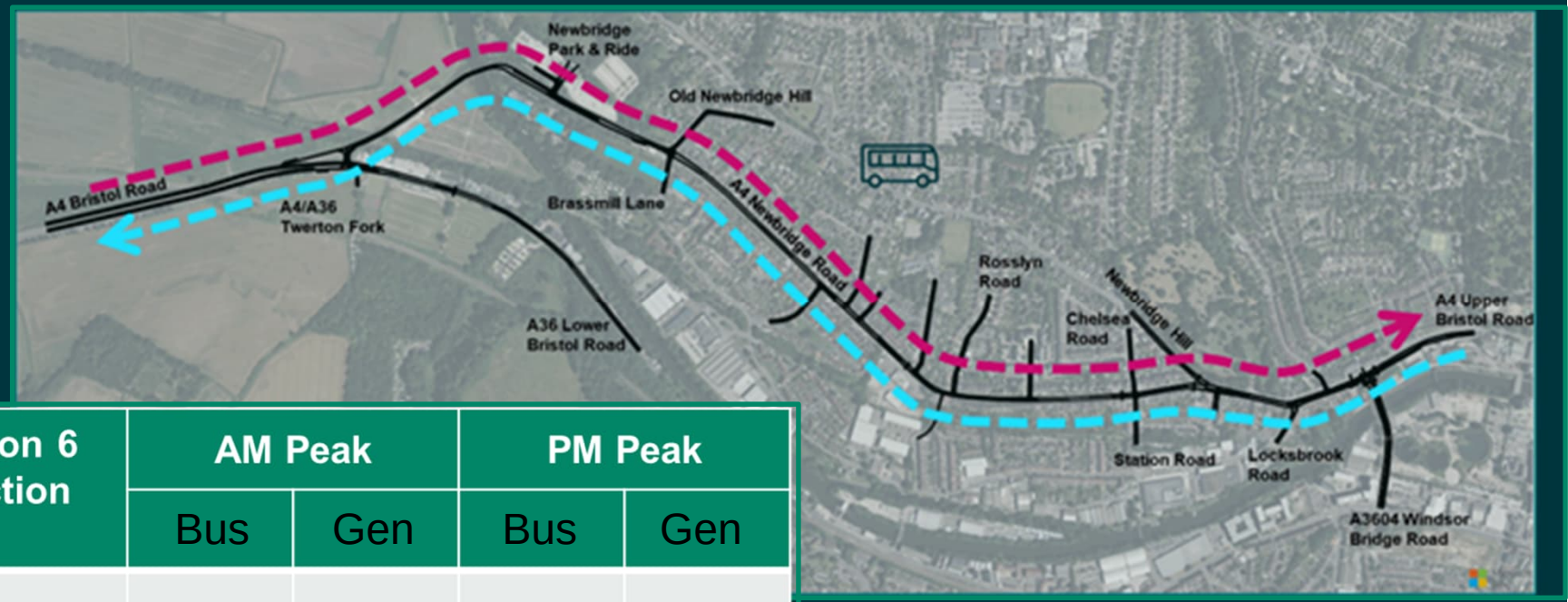
Initial concept design proposed a bus lane from P&R to Windsor Bridge, eastbound only.

Estimated reduction for bus journey time was 60 seconds (E/B Only).

High cost, time and environmental impacts.

Improvement to Bus Journey Times for both Eastbound and Westbound buses with a much lower cost, time and environmental impact



Scenario Summary	BBSC B&NES Section 6 Journey Time Direction (mm:ss)	AM Peak		PM Peak	
		Bus	Gen	Bus	Gen
Section 6 Preliminary Design	**A4 Eastbound** *(towards Bath)* *3.3km Route*	-00:15	+00:28	-00:17	+00:04
	A4 Westbound *(towards Bristol)* *3.3km Route*	-00:20	-00:08	-00:02	+00:11
S6 Preliminary Design + BUS PRIORITY	**A4 Eastbound** *(towards Bath)* *3.3km Route*	-00:35	+00:39	-00:41	+00:23
	A4 Westbound *(towards Bristol)* *3.3km Route*	-01:00	-00:07	-00:50	+00:12

Additional benefits include improvements to bus stop accessibility and active travel facilities.

Questions?

AECOM Delivering a better world

For further information on this presentation please contact;

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If you want to be added to the distribution list for further sessions, email daniel.godfrey@aecom.com.

Forthcoming sessions:

- Delivering a Transport Data Hub (Sept 25th – 12pm)
- Monitoring and Evaluation – Updates to Local Authority Guidance (Oct)
- National Standards for Sustainable Drainage Systems (Nov)