



A9 Dualling Programme

Assessment of Delivery Plan Rescheduling and
Acceleration Proposals

14 January 2025

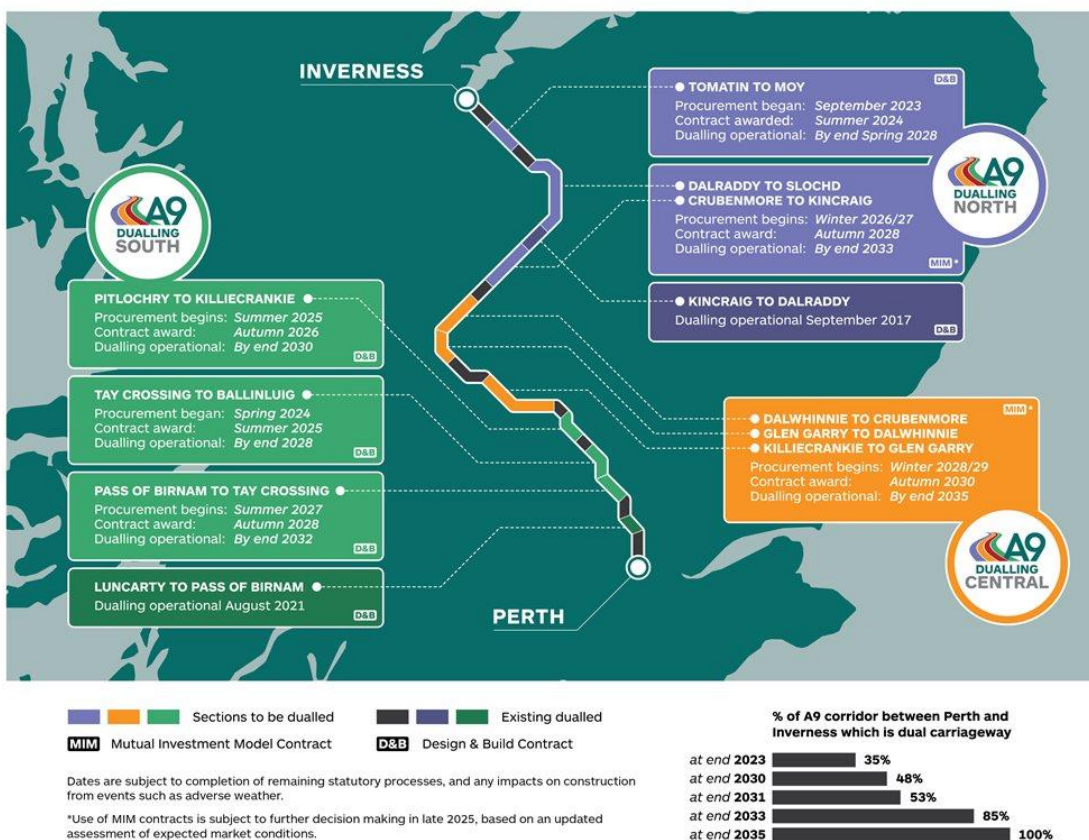
Contents

1	Background	1
2	Contextual Information	3
3	Assessment Findings	10
4	Recommendations	14

1 Background

1.1 This report has been prepared to summarise the assessment findings of rescheduling and acceleration proposals made in relation to the delivery plan for the A9 Dualling programme, announced in December 2023. The delivery plan anticipates completion of the A9 Dualling programme by means of four Design and Build (D&B) contracts and, subject to on-going due diligence and further decision making in late 2025, two Mutual Investment Model (MIM) contracts. Details of the delivery plan are shown in Figure 1.

Figure 1: A9 Dualling Programme Delivery Plan



1.2 These rescheduling and acceleration proposals have been made in the anticipation that they would generate benefits in comparison to the A9 Dualling delivery plan announced by the Cabinet Secretary for Transport, Net Zero and Just Transition in December 2023. The particular proposals considered in this report are summarised in Table 1.

Table 1: Summary of rescheduling and acceleration proposals

Proposal	Description
Rescheduling based on safety	This proposal suggests rescheduling the delivery plan to improve sections of road with a poorer safety record earlier than sections of road with a better safety record.
Rescheduling based on lengthy diversions	This proposal suggests rescheduling the delivery plan to improve sections of road where closures of the existing single carriageway would result in lengthy diversions earlier than sections of road where local diversions are available.
Accelerating completion of the A9 Dualling programme	This proposal suggests that the delivery plan should be accelerated to achieve an earlier completion date than currently set out in the delivery plan.

- 1.3 This report sets out contextual information and assessment findings related to these proposals, based on which recommendations regarding these proposals have been developed.

2 Contextual Information

2.1 Construction Scheduling Considerations

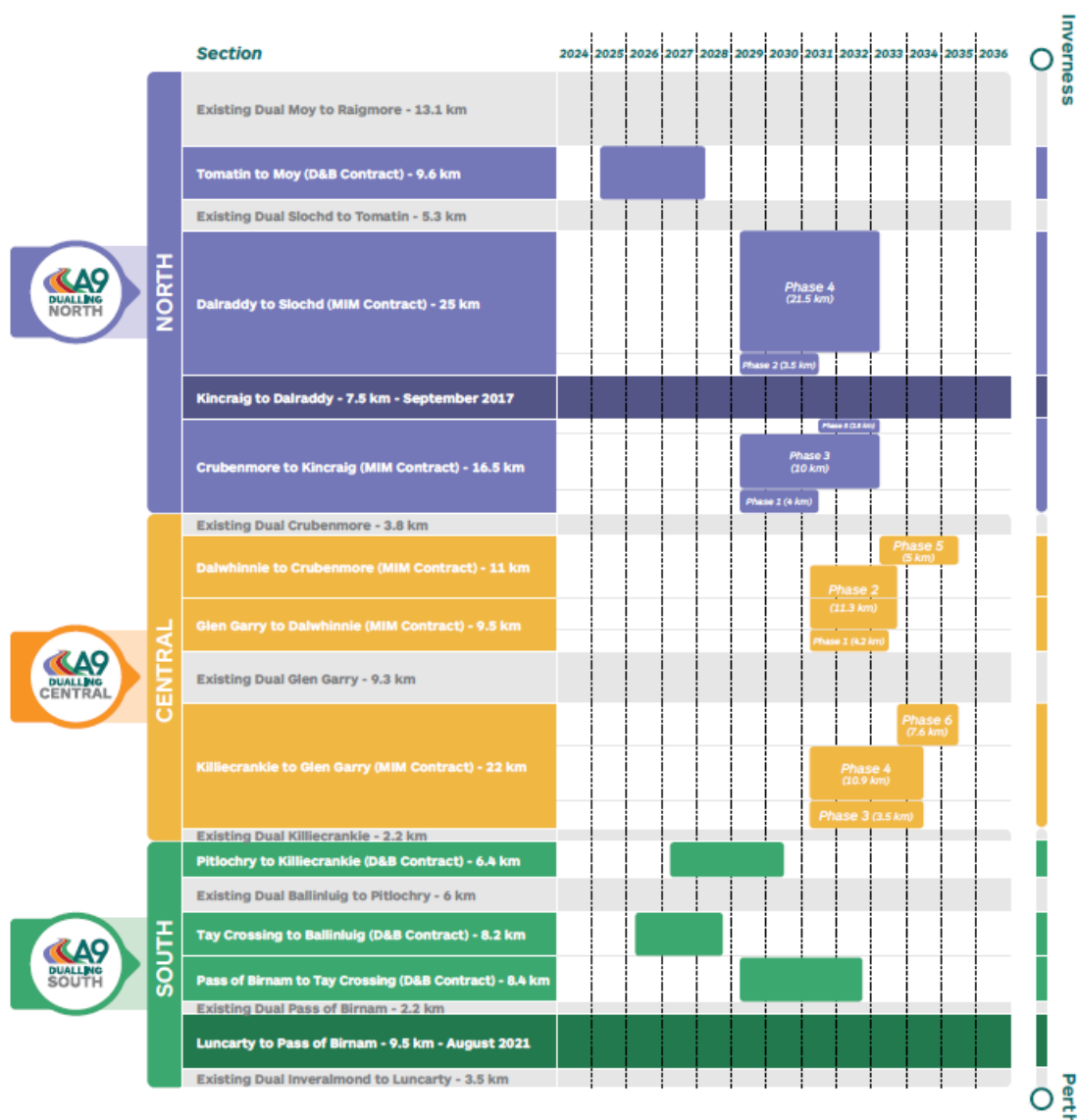
2.1.1 Construction scheduling of the A9 Dualling programme has been developed to balance a number of factors, as summarised in Table 2.

Table 2: Summary of construction scheduling factors

Factor	Scheduling Implications
Road User Disruption	Adoption of a maximum continuous length of temporary traffic management measures, to limit road user frustration associated with travelling at reduced speed. Adoption of a minimum length of road free from temporary traffic management measures between sections of road where temporary traffic management measures are in place concurrently, to limit road user frustration associated with travelling through multiple sections of road subject to temporary traffic management measures.
Market Capacity for Bidding	Scheduling procurements to minimise the extent of concurrent procurement activity, to enable bidders to enter procurements with knowledge of the outcome of the preceding procurement and to encourage participation by additional bidders due to the pipeline of bidding opportunities.
Market Capacity for Construction	Scheduling procurements and construction to provide a stepped build-up in volumes of construction activity on the A9 Dualling programme, noting that there is also significant construction activity expected in other sectors.
Financial Circumstances	Responding to the challenging financial circumstances at the time of decision-making on the approach to completion of the A9 Dualling programme, by scheduling procurement of D&B contracts to commence earlier than procurement of MIM contracts, which are subject to further decision-making in late 2025.

2.1.2 The construction schedule of the delivery plan for the A9 Dualling programme is illustrated in Figure 2, which presents this information in a “time-chainage” format. The vertical axis of this figure represents the A9 corridor between Perth and Inverness, and the horizontal axis represents time. The placement of blocks against these axes represents the location, length and duration over which construction work is expected to be carried out. Whilst an indicative phasing is illustrated for sections of the A9 North MIM Contract and the A9 Central MIM Contract, this will form part of the dialogue process with bidders during procurement of these contracts and the final phasing may differ from that shown in Figure 2.

Figure 2: A9 Dualling Programme Delivery Plan Time-Chainage Diagram



2.1.3 The construction schedule shown in Figure 2 is dependent on the procurement schedule noted in Table 3.

Table 3: A9 Dualling Programme delivery plan procurement schedule

Contract Type	Period	Contract
D&B Contract	Autumn 2023 to Summer 2024	Tomatin to Moy
D&B Contract	Spring 2024 to Summer 2025	Tay Crossing to Ballinluig
D&B Contract	Summer 2025 to Autumn 2026	Pitlochry to Killiecrankie
D&B Contract	Summer 2027 to Autumn 2028*	Pass of Birnam to Tay Crossing
MIM Contract**	Winter 2026/27 to Autumn 2028	A9 North MIM Contract

Contract Type	Period	Contract
MIM Contract**	Winter 2028/29 to Autumn 2030	A9 Central MIM Contract

* subject to completion of statutory processes

** subject to ongoing due-diligence and further decision-making in late 2025

2.1.4 The procurement schedule noted in Table 3 minimises overlapping D&B contract procurements and avoids overlapping MIM contract procurements, thus managing demands on market capacity to bid for these contracts. It also, so far as possible, provides continuity of bidding opportunities for each contract type. Based on this schedule, the only period of any significant duration between successive procurements of similar contract types is between completion of procurement of the Pitlochry to Killiecrankie project and commencement of procurement of the Pass of Birnam to Tay Crossing project, which is an unavoidable consequence of the anticipated date that the latter project will complete its statutory processes.

2.2 Road Safety

2.2.1 The Road Safety Framework to 2030, published in February 2021, sets out the Scottish Government’s vision for road safety in Scotland, which is for Scotland to have the best road safety performance in the world by 2030 and an ambitious long term goal where no one is seriously injured or killed on our roads by 2050.

2.2.2 All trunk roads are considered within an annual review of the safety performance of the trunk road network, including the sections of the A9 between Perth and Inverness that have not yet been dualled, to identify sites or sections of routes with recorded collisions that may merit further investigation. Further investigations are then carried out and, where appropriate, mitigation measures are prioritised for delivery.

2.2.3 In 2012 the A9 Safety Group was formed, with the main aim of working together with partners before and during the A9 Dualling programme to explore any measures which could be introduced on the route using engineering, enforcement, education and encouragement to positively influence driver behaviour to help reduce road casualties. The group meets on a regular basis and includes members representing authorities, road users and professional or industry organisations.

2.2.4 To encourage compliance with speed limits, average speed cameras were introduced on the A9 between Dunblane and Inverness in 2014 and subsequently upgraded in 2022. Police Scotland also continues to patrol the route using both marked and unmarked vehicles to monitor driver behaviour.

2.2.5 In December 2022 the Scottish Government announced a £5m package of additional engineering measures to be applied to the A9 between Perth and Inverness between 2023 and 2025, which are intended to address the perceived contributory factors to collisions recorded in 2022. These measures include

enhancement to road markings on single carriageway sections, upgrades to the transitions from dual to single carriageway with enhanced signs indicating the end of dual carriageway, red surface infill and illuminated road studs in hatched areas to give greater emphasis, installation of “two way traffic” signs and road marking arrows on the single carriageway sections reaffirming “drive on the left” at regular intervals and the deployment of eight variable messaging signs at strategic locations throughout the peak tourist season in 2023 and 2024.

- 2.2.6 The results of the most recent annual review of the safety performance of the trunk road network identified a need for further work to be undertaken on single carriageway sections of the A9 between Perth and Inverness at the locations noted in Table 4, which also notes which A9 Dualling programme project is associated with the locations concerned.
- 2.2.7 The work in progress for each of the locations identified in Table 4 will determine the nature of any further interim measures to be introduced to improve safety at these locations in advance of dualling works being undertaken.
- 2.2.8 It is important to differentiate between locations where accidents have occurred and causal factors of accidents, which in a number of cases may not be location specific. It is therefore not appropriate to consider historic occurrences of such accidents as being predictive of future accident occurrences at the same locations.

Table 4: Single carriageway locations where need for further work identified

Location	Issue and Further Work	Associated A9 Dualling project
Section of A9 between Inveralmond to A923 (Inver) Junction.	2024 review of accident rate suggested further consideration required. However, Luncarty to Pass of Birnam dualling works became operational in 2021 and therefore accident rate to be further reviewed in 2025 to provide an assessment based on three years of post-completion data.	Luncarty to Pass of Birnam (Operational 2021) and Pass of Birnam to Tay Crossing (Expected to be operational by end 2032)
B8079 (Bruar) Junction	Accident cluster identified for further consideration. CCTV study completed to monitor effects of adjustments to road markings – currently being analysed.	Killiecrankie to Glen Garry (Expected to be operational by end 2035)
Dalnaspidal Junction	Accident cluster identified for further consideration. Accident investigations are currently ongoing.	Glen Garry to Dalwhinnie (Expected to be operational by end 2035)

Location	Issue and Further Work	Associated A9 Dualling project
B9150 (Newtonmore/Ralia) Junction	Accident cluster identified for further consideration. CCTV study was arranged to review driver behaviour to identify if additional measures are required to reduce collisions and conflicts. First survey was completed in March 2024 and was repeated in summer 2024 to monitor effects of adjustments to road markings – currently being analysed.	Crubenmore to Kincaig (Expected to be operational by end 2033)
A86 (Kingussie) Junction	Accident cluster identified for further consideration. An intervention to improve safety is expected to be implemented in early 2025 to address commonalities in the accidents.	Crubenmore to Kincaig (Expected to be operational by end 2033)
B9152 (Lynwilg) Junction	Accident cluster identified for further consideration. Accident investigations are currently ongoing.	Dalraddy to Slochd (Expected to be operational by end 2033)

2.2.9 The relationship between the locations identified in Table 4 and the contracts to be procured for completion of the A9 Dualling programme is summarised in Table 5.

Table 5: Relationship between locations where further work is required and contracts to be procured for A9 Dualling programme

Contract	Location(s)
Pass of Birnam to Tay Crossing D&B Contract	One location (A9 between Inveralmond and A923 (Inver) Junction) partially lies within the extent of this contract. Under the delivery plan this contract is due to be procured at the earliest opportunity following completion of statutory processes for the project concerned.
A9 Central MIM Contract	Two locations (B8079 (Bruar) Junction and Dalnaspidal Junction) are within the extent of this contract. Under the delivery plan this contract is due to be procured between Winter 2028/29 and Autumn 2030 and be operational by the end of 2035.
A9 North MIM Contract	Three locations (B9150 (Newtonmore/Ralia) Junction, A86 (Kingussie) Junction and B9152 (Lynwilg) Junction) are within the extent of this contract. Under the delivery plan this contract is due

Contract	Location(s)
	to be procured between Winter 2026/27 and Autumn 2028 and be operational by the end of 2033.

2.2.10 Based on current information, and notwithstanding the need for consideration of some location specific mitigation measures, it is considered that a sound basis does not exist for concluding that particular single carriageway sections of the A9 between Perth and Inverness are inherently less safe than other single carriageway sections. In the absence of such a basis, it is not considered that there is a robust method of prioritising earlier dualling of one section of single carriageway over another section of single carriageway to achieve relatively greater levels of improvement in safety performance.

2.2.11 Improved safety performance is expected to result from the introduction of temporary traffic management measures during construction operations, primarily as a result of reduced speed limits and restrictions on overtaking.

2.3 Lengthy Diversion Routes

2.3.1 Closure of certain sections of the A9 between Perth and Inverness results in lengthy diversion routes being required due to the absence of local diversion routes. Particular sections of the A9 where this is the case are between Bruar and Dalwhinnie and between Carrbridge and Slochd.

2.3.2 Whilst alternative trunk road routes between Perth and Inverness are available, these result in significantly greater distances and journey times and require use of lengths of road of poorer standard than the A9 between Perth and Inverness. These alternative routes are summarised in Table 6.

Table 6: Summary of alternative routes

Alt. Route	Journey Length and Time Implications
Western Trunk Road Route	A85 Perth to Crianlarich, A82 Crianlarich to Inverness. Increase in distance of approximately 60 miles and increase in journey time of at least 2 hours.
Eastern Trunk Road Route	A90 Perth to Aberdeen, A96 Aberdeen to Inverness. Increase in distance of approximately 75 miles and increase in journey time of at least 1.5 hours.

2.3.3 Reduced network disruption and improved network resilience is expected to result from the introduction of temporary traffic management measures during construction operations, primarily as a result of an expected reduced number and severity of collisions whilst temporary traffic management measures are in operation, but also due to the availability of vehicle recovery services as part of the temporary traffic management measures.

2.4 Accelerating Completion of Construction

- 2.4.1 There are two principal theoretical means by which completion of construction could be accelerated, which can operate independently of each other or in combination. One is to introduce overlapping or concurrent procurements, which would then result in an increased volume of overlapping/concurrent construction activity. The other is to seek to reduce the duration of construction programmes by deploying additional resources to accelerate construction activity.
- 2.4.2 Due to the nature of the works involved in dualling the A9, which predominantly entail construction of a new carriageway adjacent to the existing carriageway, followed by transfer of traffic to the new carriageway while reconstruction work is undertaken on the existing carriageway, the construction process is expected to take relatively longer than would be the case for projects where construction of both carriageways of a new off-line road can be carried out simultaneously.

3 Assessment Findings

3.1 Rescheduling Based on Safety Performance

- 3.1.1 In terms of progressing the delivery plan to complete dualling at an earlier date at locations where safety issues have been identified, it is considered that there is no opportunity to reschedule earlier procurement and construction of the Pass of Birnam to Tay Crossing contract, as this is already planned to progress at the earliest opportunity following completion of statutory processes.
- 3.1.2 Whilst there is an opportunity to reschedule procurement and construction of the A9 North MIM Contract and the A9 Central MIM Contract, these contracts respectively include three and two junction locations within their scope where the annual review of safety performance has identified issues for further investigation. Any rescheduling of these procurements may therefore present a marginal disadvantage in terms of an expected improvement in safety performance compared to that expected from the delivery plan scheduling.
- 3.1.3 It is considered that there may be an opportunity, subject to further assessment and the availability of capital funding, to bring forward construction of the improved Dalnaspidal Junction, by means of an advance works contract involving the extension of the existing Glen Garry dual carriageway north by approximately 1km.
- 3.1.4 Initial assessment work suggests that the construction cost of such an advance works contract would be approximately £37m at Q2 2024 prices. This cost estimate is outline only at the present time and is subject to change as the scope of work is defined in more detail. The cost estimate reflects the extent of side road, earthworks, drainage and structures works required to provide a new grade separated junction at this location as part of extending the existing dual carriageway. It is estimated that, subject to an early decision to proceed, this work could be completed by the end of 2028, around two years earlier than the expected date of contract award for the A9 Central MIM Contract.

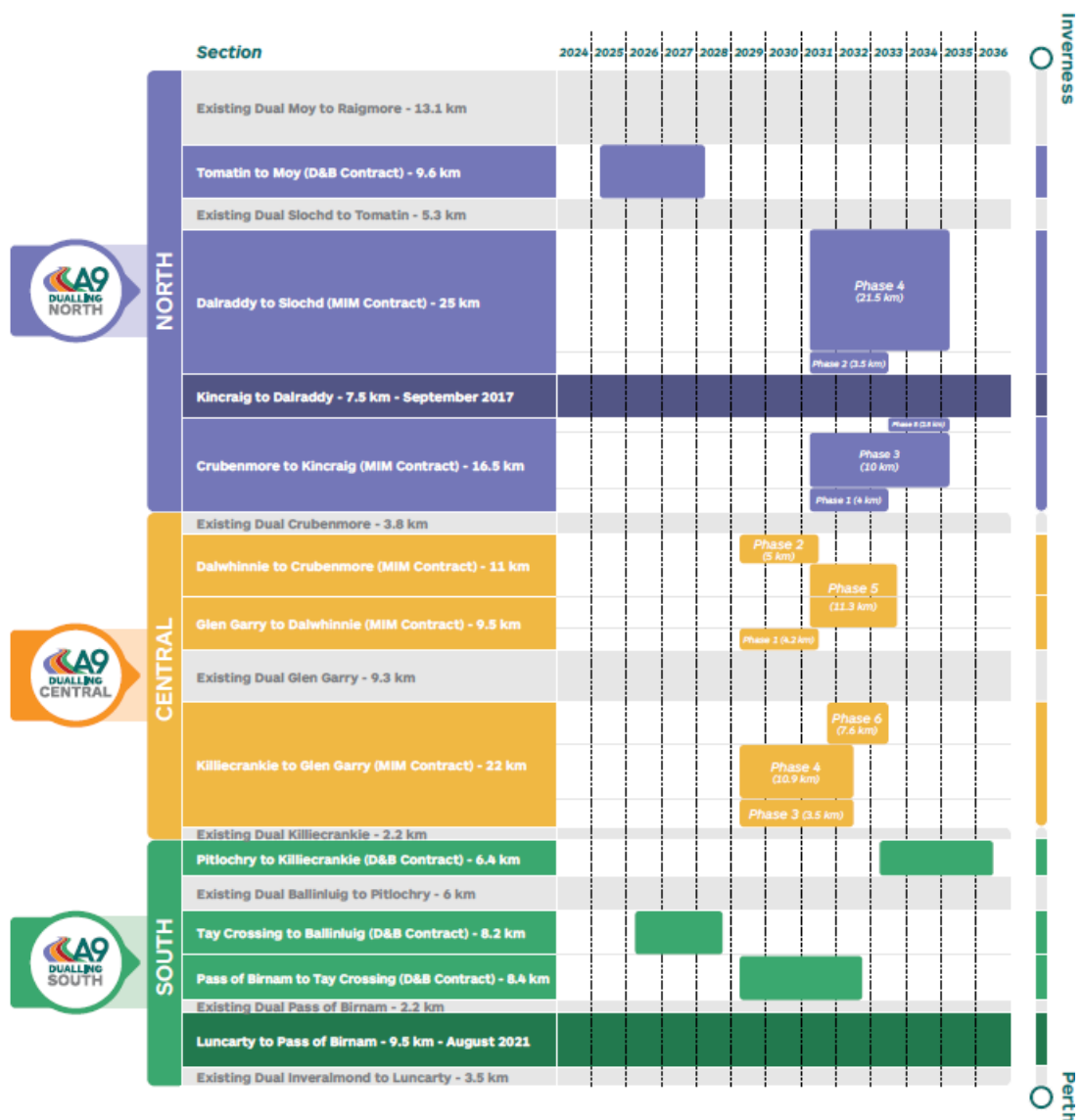
3.2 Rescheduling Based on Sections Requiring Lengthy Diversions

- 3.2.1 In terms of rescheduling the delivery plan to complete dualling at an earlier date at locations where lengthy diversions would be required in the event of road closures, it is considered that, in principle, this could be achieved by procuring the A9 Central MIM Contract before procuring the A9 North MIM Contract.
- 3.2.2 It is not considered that procurement of the A9 Central MIM Contract could proceed any earlier than the dates in the delivery plan currently envisaged for procurement of the A9 North MIM Contract, on the basis that the work required to inform further decision-making in late 2025 would still require to be completed and the subsequent work to prepare for commencement of procurement in Winter 2026/27 would still require to be undertaken. It is therefore expected that if the

procurements were rescheduled in this manner, main construction works on the A9 Central MIM contract would commence in Spring 2029, with main construction works on the A9 North MIM Contract commencing in Spring 2031.

3.2.3 However, earlier commencement of the A9 Central MIM Contract would create an overlap with construction of the Pitlochry to Killiecrankie project, which the current delivery plan has been developed to avoid, due to the road user disruption implications. In order to avoid that overlap it would be necessary to delay commencement of main construction works on the Pitlochry to Killiecrankie project to Spring 2033, which would be expected to result in completion of the A9 Dualling programme as a whole being delayed by approximately one year, with the final dualling works expected to become operational by the end of 2036. These changes in construction schedule are shown in Figure 3, which is presented in the same “time-chainage” format as Figure 2 above.

Figure 3: A9 Dualling Programme Rescheduled Time-Chainage Diagram



3.2.4 In addition to delaying completion of the overall A9 Dualling programme, this rescheduling would also introduce gaps in the procurement of D&B contracts, of around 2 years between the expected date of contract award of the Tay Crossing to Ballinluig project in Summer 2025 and the expected date of commencement of procurement of the Pass of Birnam to Tay Crossing project in Summer 2027, and of around 3 years between the expected date of contract award of the Pass of Birnam to Tay Crossing projects in Autumn 2028 and the rescheduled date of commencement of procurement of the Pitlochry to Killiecrankie project, which would now occur in Summer 2031.

3.3 Accelerating Completion of the A9 Dualling Programme

3.3.1 It is considered that accelerating completion of the A9 Dualling programme by introducing overlapping or concurrent procurements, which would then result in an increased volume of overlapping/concurrent construction activity, would create a number of adverse effects. These are summarised in Table 7.

Table 7: Summary of effects of accelerating procurements

Factor	Effect
Road User Disruption	Increased levels of road user disruption due to higher volumes of concurrent work being undertaken. Inability to schedule work to meet maximum and minimum lengths of temporary traffic management measures and gaps between such measures, respectively, adopted in development of the delivery plan.
Market Capacity for Bidding	Increased pressure on market capacity to bid for projects, with outcomes for one procurement not known at the time of commencement of the subsequent procurement.
Market Capacity for Construction	Increased pressure on and between main contractors to secure resources during periods of increased concurrent construction activity. Increased pressure on supply chains to meet levels of demand from main contractors during periods of increased concurrent construction activity.
Financial Circumstances	Increased prices resulting from increased competition for resources.
Risk	Reduction in mitigations provided within the delivery plan to manage the effects of delays on one project impacting on other projects.

3.3.2 It is considered that accelerating completion of the A9 Dualling programme by deploying additional resources to reduce the duration of construction programmes would result in many of the same adverse effects noted above. It would also mean that, in the event of construction delays occurring, the costs associated with those delays would be higher, due to the higher levels of resources present on sites affected by such delays.

- 3.3.3 Engagements with contractors have not indicated any appetite for increased levels of overlapping or concurrent bidding activity, or a view that significantly shorter construction durations can be achieved than those envisaged in the delivery plan announced in December 2023. In the absence of such an appetite or a view that significantly shorter construction durations could be achieved there is low confidence that the market would support a delivery plan based on such assumptions.
- 3.3.4 In addition to being uncertain of market support, it is considered that an accelerated programme of work would be expected to provide lower certainty of cost and be at greater risk of delay than the programme of work set out in the delivery plan announced in December 2023, impacting value for money, as well as being likely to result in higher levels of disruption for road users.

4 Recommendations

4.1 Based on the assessment findings set out above, it is recommended:

- that the delivery plan for completion of the A9 Dualling programme is not rescheduled, on the basis that the current scheduling achieves an earlier overall completion date than would be achieved were it to be rescheduled;
- that the delivery plan for completion of the A9 Dualling programme is not accelerated, on the basis that the current scheduling balances market capacity for bidding and procurement with levels of road user disruption, that any acceleration would be at risk of not being supported by the market as well as being expected to provide lower certainty of cost, be at greater risk of delay, and result in higher levels of disruption for road users; and
- that further work is undertaken to determine whether, subject to the availability of funding, to bring forward construction of the improved Dalnaspidal Junction by means of an advance works contract involving the extension of the existing Glen Garry dual carriageway north by approximately 1km.