A9 Data Monitoring and Analysis Report

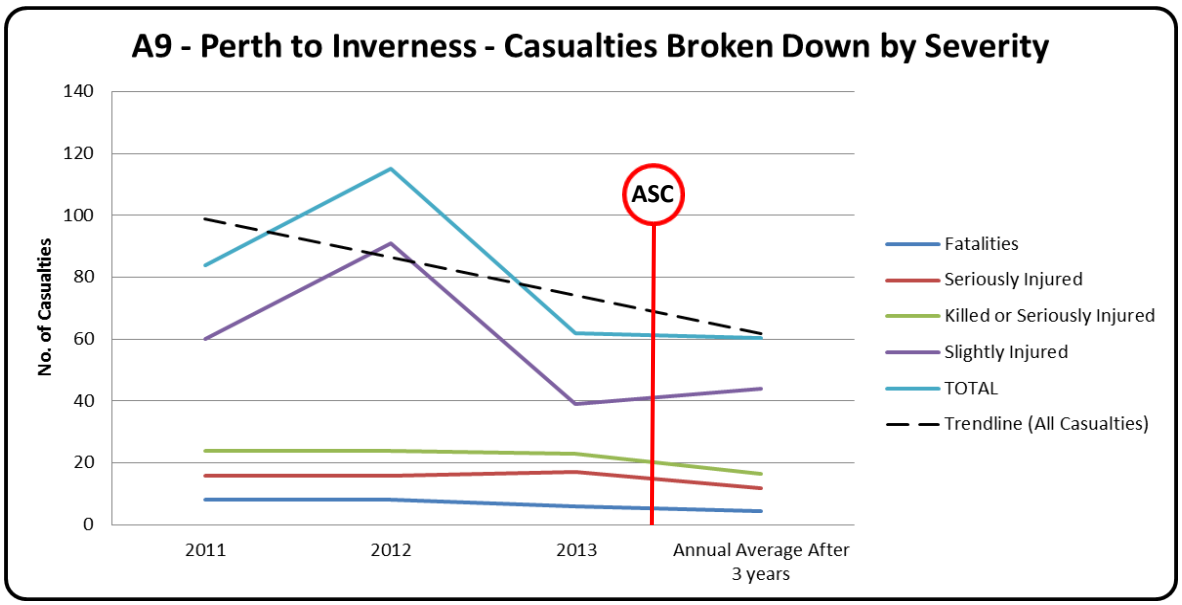
March 2018

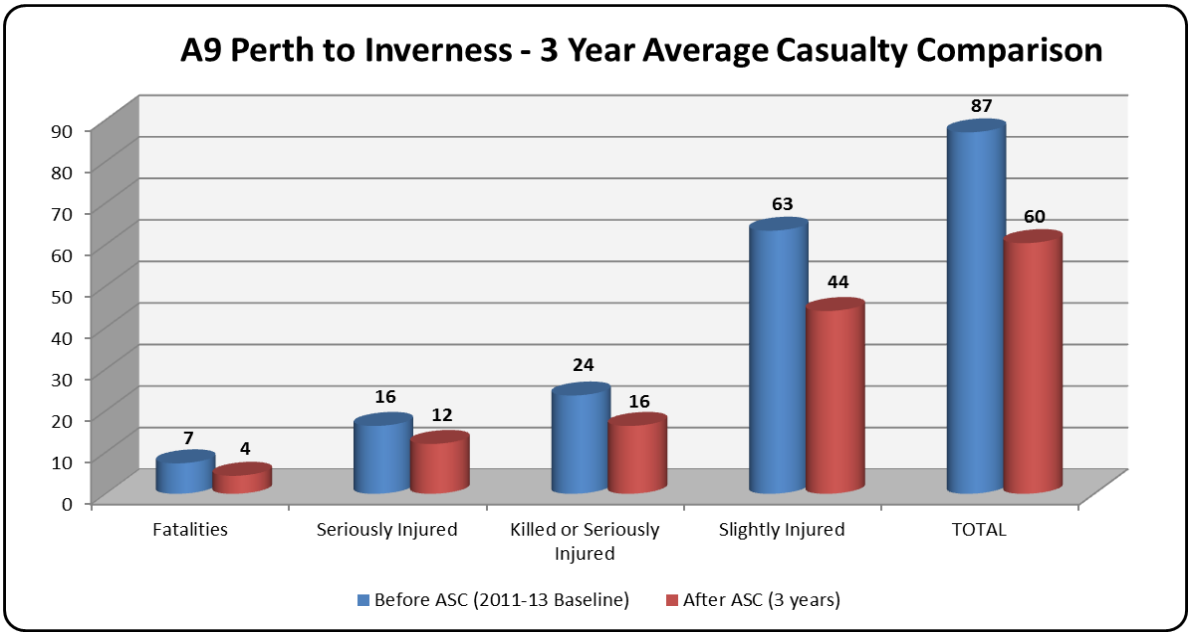
Content

1. Executive Summary and Key Findings

This latest report updates the comprehensive range of data sets designed to evaluate the impact of the A9 Safety Group's strategy for the route between Dunblane and Inverness. This report contains collision data covering the period from 1 November 2014 (introduction of Average Speed Camera System) to 31 October 2017.

This report demonstrates variation in some areas but does confirm that the longer-term trend continues to be downward. The graphs below highlight the casualty performance of the route using the latest data and highlights the positive downward trend now established.





The overall summary is highlighting sustained improvements in driver behaviour and a trend of reduced collisions and casualties when compared to the baseline data. The latest data set indicates the following based on the full three years of operation:

- **10 fewer lives lost** between Dunblane and Inverness
- **16 fewer people seriously injured** between Dunblane and Inverness
- **96 fewer people injured** between Dunblane and Inverness
- Average number of fatal casualties down by over 40%
- Average number of 'fatal and serious' casualties down by 31%
- Average number of total casualties down by over 27%
- Average number of fatal collisions down by over 23%
- Average number of 'fatal and serious' collisions down by almost 20%
- The significantly reduced number of vehicles exceeding the speed limit continues to be sustained.
- The number of vehicles detected by the ASC system which were considered by Police Scotland for further action has continued to average just over 10 per day since the introduction of the cameras (68% reduction compared to Baseline).
- There has been an average of over 13% increase in annual traffic volumes between the 2013 baseline period and 2017 at monitored sites.
- The journey time reliability between Perth and Inverness has improved with journey time variation now being between 3 and 3.5 minutes for the entire route.
- Restriction time as a result of incidents in 2017 was 25% lower than the baseline period.

2. Overview

The A9 Safety Group was established by Transport Scotland in July 2012. The main aim of this partnership group is to work together to positively influence driver behaviour in a way that helps to reduce road casualty figures on the route before and during the A9 dualling programme.

To assess the impact of the A9 average speed camera system it was agreed to monitor a number of key performance indicators across the route and compare them on an on-going basis with an established baseline comprising of data gathered prior to the introduction of the camera system. More information on these baselines is contained within this report.

This report is structured as a live document and updated on a regular basis to allow for regular monitoring against the established baseline. It uses Transport Scotland data sources and does not contain information on the technical performance of the average speed camera system, the operational management of the system or the number of offenders detected. Where information on offender numbers is presented within this document it has been sourced from Police Scotland. Transport Scotland do not hold detailed information of this nature.

3. Purpose

The A9 Average Speed Camera system (ASC) is the largest route based safety strategy in existence in the UK and is one of a range of measures introduced by the A9 Safety Group to positively change driver behaviour on the route. The overall aim is to reduce casualties while improving journey time reliability through reduced incident occurrence on the route.

The A9 strategy key deliverables are:

- Casualty Reduction – reduction in the number of people being killed or seriously injured
- Reduction in excessive speeding and improvements in speed limit compliance
- Incident frequency reduction
- Improved journey time reliability

From these key deliverables an assessment can be made not only on the key casualty reduction indicator but also an identification of improvements in the operational efficiency on the route. Driver attitude is more of a subjective issue and a repeat of the driver survey carried out in May 2014 was undertaken in March 2015 to provide a comparative analysis on this subject. The report is published at http://a9road.info/

The principle purpose of this report is to provide on-going monitoring of the evidence base emerging from the A9 to support an overall assessment of the impact of the strategy. This will also provide the evidence base for any further engineering or educational measures if required.

4. Baseline Data Sources and Methodology

Casualties

The casualty baseline methodology follows established practice for road safety schemes in providing the data for the three years before the introduction of the scheme and the three years after. In respect to the A9 data the baseline data is taken from the 1 January through

to 31 December for each calendar year from 2011 through to 2013. Normally data capture would involve the immediate 3 year period preceding the start of the project but given the visible 7 month construction programme during 2014 for the ASC, the A9 Safety Group agreed to exclude this period to ensure that baseline data was not influenced by this activity. This ensures that the data is directly comparable to more effectively measure the impact of the mitigation measures. The casualty classification is also in standard format with the 'Killed or Seriously Injured' (KSI) being the key performance indicator.

The Road Accident statistics are compiled from returns made by Police Scotland which follow an agreed national standard known as 'Stats 19'. These returns are subject to a validation process and given the steps involved, this effectively means that it can take up to 9 months before accurate statistics are available.

The above methodology has been used to formally evaluate the impact of the average speed cameras on an on-going basis using a rolling average to compare against the equivalent baseline figure. Now that a full three years of data relating to the period after introduction of the camera system is available, this report also provides a full year on year comparative analysis. This information is provided in Appendix 'A'. Please note that the accident information provided is based on the figures available at the time of publication of this report. Transport Scotland only holds accident information which is provided by Police Scotland and this can be subject to change, e.g. if late returns are received from Police Scotland, who are responsible for recording details of injury accidents.

Speed

The Vehicle Speed and Speed Enforcement Summary Report 2012 was the primary evidence base for establishing vehicle speeds across the A9 and in respect to the Perth to Inverness section, the data has been utilised as the baseline for comparison purposes. This data was gathered during a neutral month to avoid the influence of seasonal variations. The report is published at: http://a9road.info/uploads/publications/

Between Dunblane and Perth the baseline figure was established in September 2014 using portable equipment positioned near to the then proposed camera sites which had not been constructed at that point.

The analysis data is gathered from counter sites positioned as closely as possible to where the baseline figures were determined. Due to maintenance upgrades and other limitations this was not possible in every section and the closest alternative was used instead.

The data gathered is spot speed from the respective counters and not average speed which is assessed by the camera system for enforcement purposes. To allow for consistency in the analysis, data is gathered from all sites during the first week of each month (Mon – Sun). This will allow for seasonal trends to be incorporated within all data sets.

On some occasions data sets are not available from specific sites due to technical reasons. The majority of traffic counter sites are solar powered and prolonged poor weather in winter with limited daylight hours can impact on power availability. Maintenance and resurfacing schemes can also interrupt data collection.

Incidents

The incident frequency data is gathered from Traffic Scotland's incident management database and looks at all incidents on the A9 within the monitoring area covered by the average speed camera system resulting in a carriageway closure or restriction. It does not include weather related closures (it does include incidents which may happen during weather events) or planned closures such as road works.

The analysis of this data is based on restriction time with the output given in hours. The analysis does not consider anything which may have impacted on the closure times.

The data output does provide an overall comparison in terms of the operational efficiency of the route and the subsequent journey time reliability.

Journey Times

Journey Times on the A9 are measured using Bluetooth technology and the available data is sourced from Transport Scotland's established journey time stations immediately north of Inveralmond Roundabout, Perth and immediately south of the A96 Raigmore junction, Inverness. The data is gathered in a similar fashion to the speed data in that it is comprised of the first week of each month. A further filter has also been applied to use only the time period 07:00 to 19:00 each day which provides a more realistic picture of travel time during normal traffic conditions.

Roadworks can significantly impact on journey times and while routine maintenance on the route is to be expected, where there have been significant projects leading to delays these are qualified. The continuation of the dualling programme may also impact journey times.

Traffic Volumes

To allow for a comparison of traffic volumes on the A9 between Perth & Inverness, data has been taken from three counting stations (Birnam, Dalwhinnie and Moy) on this stretch of the

route to provide an overview of activity. A comparative analysis with the current baseline data is reported on.

The figures represent the seven day annual average daily flow which is the standard reporting format for this type of data. During the recording period Transport Scotland will be progressively commissioning a new traffic services database which has result in some interruption in data management provision during this process however reliable conclusions can still be drawn.

5. Casualty Analysis

As indicated in Section 4, collision and casualty figures are subjected to an extended validation process and this report considers the validated data available up until 31 October 2017 representing a full three year period since the introduction of the average speed camera system on 28 October 2014. This data allows for a full year by year comparison with the equivalent three year baseline period in addition to the previously reported rolling annual average.

The latest data continues to show a sustained downward trend in injury collisions and casualties across the route compared to the baseline data. The headline figures from the data are:

- **10 fewer lives lost** between Dunblane and Inverness
- **16 fewer people seriously injured** between Dunblane and Inverness
- **96 fewer people injured** between Dunblane and Inverness

<u>Dunblane to Inverness</u>

- Average number of fatal casualties down by over 40%
- Average number of 'fatal and serious' casualties down by 31%
- Average number of total casualties down by over 27%
- Average number of fatal collisions down by over 23%
- Average number of 'fatal and serious' collisions down by almost 20%

<u>Dunblane to Perth</u>

- 1 less death than in baseline period
- Average number of fatal casualties down by 50%
- Average number of 'fatal and serious' casualties down by over 23%
- Average number of total casualties down by 16%
- Average number of fatal collisions down by 50%

- Average number of ‘fatal and serious’ collisions down by over 46%

Perth to Inverness

- 9 less deaths than in baseline period
- Average number of fatal casualties down by over 40%
- Average number of ‘fatal and serious’ casualties down by over 32%
- Average number of total casualties down by 31%
- Average number of fatal collisions down by 20%
- Average number of ‘fatal and serious’ collisions down by over 10%

Since the last report there have been two fatal collisions on the A9 within the monitoring area both of which are still being investigated by Police Scotland. The general circumstances are:

On 18 October 2017 near Aviemore a southbound car drifted across onto the northbound carriageway and collided with a northbound articulated lorry. The driver of the southbound vehicle was fatally injured with the lorry driver sustaining minor injury.

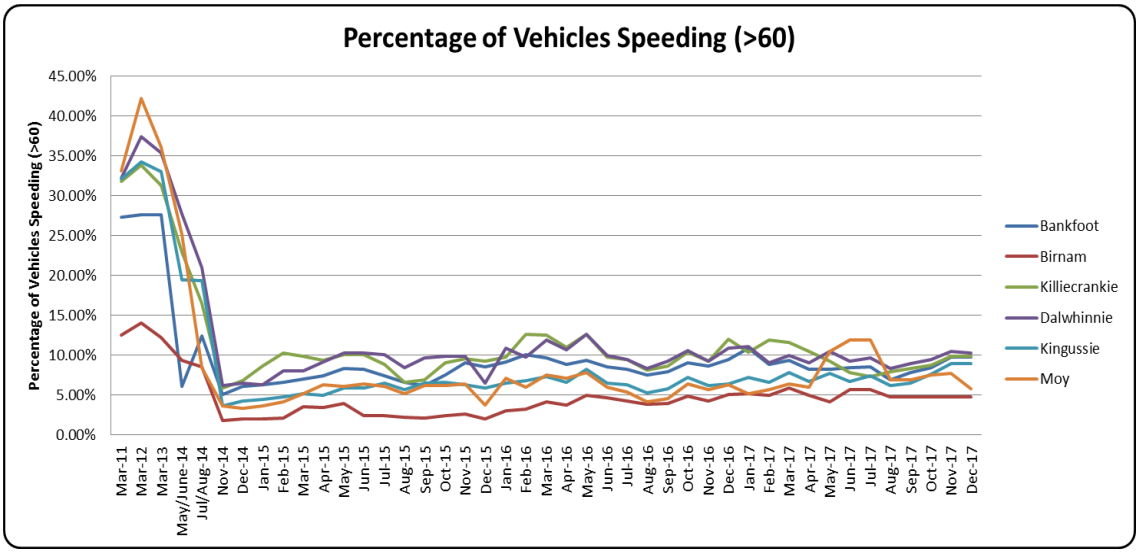
On 24 October 2017 near Aviemore a northbound car drifted across onto the southbound carriageway and collided with a southbound articulated lorry. The driver of the northbound vehicle was fatally injured with the lorry driver suffering minor injury.

Both collisions are currently still under active investigation by Police Scotland and when the full circumstances are established they will be considered by the A9 Safety Group.

Full details of the collision and casualty data are included at Appendix A.

6. Vehicle Speed Data

The speed profile along the route continues to support a sustained change in driver behaviour. Although there has been a slight degree of variation at the monitoring sites since the cameras went live in October 2014, compliance levels are exceptionally high. The latest data continues to demonstrate this level of compliance with excessive speeding levels extremely low. For consistency the graph below has been updated from the previous report to highlight the sustained change in driver behaviour. This clearly illustrates the point at which the camera infrastructure installation began in Spring 2014 and the resultant decrease in speeds. Full details of the vehicle speed data are included at Appendix B and C.



Perth to Inverness Speed Profile

As indicated in previous reports, prior to the introduction of the average speed cameras over 12,000 drivers per annum were being reported for fixed and mobile camera speeding offences within the monitoring area. Police Scotland have advised that since the system went live on the 28th October 2014 through to 31st December 2017 there have been 11,814 vehicles detected by the system which warranted further action. This equates to an annual average reduction of over 68% in the number of drivers being detected speeding with just over 10 vehicles per day detected exceeding the enforcement threshold along the entire route since the system went live.

These figures do not include the dualling construction works which are monitored by a separate temporary ASC system. Police Scotland publishes these figures separately.

7. Incident Frequency & Impact

The latest data set incorporates the incident data from the third quarter of 2017 which allows for a comparison between the baseline period and the full three years since the safety camera system was introduced. This continues to support the established pattern of sustained reductions in both frequency and impact compared to the baseline data. For example comparison between the baseline period and 2017 indicates a 19% reduction in incidents and 25% reduction in total restriction time. Full details of the incident data are included at Appendix D.

8. Journey Time Analysis – Perth to Inverness

The Journey Time Analysis for the reporting period is still demonstrating that journey time reliability is within the projected range. Even with major roadworks on the route, this has

had little impact on the original projected range of journey times. With the continued downward trend in incidents and incident impact, journey time reliability continues to improve on the route. The continuation of the dualling programme may impact negatively on journey times however the available data indicates an increase in journey time reliability between Perth and Inverness with a variation in 2017 on weekdays of less than 3.5 minutes and on weekends of less than 3 minutes.

As a point of note the Kincraig to Dalraddy dualling programme was completed in Autumn 2017 which will further support improved journey time reliability. Full details of the journey time data are included at Appendix E.

9. Traffic Volumes

There continues to be some degree of inconsistency with the data collection from the identified traffic counters due to a number of technical reasons. The most consistent data available relates to monitoring sites at Dalwhinnie and Moy which indicates a year on year increase in volumes with an overall average increase of over 13% since the 2013 baseline period. Full details of the traffic volume data are included at Appendix F.

Appendix A Collision & Casualty Analysis – Dunblane to Inverness

DUNBLANE TO INVERNESS - 3 YEAR COMPARISONS TO THE END OF OCTOBER 2017

DUNBLANE - PERTH COLLISIONS

Year	Fatal	Serious	KSI	Slight	TOTAL
2011	1	3	4	14	18
2012	0	5	5	20	25
2013	1	3	4	19	23
Annual Average Before (3 Years)	0.67	3.67	4.33	17.67	22.00
Nov 2014 - Oct 2015	0	0	0	12	12
Nov 2015 - Oct 2016	0	4	4	15	19
Nov 2016 - Oct 2017	1	2	3	16	19
Annual Average After (3 years)	0.33	2.00	2.33	14.33	16.67
% Annual Average Variation	**-50.0%**	**-45.5%**	**-46.2%**	**-18.9%**	**-24.2%**

PERTH - INVERNESS COLLISIONS

Year	Fatal	Serious	KSI	Slight	TOTAL
2011	6	5	11	29	40
2012	5	8	13	30	43
2013	4	10	14	22	36
Annual Average Before (3 Years)	5.00	7.67	12.67	27.00	39.67
Nov 2014 - Oct 2015	5	3	8	20	28
Nov 2015 - Oct 2016	4	7	11	18	29
Nov 2016 - Oct 2017	3	12	15	26	41
Annual Average After (3 years)	4.00	7.33	11.33	21.33	32.67
% Annual Average Variation	**-20.0%**	**-4.3%**	**-10.5%**	**-21.0%**	**-17.6%**

DUNBLANE - INVERNESS COLLISIONS COMBINED

Year	Fatal	Serious	KSI	Slight	TOTAL
2011	7	8	15	43	58
2012	5	13	18	50	68
2013	5	13	18	41	59
Annual Average Before (3 Years)	5.67	11.33	17.00	44.67	61.667
Nov 2014 - Oct 2015	5	3	8	32	40
Nov 2015 - Oct 2016	4	11	15	33	48
Nov 2016 - Oct 2017	4	14	18	42	60
Annual Average After (3 years)	4.33	9.33	13.67	35.67	49.33
% Annual Average Variation	**-23.5%**	**-17.6%**	**-19.6%**	**-20.1%**	**-20.0%**

DUNBLANE - PERTH CASUALTIES

Year	Fatalities	Seriously Injured	Killed or Seriously Injured	Slightly Injured	TOTAL
2011	1	3	4	20	24
2012	0	5	5	25	30
2013	1	3	4	33	37
Annual Average Before (3 Years)	0.67	3.67	4.33	26.00	30.33
Nov 2014 - Oct 2015	0	0	0	15	15
Nov 2015 - Oct 2016	0	5	5	26	31
Nov 2016 - Oct 2017	1	4	5	25	30
Annual Average After (3 years)	0.33	3.00	3.33	22.00	25.33
% Annual Average Variation	**-50.0%**	**-18.2%**	**-23.1%**	**-15.4%**	**-16.5%**

PERTH - INVERNESS CASUALTIES

Year	Fatalities	Seriously Injured	Killed or Seriously Injured	Slightly Injured	TOTAL
2011	8	16	24	60	84
2012	8	16	24	91	115
2013	6	17	23	39	62
Annual Average Before (3 Years)	7.33	16.33	23.67	63.33	87.00
Nov 2014 - Oct 2015	6	4	10	34	44
Nov 2015 - Oct 2016	4	13	17	42	59
Nov 2016 - Oct 2017	3	18	21	56	77
Annual Average After (3 years)	4.33	11.67	16.00	44.00	60.00
% Annual Average Variation	**-40.9%**	**-28.6%**	**-32.4%**	**-30.5%**	**-31.0%**

DUNBLANE - INVERNESS CASUALTIES COMBINED

Year	Fatalities	Seriously Injured	Killed or Seriously Injured	Slightly Injured	TOTAL
2011	9	19	28	80	108
2012	8	21	29	116	145
2013	7	20	27	72	99
Annual Average Before (3 Years)	8.00	20.00	28.00	89.33	117.33
Nov 2014 - Oct 2015	6	4	10	49	59
Nov 2015 - Oct 2016	4	18	22	68	90
Nov 2016 - Oct 2017	4	22	26	81	107
Annual Average After (3 years)	4.67	14.67	19.33	66.00	85.33
% Annual Average Variation	**-41.7%**	**-26.7%**	**-31.0%**	**-26.1%**	**-27.3%**

Appendix B - Vehicle Speed Data – Dunblane to Perth

Sites	SEPTEMBER 2014				DECEMBER 2014				MARCH 2015				JUNE 2015			
	>70	70 - 80	80 - 90	>90	>70	70 - 80	80 - 90	>90	>70	70 - 80	80 - 90	>90	>70	70 - 80	80 - 90	>90
Dunblane N/B	32.70%	29.21%	3.49%	0.00%	5.99%	5.67%	0.24%	0.08%	NOT AVAILABLE				8.76%	8.46%	0.26%	0.04%
Crieff N/B	28.47%	25.10%	3.37%	0.00%	NOT AVAILABLE				5.44%	5.32%	0.11%	0.01%	6.03%	5.89%	0.13%	0.01%
Auchterarder N/B	29.44%	25.42%	3.71%	0.31%	NOT AVAILABLE				8.01%	7.91%	0.08%	0.02%	NOT AVAILABLE			
Broxden S/B	27.74%	25.73%	2.01%	0.00%	7.63%	7.45%	0.16%	0.02%	10.22%	9.91%	0.28%	0.03%	13.15%	12.73%	0.39%	0.03%
Dunning S/B	33.28%	28.87%	4.04%	0.37%	9.59%	9.27%	0.28%	0.04%	11.65%	11.21%	0.39%	0.05%	13.22%	12.69%	0.48%	0.05%
Blackford S/B	24.81%	21.68%	2.89%	0.24%	5.47%	5.36%	0.10%	0.01%	NOT AVAILABLE				NOT AVAILABLE			

Sites	SEPTEMBER 2015				DECEMBER 2015				MARCH 2016				JUNE 2016			
	>70	70 - 80	80 - 90	>90	>70	70 - 80	80 - 90	>90	>70	70 - 80	80 - 90	>90	>70	70 - 80	80 - 90	>90
Dunblane N/B	8.32%	8.06%	0.23%	0.03%	NOT AVAILABLE				9.70%	9.40%	0.27%	0.03%	7.25%	6.98%	0.23%	0.04%
Crieff N/B	6.58%	6.45%	0.12%	0.01%	4.29%	4.21%	0.07%	0.01%	NOT AVAILABLE				NOT AVAILABLE			
Auchterarder N/B	NOT AVAILABLE				8.29%	7.93%	0.27%	0.09%	12.72%	12.16%	0.42%	0.14%	11.58%	11.07%	0.39%	0.12%
Broxden S/B	13.87%	13.45%	0.40%	0.02%	11.04%	10.71%	0.31%	0.02%	16.95%	16.42%	0.51%	0.02%	11.30%	10.95%	0.32%	0.03%
Dunning S/B	15.74%	15.16%	0.51%	0.07%	NOT AVAILABLE				NOT AVAILABLE				12.33%	11.76%	0.50%	0.07%
Blackford S/B	NOT AVAILABLE				NOT AVAILABLE				NOT AVAILABLE				NOT AVAILABLE			

Sites	SEPTEMBER 2016				DECEMBER 2016				MARCH 2017				JUNE 2017			
	>70	70 - 80	80 - 90	>90	>70	70 - 80	80 - 90	>90	>70	70 - 80	80 - 90	>90	>70	70 - 80	80 - 90	>90
Dunblane N/B	9.50%	9.24%	0.23%	0.03%	9.09%	8.84%	0.22%	0.03%	NOT AVAILABLE				7.46%	7.20%	0.23%	0.03%
Crieff N/B	NOT AVAILABLE				NOT AVAILABLE				NOT AVAILABLE				NOT AVAILABLE			
Auchterarder N/B	NOT AVAILABLE				NOT AVAILABLE				9.71%	9.61%	0.09%	0.01%	9.74%	9.52%	0.19%	0.03%
Broxden S/B	10.22%	9.96%	0.24%	0.02%	8.84%	8.62%	0.20%	0.02%	10.98%	10.72%	0.24%	0.02%	14.63%	14.14%	0.45%	0.04%
Dunning S/B	17.94%	17.21%	0.62%	0.11%	16.87%	16.29%	0.50%	0.08%	NOT AVAILABLE				NOT AVAILABLE			
Blackford S/B	NOT AVAILABLE				6.39%	5.77%	0.57%	0.05%	NOT AVAILABLE				NOT AVAILABLE			

Sites	SEPTEMBER 2017				DECEMBER 2017			
	>70	70 - 80	80 - 90	>90	>70	70 - 80	80 - 90	>90
Dunblane N/B	6.57%	6.33%	0.22%	0.02%	15.65%	15.09%	0.39%	0.05%
Crieff N/B	NOT AVAILABLE				10.04%	9.85%	0.16%	0.02%
Auchterarder N/B	11.54%	11.31%	0.21%	0.02%	9.67%	9.49%	0.16%	0.02%
Broxden S/B	11.75%	11.42%	0.31%	0.03%	13.67%	13.30%	0.35%	0.02%
Dunning S/B	10.33%	9.72%	0.54%	0.07%	9.55%	9.13%	0.31%	0.05%
Blackford S/B	NOT AVAILABLE				NOT AVAILABLE			

Appendix C - Vehicle Speed Data – Perth to Inverness

Sites	MARCH 2012				DECEMBER 2014				MARCH 2015				JUNE 2015			
	>60	60-70	70-80	>80	>60	60 - 70	70 - 80	>80	>60	60 - 70	70 - 80	>80	>60	60 - 70	70 - 80	>80
Bankfoot	27.60%	24.03%	3.23%	0.34%	6.06%	5.65%	0.37%	0.04%	NOT AVAILABLE				8.19%	7.68%	0.47%	0.04%
Birnam	14.10%	12.62%	1.31%	0.17%	2.04%	1.93%	0.08%	0.03%	3.51%	3.36%	0.14%	0.01%	2.38%	2.28%	0.07%	0.03%
Faskally	NOT AVAILABLE				3.12%	3.02%	0.10%	0.00%	5.26%	5.12%	0.14%	N/A	5.31%	5.19%	0.12%	N/A
Killiecrankie	33.85%	27.41%	5.63%	0.81%	6.86%	6.57%	0.26%	0.03%	9.86%	9.35%	0.46%	0.05%	10.06%	9.50%	0.50%	0.06%
Dalwhinnie	37.39%	28.32%	7.53%	1.54%	6.49%	6.17%	0.28%	0.04%	8.04%	7.68%	0.34%	0.02%	10.32%	9.76%	0.50%	0.06%
Kingussie	34.27%	26.95%	6.16%	1.16%	4.22%	3.93%	0.25%	0.04%	5.19%	4.80%	0.34%	0.05%	5.88%	5.42%	0.40%	0.06%
Moy	42.25%	34.22%	7.08%	0.95%	3.38%	3.32%	0.06%	0.00%	5.19%	5.12%	0.07%	0.004%	6.45%	6.28%	0.15%	0.02%

Sites	SEPTEMBER 2015				DECEMBER 2015				MARCH 2016				JUNE 2016			
	>60	60 - 70	70 - 80	>80	>60	60 - 70	70 - 80	>80	>60	60 - 70	70 - 80	>80	>60	60 - 70	70 - 80	>80
Bankfoot	6.23%	5.81%	0.38%	0.04%	8.55%	8.03%	0.47%	0.05%	9.68%	9.08%	0.54%	0.06%	NOT AVAILABLE			
Birnam	NOT AVAILABLE				NOT AVAILABLE				NOT AVAILABLE				NOT AVAILABLE			
Faskally	3.90%	3.79%	0.11%	N/A	5.19%	5.08%	0.11%	N/A	7.49%	7.35%	0.14%	N/A	NOT AVAILABLE			
Killiecrankie	6.90%	6.51%	0.33%	0.06%	9.27%	8.83%	0.40%	0.04%	12.56%	11.88%	0.60%	0.08%	9.77%	9.03%	0.66%	0.08%
Dalwhinnie	9.65%	9.16%	0.43%	0.06%	6.54%	6.27%	0.26%	0.01%	11.95%	11.33%	0.55%	0.07%	10.01%	9.30%	0.62%	0.09%
Kingussie	6.49%	6.00%	0.43%	0.06%	NOT AVAILABLE				7.34%	6.80%	0.49%	0.05%	6.47%	5.75%	0.63%	0.09%
Moy	6.23%	6.10%	0.11%	0.02%	3.78%	3.72%	0.05%	0.01%	7.51%	7.36%	0.14%	0.01%	5.96%	5.77%	0.15%	0.04%

Sites	SEPTEMBER 2016				DECEMBER 2016				MARCH 2017				JUNE 2017			
	>60	60 - 70	70 - 80	>80	>60	60 - 70	70 - 80	>80	>60	60 - 70	70 - 80	>80	>60	60 - 70	70 - 80	>80
Bankfoot	NOT AVAILABLE				9.49%	8.68%	0.74%	0.07%	9.34%	8.61%	0.68%	0.05%	8.46%	7.77%	0.65%	0.04%
Birnam	NOT AVAILABLE				NOT AVAILABLE				NOT AVAILABLE				NOT AVAILABLE			
Faskally	NOT AVAILABLE				NOT AVAILABLE				NOT AVAILABLE				NOT AVAILABLE			
Killiecrankie	8.68%	8.07%	0.54%	0.07%	12.03%	11.14%	0.80%	0.09%	11.59%	10.73%	0.79%	0.07%	7.84%	7.15%	0.60%	0.09%
Dalwhinnie	9.22%	8.63%	0.53%	0.06%	10.92%	10.26%	0.59%	0.07%	9.94%	9.30%	0.57%	0.07%	9.29%	8.63%	0.59%	0.07%
Kingussie	5.80%	5.21%	0.53%	0.06%	6.39%	5.77%	0.57%	0.05%	7.78%	7.11%	0.61%	0.06%	6.71%	6.02%	0.61%	0.08%
Moy	NOT AVAILABLE				NOT AVAILABLE				6.38%	6.20%	0.17%	0.01%	11.94%	10.32%	1.47%	0.15%

Sites	SEPTEMBER 2017				DECEMBER 2017			
	>60	60 - 70	70 - 80	>80	>60	60 - 70	70 - 80	>80
Bankfoot	7.80%	7.14%	0.60%	0.05%	9.80%	8.96%	0.78%	0.06%
Birnam	NOT AVAILABLE				4.73%	4.52%	0.17%	0.03%
Faskally	4.63%	4.41%	0.21%	0.01%	13.22%	12.87%	0.25%	0.01%
Killiecrankie	8.33%	7.69%	0.57%	0.07%	9.86%	7.81%	1.82%	0.22%
Dalwhinnie	8.94%	8.34%	0.52%	0.08%	10.28%	9.72%	0.52%	0.04%
Kingussie	6.55%	5.82%	0.65%	0.08%	9.00%	8.39%	0.57%	0.04%
Moy	6.89%	6.68%	0.20%	0.01%	5.79%	5.66%	0.13%	0.01%

Appendix D - Incident Analysis – Dunblane to Inverness

INCIDENTS

	Perth - Inverness		Dunblane - Perth		A9 Total	
	Incidents	Restriction	Incidents	Restriction	Incidents	Restriction
Q1 2013	31	98	20	41	51	139
Q2 2013	23	37	20	28	43	65
Q3 2013	22	46	14	21	36	67
Q4 2013	41	101	14	31	55	132
2013 Baseline	**135**	**282**	**49**	**121**	**184**	**403**
Q1 2014	14	40	22	38	36	78
Q2 2014	10	22	22	30	32	52
Q3 2014	16	25	25	26	41	51
Q4 2014	22	37	21	26	43	63
2014 Total	**62**	**124**	**90**	**120**	**152**	**244**
Q1 2015	26	57	12	12	38	69
Q2 2015	14	34	8	5	22	39
Q3 2015	16	32	18	27	34	59
Q4 2015	15	44	15	21	30	65
2015 Total	**71**	**167**	**53**	**65**	**124**	**232**
Q1 2016	11	24	9	11	20	35
Q2 2016	15	31	7	7	22	38
Q3 2016	23	34	23	34	46	68
Q4 2016	17	55	9	17	26	72
2016 Total	**66**	**144**	**48**	**69**	**114**	**213**
Q1 2017	19	41	12	15	31	56
Q2 2017	11	28	12	11	23	39
Q3 2017	27	67	16	17	43	84
Q4 2017	12	23	28	126*	40	146
2017 Total	**69**	**159**	**68**	**43**	**137**	**325**

* Incident on 01/12/17 accounted for 65 hr restriction near Loch Faskally

Incident data is drawn from the Traffic Scotland Control Centre Incident Logs. Only data involving physical restriction or closure of network is incorporated. Data for road works or weather related incidents is not included.

Data reflects number of individual incidents and total time in hours.

Appendix E - Journey Time Analysis – Perth to Inverness

JOURNEY TIMES

PERTH - INVERNESS							
	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Jun-13 N/B	116	116	115	117	120	111	109
Jun-13 S/B	115	118	118	116	124	114	110
Dec-14 N/B	131	131	132	128	124	116	124
Dec-14 S/B	134	133	135	134	131	118	127
Mar-15 N/B	125	129	128	127	124	114	116
Mar-15 S/B	127	128	124	124	123	116	116
Jun-15 N/B	123	122	122	124	121	116	116
Jun-15 S/B	125	123	122	124	122	117	115
Sept -15 N/B	122	122	122	122	121	120	116
Sept-15 S/B	122	122	123	122	123	125	130
Dec-15 N/B	129	130	128	135	139	119	120
Dec-15 S/B	129	131	129	140	139	119	120
Mar-16 N/B	123	125	125	126	124	117	119
Mar-16 S/B	124	126	125	126	125	118	118
Jun-16 N/B	125	125	124	125	123	120	118
Jun-16 S/B	124	125	129	124	124	119	119
Sept -16 N/B	130	124	124	124	123	119	120
Sept-16 S/B	133	129	129	129	126	121	121
Dec-16 N/B	126	125	125	124	124	118	119
Dec-16 S/B	125	126	125	125	126	118	119
Mar-17 N/B	130	131	127	130	124	119	118
Mar-17 S/B	126	126	128	127	126	118	118
Jun-17 N/B	128	126	128	126	127	123	122
Jun-17 S/B	124	125	123	125	128	122	120
Sept -17 N/B	126	125	127	127	125	121	121
Sept-17 S/B	126	127	127	128	130	120	121
Dec-17 N/B	124	122	123	124	121	115	115
Dec-17 S/B	124	125	126	128	124	118	119

VARIATION							
Dec-14 N/B	15	15	17	11	4	5	15
Dec-14 S/B	19	15	17	18	7	4	17
Mar-15 N/B	9	13	13	10	4	3	7
Mar-15 S/B	12	10	6	8	-1	2	6
Jun-15 N/B	7	6	7	7	1	5	7
Jun-15 S/B	10	5	4	8	-2	3	5
Sept -15 N/B	6	6	7	5	1	9	7
Sept-15 S/B	7	4	5	6	-1	11	20
Dec-15 N/B	13	14	13	18	19	8	11
Dec-15 S/B	14	13	11	24	15	5	10
Mar-16 N/B	7	9	10	9	4	6	10
Mar-16 S/B	9	8	7	10	1	4	8
Jun-16 N/B	9	9	9	8	3	9	9
Jun-16 S/B	9	7	11	8	0	5	9
Sept -16 N/B	14	8	9	7	3	8	11
Sept-16 S/B	18	11	11	13	2	7	11
Dec-16 N/B	10	9	10	7	4	7	10
Dec-16 S/B	10	8	7	9	2	4	9
Mar-17 N/B	14	15	12	13	4	8	9
Mar-17 S/B	11	8	10	11	2	4	8
Jun-17 N/B	12	10	13	9	7	12	13
Jun-17 S/B	9	7	5	9	4	8	10
Sept -17 N/B	10	11	12	10	5	10	12
Sept-17 S/B	11	9	9	12	6	6	11
Dec-17 N/B	8	6	8	7	1	4	6
Dec-17 S/B	9	7	8	8	0	4	9

PERTH - KINGUSSIE							
	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Dec-15 N/B	78	79	79	94	90	75	74
Dec-15 S/B	78	78	79	89	91	74	74
Mar-16 N/B	77	78	78	78	77	73	74
Mar-16 S/B	76	77	78	77	77	72	73
Jun-16 N/B	78	77	77	78	76	74	73
Jun-16 S/B	76	77	83	77	77	73	74
Sept-16 N/B	83	77	77	77	77	74	75
Sept-16 S/B	86	81	82	81	79	75	76
Dec-16 N/B	N/A	N/A	N/A	N/A	77	74	74
Dec-16 S/B	N/A	N/A	N/A	N/A	78	74	74
Mar-17 N/B	82	81	78	81	77	74	73
Mar-17 S/B	77	77	78	78	78	74	73
Jun-17 N/B	81	78	81	79	79	76	75
Jun-17 S/B	77	77	76	77	80	74	74
Sept -17 N/B	77	76	77	77	76	75	75
Sept-17 S/B	77	77	76	79	77	74	75
Dec-17 N/B	79	81	80	80	80	75	75
Dec-17 S/B	80	82	82	81	87	75	77

AVIEMORE - INVERNESS							
	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Dec-15 N/B	33	34	32	34	32	29	29
Dec-15 S/B	33	35	32	33	31	29	29
Mar-16 N/B	30	30	30	30	30	29	28
Mar-16 S/B	30	31	30	30	30	28	28
Jun-16 N/B	30	30	30	30	30	28	28
Jun-16 S/B	30	30	30	30	29	28	29
Sept-16 N/B	29	30	30	30	29	28	28
Sept-16 S/B	30	31	30	30	29	29	28
Dec-16 N/B	31	30	30	30	30	29	28
Dec-16 S/B	31	31	31	30	30	28	28
Mar-17 N/B	31	32	31	31	30	28	28
Mar-17 S/B	31	31	31	31	31	28	28
Jun-17 N/B	30	30	30	30	30	30	29
Jun-17 S/B	30	30	29	29	30	31	29
Sept -17 N/B	29	29	30	30	30	28	28
Sept-17 S/B	30	30	30	30	30	28	28
Dec-17 N/B	30	30	30	30	29	28	28
Dec-17 S/B	30	30	30	30	29	28	28

AVERAGE JOURNEY TIMES (PERTH - INVERNESS) - MINS						
		2013	2014	2015	2016	2017
Weekdays	N/B	117	129	125	125	126
	S/B	118	133	126	126	126
Weekends	N/B	110	120	119	119	120
	S/B	112	123	119	119	120

VARIATION FROM 2013 BASELINE (WITH %)								
		2014		2015		2016		2017	
Weekdays	N/B	12	10.6%	7	6.3%	8	6.9%	9	7.6%
	S/B	15	12.9%	8	7.0%	8	6.8%	8	6.9%
Weekends	N/B	10	9.1%	7	6.8%	8	7.4%	9	7.9%
	S/B	11	9.4%	8	7.0%	8	7.1%	8	7.5%

Appendix F – Traffic Volumes Perth to Inverness

Traffic Volume Figures - 7 Day Annual Average Daily Flow (Two Way)

Comparison with 2013 Baseline				
	2014	2015	2016	2017
Birnam	2.70%	1.90%	NA	NA
Dalwhinnie	2.50%	3.20%	8.40%	12.40%
Moy	2.90%	5.40%	5.40%	14.20%

2016 - 2017

Birnam	January	February	March	April	May	June	July	August	September	October	November	December
2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2017	Site currently out of operation											
% Increase/Decrease	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

Birnam Average	**N/A**

Dalwhinnie	January	February	March	April	May	June	July	August	September	October	November	December
2016	6,340	7,545	8,612	9,632	10,096	10,742	12,111	12,186	11,023	10,608	8,041	N/A
2017	5,869	8,105	8,380	10,638	10,572	11,138	12,455	12,924	11,362	10,532	8,447	7,349
% Increase/Decrease	**-7.4%**	**7.4%**	**-2.7%**	**10.4%**	**4.7%**	**3.7%**	**2.8%**	**6.1%**	**3.1%**	**-0.7%**	**5.0%**	NA

Dalwhinnie Average	**2.9%**

Moy	January	February	March	April	May	June	July	August	September	October	November	December
2016	7,122	8,182	9,133	9,880	10,460	10,660	10,745	11,144	N/A	10,261	9,003	8,599
2017	7,630	8,600	8,695	N/A	11,116	10,574	NA	NA	11,344	10,717	9,206	8,111
% Increase/Decrease	**7.1%**	**5.1%**	**-4.8%**	**NA**	**6.3%**	**-0.8%**	**NA**	**NA**	**NA**	**4.4%**	**2.3%**	**-5.7%**

Moy Average	**1.7%**